

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),

**Boston Sand and Gravel Company
100 N. Washington Street, 2nd Floor
Boston, MA 02114**

is authorized to discharge from a facility located at

**500 Front Street
Charlestown, MA 02129**

to receiving a water named

Unnamed Tributary to the Charles River (“Millers River”, Outfall 001)

in accordance with effluent limitations, monitoring requirements and other 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.*

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 28, 2007.

This permit consists of 18 pages in Part I including effluent limitations and monitoring requirements, **a revised copper effluent limitation in Part I.A.1**, 15 pages in Attachments A (USEPA Region 1 Freshwater Acute Toxicity Procedure and Protocol, February 2011) and B (USEPA Region 1 Freshwater Chronic Toxicity Procedure and Protocol, March 2013), and 25 pages in Part II, the Standard Conditions.

Signed this day of , 2019

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

Lealdon Langley, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

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

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated process water and stormwater through **Outfall Serial Number 001** to the Unnamed Tributary to the Charles River (“Millers River”)^{1,2}.

| Effluent characteristic | Units | Discharge Limitation | | Monitoring Requirements ³ | |
|------------------------------------|---------------------------|----------------------|--------------------|--------------------------------------|-------------|
| | | Average monthly | Maximum Daily | Measurement Frequency ⁴ | Sample Type |
| Flow | GPD | Report | Report | Continuous | Recorder |
| pH ⁵ | S.U. | -- | 6.5 to 8.3 | 1/Month | Grab |
| Total Suspended Solids (TSS) | mg/L | 20 | 45 | 1/Week | Grab |
| Turbidity | NTU | 25 | Report | 1/Month | Grab |
| Total Sulfate | mg/L | 250 | Report | 1/Month | Grab |
| Oil & Grease | mg/L | -- | 15 | 1/Month | Grab |
| Total Petroleum Hydrocarbons (TPH) | mg/L | -- | Report | 1/Month | Grab |
| Total Recoverable Copper | µg/L | 18 | 29 26.3 | 1/Month | Grab |
| Dissolved Chromium (VI) | µg/L | 11 | 16 | 1/Month | Grab |
| Total Recoverable Chromium | µg/L | -- | Report | 1/Month | Grab |
| Total Recoverable Aluminum | µg/L | 87 | 750 | 1/Month | Grab |
| Hardness of Effluent | mg/L as CaCO ₃ | -- | Report | 1/Month | Grab |
| Hardness of Receiving Water | mg/L as CaCO ₃ | -- | Report | 1/Month | Grab |
| Total Phosphorus | mg/L | -- | Report | 1/Month | Grab |
| <i>E. Coli</i> | cfu/100mL | -- | Report | 1/Month | Grab |

See footnotes on pages 5 and 6.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.For Whole Effluent Toxicity (WET) Testing for **Outfall Serial Number 001**:

| Whole Effluent Toxicity ⁶⁻⁹ | Units | Discharge Limitation | | Monitoring Requirements ³ | |
|--|----------|----------------------|---------------|--------------------------------------|-------------|
| | | Average monthly | Maximum Daily | Measurement Frequency ⁴ | Sample Type |
| Acute LC50 | % | LC50 ≥ 100% | | 1/Quarter | Grab |
| Chronic C-NOEC | % | NOEC ≥ 100% | | 1/Quarter | Grab |
| <i>Effluent Chemistry</i> | | | | | |
| Hardness | mg/L | Report | | 1/Quarter | Grab |
| Alkalinity | mg/L | Report | | 1/Quarter | Grab |
| pH | S.U. | Report | | 1/Quarter | Grab |
| Specific Conductance | µmhos/cm | Report | | 1/Quarter | Grab |
| Total Solids | mg/L | Report | | 1/Quarter | Grab |
| Total Dissolved Solids | mg/L | Report | | 1/Quarter | Grab |
| Total Ammonia Nitrogen | mg/L | Report | | 1/Quarter | Grab |
| Total Organic Carbon | mg/L | Report | | 1/Quarter | Grab |
| Total Residual Chlorine | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Cadmium | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Lead | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Copper | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Zinc | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Nickel | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Aluminum | mg/L | Report | | 1/Quarter | Grab |

See footnotes on pages 5 and 6.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.For Whole Effluent Toxicity Testing for **Outfall Serial Number 001**:

| Whole Effluent Toxicity ⁶⁻⁹ | Units | Discharge Limitation | | Monitoring Requirements ³ | |
|---|----------|----------------------|---------------|--------------------------------------|-------------|
| | | Average monthly | Maximum Daily | Measurement Frequency ⁴ | Sample Type |
| <i>Receiving Water Chemistry</i> | | | | | |
| Hardness | mg/L | Report | | 1/Quarter | Grab |
| Alkalinity | mg/L | Report | | 1/Quarter | Grab |
| pH | S.U. | Report | | 1/Quarter | Grab |
| Specific Conductance | µmhos/cm | Report | | 1/Quarter | Grab |
| Total Solids | mg/L | Report | | 1/Quarter | Grab |
| Total Dissolved Solids | mg/L | Report | | 1/Quarter | Grab |
| Total Ammonia Nitrogen | mg/L | Report | | 1/Quarter | Grab |
| Total Organic Carbon | mg/L | Report | | 1/Quarter | Grab |
| Total Residual Chlorine | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Cadmium | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Lead | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Copper | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Zinc | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Nickel | mg/L | Report | | 1/Quarter | Grab |
| Total Recoverable Aluminum | mg/L | Report | | 1/Quarter | Grab |

