

**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”,

Bridgewater Power Company

is authorized to discharge from a facility located at

**Bridgewater Power Company
Route 3
Bridgewater, NH 03222**

to receiving water named

**Pemigewasset River
Pemigewasset Watershed**

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 immediately following 60 days after signature.¹

This permit expires at midnight, five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on September 8, 2006.

This permit consists of **Part I, Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011), and **Part II** (NPDES Part II Standard Conditions, April 2018).

Signed this day of

Ken Morauff, Director
Water Division
Environmental Protection Agency
Region 1
Boston, MA

¹ Pursuant to 40 Code of Federal Regulations (C.F.R.) § 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. Procedures for appealing EPA’s Final Permit decision may be found at 40 C.F.R. § 124.19.

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 wastewater from the cooling pond, including boiler blowdown, floor drains, mechanical equipment cooling, condenser cooling, and generator cooling, through Outfall Serial Number 001A to Pemigewasset River. The discharge shall be limited and monitored as specified below; the receiving water shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation		Monitoring Requirements ^{1,2,3}	
	Average Monthly	Maximum Daily	Measurement Frequency ⁴	Sample Type ⁵
Effluent Flow ⁵	Report MGD	0.5 MGD	Continuous	Meter
pH ⁶	6.5 - 8.0 S.U.		Continuous	Meter
Temperature	---	95°F	Continuous	Meter
Total Residual Chlorine (TRC) ⁷	---	200 µg/L	1/Event	Grab
Total Suspended Solids (TSS)	30 mg/L	100 mg/L	1/Event	Grab
Oil and Grease	15 mg/L	20 mg/L	1/Event	Grab
Total Copper	350 µg/L	450 µg/L	1/Event	Grab
Total Lead	20 µg/L	790 µg/L	1/Event	Grab
Total Aluminum ⁸	87 µg/L	---	1/Event	Grab

Effluent Characteristic	Effluent Limitation		Monitoring Requirements ^{1,2,3}	
	Average Monthly	Maximum Daily	Measurement Frequency ⁴	Sample Type ⁵
Whole Effluent Toxicity (WET) Testing ^{9,10}				
LC ₅₀	---	≥ 50%	1/year	Grab
Hardness	---	Report mg/L	1/year	Grab
Ammonia Nitrogen	---	Report µg/L	1/year	Grab
Total Aluminum	---	Report µg/L	1/year	Grab
Total Cadmium	---	Report µg/L	1/year	Grab
Total Copper	---	Report µg/L	1/year	Grab
Total Nickel	---	Report µg/L	1/year	Grab
Total Lead	---	Report µg/L	1/year	Grab
Total Zinc	---	Report µg/L	1/year	Grab

Ambient Characteristic ¹¹	Reporting Requirement		Monitoring Requirements ^{1,2,3}	
	Average Monthly	Maximum Daily	Measurement Frequency ⁴	Sample Type
Hardness	---	Report mg/L	1/year	Grab
Dissolved Organic Carbon	---	Report µg/L	1/year	Grab
Ammonia Nitrogen	---	Report µg/L	1/year	Grab
Total Aluminum	---	Report µg/L	1/year	Grab
Total Cadmium	---	Report µg/L	1/year	Grab
Total Copper	---	Report µg/L	1/year	Grab
Total Nickel	---	Report µg/L	1/year	Grab
Total Lead	---	Report µg/L	1/year	Grab
Total Zinc	---	Report µg/L	1/year	Grab
pH ¹²	---	Report S.U.	1/year	Grab
Temperature ¹²	---	Report °C	1/year	Grab

2. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge stormwater through Outfall Serial Number 001C and Outfall 002 to Pemigewasset River. The discharge shall be limited and monitored as specified below; the receiving water shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation		Monitoring Requirements ^{1,2,3}	
	Average Monthly	Maximum Daily	Measurement Frequency ⁴	Sample Type
Effluent Flow	---	Report MGD	1/quarter	Estimate
Total Suspended Solids (TSS)	---	Report	1/quarter	Grab
Oil and Grease	---	15 mg/L	1/quarter	Grab
Chemical Oxygen Demand	---	Report	1/quarter	Grab
Total Iron	---	Report	1/quarter	Grab
pH ⁶	6.5 - 8.0 S.U.		1/quarter	Grab
pH of rainfall ⁶	---	Report S.U.	1/quarter	Grab

Footnotes:

1. Effluent samples shall yield data representative of the discharge. Effluent samples representative of the cooling pond discharge at Outfall 001A shall be taken from the suction side of the circulating water pump, prior to discharging to the receiving water and without mixing with stormwater. Samples representative of stormwater discharges at Outfalls 001C and 002 shall be taken from the first upstream catch basin prior to discharging into the receiving water. At each stormwater outfall, grab samples shall be collected during a storm event greater than 0.1 inches in magnitude that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Grab samples shall be collected during the first 30 minutes of the discharge. If collection during the first 30 minutes is not practicable, grab samples must be collected as soon as possible and the permittee shall

submit a description of why collection during the first 30 minutes was not practicable. Changes in sampling location must be approved in writing by the Environmental Protection Agency Region 1 (EPA) and the State. The Permittee shall report the results to EPA and the State of any additional testing above that required herein, if testing is done in accordance with 40 C.F.R. § 136. The Permittee shall notify EPA, the NHDES inspector, and the regional New Hampshire Fish and Game Department by telephone with as much advance notice as possible but no later than 24 hours after initiating discharge from Outfall 001A. See Part I.D.6 for contact information.

2. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is “sufficiently sensitive” when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term “minimum level” refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.
3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). When calculating and reporting the average monthly concentration when one or more sample values are non-detect, the Permittee shall assign a value of zero to the non-detects and report the average of all the results.
4. Measurement frequency of 1/event is defined as the recording of one measurement during period of discharge from the cooling pond within the calendar month. A discharge event commences when effluent from the cooling pond is discharged to the outfall and ends when the cooling pond effluent is no longer being discharged. Measurement frequency of 1/year is defined as the sampling of a single discharge event during one calendar year. Measurement frequency of 1/quarter is defined as one sample collected during a calendar quarter. Calendar quarters are defined as January through March, inclusive, April through June, inclusive, July through September, inclusive and October through December, inclusive. If no sample is collected during the measurement frequencies defined above, the Permittee must report an appropriate No Data Indicator Code.
5. Monthly average effluent flow shall be reported in million gallons per day (MGD). Total effluent flow volume shall not exceed 0.5 million gallons (MG) over a 24-hour period.

6. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the monitoring period shall be reported in standard units (S.U.). See Part I.C.1 below for a provision to modify the pH range. The rainfall pH shall be monitored concurrently with the discharge.
7. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated or which contain residual chlorine. For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. § 136 that achieves a minimum level of detection no greater than 30 µg/L.
8. Please see Part I.C.2 for special conditions related to aluminum.
9. The Permittee shall conduct acute toxicity testing (LC₅₀) on the cooling pond effluent once per year in accordance with test procedures and protocols specified in **Attachment A** of this permit. LC₅₀ is defined in Part II.E. of this permit. Toxicity testing must be completed during the quarter ending on September 30. The Permittee shall test the daphnid, *Ceriodaphnia dubia*, and the fathead minnow, *Pimephales promelas*. The WET test and chemistry results shall be reported in the September DMR due October 15th. The complete report for the toxicity test shall be submitted as an attachment to the toxicity DMR.
10. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.
11. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment A**. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS. Ambient Dissolved Organic Carbon monitoring has been added to support the development of aluminum limits as part of a permit modification. See Part I.C.2.
12. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

Part I.A. continued.

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result in the dominance of nuisance species; or interfere with recreational activities.
4. Tainting substances shall not be present in the discharge in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms.
5. The discharge shall not result in toxic substances or chemical constituents in concentrations or combinations in the receiving water that injure or are inimical to plants, animals, humans or aquatic life; or persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in edible portions of fish, shellfish, other aquatic life, or wildlife that might consume aquatic life.
6. The discharge shall not result in benthic deposits that have a detrimental impact on the benthic community. The discharge shall not result in oil and grease, color, slicks, odors, or surface floating solids that would impair any existing or designated uses in the receiving water.
7. The discharge shall not result in an exceedance of the naturally occurring turbidity in the receiving water by more than 10 NTUs.
8. The thermal plumes from the Facility shall not block zones of fish passage, interfere with spawning of indigenous populations, or change the balanced indigenous population of the receiving water, and shall have minimal contact with surrounding shorelines.
9. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 C.F.R. § 122.42):
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - (1) 100 micrograms per liter ($\mu\text{g/L}$);
 - (2) 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol; and one milligram per liter (mg/L) for antimony;
 - (3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or

- (4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f) and State regulations.
- b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
- (1) 500 µg/L;
 - (2) One mg/L for antimony;
 - (3) 10 times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f) and State regulations.
- 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.

B. UNAUTHORIZED DISCHARGES

1. This permit authorizes discharges only from the outfall(s) listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Part D.1.e.(1) of the Standard Conditions of this permit (24-hour reporting).
2. There shall be no discharge of metal cleaning or chemical metal cleaning wastes, including washing of boilers, condensers, air preheaters, or other types of process equipment. The Permittee shall keep an annual record of removal of all metal cleaning wastes during the permit term and shall submit annual records to EPA and NHDES with the application for re-issuance of the NPDES permit.
3. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid. The permittee shall dispose of all known PCB equipment, articles, and wastes in accordance with 40 C.F.R. Part 761.
4. The Permittee shall comply with all existing Federal, State, and local laws and regulations that apply to the reuse or disposal of solids, such as those which may be removed from the cooling pond. At no time shall these solids be discharged to the receiving water.
5. There shall be no discharge of wood chips, sawdust, waste ash, and other wood related debris to the Pemigewasset River from any runoff area. All wood related debris shall be prevented from entering catch basins that drain water from the solids collection channels to stormwater outfalls. Solids collection channels shall be inspected at least quarterly and, if necessary, cleaned. All debris removed from treatment channels shall be disposed of according to applicable State and Federal regulations.

C. SPECIAL CONDITIONS

1. The pH range may be modified if the Permittee satisfies conditions set forth in Part I.E.3 below. Upon notification of an approval by the State, EPA will review and, if acceptable, will submit written notice to the Permittee of the permit change. The modified pH range will not be in effect until the Permittee receives written notice from EPA.
2. The effluent limit for total aluminum shall be subject to a schedule of compliance whereby the limit takes effect three years after the effective date of the permit. For the period starting on the effective date of this permit and ending three (3) years after the effective date, the permittee shall report only the monthly average aluminum concentration on the monthly DMR. After this initial three (3) year period, the permittee shall comply with the monthly average total aluminum limits of 87 µg/L (“final aluminum effluent limit”). The permittee shall submit an annual report due by January 15th of each year of the permit that will detail its progress towards meeting the final aluminum effluent limit.

At a minimum, the permittee shall include the following:

- a. An evaluation of all other potentially significant sources of aluminum in the effluent and alternatives for minimizing these sources
- b. An evaluation of alternative modes of operation at the facility in order to reduce the effluent levels of aluminum

If during the three-year period after the effective date of the permit, New Hampshire adopts revised aluminum criteria then the permittee may request a permit modification, pursuant to 40 C.F.R. § 122.62(a)(3), for a further delay in the effective date of the final aluminum effluent limits. If new criteria are approved by EPA before the effective date of the final aluminum effluent limit, the permittee may apply for a permit modification, pursuant to 40 C.F.R. § 122.62(a)(3), to revise the time to meet the final aluminum effluent limit and/or for revisions to the permit based on whether there is reasonable potential for the facility’s aluminum discharge to cause or contribute to a violation of the newly approved aluminum criteria.²

² The final effluent limit of 87 µg/L for aluminum may be modified prior to the end of the three-year compliance schedule if warranted by the new criteria and a reasonable potential analysis and consistent with anti-degradation requirements. Such a modification would not trigger anti-backsliding prohibitions, as reflected in CWA 402 § (o) and 40 C.F.R. § 122.44(l).

3. Best Management Practices (BMPs)

The Permittee shall design, install, and implement control measures, including best management practices (BMPs), to minimize pollutant discharges from stormwater to the receiving water. At a minimum, the Permittee must implement control measures, both structural and non-structural, consistent with those described in Part 2.1 and any Sector specific control measures in Part 8 of EPA's Multi-Sector General Permit (MSGP). (The current MSGP was effective June 4, 2015 – see <https://www.epa.gov/npdes/final-2015-msgp-documents>). Specifically, control measures, including BMPs must be selected and implemented in compliance with the non-numeric technology-based effluent limitations found in Parts 2.1.2, 8.A.3, and 8.O.4 of the 2015 MSGP:

- a. Minimize exposure of processing and material storage areas to stormwater discharges;
 - b. Good housekeeping measures designed to maintain areas that are potential sources of pollutants;
 - c. Preventative maintenance programs to avoid leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters;
 - d. Spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur;
 - e. Erosion and sediment controls designed to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants;
 - f. Runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff;
 - g. Proper handling procedures for salt or materials containing chlorides that are used for snow and ice control;
 - f. Employee training to ensure personnel understand the requirements of this permit
 - g. Minimize dust generation and vehicle tracking of industrial materials; and
 - h. Sector specific non-numeric technology-based effluent limitations included in Sector A (Timber Products) and Sector O (Steam Electric Generating Facilities) of the 2015 MSGP.
2. During the first year following the effective date of the Permit, the permittee shall investigate the potential sources of chemical oxygen demand (COD) that could cause stormwater discharged from Outfall 001C to exceed the Sector A benchmark for COD of 120 mg/L, including a demonstration that the exceedance of the benchmark is solely attributable to natural background sources. The Permittee must document the results of this study and the implementation of any control measures designed to minimize COD in the Stormwater Pollution Prevention Plan (SWPPP) described in Part 3 of this Section. A copy of the results, including implementation of any control measures, shall be submitted to EPA and NHDES within one year from the effective date of the permit in accordance with the reporting requirements in Part I.D.3.

3. Stormwater Pollution Prevention Plan (SWPPP)

The Permittee shall develop a Stormwater Pollution Prevention Plan (SWPPP) to document the selection, design and installation of control measures, including BMPs designed to meet the non-numeric technology-based effluent limitations required in Part I.C.1 and consistent with Parts 2.1.2, 8.A.3, and 8.O.4 of the 2015 MSGP, to minimize the discharge of pollutants from the Permittee's operations to the receiving water. The SWPPP shall be a written document and consistent with the terms of this Permit.

- a. The SWPPP shall be developed and signed consistent with the signatory requirements in Part II.D.2 of this Permit within ninety (90) days after the effective date of this Permit.
- b. The SWPPP shall be consistent with the general provisions for SWPPPs included in Part 5 of EPA's MSGP. 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 document the implementation of non-numeric technology based effluent limitations described in Part I.C.2 of this Permit that will be used to reduce the pollutants and assure compliance. Specifically, the SWPPP shall contain the elements listed in Parts 5.2.1 through 5.2.5, Part 8.A.4, and Part 8.O.5 of the 2015 MSGP and briefly described below:
 - (1) Stormwater pollution prevention team;
 - (2) Site description;
 - (3) Summary of potential pollutant sources;
 - (4) Description of all stormwater control measures;
 - (5) Schedules and procedures;
 - (6) Inventory of exposed materials;
 - (7) Drainage area site map; and
 - (8) Documentation of good housekeeping measures.
- c. The Permittee shall inspect quarterly all areas identified as: being exposed to stormwater, potential pollutant sources, discharge points, and control measures. Inspections shall occur beginning the first full calendar quarter after the effective date of the Permit. Inspections shall be consistent with the conditions in Parts 3.1 and 8.O.6 of the 2015 MSGP. EPA considers quarters as follows: January through March; April through June; July through September; and October through December. Inspections shall be performed by qualified personnel with participation of at least one member of the stormwater pollution prevention team. At least once each calendar year, the routine inspection must be conducted during a period when a stormwater discharge is occurring.
- d. The Permittee shall amend and update the SWPPP within fourteen (14) days of any changes at the facility affecting the SWPPP. Changes that may affect the SWPPP include, but are not limited to: 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 C.F.R. § 302; and 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 Part II.D.2 of this Permit.

- e. The Permittee shall certify at least annually that the previous year's inspections, maintenance, and training activities were conducted, results were recorded, records were maintained, as described in the SWPPP. If the facility is not in compliance with any BMPs and/or activities described in 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 Part II.D.2 of this Permit. The Permittee shall keep a copy of the current SWPPP and all SWPPP certifications (i.e., 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 NHDES. All documentation of SWPPP activities shall be kept at the Facility for at least five years and provided to EPA or NHDES upon request.

4. Discharges of Chemicals and Additives

The discharge of any chemical or additive, including chemical substitution, which was not reported in the application submitted to EPA and the State or provided through a subsequent written notification submitted to EPA and the State is prohibited. Upon the effective date of this permit, chemicals and/or additives which have been disclosed to EPA and the State may be discharged up to the frequency and level disclosed, provided that such discharge does not violate §§ 307 or 311 of the CWA or applicable State water quality standards. Discharges of a new chemical or additive are authorized under this permit 30 days following written notification to EPA and the State unless otherwise notified by EPA and/or the State. To request authorization to discharge a new chemical or additive, the Permittee must submit a written notification to EPA and the State in accordance with Part I.D.3 of this permit. The written notification must include the following information, at a minimum:

- a. The following information for each chemical and/or additive that will be discharged:
 - (1) Product name, chemical formula, general description, and manufacturer of the chemical/additive;
 - (2) Purpose or use of the chemical/additive;
 - (3) Safety Data Sheet (SDS), Chemical Abstracts Service (CAS) Registry number, and EPA registration number, if applicable, for each chemical/additive;
 - (4) The frequency (e.g., daily), magnitude (i.e., maximum application concentration), duration (e.g., hours), and method of application for the chemical/additive;
 - (5) The maximum discharge concentration; and
 - (6) The vendor's reported aquatic toxicity, if available (i.e., NOAEL and/or LC₅₀ in percent for aquatic organism(s)).

- b. Written rationale which demonstrates that the discharge of such chemicals and/or additives as proposed will not: 1) add any pollutants in concentrations which exceed any permit effluent limitation; and 2) add any pollutants that would justify the application of permit conditions different from, or in addition to those currently in this permit.

D. REPORTING REQUIREMENTS

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 DMRs Using NetDMR

- a. The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State no later than the 15th day of the month electronically using NetDMR. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the Permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. *See Part I.D.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.

3. Submittal of Requests and Reports to EPA Water Division (WD)

- a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in the EPA WD:
 - (1) Transfer of Permit notice;
 - (2) Request for changes in sampling location;
 - (3) BMP reports and certifications, if required;
 - (4) Request to discharge new chemicals or additives;
 - (5) Request for pH Effluent Limitation Adjustment;
 - (6) Report on unacceptable dilution water/request for alternative dilution water for WET testing;
 - (7) Results of the study of potential Chemical Oxygen Demand sources at Outfall 001C.
- b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov or by hard copy mail to the following address:

U.S. Environmental Protection Agency

**Water Division
NPDES Applications Coordinator
5 Post Office Square - Suite 100 (06-03)
Boston, MA 02109-3912**

4. Submittal of Reports in Hard Copy Form

- a. The following notifications and reports shall be signed and dated originals, submitted in hard copy, with a cover letter describing the submission:

(1) Prior to 21 December 2020, written notifications required under Part II. Starting on 21 December 2020, such notifications must be done electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.

- b. This information shall be submitted to EPA ECAD at the following address:

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

5. State Reporting

Unless otherwise specified in this permit or by the State, 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.H.3 through I.H.6 shall also be submitted to the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) electronically to the Permittee's assigned NPDES inspector at NHDES-WD or as a hardcopy to the following address:

**New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095**

6. Verbal Reports and Verbal Notifications

- a. 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 the State. This includes verbal reports and notifications which require reporting within 24 hours (e.g., Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.).

- b. Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at:

617-918-1510

- c. Verbal reports and verbal notifications shall also be made to the Permittee's assigned NHDES-WD NPDES inspector at:

603-271-2985

- d. Verbal reports and verbal notifications shall also be made to the Lakes Region and Central New Hampshire Fish and Game Department (Region 2) at:

603-744-5470

E. STATE PERMIT CONDITIONS

1. The Permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).
2. This NPDES Discharge Permit is issued by the EPA under Federal law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13. 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 the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.
3. The pH range of 6.5 to 8.0 Standard Units (S.U.) must be achieved in the final effluent unless the Permittee can demonstrate to NHDES-WD: 1) that the range should be widened due to naturally occurring conditions in the receiving water; or 2) that the naturally occurring receiving water pH is not significantly altered by the Permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0 to 9.0 S.U., which are federal technology-based effluent limitation guidelines for pH commonly found in 40 C.F.R. subchapter N Parts 405 through 471.

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)	$20 \pm 1^{\circ} \text{C}$ or $25 \pm 1^{\circ} \text{C}$
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>	<u>Effluent</u>	<u>Receiving Water</u>	<u>ML (mg/l)</u>
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.

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(April 26, 2018)¹

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¹ Updated July 17, 2018 to fix typographical errors.

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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

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)

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

**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: NH0022021

PUBLIC NOTICE START AND END DATES: September 10, 2019 – October 9, 2019

NAME AND MAILING ADDRESS OF APPLICANT:

Bridgewater Power Company
P.O. Box 678
Ashland, NH 03217

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bridgewater Power Company
Route 3
Bridgewater, NH 03222

RECEIVING WATER AND CLASSIFICATION:

Pemigewasset River (Hydrologic Basin Code 01070001)
Pemigewasset Watershed
Class B

SIC CODE: 4911 (Electric Power Generator)

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1.0 Proposed Action

Bridgewater Power Company (the “Permittee”) has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the Bridgewater Company (the “Facility”) into the Pemigewasset River.

The permit currently in effect was issued on September 8, 2006 with an effective date of December 1, 2006 and expired on November 30, 2011 (the “2006 Permit”). The Permittee filed an application for permit reissuance with EPA dated February 18, 2011, as required by 40 Code of Federal Regulations (C.F.R.) § 122.6. Since the permit application was deemed complete by EPA on September 20, 2013, the Facility’s 2006 Permit has been administratively continued pursuant to 40 C.F.R. § 122.6 and § 122.21(d). EPA and the State conducted a site visit on May 20, 2019.

This NPDES Permit is issued by EPA under federal law. New Hampshire construes Title L, Water Management and Protection, Chapters 485-A, Water Pollution and Waste Disposal, to authorize the New Hampshire Department of Environmental Services (NHDES) to “consider” a federal NPDES permit to be a State surface water discharge permit. As such, all the terms and conditions of the permit may, therefore, be incorporated into and constitute a discharge permit issued by NHDES.

2.0 Statutory and Regulatory Authority

Congress enacted the Federal Water Pollution Control Act, codified at 33 U.S.C. § 1251 – 1387 and commonly known as the Clean Water Act (CWA), “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specific permitting sections of the CWA, one of which is § 402. *See* CWA §§ 301(a), 402(a). Section 402(a) established one of the CWA’s principal permitting programs, the NPDES Permit Program. Under this section, EPA may “issue a permit for the discharge of any pollutant or combination of pollutants” in accordance with certain conditions. CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. *See* CWA § 402(a)(1) and (2). The regulations governing EPA’s NPDES permit program are generally found in 40 C.F.R. §§ 122, 124, 125, and 136.

“Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits” in order to achieve the statutory mandates of Section 301 and 402. *Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992). *See also* 40 C.F.R. §§ 122.4(d), 122.44(d)(1), 122.44(d)(5). CWA §§ 301 and 306 provide for two types of effluent limitations to be included in NPDES permits: “technology-based” effluent limitations (TBELs) and “water quality-based” effluent limitations (WQBELs). *See* CWA §§ 301, 304(b); 40 C.F.R. §§ 122, 125, and 131.

2.1 Technology-Based Requirements

Technology-based treatment requirements represent the minimum level of control that must be imposed under CWA §§ 301(b) and 402 to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. *See* 40 C.F.R. § 125 Subpart A.

Subpart A of 40 C.F.R. Part 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under § 301(b) of the CWA, including the application of EPA promulgated Effluent Limitation Guidelines (ELGs) and case-by-case determinations of effluent limitations under CWA § 402(a)(1). EPA promulgates NSPS under CWA § 306 and 40 C.F.R. § 401.12. *See also* 40 C.F.R. §§ 122.2 (definition of “new source”) and 122.29.

In general, ELGs for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989. *See* 40 C.F.R. § 125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit. In the absence of published technology-based effluent guidelines, the permit writer is authorized under CWA § 402(a)(1)(B) to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ).

2.2 Water Quality-Based Requirements

The CWA and federal regulations require that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. *See* CWA § 301(b)(1)(C) and 40 C.F.R. §§ 122.44(d)(1), 122.44(d)(5), 125.84(e) and 125.94(i).

2.2.1 Water Quality Standards

The CWA requires that each state develop water quality standards (WQSs) for all water bodies within the State. *See* CWA § 303 and 40 C.F.R. §§ 131.10-12. Generally, WQSs consist of three parts: 1) beneficial designated use or uses for a water-body or a segment of a water-body; 2) numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded and to protect high quality and National resource waters. *See* CWA § 303(c)(2)(A) and 40 C.F.R. § 131.12. The applicable State WQSs can be found in the New Hampshire Code of Administrative Rules, Surface Water Quality Regulations, Chapter Env-Wq 1700 *et seq.* *See also generally*, N.H. Rev. Stat. Title L, Water Management and Protection, Chapter 485-A, Water Pollution and Waste Disposal.

As a matter of state law, state WQSs specify different waterbody classifications, each of which is associated with certain designated uses and numeric and narrative water quality criteria. When using chemical-specific numeric criteria to develop permit limitations, acute and chronic aquatic life criteria and human health criteria are used and expressed in terms of maximum allowable in-stream pollutant concentrations. In general, aquatic-life acute criteria are considered applicable to daily time periods (maximum daily limit) and aquatic-life chronic criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific human health criteria are typically based on lifetime chronic exposure and, therefore, are typically applicable to monthly average limits.

When permit effluent limitation(s) are necessary to ensure that the receiving water meets narrative water quality criteria, the permitting authority must establish effluent limits in one of the following three ways: 1) based on a “calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use,” 2) based on a “case-by-case basis” using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, 3) in certain circumstances, based on use of an indicator parameter. *See* 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

2.2.2 Antidegradation

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide antidegradation policy that maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses. In addition, the antidegradation policy ensures maintenance of high quality waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, unless the State finds that allowing degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

The New Hampshire Antidegradation Policy, found at Env-Wq 1708, applies to any new or increased activity that would lower water quality or affect existing or designated uses, including increased loadings to a water body from an existing activity. The antidegradation regulations focus on protecting high quality waters and maintaining water quality necessary to protect existing uses. Discharges that cause “significant degradation” are defined in NH WQS (Env-Wq 1708.09(a)) as those that use 20% or more of the remaining assimilative capacity for a water quality parameter in terms of either concentration or mass of pollutants or flow rate for water quantity. When NHDES determines that a proposed increase would cause a significant impact to existing water quality, the applicant must provide documentation to demonstrate that the lowering of water quality is necessary, that it will provide net economic or social benefit in the area in which the water body is located, and that the benefits of the activity outweigh the environmental impact caused by the reduction in water quality. *See* Env-Wq 1708.10(b).

This permit is being reissued with effluent limitations sufficiently stringent to satisfy the State’s antidegradation requirements, including the protection of the existing uses of the receiving water.

2.2.3 Assessment and Listing of Waters and Total Maximum Daily Loads

The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the Nation's waters. To meet this goal, the CWA requires states to develop information on the quality of their water resources and report this information to EPA, the U.S. Congress, and the public. To this end, EPA released guidance on November 19, 2001, for the preparation of an integrated "List of Waters" that could combine reporting elements of both § 305(b) and § 303(d) of the CWA. The integrated list format allows states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories: 1) unimpaired and not threatened for all designated uses; 2) unimpaired waters for some uses and not assessed for others; 3) insufficient information to make assessments for any uses; 4) impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) impaired or threatened for one or more uses and requiring a TMDL.

A TMDL is a planning tool and potential starting point for restoration activities with the ultimate goal of attaining water quality standards. A TMDL essentially provides a pollution budget designed to restore the health of an impaired water body. A TMDL typically identifies the source(s) of the pollutant from point sources and non-point sources, determines the maximum load of the pollutant that the water body can tolerate while still attaining WQSs for the designated uses, and allocates that load among the various sources, including point source discharges, subject to NPDES permits. *See* 40 C.F.R. § 130.7.

For impaired waters where a TMDL has been developed for a particular pollutant and the TMDL includes a waste load allocation (WLA) for a NPDES permitted discharge, the effluent limitation in the permit must be "consistent with the assumptions and requirements of any available WLA". 40 C.F.R. § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to CWA § 301(b)(1)(C) and 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA. *See also* 33 U.S.C. § 1311(b)(1)(C). In addition, limitations "must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. *See* 40 C.F.R. § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 C.F.R. § 122.44(d)(1)(i).

2.2.5 State Certification

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate the State WQSs, the State waives, or is deemed to have waived, its right to certify. *See* 33 U.S.C. § 1341(a)(1). Regulations governing state certification are set forth in 40 C.F.R. § 124.53 and § 124.55. EPA has requested permit certification by the State pursuant to 40 C.F.R. § 124.53 and expects that the Draft Permit will be certified.

If the State believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of State law, the State should include such conditions in its certification and, in each case, cite the CWA or State law provisions upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. EPA includes properly supported State certification conditions in the NPDES permit. The only exception to this is that the permit conditions/requirements regulating sewage sludge management and implementing CWA § 405(d) are not subject to the State certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the EPA permit appeal procedures of 40 C.F.R. Part 124.

In addition, the State should provide a statement of the extent to which any condition of the Draft Permit can be made less stringent without violating the requirements of State law. Since the State's certification is provided prior to final permit issuance, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition.

It should be noted that under CWA § 401, EPA's duty to defer to considerations of state law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by state law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." 40 C.F.R. § 124.55(c). In such an instance, the regulation provides that, "The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification." *Id.* EPA regulations pertaining to permit limitations based upon WQSs and State requirements are contained in 40 C.F.R. §§ 122.4(d) and 122.44(d).