See footnotes on pages 5 and 6.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**Footnotes for monitoring at Outfall 001:**

1. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Surface Water Quality Standards (314 CMR 4.00) of the receiving water.
2. Effluent samples shall be representative of the discharge and shall be taken from Lagoon 9, as close as practicable to the overflow, during the discharge of effluent to the designated receiving water. Changes in sampling location must be approved in writing by the U.S. Environmental Protection Agency (EPA). Sampling discharges from the facility must yield data representative of the discharge under authority of CWA Section 308(a) and in accordance with 40 Code of Federal Regulations (CFR) §122.41(j), §122.44(i), and §122.48. Samples shall be taken when discharging. During months when no tests are performed or required, NODI (no discharge) code 9 shall be entered for that month.
3. In accordance with 40 CFR §122.44(i)(1)(iv), the permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except for WET limits). A method is considered “sufficiently sensitive” when either: (1) the method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).
4. Sampling frequency of once per week is defined as the sampling of one (1) discharge event in each calendar week, when discharge occurs. Sampling frequency of once per month is defined as the sampling of one (1) discharge event in each calendar month, when discharge occurs. Sampling frequency of 1/quarter is defined as the sampling of four (4) discharge events in each calendar year, when discharge occurs. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. Quarterly sampling shall be performed concurrently with the monthly monitoring event. The permittee shall submit the results to EPA of any additional testing done to that required herein, if it is conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).
5. Requirement for State Certification. The pH of the effluent shall not be less than 6.5 standard units (SU), nor greater than 8.3 SU at any time, unless these values are exceeded due to natural causes. The pH shall be no more than 0.5 units outside the natural background range.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.

6. WET test samples shall be collected quarterly during the months of January, April, July, and October. The test results shall be submitted by the last day of the month following the completion of the test. The permittee shall conduct acute and chronic WET tests specified in the WET test protocols can be found in Attachments A and B of the permit. The permittee shall test the daphnid, *Ceriodaphnia dubia*.
7. LC50 (lethal concentration to 50 percent) is the concentration of wastewater causing mortality to 50% of the test organisms. The C-NOEC (chronic no observed effect concentration) is the highest effluent concentration at which there is no statistically-significant adverse effect on the survival of the test organisms when compared with the diluent control survival at the time of observation.
8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in Attachment A (Toxicity Test Procedure and Protocol) Section IV., DILUTION WATER in order to obtain an individual approval for use of an alternate dilution water, or the permittee shall follow the Self-Implementing Alternative Dilution Water Guidance, which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water (see page 4 in <https://www3.epa.gov/region1/npdes/permits/generic/Alternatedilutionwaterguidance.pdf>).
9. The permittee shall conduct the analyses specified in Attachments A and B, Part VI. CHEMICAL ANALYSIS, of this permit. Even where an alternate dilution water is permitted, the receiving water control (0% effluent) must still be analyzed. MLs and methods are specified in Attachments A and B, Part VI: CHEMICAL ANALYSIS. Sampling for any parameter required for WET may be used to satisfy any duplicative sampling required for that parameter in this permit, so long as the sampling requirement for WET is equivalent with the sampling requirements otherwise established for that parameter in this permit.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.

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 or greater than 8.3 at any time.
4. The discharge shall not cause objectionable discoloration of the receiving waters.
5. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.
6. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
7. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.
8. 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 basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - i. One hundred micrograms per liter (100 µg/l);
 - ii. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - iv. Any other notification level established by the Director in accordance with 40 CFR §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”:
 - i. Five hundred micrograms per liter (500 µg/l);
 - ii. One milligram per liter (1 mg/l) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7).
 - iv. Any other notification level established by the Director in accordance with 40 CFR §122.44(f).

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.

- 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.
9. The results of sampling for any parameter done in accordance with EPA approved methods above its required frequency must also be reported in accordance with 40 CFR §122.41(l)(4)(ii).

PART I.B. STORMWATER POLLUTION PREVENTION PLAN

1. The permittee shall maintain a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in stormwater to the receiving waters identified in this permit. The SWPPP shall be a written document and consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.
2. The SWPPP, including the SWPPP site map, shall be updated and signed by the permittee within ninety (90) days after the effective date of this permit. The permittee shall certify that the SWPPP has been completed or updated and that it meets the requirements of the permit. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this certification and a hardcopy of the SWPPP shall be sent to EPA and MassDEP within thirty (30) days after the certification date.
3. The SWPPP shall be consistent with the general provisions for SWPPPs included in the most current version of the Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activities (MSGP). (The current MSGP was effective June 4, 2015 – see https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015_finalpermit.pdf). However, where any provision that applies to outfalls authorized under this permit differs from the requirements of a SWPPP prepared to meet the requirements of the MSGP, the requirements in this permit shall take precedence.
4. The SWPPP shall be prepared in accordance with good engineering practices, identify potential sources of pollution that may reasonably be expected to affect the quality of the stormwater discharges, and describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit. Specifically, the SWPPP shall contain the elements listed below:
 - a. A pollution prevention team responsible for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
 - b. A site description which includes a list of activities at the facility; a site map showing drainage areas and direction of stormwater flows; receiving waters and outfall location; the location of industrial activities, storage, disposal, material handling; and all structural controls.
 - c. A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.
 - d. A description of all stormwater controls, both structural and non-structural. All BMPs shall be properly maintained and be in effective operating conditions. BMPs must be selected and implemented as non-numeric technology-based effluent limitations. BMPs must include good housekeeping measures, preventative maintenance programs, spill and leak prevention and response procedures, erosion and sediment controls, and runoff management practices. The SWPPP shall describe how the BMPs are appropriate for the facility.