2.3 Effluent Flow Requirements

Generally, EPA uses effluent flow both to determine whether an NPDES permit needs certain effluent limitations and to calculate the effluent limitations themselves. EPA practice is to use effluent flow as a reasonable and important worst-case condition in EPA's reasonable potential

and WQBEL calculations to ensure compliance with WQSs under CWA § 301(b)(1)(C). Should the effluent flow exceed the flow assumed in these calculations, the in-stream dilution would be reduced and the calculated effluent limitations might not be sufficiently protective (i.e., might not meet WQSs). Further, pollutants that do not have the reasonable potential to exceed WQSs at a lower discharge flow may have reasonable potential at a higher flow due to the decreased dilution. In order to ensure that the assumptions underlying EPA's reasonable potential analyses and permit effluent limitation derivations remain sound for the duration of the permit, EPA may ensure the validity of its "worst-case" effluent flow assumptions through imposition of permit conditions for effluent flow.¹ In this regard, the effluent flow limitation is a component of WQBELs because the WQBELs are premised on a maximum level flow. The effluent flow limit is also necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

The limitation on effluent flow is within EPA's authority to condition a permit to carry out the objectives and satisfy the requirements of the CWA. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 C.F.R. §§ 122.4(a) and (d); 122.43 and 122.44(d). A condition on the discharge designed to ensure the validity of EPA's WQBELs and reasonable potential calculations that account for "worst case" conditions is encompassed by the references to "condition" and "limitations" in CWA §§402 and 301 and the implementing regulations, as WQBELs are designed to assure compliance with applicable water quality regulations, including antidegradation requirements. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is also consistent with the CWA.

In addition, as provided in Part II.B.1 of this permit and 40 C.F.R. § 122.41(e), the Permittee is required to properly operate and maintain all facilities and systems of treatment and control. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Consequently, the effluent flow limit is a permit condition that relates to the Permittee's duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 C.F.R. §§ 122.41(d), (e).

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

Sections 308(a) and 402(a)(2) of the CWA and the implementing regulations at 40 C.F.R. Parts 122, 124, 125, and 136 authorize EPA to include monitoring and reporting requirements in NPDES permits.

¹ EPA's regulations regarding "reasonable potential" require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," *id.* 40 C.F.R. §122.44(d)(1)(ii). *Both* the effluent flow and receiving water flow may be considered when assessing reasonable potential. *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599 (EAB 2010). EPA guidance directs that this "reasonable potential" analysis be based on "worst-case" conditions. *See In re Washington Aqueduct Water Supply Sys.*, 11 E.A.D. 565, 584 (EAB 2004).

The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharges in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 C.F.R. §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The Draft Permit specifies routine sampling and analysis requirements to provide ongoing, representative information on the levels of regulated constituents in the wastewater discharges. The monitoring program is needed to enable EPA and the State to assess the characteristics of the Facility's effluent, whether Facility discharges are complying with permit limits, and whether different permit conditions may be necessary in the future to ensure compliance with technology-based and water quality-based standards under the CWA. EPA and/or the State may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to CWA § 304(a)(1), State water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 C.F.R. Part 122.

NPDES permits require that the approved analytical procedures found in 40 C.F.R. Part 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.² This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 C.F.R. § 122.21(e)(3) (completeness), 40 C.F.R. § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 C.F.R. § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level³ (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

² Fed. Reg. 49,001 (Aug. 19, 2014).

³ The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." See Fed. Reg. 49,001 (Aug. 19, 2014).

2.4.2 Reporting Requirements

The Draft Permit requires the Permittee to report monitoring results obtained during each calendar month to EPA and the State electronically using NetDMR. The Permittee must submit a Discharge Monitoring Report (DMR) for each calendar month no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool enabling regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has eliminated the need for participants to mail in paper forms to EPA under 40 C.F.R. §§ 122.41 and 403.12. NetDMR is accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>. Further information about NetDMR can be found on the EPA NetDMR support portal webpage.⁴

With the use of NetDMR, the Permittee is no longer required to submit hard copies of DMRs and reports to EPA and the State unless otherwise specified in the Draft Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for providing written notifications required under the Part II Standard Conditions.

2.5 Standard Conditions

The standard conditions, included as Part II of the Draft Permit, are based on applicable regulations found in the Code of Federal Regulations. See generally 40 C.F.R. Part 122.

2.6 Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified to include less stringent limitations or conditions than those contained in a previous permit except in compliance with one of the specified exceptions to those requirements. *See* CWA §§ 402(o) and 303(d)(4) and 40 C.F.R. § 122.44(l). Anti-backsliding provisions apply to effluent limits based on technology, water quality, and/or state certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2006 Permit unless specific conditions exist to justify relaxation in accordance with CWA § 402(o) or § 303(d)(4). Discussion of any less stringent limitations and corresponding exceptions to anti-backsliding provisions is provided in the sections that follow.

4

<https://netdmr.zendesk.com/hc/en-us>

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility

Bridgewater Power Company (BPC), located in Bridgewater, New Hampshire, is a 15 megawatt (MW) wood-fired electrical generation facility. Electricity is generated by means of one 15 MWnet wood-fired steam turbine unit, which began commercial operation in 1987. The Station was a “base-load” facility and was permitted to discharge from its cooling pond periodically. BPC has not operated since December 2017; however, the facility is fully staffed and performing maintenance, and is available to generate electricity should it be called upon. The plant may intermittently run in the next few years depending on market conditions and the status of State mandates for utilities to purchase power from biomass plants such as BPC. The plant is expected to operate at reduced load rather than shutting down during the permit term.

BPC is authorized to discharge to the Pemigewasset River through two outfalls. A large cooling pond with sprayers is located between the facility and the Pemigewasset, where the sprayers are only used when the plant is operating. The discharge from Outfall 001 includes stormwater, boiler blowdown, floor drain waste and once-through cooling water. The discharge from Outfall 002 includes stormwater primarily from the woodchip pile. The boiler blowdown water and cooling water are treated with chemical additives.

BPC did discharge from its cooling pond when operating as a “base-load” facility. BPC discharged in 2018 and 2019 as a result of its reduced electrical operation: less water evaporates from the cooling pond because less heat is added to it during reduced load operations and a discharge is required to maintain the cooling pond level. A flow diagram is included in Figure 1, a cooling water diagram is included in Figure 2, and a site plan is included in Figure 3.

3.1.1 Effluent Limitation Guidelines

The effluent guidelines for steam electric power plants set forth in 40 C.F.R. Part 423 are specific for fossil fuel or nuclear fuel facilities but do not include wood fuel units like Bridgewater Power Company. See 40 C.F.R. § 423.10. Therefore, the effluent guidelines which represent BPT and BAT as are not applicable to these types of units. However, since the discharges from wood fuel units are similar to fossil fuel units, the Steam Electric Power Generating Guidelines (SE ELGs) may serve as guidance for establishing effluent limitations for those types of discharges. Therefore, limitations for wood fuel units are informed by BPT and BAT requirements established for the Steam Electric Power Generating Point Source Category using EPA’s BPJ authority consistent with CWA § 402(a)(1)(B) and 402(a)(2), 40 C.F.R. §§ 122.43(a), 122.44(a)(1).

3.2 Location and Type of Discharge

The Permittee has requested authorization to discharge wastewater from the Facility through Outfalls 001 and Outfall 002 into the Pemigewasset River. Outfall 001 is located at Latitude 43° 43’ 0.92” Longitude 71° 39’ 30.93” on the western bank of Pemigewasset River. Outfall 002 is located at Latitude 43° 42’ 56.93” Longitude 71° 39’ 27.59” also on the western bank of

Pemigewasset River. The discharge of process water from the cooling pond at Outfall 001 is designated as Outfall 001A. The discharge of stormwater at Outfall 001 is designated as Outfall 001C. Discharges from Outfall 002 are solely stormwater. A schematic of water flow at the Facility is provided in Figure 3.

Source water used for cooling is withdrawn from on-site groundwater wells which precludes the need for a cooling water intake structure. Process water from boiler blowdown, floor drains, mechanical equipment cooling, condenser cooling, and generator cooling is discharged to the cooling pond. In the past, the Facility has discharged from the cooling pond during emergencies, to perform maintenance on the pond liner, and when needed to adjust the concentration of chemicals in the cooling water. More recently, the reduced operations at the Facility result in a lower temperature in the cooling pond, which reduces evaporation and requires the Facility to discharge occasionally to maintain the cooling pond volume. Based on discharge monitoring reports from March 2014 through March 2019, discharges from Outfall 001A (cooling pond) occurred during four reporting periods: in July, August, and September 2018 and March 2019. The Permittee estimates that the entire cooling pond can be discharged over a period of two to three days.

The primary discharge to the Pemigewasset River is stormwater. Stormwater may be discharged from Outfalls 001C and 002. Outfall 001C includes the drainage area around the generating facility and cooling pond. Stormwater is directed to a catch basin which serves as the monitoring location for Outfall 001C. From the catch basin the stormwater drains directly to the Pemigewasset River through the same outfall as the cooling pond discharge (Outfall 001A). Outfall 002 includes the drainage area from the wood chip storage pile and the buildings on the south corner of the site. Stormwater is directed to a rip-rap retention channel. The catch basin immediately upstream from the outlet to Outfall 002, located at the end of the rip-rap channel, is blocked by a magnetic manhole cover. Stormwater infiltrates in the retention channel; there has not been a discharge of stormwater at Outfall 002 during the monitoring period beginning in March 2014. All sanitary wastewater is disposed of in on-site septic systems.

A quantitative description of the discharge in terms of effluent parameters, based on monitoring data submitted by the Permittee, including Discharge Monitoring Reports (DMRs), from March 2014 through March 2019 is provided in Appendix A of this Fact Sheet.

4.0 Description of Receiving Water and Dilution

4.1 Receiving Water

BPC is authorized to discharge through Outfalls 001 and 002 to the Pemigewasset River (Assessment Unit ID: NHRIV700010404-07), a 2.7 mile segment of the mainstem of the river near Bridgewater, New Hampshire. This reach of the river is part of the Plymouth/Ashland Tributaries Watershed, listed as Hydrologic Unit Code 010700010404.

The Pemigewasset originates at Profile Lake in Franconia Notch State Park, in the town of Franconia. It flows south through the White Mountains and merges with the Winnepesaukee River to form the Merrimack River at Franklin.

The Pemigewasset River is classified as a Class B water body pursuant to the State of New Hampshire's Surface Water Quality Regulations (N.H. Code of Administrative Rules, Env-Wq 1703.01) and N.H. RSA 485-A:8. Pursuant to New Hampshire Law at Revised Statutes Annotated (RSA) 485-A:8, II;

Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, ... The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes ... Any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class. The waters of this classification shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies.

RSA 485-A:8, VIII also states that

[i]n prescribing minimum treatment provisions for thermal wastes discharged to interstate waters, the department shall adhere to the water quality requirements and recommendations of the New Hampshire [F]ish and [G]ame [D]epartment, the New England Interstate Water Pollution Control Commission, or the United States Environmental Protection Agency, whichever requirements and recommendations provide the most effective level of thermal pollution control.

Furthermore, the New Hampshire Code of Administrative Rules, Chapter Env-Wq 1700 - Surface Water Quality Regulations (hereinafter "NH Standards") provides expanded and refined interpretations of the State Statute (RSA 485-A:8). Env-Wq 1703.03(c) states that: [t]he following physical, chemical and biological criteria shall apply to all surface waters:

1. All surface waters shall be free from substances in kind or quantity which:
 - a. settle to form harmful deposits;
 - b. float as foam, debris, scum or other visible substances;
 - c. produce odor, color, taste or turbidity which is not naturally occurring and would render it unsuitable for its designated uses;
 - d. result in the dominance of nuisance species; or
 - e. interfere with recreational activities.

Section 303(d) of the CWA requires states to identify those water-bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such, require the development of total maximum daily loads (TMDL).

The Pemigewasset River is listed in the New Hampshire 2016 Water Quality Assessment Summary Report as a Category 3-ND Waterbody, recorded as "Insufficient Information/No

Data”⁵. It is specifically listed as not supporting/marginally impaired with a TMDL completed for mercury under the fish consumption designated use category. The source of the mercury is noted as atmospheric deposition. The status of each designated use is presented in Table 1.

Table 1: Summary of Designated Uses and Listing Status

Designated Use	Status
Aquatic Life	Insufficient Information / No Data
Drinking Water After Treatment	Fully Supporting / Good
Primary Contact Recreation	Insufficient Information / No Data
Secondary Contact Recreation	Insufficient Information / No Data
Fish Consumption	Not Supporting/ Marginal

According to the New Hampshire 2016 Water Quality Assessment Summary Report,⁶ this water body segment is fully supporting designated uses for drinking water, after treatment. There is insufficient information to assign a status to wildlife, primary contact recreation and secondary contact recreation designated use category.

4.2 Ambient Data

A summary of the ambient data collected in the receiving water in the vicinity of the Facility that is referenced in this Fact Sheet can be found in Appendix B of this Fact Sheet.

4.3 Available Dilution

To ensure that discharges do not cause or contribute to violations of WQSs under all expected conditions, WQBELs are derived assuming critical conditions for the receiving water.⁷

The critical flow in rivers and streams is some measure of the low flow of that river or stream. For non-tidal rivers and streams, State WQSs require that effluent dilution for permit limits based on human health criteria be calculated based on the long-term harmonic mean flow of the receiving water, and effluent dilution for permit limits based on aquatic life criteria be calculated based on the lowest observed mean river flow for seven consecutive days, recorded over a 10-year recurrence interval, or 7-day 10-year low flow (7Q10). *See* New Hampshire Water Quality Standards at Env-Wq 1705.2(c) and (d).

The 7Q10 flow was calculated for the Pemigewasset River just downstream of the Facility using the Dingman method (Dingman Scenario II) with the following data:

⁵ New Hampshire Year 2016 Section 303(d) Surface Water Quality List. NHDES, R-WD-17-09; November 2017.

⁶ NHDES 2016 Surface Water Quality Assessment Viewer available at:

<http://nhdes.maps.arcgis.com/apps/webappviewer/index.html?id=aca7a13dced5426aa542c62b1ea10d0c> and

NHDES 2016 Watershed Report Card available at:

https://www2.des.state.nh.us/onestoppub/SWQA/010600031001_2016.pdf

⁷ EPA Permit Writer's Manual, Section 6.2.4

- Q_{USG} : the last 30 years of stream flow data (5/14/1989 – 5/14/2019) at the upstream USGS Pemigewasset River at Plymouth, NH Gage (01076500), excluding the provisional stream flow data from 11/13/2017 – 5/14/2019
- Q_{D1} : estimation of watershed flow contributions to the intervening river segment between the upstream gage and the BPC outfalls (Dingman Area 1) using the Dingman equation

Table 2 shows the calculation to determine the 7Q10 flow of the Pemigewasset River just downstream of the BPC outfall.

Table 2: 7Q10 Calculation for BPC

Stream Flow Component	Flow (cfs)	Comments
Q_{USG} 7Q10 flow at upstream USGS Pemigewasset River at Plymouth, NH Gage (01076500)	125	Period of record: 5/14/1989 – 5/14/2019 Excludes provisional data from 11/13/2017 – 5/14/2019
		Calculated using US EPA DFlow program (v3.1b)
Q_{D1} estimation of watershed flow contributions to the intervening river segment between the upstream gage and BPC outfalls	0.453	Calculated using Dingman ¹ equation
7Q10 downstream of the BPC Outfalls	126	$7Q10 = Q_{USG} + Q_D$
1. Dingman, S.L., and S.C Lawlor, 1995. Estimating Low-Flow Quantiles from Drainage-Basin Characteristics in New Hampshire and Vermont, American Water Resources Association, Water Resources Bulletin, pp 243-256.		