PART I.B. STORMWATER POLLUTION PREVENTION PLAN, cont'd.

e. A record of the following information for all chemical products that could potentially have an impact to stormwater associated with industrial activity as defined in §122.26(b)(14)(i)-(ix),(xi):

- i. Product name, chemical formula, and manufacturer;
- ii. Purpose or use of the chemical;
- iii. Safety Data Sheet (SDS) and Chemical Abstracts Service (CAS) Registry number for each chemical;
- iv. The frequency (e.g., hourly, daily), duration (e.g., hours, days), quantity (e.g., maximum and average), and method of application for the chemical; and
- v. The vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)), when available.

f. A description of the training to be provided for employees to assure they understand the goals, objectives, and procedures of the SWPPP, the requirements of the NPDES permit, and their individual responsibilities for complying with the goals and objectives of the SWPPP and the NPDES permit.

g. Minimum documentation requirements are as follows:

- i. Records of operational and preventive maintenance activities, equipment inspections, procedure audits, and personnel training;
- ii. Records of the collection and analysis of samples, including, but not limited to, sample location, any calculations done at the time of sampling, any sampling or analytical methods used for samples analyzed on site, and sample results;
- iii. Any records of the collection and analysis of samples, the evaluation of design standards and operational changes, the selection, design, installation, and implementation of control measures, and/or evaluations, identifications, examinations and/or explanations documented in support of the residuals management BMP and/or environmental monitoring program requirement, below; and
- iv. All documentation of SWPPP activities shall be kept at the facility for at least three years and provided to EPA or MassDEP upon request.

5. All areas identified in the SWPPP shall be inspected, at least on a quarterly basis. Inspections shall occur beginning the 1st quarter after the effective date of the permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December.

PART I.B. STORMWATER POLLUTION PREVENTION PLAN, cont'd.

6. The permittee shall amend and update the SWPPP within 14 days for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by the permittee or EPA that the SWPPP appears to be ineffective in achieving the general objective of controlling pollutants in stormwater discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified by the permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22.

7. The permittee shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. The permittee shall keep a copy of the current SWPPP and all SWPPP certifications (the initial certification, recertifications, and annual certifications) signed during the effective period of this permit at the facility and shall make them available for inspection by EPA and MassDEP.

8. The SWPPP shall include best management practices (BMPs) for on-site activities that will minimize the discharge of pollutants in stormwater to waters of the United States. The permittee shall develop and implement site-specific BMPs; including BMPs to achieve the following:

- a. Store materials and equipment indoors such that contact with stormwater is limited and avoided whenever possible.
- b. Protect material stockpiles and equipment not stored indoors with weather-resistant covers to minimize exposure to rain and wind.
- c. Ensure stormwater not discharged through Outfall 001 remains on-site.
- d. Undertake reasonable efforts to control or reduce stormwater runoff volume to allow for proper operation of the WWTF.
- e. Ensure for proper cleanup of chemical spills that may come in contact with stormwater.
- f. Use vacuum equipment to sweep all paved or impervious areas of its property draining to Outfall 001 where solids deposition may occur, including roads, driveways, parking areas, sidewalks, and loading areas.

PART I.B. STORMWATER POLLUTION PREVENTION PLAN, cont'd.

- g. Inspect onsite pollution control measures more frequently following severe weather events or natural disasters when these conditions may result in increased pollutant discharges to the Unnamed Tributary.

Additionally, the permittee shall continue to implement site specific BMPs that are required for Sector E (Glass, Clay, Cement, Concrete, and Gypsum Products) of the current MSGP.

PART I.C. PHOSPHORUS CONTROL PLAN (PCP)

The PCP shall be developed and fully implemented during the permit term to meet the 62% phosphorus load reduction waste load allocation (WLA) set forth in the Lower Charles River TMDL. The permittee is required to develop and implement the following site-specific PCP:

- Within two (2) years of the effective date of the permit, in order to establish baseline conditions, the permittee shall:
 - complete the estimation of the average annual phosphorus load to the permitted outfall using influent and effluent phosphorus data, and
 - complete an evaluation of any additional structural or non-structural BMPs that reduce the phosphorus load to the Unnamed Tributary.

- Within three-and-a-half (3.5) years of the effective date of the permit, the permittee shall:
 - begin construction or implementation of BMPs designed to reduce phosphorus loads, and
 - monitor the effectiveness of those BMPs.

- Within five (5) years of the effective date of the permit, provide to EPA a report including:
 - a summary of phosphorus data analysis and phosphorus load estimation,
 - a description of the evaluation of additional phosphorus reduction BMPs beyond the WWTF (if applicable),
 - an operation, maintenance, and inspection plan of additional phosphorus reduction BMPs (if applicable),
 - a demonstration of the capacity of the entire facility to meet the 62% phosphorus WLA-based reduction target.

PART I.D. SOURCE IDENTIFICATION AND REDUCTION PLAN (SIRP)Metals

The permittee shall continue to implement the Source Identification and Reduction Plan (SIRP) for copper, chromium (VI), and aluminum. In addition, the permittee shall

- attempt to eliminate, or reduce to the maximum extent possible, the discharge of these pollutants from the facility,
- take additional samples to characterize the concentration and variability of each of the metals in onsite source streams using sufficiently sensitive analytical methods,
- develop BMPs to significantly reduce or eliminate the pollutant loading(s) to the receiving water in the event the source(s) of these metals cannot be eliminated, and evaluate whether site-specific stormwater BMPs can be used in conjunction with commingled stormwater and process water treatment options (e.g. pH adjustment, flocculation, and/or coagulation in the Wastewater Treatment Facility) to reduce metals identified as contributing to or causing an excursion of water quality standards in the receiving water (including but not limited to copper, chromium(VI), and aluminum), and
- update or amend the SIRP with any BMPs resulting from the evaluation within one (1) year after the effective date of the permit.