The dilution factors were calculated from a stream mass balance as follows:

$$\text{Dilution Factor} = (0.9) * [(Q_s) / Q_d]$$

where Q_s = 7Q10 river flow downstream of the BPC outfall = 126 cfs

Q_d = permitted discharge flow (in cfs)

0.9 = factor to reserve 10% of the receiving water assimilative capacity

To calculate the dilution factor, the permitted discharge flow (Qd) is equal to the maximum daily permitted flow (0.5 MGD = 0.774 cfs)

$$\text{Dilution Factor} = (0.9) * [126 / 0.774] = \mathbf{147}$$

5.0 Proposed Effluent Limitations and Conditions

The proposed effluent limitations and conditions derived under the CWA and State WQSs are described below. These proposed effluent limitations and conditions, the basis of which is discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit.

In accordance with 40 CFR § 122.45(b)(2), EPA based the calculation of effluent limitations upon flow. EPA determined that the measure of flow appropriate for this Facility is the permitted daily maximum effluent flow at Outfall 001A, 0.5 MGD. This effluent flow is used to calculate the dilution factor for the discharge.

EPA notes that the State of New Hampshire adopted new criteria into their WQSs in December 2016 and submitted them to EPA for review and approval. Although the new criteria have not yet been approved by EPA, the Draft Permit is being proposed with effluent limits derived to meet the new criteria in anticipation of a state certification to do so.

5.1 Effluent Limitations and Monitoring Requirements

The State and Federal regulations, data regarding discharge characteristics, and data regarding ambient characteristics described above, were used during the effluent limitations development process. Discharge data are included in Appendix A and reasonable potential analyses are discussed in the sections below.

5.1.1 Effluent Flow

From March 2014 through March 2019 (Appendix A) BPC discharged stormwater via Outfall 001C and discharged from the cooling pond via Outfall 001A during four monthly reporting periods (July, August, and September 2018 and March 2019). BPC did not report a discharge of stormwater via Outfall 002.

At Outfall 001A (cooling pond), the average monthly effluent flow ranged from 0.048 MGD to 0.072 MGD. The maximum daily effluent flow ranged from 0.26 MGD to 0.5 MGD. BPC's cooling pond discharges were within the 2006 Permit limits of 0.072 MGD average monthly flow and 0.5 MGD maximum daily flow. The Draft Permit maintains a maximum daily flow limit of 0.5 MGD as well as weekly monitoring for flow using a totalizer or similar device, when the Facility is discharging.

At Outfall 001C (stormwater), maximum daily stormwater flow ranged from 0.007 MGD to 0.287 MGD from March 2014 through March 2019. The stormwater drainage to Outfall 002 flows through a rip-rap lined channel to a grass-lined swale. The manhole cover at the end of the grass swale remains closed unless the Permittee opens it. This manhole cover has not been

opened since prior to March 2014 and there was no reported discharge of stormwater from Outfall 002 during the reporting period. The stormwater infiltrates in the grass swale. The Draft Permit continues to require quarterly reporting of estimated flow (in MGD) from Outfalls 001C and 002.

5.1.2 Total Suspended Solids

Solids could include inorganic (e.g., silt, sand, clay, and insoluble hydrated metal oxides) and organic matter (e.g., flocculated colloids and compounds that contribute to color). Solids can clog fish gills, resulting in an increase in susceptibility to infection or asphyxiation. Suspended solids can increase turbidity in receiving waters and reduce light penetration through the water column or settle to form bottom deposits in the receiving water. Suspended solids also provide a medium for the transport of other adsorbed pollutants, such as metals, which may accumulate in settled deposits that can have a long-term impact on the water column through cycles of re-suspension.

From March 2014 through March 2019 (Appendix A), daily maximum total suspended solids (TSS) concentrations at Outfall 001A (cooling pond) ranged from 5 mg/L to 16 mg/L. The Draft Permit contains monthly average and maximum daily TSS limitations of 30 mg/L and 100 mg/L, respectively, when the Facility is discharging, monitored weekly by composite samples. These limitations have been continued from the Facility's 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1). These limitations were established using BPJ pursuant to CWA § 402(a)(1). The TSS limitations for process water discharges from the cooling pond were based on Best Practicable Technology Economically Achievable (BPT) requirements established for low volume wastes in the Federal Guidelines for the Steam Electric Power Generating Point Source Category (40 CFR Part 423.12) using EPA's BPJ authority. No material or substantial changes in operations at the Facility have occurred since these limitations were imposed. The TSS limitations at Outfall 001A remain unchanged.

From March 2014 through March 2019 (Appendix A), daily maximum total suspended solids (TSS) concentrations at Outfall 001C (stormwater) ranged from 7.5 mg/L to 120 mg/L with an average value of 38.6 mg/L. In addition to operating in a capacity similar to that of a steam electric generating station subject to the SE ELGs, BPC stores wood chips on-site, which are used a fuel for steam generation. The 2006 Permit included a narrative requirement to prevent wood chips, sawdust, waste ash, and other related debris from becoming part of storm water runoff. Quarterly monitoring and reporting of TSS in stormwater discharges was included to assess compliance with this narrative limit. EPA's 2015 Multi-Sector General Permit (2015 MSGP) includes monitoring for TSS for Subpart A, Sector A (Timber Sector) at a benchmark value of 100 mg/L. While the sector-specific requirements for the Timber Sector are not strictly applicable to BPC based on the SIC Codes, the exposure of stormwater to the wood chip storage area may result in similar constituents in the stormwater, including TSS. The Draft Permit applies this sector-specific benchmark on a case-by-case basis using BPJ. Benchmarks are not effluent limitations; rather, benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist in determining when additional best management practices (BMPs) may be necessary to reduce the discharge of pollutants to receiving waters. TSS at Outfall 001C was consistently less than the benchmark value of 100 mg/L with the

exception of one quarterly sample reported in March 2017. Consistent with the 2006 Permit and the 2015 MSGP, the Draft Permit includes quarterly monitoring for TSS at Outfalls 001C and 002.

5.1.3 pH

The hydrogen-ion concentration in an aqueous solution is represented by the pH using a logarithmic scale of 0 to 14 standard units (S.U.). Solutions with pH 7.0 S.U. are neutral, while those with pH less than 7.0 S.U. are acidic and those with pH greater than 7.0 S.U. are basic. Discharges with pH values markedly different from the receiving water pH can have a detrimental effect on the environment. Sudden pH changes can kill aquatic life. pH can also have an indirect effect on the toxicity of other pollutants in the water.

From March 2014 through March 2019 (Appendix A), pH at Outfall 001A (cooling pond) has ranged from 7.18 to 8.00 S.U. The Draft Permit requires the pH to be within the range of 6.5 and 8.0 when the Facility is discharging, monitored continuously. The pH limitations are based on the State WQSs at RSA 485-A:8 II, which require that “The pH for said (Class B) waters shall be 6.5 to 8.0 except when due to natural causes.” These limitations have been continued from the Facility’s 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1).

From March 2014 through March 2019 (Appendix A), pH at Outfall 001C (stormwater) has ranged from 6.66 to 7.98 S.U. The Draft Permit requires the pH to be within the range of 6.5 and 8.0, monitored quarterly. These limitations have been continued from the Facility’s 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1). In addition, the Draft Permit continues the requirement to monitor the pH of rainfall concurrent with quarterly monitoring of stormwater effluent pH. These limitations are based on CWA § 301(b)(1)(C) and 40 CFR § 122.44(d).

5.1.4 Oil and Grease

Oil and Grease is not a definitive chemical constituent, but includes a large range of organic compounds, which can be both petroleum-related (e.g., hydrocarbons) and non-petroleum (e.g., vegetable and animal oils and greases, fats, and waxes). These compounds have varying physical, chemical, and toxicological properties. Generally, oils and greases in surface waters either float on the surface, are solubilized or emulsified in the water column, adsorb onto floating or suspended solids and debris, or settle on the bottom or banks. Oil and grease, or certain compounds within an oil and grease mixture can be lethal to fish, benthic organisms and water-dwelling wildlife.

The oil and grease daily maximum limit of 15 mg/L and monthly average limit of 20 mg/L at Outfall 001A was originally established based on Best Practicable Control Technology Currently Available (BPT) requirements established in the Federal Guidelines for the Steam Electric Power Generating Point Source Category (40 C.F.R. Part 423.13) using EPA’s BPJ authority. The oil and grease daily maximum limit of 15 mg/L for Outfall 002 was based on an interpretation of the narrative water quality standard for oil and grease.

State WQSs for Class B waters at Env-Wq 1703.09(b) state that “Class B waters shall contain no oil or grease in such concentrations that would impair any existing or designated uses”. Additionally, State WQSs at Env-Wq 1703.03(c)(1)(c) state that “All surface waters shall be free from substances in kind or quantity that ... produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated use.” Given the language in both these narrative standards, EPA interprets these provisions, in particular “free from floating visible substances”, to mean free from an oil sheen, and to prohibit, in the context of discharges into Class B waters, any discharge that would cause an oil sheen. An oil and grease concentration of 15 mg/L is recognized as the level at which many oils produce a visible sheen and/or cause an undesirable taste in fish.⁸

From March 2014 through March 2019 (Appendix A), when discharging Bridgewater Power primarily reported oil and grease concentrations at less than the minimum level of 5 mg/L at Outfall 001A, Outfall 001C and Outfall 002, with a few exceptions.

At Outfall 001A, an oil and grease concentration of < 6 mg/L was reported when the facility discharged through that outfall in March 2019. As the ML for oil and grease is 5 mg/L, this entry may have been a typographical error. At Outfall 001C, in the first and second quarter of 2015, and in the first quarter of 2017, oil and grease was reported at 6 mg/L. In the second quarter of 2016, the DMR monitoring period’s highest value of 7.6 mg/L was reported. No discharges from Outfall 002 were reported over the March 2014 through March 2019 monitoring period. Overall, the facility routinely meets the limits for oil and grease.

The Draft Permit maintains the daily maximum limit of 15 mg/L and monthly average limit of 20 mg/L for Outfall 001A, monitored once per discharge event, by grab sample. The Draft Permit maintains the daily maximum limit of 15 mg/L for Outfall 001C and Outfall 002, monitored once per discharge event, by grab sample. These limits have been continued from the 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1) and to ensure that the discharge does not cause or contribute to a violation of the water quality standard for oil and grease.

5.1.5 Temperature

Ambient water temperature is an important factor for aquatic life and can influence other water quality aspects such as dissolved oxygen (because the solubility of oxygen decreases as water temperature increases). Water temperature affects the metabolic and reproductive activities of aquatic organisms and can determine which fish and macroinvertebrate species can survive in a given waterbody. Freshwater fishes cannot regulate their body temperature through physiological means, so their body temperatures are very close to the temperatures of the water they inhabit.

The Pemigewasset River in the area of Bridgewater, NH is classified as a warm water fishery. The State’s statutory and regulatory provisions do not specify numeric temperature criteria but

⁸ USEPA. 1976. The Red Book – Quality Criteria for Water. July 1976.

do specify narrative criteria specific to thermal discharges in order to protect the existing and designated uses of the waterbody and restore and maintain the chemical, biological, and physical integrity of the State's waters and to provide for the protection and propagation of fish, shellfish, and wildlife. See Env-Wq 1701.01 and 1703.01(b). New Hampshire's environmental statutes and water quality standards dictate that in Class B waters, "any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class." See RSA 485-A:8, II and Env-Wq 1703.13(b).

As specified in the 2000 Permit's supporting Fact Sheet, "[t]he temperature limit of 95 degrees Fahrenheit (°F) in the existing and Draft Permits meets the narrative temperature criteria of the NH-Standards [Env-Ws1703.13(b)]. Performing an energy balance on this facility's discharge using the river's temperature extremes and an updated 7Q10 flow calculation, low flow is likely to occur during either the summer or the winter low-flow periods, and the facility's maximum discharge temperature indicates that this facility's thermal discharge causes an indiscernible rise in the ambient streamflow temperature." For example, assuming that during the summer and the winter low-flow periods instream ambient temperatures just above the outfall are 70°F and 35°F, respectively, and that the 7Q10 flow is 125.23 cfs, the 95 °F thermal discharge is expected to result in an increase in receiving water temperature over ambient conditions of 0.2 °F in the summer and 0.4 °F in the winter. The supporting calculation are included below.

$$T_{rf} = [(Q_{ra} \times T_{ra}) + (Q_p \times T_p)] / (Q_{ra} + Q_p)$$

where:

- T_{rf} = Temperature in river just below Outfall 001A, in °F
- Q_{ra} = Flow (7Q10) in river just above Outfall 001A, in cfs
- T_{ra} = Temperature in river just above Outfall 001A, in °F
- Q_p = Flow of process discharge from facility, in cfs (to convert process flow in MGD to cfs, multiply by 1.547)
- T_p = Temperature of process discharge from facility, in °F

Therefore:

$$T_{rf} = [(125.23 \times 70) + (0.77 \times 95)] \div (125.23 + 0.77) = 70.2 \text{ (summer)}$$

$$T_{rf} = [(125.23 \times 35) + (0.77 \times 95)] \div (125.23 + 0.77) = 35.4 \text{ (winter)}$$

Based on this information, no [CWA] 316(a) variance is needed for the thermal component of this discharge as the resultant increase in streamflow temperature of less than 0.5°F is well within NH-Standards. Furthermore, EPA has determined that, for this facility, the best available technology (BAT) for thermal pollution control is the use of spray modules. EPA is carrying forward the maximum daily temperature limit for Outfall 001A of 95°F in the Draft Permit.

New Hampshire Fish and Game has expressed concern regarding the extent of the thermal plume caused by the discharge and the potential for acute impacts to the biological organisms in the

vicinity of the discharge. Based on the demonstrated infrequency of process/cooling water discharge at BPC (has only discharged from its cooling pond four times since it began operating in 1987), the small, overall calculated temperature increase of the receiving stream ($<0.5^{\circ}\text{F}$) and the determination that the thermal discharge, if any, will meet the narrative temperature criteria of the NH-Standards, EPA and New Hampshire Fish and Game (NH-F&G) do not judge that in-river thermal plume monitoring is necessary.

However, language is included in the proposed Permit requesting early notification for an anticipated BPC discharge event, when possible, to give NH-F&G the option of performing in-river temperature monitoring.

5.1.6 Total Residual Chlorine

The maximum daily limit of 200 $\mu\text{g/L}$ for Total Residual Chlorine (TRC) at Outfall 001A was originally established based on Best Available Technology Economically Achievable (BAT) requirements established in the Federal Guidelines for the Steam Electric Power Generating Point Source Category (40 C.F.R. Part 423.13) using EPA's BPJ authority. The highest TRC values of 80 $\mu\text{g/L}$ were reported for July 2018 and March 2019. The August and September 2018 reported values were 58 $\mu\text{g/L}$. The facility appears to easily be able to meet the limit for TRC. This limit has been continued from the 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1). The permittee shall monitor TRC once per discharge event.

5.1.7 Metals

Metals are naturally occurring constituents in the environment and generally vary in concentration according to local geology. Metals are neither created nor destroyed by biological or chemical processes. However, metals can be transformed through processes including adsorption, precipitation, co-precipitation, and complexation. Some metals are essential nutrients at low levels for humans, animals, plants and microorganisms, but toxic at higher levels (e.g., copper and zinc). Other metals have no known biological function (e.g., lead). The environmental chemistry of metals strongly influences their fate and transport in the environment and their effects on human and ecological receptors. Toxicity results when metals are biologically available at toxic concentrations affecting the survival, reproduction and behavior of an organism.

The 2006 Permit includes a maximum daily limit for total recoverable iron of 1.0 mg/L . The daily maximum total recoverable iron concentration at Outfall 001A was 0.03 mg/L during each of the four cooling pond discharges from March 2014 through March 2019 (Appendix A). The maximum daily limit was originally established upon consideration of the Best Available Technology Economically Achievable (BAT) requirements established for the Steam Electric Power Generating Point Source Category (40 C.F.R. Part 423.13) using EPA's best professional judgement (BPJ). As described in Section 3.1.1 of this Fact Sheet, the Steam Electric Effluent Limitations Guidelines (ELGs) apply only to facilities using fossil-type fuel (e.g., coal, oil, or gas), fuel derived from fossil fuel (e.g., petroleum coke, synthesis gas) or nuclear fuel to produced steam as the primary means of generating electricity. *See* 40 C.F.R. § 423.10. As BPC

operates a wood-fired unit, these ELGs are not strictly applicable to this Facility. The limitations for wood fuel units may be informed by BPT and BAT requirements established for the Steam Electric Power Generating Point Source Category using EPA's BPJ authority. The Steam Electric ELGs limit the average monthly and maximum daily concentration of total iron in metal cleaning and chemical metal cleaning wastes to no more than 1.0 mg/L, which is the basis for the limit in the current permit. See 40 C.F.R. §§ 423.12(b)(5) and 423.13(e). Metal cleaning waste is defined as wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning. 40 C.F.R. § 423.11(d). Chemical metal cleaning waste is defined as any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning. 40 C.F.R. § 423.11(c). According to the Permittee, BPC uses dry, physical cleaning procedures on the boiler, condenser, air preheaters, and other types of process equipment. There is not chemical cleaning at this Facility and any wastewater from metal cleaning is hauled off-site for treatment and disposal. The Draft Permit prohibits the discharge of metal cleaning wastes. Because the Facility does not perform chemical cleaning and the Draft Permit prohibits the discharge of wastestreams from metal cleaning, the effluent limitations for total iron, which were based on the SE ELGs and, in that case, would only apply to chemical metal cleaning and metal cleaning, are not applicable to this Facility. The maximum daily limit for total recoverable iron of 1.0 mg/L from the Facility's 2006 Permit has been removed in the Draft Permit. The elimination of this BPJ-based, technology limit is consistent with the anti-backsliding requirements found in 40 C.F.R. § 122.44(1) because even though the effluent limitation from the current permit has been removed, the Draft Permit carries forward the prohibition on the discharge of metal cleaning waste, which is more stringent than authorizing the discharge of metal cleaning waste with a technology-based limit for total iron.

The Permittee has obtained annual monitoring data for total recoverable aluminum, cadmium, copper, lead, nickel and zinc in the cooling pond discharge (Outfall 001A) and the receiving water in conjunction with Whole Effluent Toxicity testing during the third quarter of each calendar year. From July 1, 2009 through September 30, 2018 (Appendix C), total recoverable aluminum, cadmium, copper, lead, nickel, and zinc were detected in the discharge. EPA completed an analysis to determine if the discharge of metals detected in the effluent could cause, or have a reasonable potential to cause, or contribute to an excursion above WQSs (Appendix C). The results of the analysis indicate that the discharge of copper, nickel, lead, and zinc at Outfall 001A will not cause, or have a reasonable potential to cause, or contribute to an excursion above the WQSs. In addition, there is no reasonable potential for the effluent to cause or contribute to an excursion of the acute aquatic life criterion for aluminum.

The results of the reasonable potential analysis indicate discharges of aluminum could potentially cause, or have a reasonable potential to cause, or contribute to an excursion of the water quality standard for aluminum if the effluent concentration exceeds the chronic aquatic life water quality criterion of 87 µg/L because the median aluminum concentration in the Pemigewasset River is 113.5 µg/L, which already exceeds the chronic criterion. The aluminum concentration in the cooling pond effluent, based on monitoring data from WET testing, has exceeded the chronic criterion in 2 of the past 10 years (in 2009 and 2011). Aquatic life criteria are based not only on the magnitude (i.e., concentration) of the pollutant but also the duration (i.e., time period of

exposure at the concentration of concern) and the frequency (how often organisms would be exposed). The duration and frequency of exposure for the chronic criterion is 4 days more than once every 3 years.⁹ At BPC, the four discharges that occurred during the last 5 years were intermittent with a maximum anticipated of discharge of about 12 hours per day over 4 days. If the facility continues to operate at reduced load during the permit term, the discharge duration and frequency may not be protective of the chronic criterion. Therefore, there is reasonable potential for the discharge to cause or contribute to an excursion of the water quality standard for aluminum. See Appendix C. The aluminum limit is based on the current New Hampshire, EPA approved, chronic aluminum criterion to protect fresh water aquatic life. However, EPA has recently issued new aluminum criteria recommendations.¹⁰ These new criteria will be pH, hardness and DOC dependent.

EPA's new aluminum criteria recommendations may be higher than the current recommendations. Because NHDES has indicated to EPA that its planned revisions to its aluminum criteria will be based on EPA's recommended criteria, EPA reasonably expects its new criteria will also be higher. EPA has determined that it is appropriate to include a schedule in the Draft Permit, pursuant to 40 C.F.R. § 122.47, which provides the permittee with a 3-year period to achieve compliance with the final aluminum effluent limit. See Part I.C.2 of the Draft Permit. The permit also provides an opportunity for the permittee to request a permit modification if New Hampshire adopts the new EPA recommended aluminum criteria. See 40 C.F.R. § 122.62(a)(3)(i). Additionally, the Permittee may apply for a permit modification to allow additional time for compliance if New Hampshire has adopted new aluminum criteria but has not yet submitted the criteria to EPA for review or EPA has not yet acted on the new criteria. If new aluminum criteria are adopted by New Hampshire and approved by EPA, and before the final aluminum effluent limit goes into effect, the permittee may apply for a permit modification to amend the permit based on the new criteria. If warranted by the new criteria and a reasonable potential analysis, EPA may relax or remove the effluent limit to the extent consistent with anti-degradation requirements. Such a relaxation or removal would not trigger anti-backsliding requirements as those requirements do not apply to effluent limits which have yet to take effect pursuant to a schedule of compliance. See *American Iron and Steel Institute v. EPA*, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997) ("EPA interprets § 402 to allow relaxation of [an effluent limit] so long as the limit has yet become effective.")

The 2006 Permit includes numeric effluent limits at Outfall 001A for copper and lead. According to the 2006 Fact Sheet, the numeric limits were based on the chronic and acute aquatic life water quality criteria from the New Hampshire surface water quality standards. EPA proposes to carry forward water quality-based effluent limitations for copper and lead in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1). Both the average monthly and maximum daily limit for total recoverable copper is 520 µg/L. The average monthly lead limit is 210 µg/L and the maximum daily limit is 790 µg/L. These limits were based on the chronic and

⁹ See, for example, *Technical Support Document for Water Quality-based Toxics Control* at 35-36. EPA/505/2-90-001. March 1991.

¹⁰ More information about EPA's new aluminum criteria recommendations is available at <https://www.epa.gov/wqc/2018-final-aquatic-life-criteria-aluminum-freshwater>.

acute aquatic life criteria (calculated using a hardness of 25 mg/L) multiplied by either a chronic or acute dilution factor. As explained above, there is no reasonable potential to cause or contribute to an excursion of the WQS for lead or copper based on effluent and receiving water data. However, because the 2006 Permit limits were calculated based on a different dilution factor and used a hardness of 25 mg/L to calculate the applicable copper and lead criteria, EPA re-evaluated the downstream concentration limits for copper and lead to ensure they are protective of water quality standards. EPA calculated the downstream concentration at a discharge equal to the 2006 maximum daily effluent limits using an updated 7Q10 flow and hardness (at 20 mg/L) following the mass-balance equation used in Appendix C:

$$C_d = \frac{C_s Q_s + C_e Q_e}{Q_d}$$

Where:

C_d = downstream concentration

C_s = upstream concentration (median value of available ambient data)

C_e = effluent concentration (2006 maximum daily effluent concentrations)

Q_s = upstream flow (7Q10 flow upstream of the outfall)

Q_e = effluent flow of the Facility (permitted maximum daily flow)

Q_d = downstream flow ($Q_s + Q_e$)

At a maximum daily concentration of 520 µg/L, the resulting downstream copper concentration is 3.18 µg/L, which is greater than the applicable acute and chronic criteria (times 0.9) of 2.77 µg/L and 2.12 µg/L.¹¹ At a maximum daily concentration of 790 µg/L, the resulting downstream lead concentration is 5.08 µg/L, which is greater than the calculated chronic criterion (times 0.9) of 0.37 µg/L but less than the acute criterion (times 0.9) of 9.47 µg/L. *See* Appendix C for calculation of applicable criteria. In other words, authorizing the Permittee to discharge at the 2006 effluent limitations could result in an excursion of the applicable chronic and acute copper criteria and the chronic lead criterion. For this reason, EPA is proposing more stringent limits calculated using the mass balance equation above assuming a downstream concentration (C_d) at the applicable criteria (listed in Appendix C) and solving for the effluent concentration (C_e). The Draft Permit establishes a maximum daily copper limit of 450 µg/L, an average monthly copper limit of 350 µg/L, and an average monthly lead limit of 20 µg/L. The Draft Permit carries forward the maximum daily lead limit of 790 µg/L from the 2006 Permit in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1) because this limit is sufficiently stringent to meet WQS.

The Draft Permit also continues annual reporting for total recoverable cadmium, nickel and zinc in the discharge and the receiving water in conjunction with Whole Effluent Toxicity Testing, discussed further below.

¹¹ Env-Wq 1705.01 requires that 10% of the assimilative capacity of the receiving water is reserved by using a multiplying factor of 0.9. In this case, the multiplying factor is applied to the calculation of the applicable criterion in Appendix C.

EPA's 2015 Multi-sector General Permit for (2015 MGSP), Sector O (Steam Electric Generating Facilities) includes a sector-specific benchmark of 1.0 mg/L for Total Iron for stormwater discharges associated with industrial activity. Benchmark concentrations are not effluent limitations; rather, benchmark monitoring in the 2015 MSGP is used by Permittee's to determine the overall effectiveness of control measures (i.e., BMPs). The Draft Permit includes a requirement to monitor Total Iron at Outfalls 001C and 002 consistent with the sector-specific benchmark monitoring requirements in the 2015 MSGP.

5.1.8 Chemical Oxygen Demand

Chemical oxygen demand (COD) is a measure of the amount of oxygen necessary to completely oxidize all of the organic carbon in a measured sample. COD is distinct from biochemical oxygen demand, which is a measure of the amount of oxygen consumed by organisms oxidizing material over five days. COD measures the decay of organic matter in a sample, the oxidation of which can lower dissolved oxygen concentrations. The presence of sufficient dissolved oxygen is critical to maintain aquatic life and aesthetics in the receiving water.

EPA's 2015 Multi-sector General Permit for (2015 MGSP), Sector A (Timber Products) includes a sector-specific benchmark of 120 mg/L for COD. Benchmark monitoring in the 2015 MSGP is used by Permittee's to determine the overall effectiveness of control measures (i.e., BMPs). Benchmark concentrations are not effluent limitations. As explained above, and again in the discussion of Special Conditions below, the exposure of stormwater to wood chip storage and debris on the site is substantially similar to the exposures considered for Sector A of the MSGP. For this reason, monitoring for COD is included in the Draft Permit consistent with the application of this sector-specific benchmark using EPA's BPJ authority. From March 2014 through March 2019 (Appendix A), COD at Outfall 001C (stormwater) has ranged from 35 to 250 mg/L with an average of 137 mg/L over the reporting period. Thirteen of the twenty reported quarterly values exceed the benchmark value of 120 mg/L. Oxygen demand may be elevated in leachate of decaying organic materials such as wood chips. See 60 Fed. Reg. 50836 (September 29, 1995). However, the drainage area for Outfall 001C does not include stormwater that would likely be exposed to the wood chip storage area; stormwater from that drainage area discharges to Outfall 002, which currently infiltrates the swale and does not directly discharge to the River. In addition, the discharge of stormwater from BPC at Outfall 001C is subject to considerable dilution once it mixes with the receiving water (at roughly a factor of 1:73 based on maximum observed stormwater flow of 1.02 MGD at Outfall 001C). For this reason, the elevated levels of COD observed in the stormwater effluent at Outfall 001C will not affect the levels of dissolved oxygen in the Pemigewasset River. The Draft Permit continues to require quarterly monitoring and reporting of COD at stormwater outfalls 001C and 002. The Draft Permit also establishes a best management practice to study the source of COD in the stormwater and implement appropriate control measures to reduce COD.

5.1.9 Polychlorinated Biphenyls

The 2006 Permit prohibits the discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid. This limitation was originally established using BPJ pursuant to CWA § 402(a)(1) and based on the requirement found in 40 C.F.R. § 423.13(a) for

existing sources covered by the Steam Electric ELGs. The Draft Permit maintains this prohibition in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1).

5.1.10 Whole Effluent Toxicity

CWA §§ 402(a)(2) and 308(a) provide EPA and States with the authority to require toxicity testing. Section 308 specifically describes biological monitoring methods as techniques that may be used to carry out objectives of the CWA. Whole effluent toxicity (WET) testing is conducted to ensure that the additivity, antagonism, synergism, and persistence of the pollutants in the discharge do not cause toxicity, even when the individual pollutants are present at low concentrations in the effluent. The inclusion of WET requirements in the Draft Permit will assure that the Facility does not discharge combinations of pollutants into the receiving water in amounts that would be toxic to aquatic life or human health.

In addition, under CWA § 301(b)(1)(C), discharges are subject to effluent limitations based on WQSs. Under CWA §§ 301, 303 and 402, EPA and the States may establish toxicity-based limitations to implement narrative water quality criteria calling for “no toxics in toxic amounts.” *See also* 40 C.F.R. § 122.44(d)(1). New Hampshire regulations state that, “all surface waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life....” (*See Env-Wq 1703.21(a)(1)*).

In accordance with current EPA guidance whole effluent chronic effects are regulated by limiting the highest measured continuous concentration of an effluent that causes no observed chronic effect on a representative standard test organism, known as the chronic No Observed Effect Concentration (C-NOEC). Whole effluent acute effects are regulated by limiting the concentration that is lethal to 50% of the test organisms, known as the LC₅₀.

The acute WET limit in the 2006 Permit for Outfall 001A is LC₅₀ greater than or equal to 50%, using the fathead minnow (*Pimephales promelas*) as the test species. A requirement to test the daphnid (*Ceriodaphnia dubia*) was removed from the 2006 Permit because the fathead minnow was shown to be as sensitive or more sensitive than the daphnid in tests performed 2001 through 2006. The toxic characteristics of the discharge are not expected to have changed since 2006. Samples of cooling pond effluent were collected and tested annually, in July, even when the Facility was not discharging. The Facility has reported LC₅₀s greater than 100% since 2007 and therefore has consistently met this limit. A-NOEC rather than C-NOEC endpoints were reported for chronic toxicity and were not used to establish a limit or new monitoring requirements. The acute WET limit is retained in accordance with anti-backsliding requirements found in 40 C.F.R. § 122.44(1). Acute WET shall continue to be monitored on an annual basis regardless of whether there is a discharge. Chronic WET testing and reporting, including alternate chronic reporting requirements such as the A-NOEC, will not be required as this facility is considered low risk and has a dilution factor greater than 100. Toxicity testing for the fathead minnow (*Pimephales promelas*) must be performed in accordance with the EPA Region 1 test procedures and protocols specified in **Attachment A, Freshwater Acute Toxicity Test Procedure and Protocol** (February 2011) of the Draft Permit.