Pathogens

The permittee shall develop and implement a Source Identification and Reduction Plan (SIRP) in order to

- eliminate or reduce the discharge of bacteria through the facility's stormwater system, e.g. identifying and eliminating illicit sewer connections to the facility's drainage system, and
- significantly reduce or eliminate the bacteria loading to the receiving water via the development of BMPs in the event the source(s) of bacteria cannot be eliminated.

PART I.E. MONITORING AND REPORTING

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The permittee is obligated to monitor and report sampling results to EPA and the MassDEP within the time specified within the permit. Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of Reports as NetDMR Attachments

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

2. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

- a. Transfer of permit notice
- b. Request for changes in sampling location
- c. Request for reduction in WET testing requirement
- d. Report on unacceptable dilution water / request for alternative dilution water for WET testing
- e. Notification of proposal to add or replace chemicals, including chemical additives

3. Submittal of Requests and Reports to EPA/OEP

These reports, information, and requests shall be submitted to EPA/OEP electronically at R1NPDES.Notices.OEP@epa.gov.

PART I.E. MONITORING AND REPORTING, cont'd.

4. Submittal of Reports in Hard Copy Form

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

- a. Written notifications required under Part II
- b. Notice of unauthorized discharges
- c. Reports and DMRs submitted prior to the use of NetDMR

This information shall be submitted to EPA/OES and MassDEP at the following addresses:

U.S. Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 100 (OES04-4)
Boston, MA 02109-3912

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Air and Waste
205B Lowell Street
Wilmington, MA 01887

5. State Reporting

Transfer or termination of permit notices shall also specifically be submitted to:

Massachusetts Department of Environmental Protection
Bureau of Water Resources
Wastewater Management Program
1 Winter Street, 5th Floor
Boston, MA 02108

PART I.E. MONITORING AND REPORTING, cont'd.

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.E.2, I.E.3, and I.E.4 also shall be submitted to the State at the following address:

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Air and Waste
205B Lowell Street
Wilmington, Massachusetts 01887

Hard copies of Whole Effluent Toxicity tests and reports only shall be submitted to:

Massachusetts Department of Environmental Protection
Watershed Planning Program
8 New Bond Street
Worcester, MA 01606

7. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to MassDEP. This includes verbal reports and notifications which require reporting within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at: **617-918-1510**.

PART I.F. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.
2. This authorization also incorporates the state water quality certification issued by MassDEP under §401(a) of the Federal Clean Water Act, 40 CFR 124.53, M.G.L. c. 21, §27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.
3. Each agency 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.
4. The permittee shall ensure that sweepings collected at its facility are reused or disposed in a manner consistent with MassDEP's Policy #BWP-94-092: Reuse and Disposal of Street Sweepings.

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

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

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

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

II. METHODS

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

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

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

III. SAMPLE COLLECTION

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

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

All samples held overnight shall be refrigerated at 1- 6°C.

IV. DILUTION WATER

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

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

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

and

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

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

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

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

V. TEST CONDITIONS

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

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

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

series.

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

Footnotes:

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

**EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW
(PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST¹**

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

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Kärber
- Trimmed Spearman-Kärber
- Graphical

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

FRESHWATER CHRONIC TOXICITY TEST PROCEDURE AND PROTOCOL USEPA Region 1

I. GENERAL REQUIREMENTS

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

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) Larval Growth and Survival Test.**

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

II. METHODS

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

III. SAMPLE COLLECTION AND USE

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

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

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

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

IV. DILUTION WATER

Samples of receiving water must be collected from a location in the receiving water body immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2, Test Results & Permit Limits.

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

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

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

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

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

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

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

and

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

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

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

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

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

V.1. Use of Reference Toxicity Testing

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

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

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

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

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

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

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

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

VI. CHEMICAL ANALYSIS

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

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

| <u>Parameter</u> | Effluent | Receiving Water | ML (mg/l) |
|--|----------|-----------------|-----------|
| Hardness ^{1, 4} | x | x | 0.5 |
| Total Residual Chlorine (TRC) ^{2, 3, 4} | x | | 0.02 |
| Alkalinity ⁴ | x | x | 2.0 |
| pH ⁴ | x | x | -- |
| Specific Conductance ⁴ | x | x | -- |
| Total Solids ⁶ | x | | -- |
| Total Dissolved Solids ⁶ | x | | -- |
| Ammonia ⁴ | x | x | 0.1 |
| Total Organic Carbon ⁶ | x | x | 0.5 |
| Total Metals ⁵ | | | |
| Cd | x | x | 0.0005 |
| Pb | x | x | 0.0005 |
| Cu | x | x | 0.003 |
| Zn | x | x | 0.005 |
| Ni | x | x | 0.005 |
| Al | x | x | 0.02 |

Other as permit requires

Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
 - Method 2340B (hardness by calculation)
 - Method 2340C (titration)
2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
 - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
 - Method 4500-CL E Low Level Amperometric Titration
 - Method 4500-CL G DPD Colorimetric Method
 - USEPA 1983. Manual of Methods Analysis of Water and Wastes
 - Method 330.5
 3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing
 4. Analysis is to be performed on samples and/or receiving water, as designated in the table above, from all three sampling events.
 5. Analysis is to be performed on the initial sample(s) only unless the situation arises as stated in Section III, paragraph 4
 6. Analysis to be performed on initial samples only

VII. TOXICITY TEST DATA ANALYSIS AND REVIEW

A. Test Review

1. Concentration / Response Relationship

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

Guidance for this review can be found at

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

2. Test Variability (Test Sensitivity)

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

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

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

B. Statistical Analysis

1. General - Recommended Statistical Analysis Method

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

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

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

2. *Pimephales promelas*

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

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

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

3. *Ceriodaphnia dubia*

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

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

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

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

In addition to the summary sheets the report must include:

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

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

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¹Updated July 17, 2018 to fix typographical errors.

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)

A. GENERAL REQUIREMENTS

1. Duty to Comply

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

- a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
- b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L. 114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

- (a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than \$2,500 nor more than \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation or by imprisonment of not more than 2 years, or both.
- (b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- (c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than \$250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

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

- (d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (2) *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).
- (3) *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:
- (a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).
- (b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

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

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condition.

3. Duty to Provide Information

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

4. Oil and Hazardous Substance Liability

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

5. Property Rights

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

6. Confidentiality of Information

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

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

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

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

7. Duty to Reapply

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

8. State Authorities

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

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

9. Other Laws

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

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

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

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

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

c. Notice

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

d. *Prohibition of bypass.*

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

5. Upset

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

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improper operation.

- b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
 - (4) The Permittee complied with any remedial measures required under B.3. above.
- d. *Burden of proof.* In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- c. Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.
- e. The Clean Water Act provides that any person who falsifies, tampers with, or

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

2. Inspection and Entry

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

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

D. REPORTING REQUIREMENTS

1. Reporting Requirements

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

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- c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.
- d. *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.
 - (2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
 - (3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- e. *Twenty-four hour reporting.*
 - (1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

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

- (2) The following shall be included as information which must be reported within 24 hours under this paragraph.
 - (a) Any unanticipated bypass which exceeds any effluent limitation in the permit. *See* 40 C.F.R. § 122.41(g).
 - (b) Any upset which exceeds any effluent limitation in the permit.
 - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. *See* 40 C.F.R. § 122.44(g).
 - (3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.
- f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.
- h. *Other information.* Where the Permittee becomes aware that it failed to submit any

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

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

2. Signatory Requirement

- a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.
- b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. Availability of Reports.

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

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

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

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

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

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

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“approved States,” including any approved modifications or revisions.

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

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

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

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

Bypass see B.4.a.1 above.

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

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

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

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

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

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

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

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

Direct Discharge means the “discharge of a pollutant.”

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

Discharge

- (a) When used without qualification, *discharge* means the “discharge of a pollutant.”
- (b) As used in the definitions for “interference” and “pass through,” *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

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

Discharge of a pollutant means:

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

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

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

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

Environmental Protection Agency (“EPA”) means the United States Environmental Protection

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Agency.

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

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

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

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

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

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

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

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

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

LC₅₀ means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC₅₀ = 100% is defined as a sample of undiluted effluent.

Maximum daily discharge limitation means the highest allowable “daily discharge.”

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

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

Municipality

- (a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.
- (b) As related to sludge use and disposal, *municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under Section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in Section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Publicly owned treatment works (POTW) means a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

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

Secondary industry category means any industry which is not a “primary industry category.”

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Upset see B.5.a. above.

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

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

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

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

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

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

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

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

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

2. Commonly Used Abbreviations

| | |
|----------------------------------|--|
| BOD | Five-day biochemical oxygen demand unless otherwise specified |
| CBOD | Carbonaceous BOD |
| CFS | Cubic feet per second |
| COD | Chemical oxygen demand |
| Chlorine | |
| Cl ₂ | Total residual chlorine |
| TRC | Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.) |
| TRO | Total residual chlorine in marine waters where halogen compounds are present |
| FAC | Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion) |
| Coliform | |
| Coliform, Fecal | Total fecal coliform bacteria |
| Coliform, Total | Total coliform bacteria |
| Cont. | Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc. |
| Cu. M/day or M ³ /day | Cubic meters per day |
| DO | Dissolved oxygen |

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| | |
|----------------------------------|---|
| kg/day | Kilograms per day |
| lbs/day | Pounds per day |
| mg/L | Milligram(s) per liter |
| mL/L | Milliliters per liter |
| MGD | Million gallons per day |
| Nitrogen | |
| Total N | Total nitrogen |
| NH ₃ -N | Ammonia nitrogen as nitrogen |
| NO ₃ -N | Nitrate as nitrogen |
| NO ₂ -N | Nitrite as nitrogen |
| NO ₃ -NO ₂ | Combined nitrate and nitrite nitrogen as nitrogen |
| TKN | Total Kjeldahl nitrogen as nitrogen |
| Oil & Grease | Freon extractable material |
| PCB | Polychlorinated biphenyl |
| Surfactant | Surface-active agent |
| Temp. °C | Temperature in degrees Centigrade |
| Temp. °F | Temperature in degrees Fahrenheit |
| TOC | Total organic carbon |
| Total P | Total phosphorus |
| TSS or NFR | Total suspended solids or total nonfilterable residue |
| Turb. or Turbidity | Turbidity measured by the Nephelometric Method (NTU) |
| µg/L | Microgram(s) per liter |
| WET | “Whole effluent toxicity” |
| ZID | Zone of Initial Dilution |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET SUPPLEMENT

(Supplementing the August 1, 2017 Fact Sheet provided with the August 1, 2017 Draft Permit)