5.2 Special Conditions

5.2.1 Best Management Practices

Best management practices (BMPs) may be expressly incorporated into a permit on a case-by-case basis where it is determined that they are necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA under § 402(a)(1). BMPs may be necessary to control or abate the discharge of pollutants when: 1) authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) authorized under section 402(p) of the CWA for the control of storm water discharges; 3) numeric effluent limitations are infeasible; or 4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. *See* 40 C.F.R. 122.44(k). Pollutants may be present because they are generated during Facility operations, which could result in significant amounts of these pollutants reaching waters of the United States via discharges of wastewater and stormwater.

In this case, the Draft Permit requires the selection, design, installation, and implementation of control measures for stormwater associated with the Facility operations to comply with the non-numeric technology-based effluent limits in the Draft Permit. These non-numeric limitations are consistent with the limitations specified in Part 2.1.2 of EPA's Multi-Sector General Permit (MSGP) effective June 4, 2015.¹² Requirements include:

- Minimize exposure of processing and material storage areas to stormwater discharges;
- Design good housekeeping measures to maintain areas that are potential sources of pollutants;
- Implement preventative maintenance programs to avoid leaks, spills, and other releases of pollutants to stormwater that is discharged to receiving waters;
- Implement spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur;
- Design of erosion and sediment controls to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants;
- Utilize runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff;
- Develop proper handling procedures for salt or materials containing chlorides that are used for snow and ice control;
- Conduct employee training to ensure personnel understand the requirements of this permit;
- Minimize dust generation and vehicle tracking of industrial materials; and
- Comply with sector specific non-numeric technology-based effluent limitations included in Sector A (Timber Products) and Sector O (Steam Electric Generating Facilities) of the MSGP

¹² The MSGP is currently available at: <https://www.epa.gov/npdes/final-2015-msgp-documents>.

Sector-specific requirements for industrial activities are included in Part 8 of the 2015 MSGP. Sector O (Steam Electric Generating Facilities) describes covered facilities narratively as “Steam Electric” rather than by SIC code. The use of a narrative description rather than SIC code was implemented in the issuance of the 2008 MSGP to clarify what types of facilities are covered by this sector. Any facility generating power using steam may be eligible for coverage and subject to the sector-specific requirements of Sector O regardless of its SIC code.¹³ In addition, the 2015 MSGP includes steam electric generation facilities using coal, natural gas, nuclear energy, etc. and specifically excludes ancillary facilities, gas turbine facilities provided it is not dual-fuel, combined-cycle facilities where no supplemental fuel oil is burned, and cogeneration facilities using a gas turbine. BPC is a wood-fired facility that generates power using steam and is not one of the discharges specifically prohibited from coverage listed in Part 8.O.3.2 of the 2015 MSGP. As such, BPC is subject to the sector-specific requirements in Part 8, Sector O. In addition, there are similarities in the exposure of stormwater at BPC to those facilities regulated in Sector A (Timber Products) of the 2015 MSGP. These sector-specific requirements for Sector A serve as guidance for establishing non-numeric limitations for discharges of stormwater from BPC on a case-by-case basis based on best professional judgement consistent with CWA § 402(a)(1)(B) and 402(a)(2), 40 C.F.R. §§ 122.43(a) and 122.44(a)(1). The sector-specific limitations are found in Parts 8.A.6 and 8.O.7 of the 2015 MSGP and summarized in the table, below.

Table 4: Summary of MSGP Requirements for Industrial Activities Conducted at the Facility

MSGP Sector	SIC Code	Industrial Activity	MSGP Requirements
A, subsector A4	2499	Wood Products, not elsewhere classified	TBELs + SWPPP requirements, Benchmarks for COD and TSS
O	SE	Steam Electric Generating Facilities	TBELs + SWPPP requirements Benchmark for Total Iron

Parts I.C.1 and I.C.2 of the Draft Permit includes the additional non-numeric technology-based limits and SWPPP requirements from Sector A and Sector O by reference. Part I.A.2 of the Draft Permit includes monitoring for TSS, COD, and Total Iron for stormwater discharges from Outfalls 001C and 002. Finally, the Part I.C.1 of the Draft Permit includes a requirement that the Permittee investigate the potential sources of COD that would cause the discharge from Outfall 001C to exceed the Sector A benchmark for COD (120 mg/L). The Permittee must document the results of this study in the Stormwater Pollution Prevention Plan (SWPPP) and determine if implementation of appropriate control measures will minimize the contribution of COD from these sources, unless it is demonstrated that the exceedance of the benchmark is solely attributable to natural background sources.

The non-numeric effluent limitations support, and are equally enforceable as, the numeric effluent limitations included in the Draft Permit. The purpose of these requirements is to reduce or eliminate the discharge of pollutants to waters of the United States. They have been selected on a case-by-case basis based on those appropriate for this specific facility. *See* CWA §§ 304(e)

¹³ See 2008 MSGP Fact Sheet at 139. https://www.epa.gov/sites/production/files/2015-10/documents/msgp2008_finalfs.pdf

and 402(a)(1) and 40 C.F.R. § 122.44(k). These requirements will also ensure that discharges from the Facility will meet State WQSs pursuant to CWA § 301(b)(1)(C) and 40 C.F.R. 122.44(d)(1). Unless otherwise stated, the Permittee may select, design, install, implement and maintain BMPs as the Permittee deems appropriate to meet the permit requirements. The selection, design, installation, implementation and maintenance of control measures must be in accordance with good engineering practices and manufacturer's specifications.

5.2.2 Stormwater Pollution Prevention Plan

On September 9, 1992, EPA issued its general permit for stormwater discharges associated with industrial activity, which, among other things, required all facilities to prepare a Stormwater Pollution Prevention Plan (SWPPP) to implement technology-based pollution prevention measures in lieu of numeric limitations.¹⁴ The general permit established a process whereby the operator of the industrial facility evaluates potential pollutant sources at the site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in stormwater runoff.¹⁵ This Draft Permit contains BMPs for stormwater associated with the operation of a steam electric generating facility and storage of wood fuel. In addition to BMPs, the Draft Permit also contains requirements for the Permittee to develop, implement, and maintain a SWPPP for stormwater discharges at the Facility. These requirements are consistent with EPA's MSGP effective June 4, 2015. The Draft Permit specifies that the SWPPP must include the following, at a minimum:

- Stormwater pollution prevention team;
- Site description;
- Summary of potential pollutant sources;
- Description of all stormwater control measures; and
- Schedules and procedures pertaining to implementation of stormwater control measures, inspections and assessments, and monitoring.

The development and implementation of the SWPPP is an enforceable element of the permit. The Draft Permit directs the Permittee to incorporate BMPs, as described above, directly into the SWPPP, which serves to document the selection, design and installation of control measures selected to meet the permit effluent limitations. The goal of the SWPPP is to reduce or prevent the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff.

The Draft Permit requires the Permittee within ninety (90) days of the effective date of the permit to certify that the SWPPP has been prepared, meets the requirements of the permit, and documents the control measures, including BMPs, that have been implemented to reduce or eliminate the discharge of pollutants from stormwater associated with the operation of a steam electric generating facility and storage of wood fuel. The Permittee must also certify at least

¹⁴ Fed. Reg. 41264

¹⁵ Fed. Reg. 41242

annually that the Facility has complied with the BMPs described in the SWPPP, including inspections, maintenance, and training activities. The Permittee is required to amend and update the SWPPP if any change occurs at the Facility affecting the SWPPP, such as changes in the design, construction, operation, or maintenance of the Facility. This includes any revisions made as a result of the study of sources of COD at Outfall 001C. The SWPPP must be maintained on site at the Facility and provided to EPA and/or the State upon request. All SWPPP records must be maintained on-site for at least three years.

5.2.3 Discharges of Chemicals and Additives

Chemicals and additives include, but are not limited to: algaecides/biocides, antifoams, coagulants, corrosion/scale inhibitors/coatings, disinfectants, flocculants, neutralizing agents, oxidants, oxygen scavengers, pH conditioners, and surfactants. The Draft Permit allows the discharge of only those chemicals and additives specifically disclosed by the Permittee to EPA and the State. The following chemicals and additives were disclosed to EPA:

- Corrosion inhibitors (Performax™ CC6200, Mekor™ 6701, Drewamine 1791)
- Cooling water treatment (Performax™ SR5600)
- Deposit inhibitor (Amertrol 1038)
- Sulfuric Acid
- Sodium hydroxide
- Sodium hypochlorite

However, EPA recognizes that chemicals and additives in use at a Facility may change during the term of the permit. As a result, the Draft Permit includes a provision that requires the Permittee to notify EPA and the State in writing of the discharge a new chemical or additive; allows for EPA and State review of the change; and provides the factors for consideration of such changes. The Draft Permit specifies that for each chemical or additive, the Permittee must submit the following information, at a minimum, in writing to EPA and the State:

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

The Permittee must also provide an explanation which demonstrates that the discharge of such chemical or additive: 1) will not add any pollutants in concentrations which exceed any permit effluent limitation; and 2) will not add any pollutants that would justify the application of permit conditions different from, or in addition to those currently in this permit.

Assuming these requirements are met, discharges of a new chemical or additive is authorized under the permit upon notification to EPA and the State unless otherwise notified by EPA or the State.

6.0 Federal Permitting Requirements

6.1 Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority to and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and any habitat of such species that has been designated as critical under the ESA (i.e., “critical habitat”).

Section 7(a)(2) of the ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) administers Section 7 consultations for marine and anadromous species.

The Federal action being considered in this case is EPA’s proposed NPDES permit for the Bridgewater Facility’s discharges of pollutants. The Draft Permit is intended to replace the 2006 Permit in governing the Facility. As the federal agency charged with authorizing the discharge from this Facility, EPA determines potential impacts to federally listed species, and initiates consultation with the Services, when required under § 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants to determine if EPA’s proposed NPDES permit could potentially impact any such listed species. Two species under the jurisdiction of USFWS, both listed as threatened, are in the area of the Facility. The first species, the northern long-eared bat (*Myotis septentrionalis*) has been identified as “statewide”. According to the USFWS, the northern long-eared bat is found in “winter – mines and caves, summer – wide variety of forested habitats.” This species is not aquatic, so the discharge will have no direct effect on this mammal. Further, the permit action is also expected to have no indirect effect on the species because it is not expected to impact insects, the primary prey of the northern long-eared bat. Therefore, the proposed permit action is deemed to have no impact on this listed species.

The second species under the jurisdiction of USFWS is the small whorled pogonia (*Isotria medeoloides*). This plant is found in forested habitat and is not associated with aquatic habitat. Therefore, the proposed permit action will have no direct or indirect effect on this listed plant species.

NOAA Fisheries is responsible for ESA consultations for two anadromous protected species which occur in the Merrimack River Basin, the shortnose sturgeon (*Acipenser brevirostrum*) and

Atlantic sturgeon (*Acipenser oxyrinchus*). However, these species are not expected to be present upstream of the Lawrence Dam (Great Stone Dam).¹⁶ This dam is approximately 95 river miles downstream from the Facility. Based on the expected normal distribution of these sturgeon species, it is highly unlikely that they would be present in the vicinity of this discharge and the action area of the outfalls.

Therefore, EPA finds that adoption of the proposed permit will have no effect on any threatened or endangered species or critical habitat, and consultation with NOAA Fisheries or USFWS under Section 7 of the ESA is not required.

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (*see* 16 U.S.C. § 1801 *et seq.*, 1998), EPA is required to consult with the NOAA Fisheries if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat". 16 U.S.C. § 1855(b).

The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". 16 U.S.C. § 1802(10). "Adverse impact" means any impact that reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), or site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

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

According to information contained in NOAA Fisheries Essential fish habitat for rivers, estuaries and bays¹⁷ Atlantic salmon (*Salmo salar*) is designated as an EFH species for the Merrimack River and its tributaries, including the Pemigewasset River in the vicinity of Bridgewater, at Latitude 43° 42' 56.93" and Longitude 71° 39' 27.59". No other EFH species have been designated for this river. Although a number of dams are located downstream from the Bridgewater Facility on the Pemigewasset River, there is evidence of successful fish passage at these dams. In addition, there is an extensive stocking program in the Pemigewasset River above its confluence with the Squam River. The stretch of the Pemigewasset River where it meets the Squam River is used by smolts during their spring migration to the sea. EPA has judged that Atlantic salmon EFH habitat is likely located in the area of the river affected by this permitting action.

EPA's Finding of all Potential Impacts to EFH Species

¹⁶ See §7 resources for USFWS at <https://ecos.fws.gov/ipac/> or NMFS at <https://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html>

¹⁷ <https://www.habitat.noaa.gov/application/efhmapper/atlanticSalmonEFH.pdf>; Table 31, Map 105

- This Draft Permit action does not constitute a new source of pollutants. It is the reissuance of an existing NPDES permit;
- All water used at the Facility is withdrawn from groundwater wells located on-site. No water is withdrawn from the Pemigewasset River, so no life stages of EFH species are vulnerable to impingement or entrainment from this facility;
- Acute toxicity tests will be conducted so that the discharge does not present toxicity problems;
- Effluent is discharged into the Pemigewasset River with a dilution factor of greater than 100:1;
- Total residual chlorine, total suspended solids, oil and grease, total iron, total aluminum, temperature, and pH are regulated by the Draft Permit to meet water quality standards;
- The Draft Permit prohibits the discharge of pollutants or combination of pollutants in toxic amounts;
- The effluent limitations and conditions in the Draft Permit were developed to be protective of all aquatic life; and
- The Draft Permit prohibits violations of the state water quality standards.

EPA believes that the conditions and limitations contained within the Bridgewater Power Company Draft Permit adequately protects all aquatic life, including those with designated EFH in the receiving water, and that further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries will be contacted and an EFH consultation will be re-initiated.

As part of the renewal of the NPDES permit for this facility, in addition to the Draft Permit and the information contained in this Fact Sheet, a letter under separate cover will be sent to NOAA Fisheries Habitat Conservation Division.

7.0 Public Comments, Hearing Requests, and Permit Appeals

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to Undine Kipka, U.S. EPA, Water Division, Industrial Permits Branch, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-3912 or via email to kipka.undine@epa.gov.

Prior to the close of the public comment period, any person may submit a written request to EPA and the State Agency for a public hearing to consider the Draft Permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments in a Response to Comments document attached to the Final Permit and make these responses available to the public at EPA's Boston office and on EPA's website.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant, and provide a copy or notice of availability of the final decision to each person who submitted written comments or requested notice. Within 30 days after EPA serves notice of the issuance of the Final Permit decision, an appeal of the federal NPDES permit may be commenced by filing a petition for review of the permit with the Clerk of EPA's Environmental Appeals Board in accordance with the procedures at 40 C.F.R. § 124.19.