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

NPDES PERMIT NUMBER: MA0000531

PUBLIC NOTICE START AND END DATES: **March 5, 2019 – April 3, 2019**

NAME AND MAILING ADDRESS OF APPLICANT:

Boston Sand & Gravel Company
100 N. Washington Street, 2nd Floor
Boston, MA 02114

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Boston Sand & Gravel Company
500 Front Street
Charlestown, MA 02129

FACT SHEET SUPPLEMENT

1. Introduction

The Region 1 Office of the United States Environmental Protection Agency (“EPA” or the “Agency”) and the Massachusetts Department of Environmental Protection (“MassDEP”) are exercising their discretion, based on public comments, to provide additional opportunity for comment on certain revisions to the draft permit to further inform the permit proceedings and improve the agencies’ decision making regarding the draft National Pollutant Discharge Elimination System (“NPDES”) permit for Boston Sand & Gravel (referred to herein as the “facility” or “BS&G”) in Charlestown, MA. EPA is in the process of reissuing the NPDES permit under Section 402 of the Clean Water Act (CWA). 33 U.S.C. § 1342. In accordance with 40 C.F.R. § 124.14(c), the comment period for the Draft Permit is not being reopened “across the board”. Rather, as provided in 40 CFR § 124.14(c), any comment filed during this public comment period shall be limited to the following proposed condition in the Draft Permit:

- Revised Maximum Daily Total Recoverable Copper effluent limitation in Part I.A.1.

This issue is discussed in this Fact Sheet Supplement.

2. Background

EPA last issued a new Final NPDES Permit to BS&G on September 28, 2007. The permit expired on August 31, 2012 but was administratively continued as a result of BS&G’s timely application for permit renewal pursuant to 40 C.F.R. § 122.6. EPA published a new Draft Permit for public notice and comment on August 1, 2017 (the “2017 Draft Permit”). EPA Region 1 and MassDEP received written comments from Boston Sand & Gravel dated August 30, 2017. EPA Region 1 and MassDEP did not receive any other public comments. Since the closure of the public notice and comment periods for the 2017 Draft Permit, EPA has been considering the comments submitted by BS&G and is developing the Final Permit.

In its comments on the Draft Permit, BS&G commented that reasonable potential analysis for metals presented in the Fact Sheet and based on discharge monitoring data from 2007 to 2015 did not consider that the facility has been operating with new treatment technology that improves metals removal efficiency since September 2016 (the Hubbard Hall system). BS&G requested that EPA reassess the reasonable potential analysis for metals using discharge monitoring data beginning in September 2016. BS&G also requested that where the revised analysis based on data representative of the new treatment chemistry indicates no reasonable potential, the corresponding WQBELs be removed from the Final Permit.

The WQBELs in the Draft Permit were established on an individual basis via a reasonable potential analysis, as correctly noted by BS&G in its 2017 comments. EPA’s Technical Support

Document for Water Quality-based Toxics Control¹ (“TSD”) provides the methodology for making a reasonable potential analysis determination in accordance with 40 CFR §122.44(d)(1)(ii). EPA, in response to comments and new information provided during the public comment period, may choose to re-evaluate the basis for effluent limitations, including, in some cases, the reasonable potential analysis. In response to BS&G’s comments, and based on the unique facts presented, EPA reconsidered the reasonable potential analysis used for the development of WQBELs for all metals in the Draft Permit using data representative of the new treatment technology used at the facility since September 2016.

In response to this comment, regarding effluent limitations for copper, EPA re-evaluated DMR data recorded from October 2016 through the end of May 2018 to determine if there was reasonable potential to cause or contribute to a violation of water quality standards for metals. EPA concluded that the facility’s discharge did not have reasonable potential to cause or contribute to a violation of applicable acute copper criterion: 26.8 µg/L (see Attachment A). EPA determined that, based on this analysis, removing the maximum daily WQBEL for copper is appropriate.

Having determined that WQBELs were not required for copper, EPA examined what an appropriate technology-based effluent limitation (“TBEL”) would be. *See* CWA § 301(b). *See also* 40 C.F.R. § 125.3. As discussed in the 2017 Fact Sheet, TBELs represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, and best available technology economically available (BAT) for toxic and non-conventional pollutants. EPA has not promulgated effluent limitation guidelines (“ELGs”) for copper at Ready-Mix Concrete facilities. In the absence of published technology-based ELGs, the permit writer establishes appropriate technology-based effluent limitations on a case-by-case basis under CWA § 402(a)(1)(B) using best professional judgment (“BPJ”). *See* 40 C.F.R. § 125.3. Because copper is a toxic pollutant, developing a BAT TBEL for copper based on BPJ is appropriate for this facility.

When establishing TBELs on a case-by-case basis using BPJ, EPA considers specific factors that track those specified in the statute for EPA’s consideration in the development of national effluent limitation guidelines (NELGs). *See* 33 U.S.C. § 1314(b). In establishing a BAT TBEL for copper, EPA requires limits based on use of the most effective pollution control technologies that are technologically and economically achievable, and that will result in reasonable progress toward eliminating discharges of the toxic pollutant.

EPA considers the following six specific factors in determining the BAT: (i) age of the equipment and facilities involved; (ii) process employed; (iii) engineering aspects of the application of various types of control techniques; (iv) process changes; (v) the cost of achieving such effluent reductions; and (vi) non-water quality environmental impacts (including energy requirements). *See* CWA § 304(b)(2) and 40 C.F.R. § 125.3(d)(3). Ultimately, when setting BAT limits, EPA’s consideration of the required factors is governed by a reasonableness standard. *BP Exploration & Oil, Inc. v. EPA*, 66 F.3d 784, 796 (6th Cir. 1995), citing *American Iron & Steel*

¹ See EPA’s Technical Support Document for Water Quality-based Toxics Control: EPA/505/2-90-001, pages 49-65 (1991).

Institute v. EPA, 526 F.2d 1027, 1051 (3d Cir. 1975), modified in other part, 560 F.2d 589 (3d Cir. 1977), cert. denied, 435 U.S. 914 (1978); *Chemical Manufacturers Ass'n v. U.S. Environmental Protection Agency*, 870 F.2d 177, 250 n. 320 (5th Cir. 1989) (citing Congressional Research Service, A Legislative History of the Water Pollution Control Act Amendments of 1972 (1973), at 170) (in determining BAT, “[t]he Administrator will be bound by a test of reasonableness.”). As one court summarized it, “[s]o long as the required technology reduces the discharge of pollutants, our inquiry will be limited to whether the Agency considered the cost of technology, along with other statutory factors, and whether its conclusion is reasonable.” *Ass'n of Pacific Fisheries v. EPA*, 615 F.2d 794, 818 (9th Cir. 1980).

According to 40 C.F.R. § 125.3(c)(2), in determining BAT requirements, EPA should consider the “appropriate technology for the category of point sources of which the applicant is a member, based on all available information,” and also “any unique factors relating to the applicant.” EPA is not aware of any unique factors applicable to the facility that would impact the selection of the BAT in this case.

EPA has taken into account site-specific factors in the course of discussing the six BAT considerations below.

(i) Age of the equipment and facilities involved

BS&G began using new treatment chemistry, which replaces the hydroxide precipitation with sulfide precipitation, in September 2016. According to BS&G, the change in chemicals is applied to the block house treatment system (Lagoon 7 effluent) in addition to the existing coagulant and polymer. The use of the new technology is a recent addition to the existing system and represents an improvement in the treatment efficiency for metals as compared to the old treatment chemistry. There is nothing about the age of the equipment and facilities involved that would prevent the ongoing use of the same or similar treatment chemistry to treat the wastestream at the facility.

(ii) Process(es) employed

BS&G is a Ready-Mix Concrete facility that produces various concrete products. Continuing to treat the wastestream with the new treatment technology will not prevent the permittee from maintaining its primary production processes (Ready-Mix Concrete) as the facility selected and voluntarily installed the new treatment technology independent of the permit issuance process. The facility has continued to operate since the new treatment technology was installed.

(iii) Engineering aspects of the application of various types of control techniques

Treatment processes for toxic pollutants typically include pH adjustment, coagulation and solids removal. In combination, these three processes are a fairly straightforward, standard technology applied to treat many types of wastewaters containing metals. The wastewater at this facility is treated using settling, pH adjustment and chemical additives where the wastewater is routed through a combination of settling lagoons and mixing tanks in the block house prior to discharge. All treatment processes at the facility were in place at least since the permit was last issued in

2007. The new treatment technology was installed in September 2016 to enhance the treatment efficacy of the chemical additives, and the settling and pH adjustment processes. From an engineering standpoint, BS&G is expected to achieve the effluent limitation for copper in the final permit simply by maintaining the current performance of the treatment technology.

(iv) Process changes

As discussed above, BS&G's wastewater is treated using an existing treatment system. The treatment technology, installed in September 2016, does not appear to interfere with the production of concrete products at the facility and EPA believes that BS&G would not have independently selected and voluntarily installed this treatment technology if it interfered with the production of concrete products.

(v) Cost of achieving effluent reductions

As discussed above, EPA considers the cost of technological alternatives when determining the BAT and associated NPDES permit requirements. Where the BAT standard applies, CWA §§ 301(b)(2) and 304(b)(2) require "EPA to set discharge limits that reflect the amount of pollutant that would be discharged by a point source employing the best available technology that the EPA determines to be economically feasible" *Texas Oil and Gas v. EPA*, 161 F.3d 923, 928 (5th Cir. 1998). To be an "available" technology, the option in question must be "economically achievable." See *Chemical Manufacturers*, 870 F.2d at 250 (citing 33 U.S.C. § 1311(b)(2)(A)). The United States Supreme Court has interpreted the CWA to mean that the BAT should "represent a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges." *Crushed Stone*, 449 U.S. at 74.

Neither the CWA nor EPA regulations dictate precisely how the Agency should go about considering costs in its technology standards determinations, but the courts have made clear that only a reasonable consideration of cost is necessary and precise cost estimates are not required. See *BP Exploration*, 66 F.3d at 803; *NRDC v. EPA*, 863 F.2d 1420, 1426 (9th Cir. 1988) (EPA need "develop no more than a rough idea of the costs the industry would incur"). Moreover, the BAT standard does not call for consideration of a comparison of costs to benefits. See, e.g., *Crushed Stone*, 449 U.S. at 74; *Texas Oil*, 161 F.3d at 936.

BS&G's implemented the new treatment technology in September 2016 and continues to operate it. As such, EPA expects that there are no additional capital costs and minimal operating costs associated with continuing to operate and maintain the new treatment technology. To the extent BS&G incurs additional costs due to the operation of the new treatment technology, EPA assumes from the fact that BS&G has been doing so for several years indicates such treatment is "economically achievable."