8.0 EPA Contacts

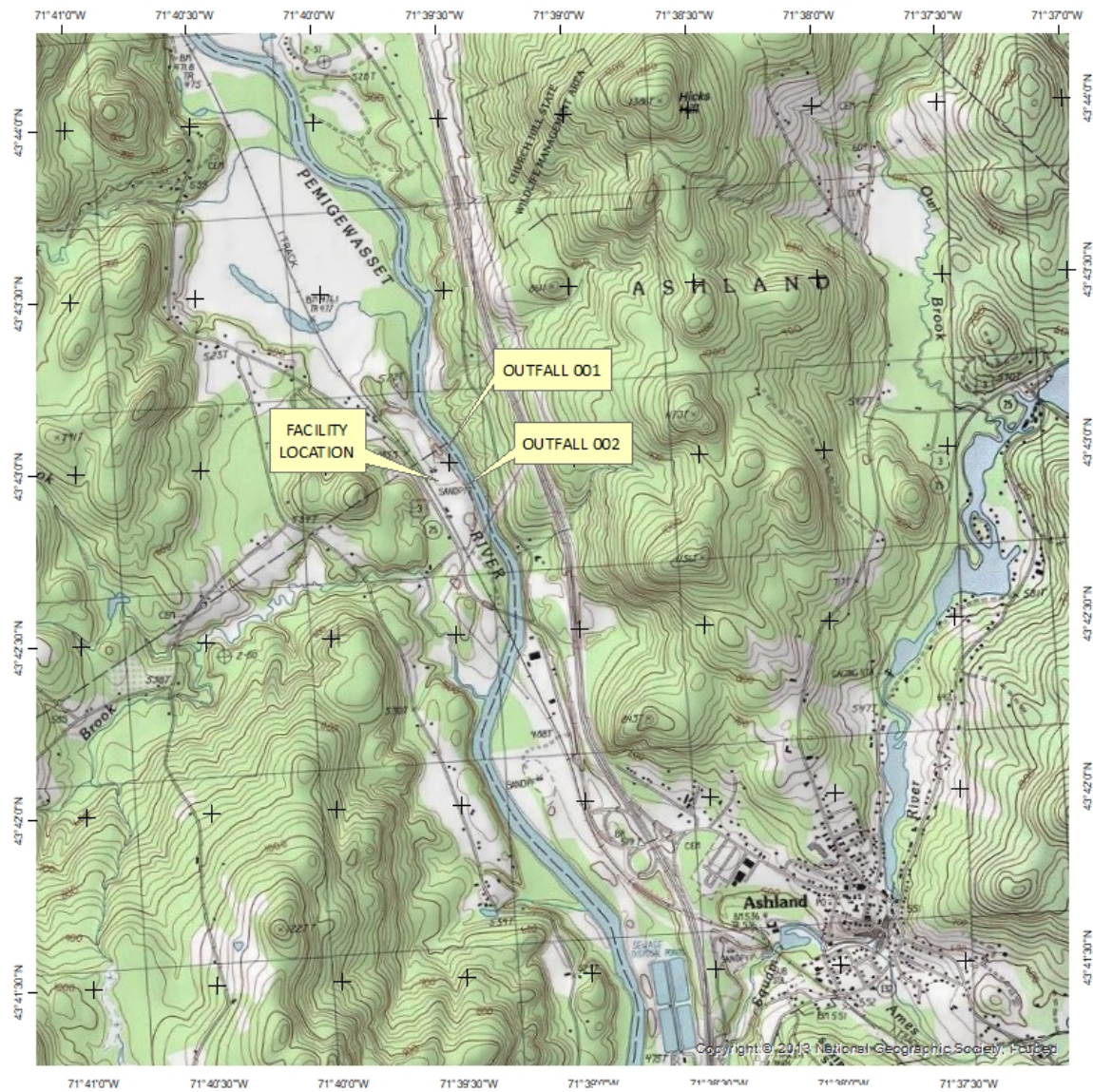
The administrative record on which this Draft Permit is based may be accessed at EPA's Boston office between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from:

Undine Kipka
EPA Region 1
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1335
Email: kipka.undine@epa.gov

Date: September, 2019

Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency

Figures

Figure 1: Location Map

Scale 1 : 28,253
0 500 1,000 Meters
0 1,000 2,000 3,000 Feet

Regulated Facilities: EPA

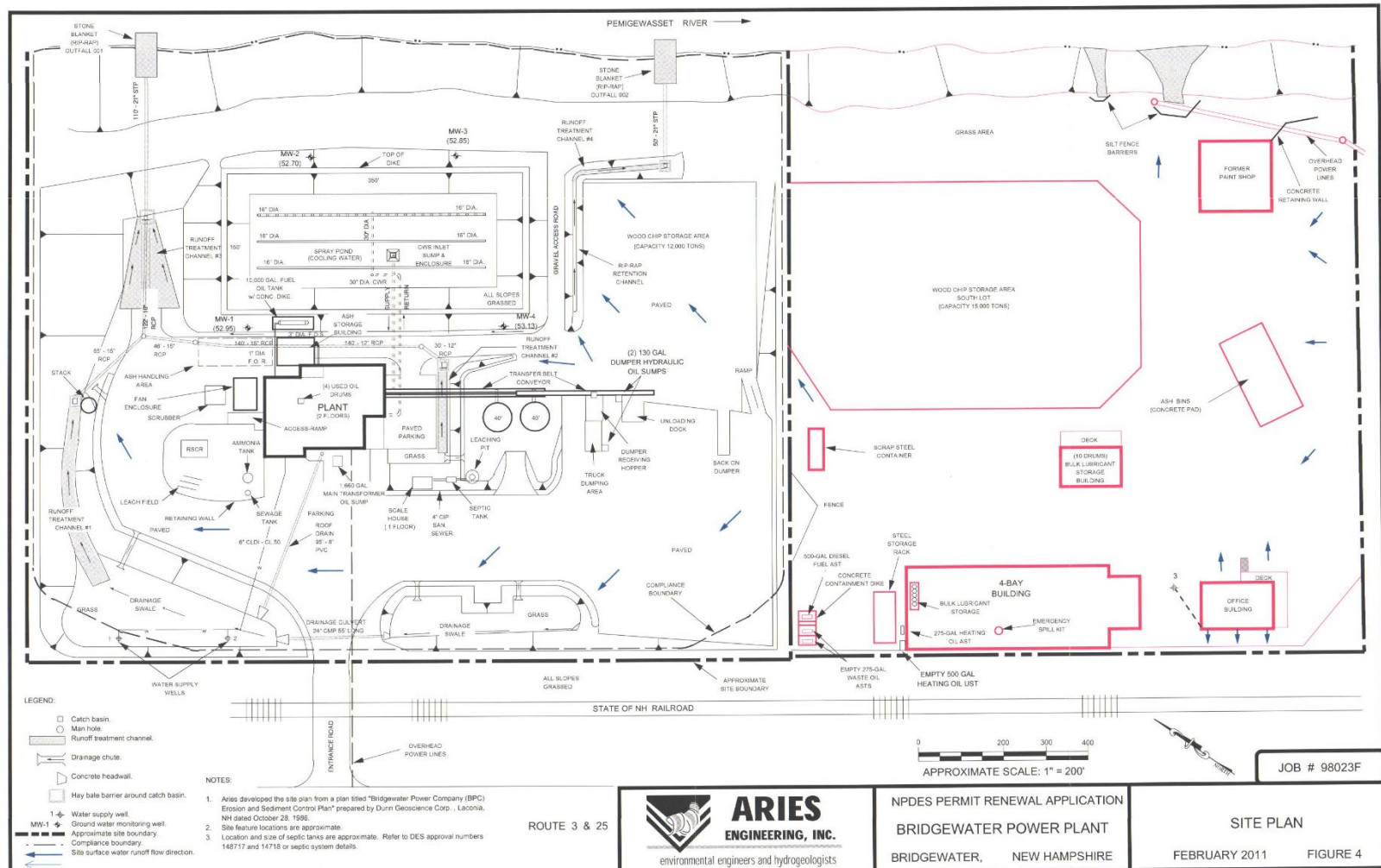


FIGURE 1
Bridgewater Power Company
Location Map

Bridgewater, NH

EPA
6/27/2019

Figure 2: Site Plan



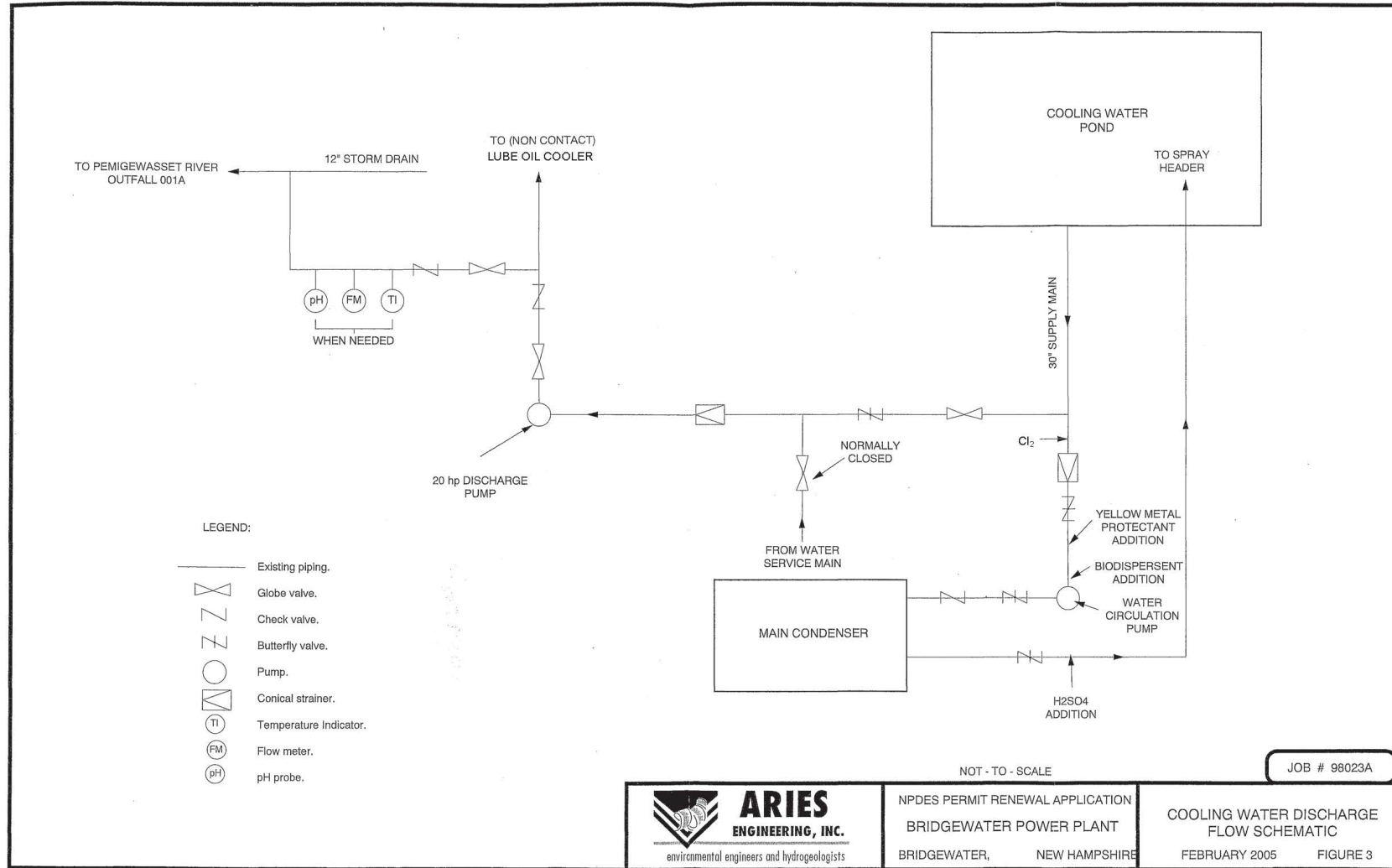
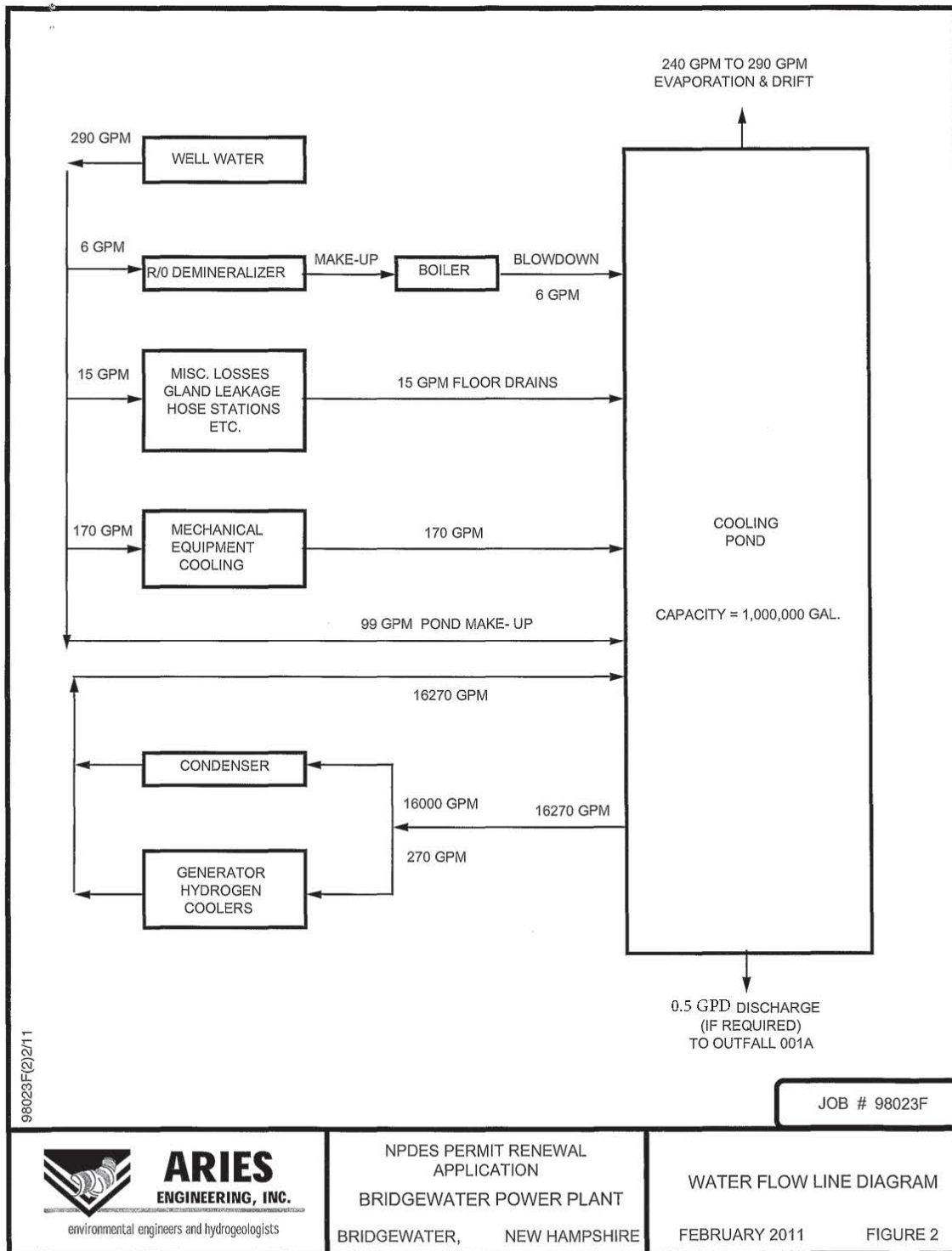


Figure 3: Schematic of Cooling Pond Flow

Appendices

Appendix A: Discharge Monitoring Data

[illegible]

[illegible]