(vi) Non-water quality environmental impacts (including energy requirements)

Finally, EPA considers the non-water quality environmental impacts associated with the treatment of wastewater, including energy consumption, air emissions, noise, and visual impacts. The Permittee has operated the new treatment technology since September 2016 and did not

comment that the new technology results in an increase in energy usage, air emissions and noise as compared to the existing system prior to September 2016. The new technology consists of new treatment chemistry in the block house, which would not be expected to have any visual impacts on the existing lagoons, mixing tanks, and the block house that contains the mixing tanks. EPA also does not expect any non-water quality environmental impacts associated with continuing to operate and maintain the new treatment chemistry. Furthermore, any impacts of treatment equipment are dwarfed by active vehicles and concrete production machinery and used throughout the rest of the site and it is assumed that the energy usage, air emissions, and noise generated by the equipment will be negligible in considering the operations of the entire facility.

Technology-based controls in NPDES permits are performance-based measures. Based on analysis of the appropriate factors and its best professional judgment, EPA concludes that the performance of the “Hubbard Hall” treatment system represents the BAT for the discharge of copper from this facility. Therefore, EPA developed a numeric TBEL for copper based on the performance of this technology as measured by permittee and submitted to the DMR after the new treatment technology was installed. DMR data from October 2016 through the end of May 2018 was used to assess the long-term treatment performance of the BAT technology used by BS&G to remove copper. A numeric TBEL was developed by estimating the 95th percentile of representative performance data. The 95th percentile of the monthly Total Recoverable Copper performance data was found to be 26.3 µg/L. TBELs must be met end-of-pipe. Therefore, the daily maximum effluent limitation for Total Recoverable Copper is 26.3 µg/L.

EPA and MassDEP agree that the basis for the maximum daily Total Recoverable Copper TBEL based on BAT differs from the basis for the water quality-based effluent limitation (“WQBEL”) that was proposed in the 2017 Draft Permit. This limit is more stringent than otherwise would be imposed to meet water quality, as the applicable criterion is 26.8 µg/L Total Recoverable Copper. As a result of this change, based on analysis performed in response to comments received on the Draft Permit, EPA is issuing a revised Draft Permit to invite comment on the proposed technology-based maximum daily effluent limitation. EPA expects that the facility can meet this effluent limitation as the facility has consistently achieved it since it implemented the new treatment technology. Inclusion of the numeric effluent limitation for this parameter will provide an incentive to maintain and operate the new treatment technology.

2018 Fact Sheet Supplement Attachment A

Reasonable Potential Analysis for Copper:
October 2016 – May 2018 DMR data, 18 data points

DMR data for months where there was no discharge were not used to determine reasonable potential. The applicable acute criterion for copper is 26.8 µg/L Total Recoverable Copper. As discussed previously, there is no reasonable potential for the discharge to cause or contribute to a violation of copper criteria based on the projected 95th percentile Total Recoverable Copper concentration. The BAT TBEL for copper is also based on the projected 95th percentile Total Recoverable Copper concentration in the table below.

| Copper - Lognormal distribution, no ND | |
|--|-----------|
| Estimated Daily Maximum Effluent Concentration | |
| k = number of daily samples = | 18 |
| u _y = Avg of Nat. Log of daily Discharge = | 1.80 |
| s _y = Std Dev. of Nat Log of daily discharge = | 0.89 |
| 95th Percentile Daily Max Estimate = $\exp(u_y + 1.645*s_y)$ | |
| Estimated Daily Max including Dilution Factor = | 26.3 µg/L |

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

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

JOINT PUBLIC NOTICE OF A REVISED DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT, AS AMENDED, AND 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 ORIGINAL PUBLIC NOTICE: 08/01/2017 - 08/30/2017

DATE OF PUBLIC NOTICE: **March 5, 2019 – April 3, 2019**

PERMIT NUMBER: **MA0000531**

PUBLIC NOTICE NUMBER: **MA-006-19**

NAME AND MAILING ADDRESS OF APPLICANT:

Boston Sand & Gravel Company
100 N. Washington Street, 2nd Floor
Boston, MA 02114

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Boston Sand & Gravel Company
500 Front Street
Charlestown, MA 02129

RECEIVING WATER: Unnamed Tributary to the Charles River (“Millers River”, Outfall 001)

PREPARATION OF THE REVISED DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (“MassDEP”) have cooperated in the development of a revised Draft Permit for Boston Sand & Gravel’s Charlestown facility, which discharges commingled process water and stormwater. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has requested that the State certify this revised Draft Permit pursuant to Section 401 of the Clean Water Act and expects that the revised Draft Permit will be certified.

INFORMATION ABOUT THE REVISED DRAFT PERMIT:

A draft NPDES permit was released for public comment on August 1, 2017 (“2017 Draft Permit”). EPA received comments from Boston Sand & Gravel on the 2017 Draft Permit, including a request to review DMR data collected after a new treatment technology was installed to more effectively remove metals in the discharge. EPA Region 1 and the Massachusetts Department of Environmental Protection (“MassDEP”) reviewed the DMR data and determined that a technology-based effluent limitation rather than a water quality-based effluent limitation, as in the 2017 Draft Permit, was appropriate for copper. The effluent limitations in this revised Draft Permit are imposed to protect water quality in the Unnamed Tributary of the Charles River.

A fact sheet supplement (which includes the basis for the revised draft permit conditions; and significant factual, legal and policy questions considered in preparing this revised draft permit) may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html or by contacting:

Undine Kipka
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1335
kipka.undine@epa.gov

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

FINAL PERMIT DECISION AND APPEALS:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

LEALDON LANGLEY, DIRECTOR
DIVISION OF WATERSHED
MANAGEMENT
MASSACHUSETTS DEPARTMENT
OF ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY - REGION 1