5/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
6/30/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
7/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
8/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
9/30/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
10/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
11/30/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
12/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
1/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
4/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
5/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
6/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
7/31/2018	0.05	0.26	(16)	(15)	(7.18)	(7.17)	0.08	5	5
8/31/2018	0.072	0.278	(16)	(15)	7.68	7.7	0.058	5	5
9/30/2018	0.048	0.28	(16)	(15)	7.67	7.72	0.058	5	5
10/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
11/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
12/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
1/31/2019	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2019	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2019	0.06	0.499	5	5	7.81	8	0.08	6	6

[illegible]

[illegible]

9/30/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
10/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
11/30/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
12/31/2017	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
1/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
4/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
5/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
6/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
7/31/2018	0.005	0.005	0.03	0.002	0.002	0.009	0.009	87.2
8/31/2018	0.012	0.012	0.03	0.0003	0.0003	0.014	0.014	88.4
9/30/2018	0.012	0.012	0.03	0.0003	0.0003	0.014	0.014	73.05
10/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
11/30/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
12/31/2018	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
1/31/2019	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2019	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2019	0.012	0.012	0.03	0.0003	0.0003	0.014	0.014	81.5

Bridgewater Power Company: NPDES Permit No. NH0022021							
Outfall Serial No. 001C, Quarterly Reporting							
Monitoring Period 03/01/14 to 03/31/19							
Parameter	Flow	Oil & grease	TSS	Oxygen demand, chem. (high level) (COD)	pH	pH	pH, rainfall
	Daily Max	Daily Max	Daily Max	Daily Max	Minimum	Maximum	Daily Max
Units	MGD	mg/L	mg/L	mg/L	SU	SU	SU
Effluent Limit	Report	15	Report	Report	6.5	8	Report
Minimum	0.007	5	7.5	35	6.68	6.66	5.67
Maximum	1.017	7.6	120	250	7.88	7.98	8.29
Average	0.115	5.28	38.6	137	7.02	7.08	6.79
No. of Violations	N/A	0	N/A	N/A	0	0	N/A
3/31/2014	0.039	5	76	250	7.5	7.74	8.29
6/30/2014	0.012	5	18	130	7.02	7.07	6.3
9/30/2014	1.017	5	78	150	6.8	6.8	6.85
10/31/2014	0.029	5	12	140	6.7	6.88	7.55
3/31/2015	0.02	6	49	120	7.37	7.5	7.54
6/30/2015	0.031	6	13	190	7	7	7.32
9/30/2015	0.019	5	64	140	6.68	6.66	5.8
10/31/2015	0.287	5	30	130	6.68	6.71	5.7
3/31/2016	0.091	5	63	130	7.88	7.98	7.34
6/30/2016	0.061	7.6	21	85	7.31	7.34	6.33
9/30/2016	0.07	5	40	130	6.87	6.87	6.82
10/31/2016	0.118	5	28	150	6.98	7.03	7.15
3/31/2017	0.019	6	120	200	7.28	7.53	7.29
6/30/2017	0.015	5	28	180	6.7	6.69	7.18
9/30/2017	(133)	5	17	120	6.76	6.67	6.94

Appendix B: Ambient Data

Bridgewater Power Company: NPDES Permit No. NH0022021										
Whole Effluent Toxicity Testing, Receiving Water Chemical Analysis, Annual Reporting										
Monitoring Period Range: 03/01/14 to 03/31/19										
Parameter	Aluminum	Cadmium	Copper	Hardness	Nickel	Lead	Zinc	Ammonia	pH	Alkalinity, total (as CaCO₃)
Reporting Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	S.U.	mg/L
7/21/2009	0.106	---	<0.001	10.4	<0.001	<0.002	0.007	0.05	7.02	6.5
7/6/2010	0.115	---	0.001	10.6	<0.001	0.003	0.018	<0.02	6.95	6.2
7/6/2011	0.079	---	<0.001	13.3	0.001	0.004	0.010	0.03	6.74	7.7
7/17/2012	0.103	---	<0.005	14.1	<0.001	<0.002	0.004	0.05	7.01	8.9
7/16/2013	0.351	<0.0002	<0.0005	9.3	0.0006	0.0006	0.007	0.08	6.60	<5
7/22/2014	0.121	<0.001	<0.001	13.3	<0.001	<0.0005	0.004	0.04	6.92	7.3
7/8/2015	0.112	<0.0001	0.062	10.7	<0.001	<0.0003	0.035	<0.05	6.95	5.5
7/28/2016	0.094	<0.0001	<0.002	12.3	<0.001	<0.0003	<0.002	<0.05	6.81	8.4
7/26/2017	0.118	<0.0001	<0.002	13.0	<0.001	0.0005	0.003	0.07	6.87	9.9
7/24/2018	0.299	<0.0001	0.002	9.1	<0.001	0.0005	0.006	<0.05	6.91	10.8
<i>Median</i>	<i>0.114</i>	<i>0</i>	<i>0</i>	<i>11.5</i>	<i>0</i>	<i>0.0003</i>	<i>0.006</i>	<i>0.035</i>	<i>--</i>	<i>--</i>

Appendix C: Reasonable Potential Analysis**Methodology**

A reasonable potential analysis is completed using a single set of critical conditions for flow and pollutant concentration that will ensure the protection of water quality standards. To determine the critical condition of the effluent, EPA projects an upper bound of the effluent concentration based on the observed monitoring data and a selected probability basis. EPA generally applies the quantitative approach found in Appendix E of the *Technical Support Document for Water Quality-based Toxics Control* (TSD)¹⁸ to determine the upper bound of the effluent data. This methodology accounts for effluent variability based on the size of the dataset and the occurrence of non-detects (i.e., samples results in which a parameter is not detected above laboratory detection limits). For datasets that include one or more non-detect results, EPA calculates the 95th percentile using a delta-lognormal distribution. In this case, because whole effluent toxicity sampling is conducted on an annual basis, EPA used data from August 2009 through August 2018 in order to obtain 10 data points for analysis.

EPA uses the calculated upper bound of the effluent data, along with a concentration representative of the parameter in the receiving water, the critical effluent flow, and the critical upstream flow to project the downstream concentration after complete mixing using the following simple mass-balance equation:-

$$Q_s C_s + Q_e C_e = Q_d C_d$$

Where:

C_d = downstream concentration

C_s = upstream concentration (median value of available ambient data)

C_e = effluent concentration (95th percentile of effluent concentrations)

Q_s = upstream flow (7Q10 flow upstream of the outfall)

Q_e = effluent flow of the Facility (permitted maximum daily flow)

Q_d = downstream flow ($Q_s + Q_e$)

Solving for the receiving water concentration downstream of the discharge (C_d) yields:

$$C_d = \frac{C_s Q_s + C_e Q_e}{Q_d}$$

¹⁸ <https://www3.epa.gov/npdes/pubs/owm0264.pdf>

As required by Env-Wq 1705.01, 10% of the assimilative capacity of the receiving water is reserved by using a multiplying factor of 0.9 in this calculation. When EPA determines that a discharge causes, has the reasonable potential to cause, or contribute to such an excursion, the permit must contain WQBELs for the parameter. The limitation is calculated by rearranging the above mass balance equation to solve for the effluent concentration (C_e) using the applicable criterion ($*0.9$) as the downstream concentration (C_d). *See* 40 C.F.R. § 122.44(d)(1)(iii).

Determination of Applicable Criteria

State water quality criteria for toxic substances are found in Env-Wq 1703.21. Freshwater aquatic life criteria for aluminum, copper, lead, nickel and zinc are established in terms of dissolved metals and are converted to total recoverable using published conversion factors. *See* Env-Wq 1703.23. Additionally, the criteria for copper, lead, nickel and zinc are hardness-dependent. *See* Env-Wq 1703.22. The median downstream hardness of the Pemigewasset River based on ambient data from August 2009 through 2018 is 16.6 mg/L.¹⁹ EPA used a hardness value of 20 mg/L consistent with the minimum downstream hardness for determining the total recoverable metals criteria. *See* Env-Wq 1703.22(f). The ammonia limits were derived using the Freshwater Acute Aquatic Life Criteria for Ammonia in mg N/liter with Salmonids in the Genus *Oncorhynchus* Present (Table 1703-4A) and Freshwater Chronic Aquatic Life Criteria for Ammonia in mg N/liter (Table 1703-4C) based on a median pH value of 6.9 S.U. and an ambient temperature of 20°C. *See* Env-Wq 1703.25 and 1703.26. The applicable criteria are summarized in the table below.

¹⁹ Median downstream hardness was calculated using the mass-balance equation described in the Methodology section and the following inputs: median upstream hardness of 11.5 mg/L (see Appendix B), upstream flow of 80.9 MGD (125.23 cfs), median effluent hardness of 845 mg/L (see Appendix D), and effluent flow of 0.5 MGD (0.77 cfs).

Summary of Applicable Criteria

Parameter	Coefficients				Applicable Criteria	
	ma	ba	mc	bc	Acute Criteria ¹ (CMC)	Chronic Criteria (CCC)
Units	—	—	—	—	µg/L	µg/L
Aluminum	—	—	—	—	750	87
Cadmium	0.9789	-3.866	0.7977	-3.909	0.39	0.22
Copper	0.9422	-1.7000	0.8545	-1.702	3.07	2.36
Lead	1.273	-1.46	1.273	-4.705	10.52	0.41
Nickel	0.846	2.255	0.846	0.0584	120.23	13.37
Zinc	0.8473	0.884	0.8473	0.884	30.64	30.64
Ammonia	—	—	—	—	18.2	2.0

¹Acute Criteria (Criterion Maximum Concentration (CMC)) = $\exp\{m_a \cdot \ln(\text{hardness}) + b_a\} \cdot \text{CF}$ where:

m_a = pollutant-specific coefficient

b_a = pollutant-specific coefficient

\ln = natural logarithm

h = hardness of the receiving water

CF = conversion factor for dissolved to total recoverable metal

²Chronic Criteria (Criterion Continuous Concentration (CCC)) = $\exp\{m_c \cdot \ln(\text{hardness}) + b_c\} \cdot \text{CF}$ where:

m_c = pollutant-specific coefficient

b_c = pollutant-specific coefficient

\ln = natural logarithm

h = hardness of the receiving water

CF = conversion factor for dissolved to total recoverable metal

³For hardness-dependent criteria, See *National Recommended Water Quality Criteria, Appendix B - Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent*: <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm>; see Env-Wq 1703.23(d).

⁴For dissolved to total recoverable metal conversion, See *Appendix A - Conversion Factors for Dissolved Metals*: <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#appendxa>; see Env-Wq 1703.23.

Calculation of Reasonable Potential

EPA first calculated the upper bound of expected effluent concentrations for each parameter. EPA then used the calculated upper bound of expected effluent concentrations, the median value of the available ambient data, the permitted daily maximum effluent flow

and the upstream 7Q10 flow to project the in-stream concentration downstream from the discharge. The results are summarized in the table below.

Summary of Reasonable Potential Results

Parameter	Effluent Flow	Effluent Conc ¹	Upstream Flow	Upstream Conc ²	Downstream Flow ³	Downstream Concentration	Acute Criterion	Chronic Criterion	Acute Reasonable Potential ⁴	Chronic Reasonable Potential ⁵
Units	cfs	µg/L	cfs	µg/L	cfs	µg/L	µg/L	µg/L	—	—
Aluminum	0.77	900	125.23	113.5	126	118.3	675	78.3	N	Y
Cadmium		0.1		0		0	0.35	0.2	N	N
Copper		27.2		0		0.17	2.77	2.12	N	N
Nickel		3.6		0		0.02	108.2	12.0	N	N
Lead		1.28		0.25		0.26	9.47	0.37	N	N
Zinc		70.6		6.25		6.6	27.58	27.58	N	N
Ammonia ⁶		0.6		0.04		0.04	16.2	1.8	N	N

¹ Values represent the 95th percentile concentration calculated using the monitoring data reported by the Facility (*See Appendix C, below*).

² Median upstream values calculated using monitoring data for the receiving water immediately upstream of the Facility's discharge reported by the Facility (*see Appendix B*).

³ Value calculated as the sum of effluent flow and upstream flow.

⁴ "Y" is indicated if downstream concentration exceeds the acute criterion.

⁵ "Y" is indicated if downstream concentration exceeds the chronic criterion.

⁶ Values for Ammonia are provided in mg/L; for ammonia, the acute and chronic freshwater criteria at a pH of 6.9 S.U. and ambient temperature representative of winter conditions (0-14°C for acute and 0-7°C for chronic) are 26 mg/L and 4.5 mg/L, respectively. There is no reasonable potential to cause or contribute to an excursion of the freshwater ammonia criteria based on the downstream concentration.

The median upstream aluminum concentration of the Pemigewasset River exceeds the chronic aquatic life criterion ($87 \mu\text{g/L} * 0.1 = 78.3 \mu\text{g/L}$). As a result, the discharge of aluminum from the Facility at concentrations greater than the criterion could cause or contribute to an excursion above chronic water quality standards. See Fact Sheet Section 5.1.7 for further discussion.

Appendix D: BPC Whole Effluent Toxicity Test Data

Bridgewater Power Company: NPDES Permit No. NH0022021		
Whole Effluent Toxicity Testing, Annual Reporting		
Monitoring Period 03/01/14 to 03/31/19		
	LC50 Static 48-Hr Acute <i>Pimephales</i>	A-NOEC Static Acute <i>Pimephales</i>
Mon Period End Date	Daily Min	Daily Min
7/21/2009	>100	100
7/6/2010	>100	100
7/6/2011	>100	100
7/17/2012	>100	100
7/23/2013	>100	100
7/28/2014	>100	100
7/8/2015	>100	100
8/9/2016	>100	100
8/8/2017	>100	50
8/2/2018	>100	100
Minimum	100	50

Bridgewater Power Company: NPDES Permit No. NH0022021									
Whole Effluent Toxicity Testing, Effluent Chemical Analysis, Annual Reporting									
Monitoring Period 03/01/14 to 03/31/19									
Monitoring Period End Date	Aluminum	Cadmium	Copper	Hardness	Nickel	Lead	Zinc	Ammonia	Alkalinity
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
7/21/2009	0.181	<0.001	0.018	878	0.003	<0.002	0.07	0.13	20.5
7/6/2010	<0.010	<0.001	0.018	843	<0.001	<0.002	0.064	0.18	32.0
7/6/2011	1.74	<0.001	0.014	748	0.003	<0.002	0.089	0.15	32.8
7/17/2012	0.018	<0.001	0.008	899	<0.001	<0.002	0.008	0.48	87.7
7/16/2013	0.072	<0.0002	0.017	818	0.002	0.0007	0.007	0.17	91.2
7/22/2014	<0.01	<0.001	0.007	754	0.002	0.0007	0.006	0.19	122
7/8/2015	<0.01	0.0001	0.002	847	0.002	<0.0003	0.008	0.88	92.1
7/28/2016	0.018	<0.0001	<0.002	981	<0.001	<0.0003	0.003	0.12	45.8
7/26/2017	<0.005	0.0001	0.005	850	0.001	0.0003	0.009	0.14	84.4
7/24/2018	0.039	<0.0001	0.015	219	<0.001	<0.0003	0.011	0.17	35.0

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

U.S. ENVIRONMENTAL PROTECTION
AGENCY-REGION 1
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF
THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT
(THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER
SECTION 401 OF THE ACT, AND ISSUANCE OF A STATE SURFACE WATER PERMIT
UNDER NH RSA 485-A:13, I(a).

PUBLIC NOTICE PERIOD: **September 10, 2019 – October 9, 2019**

PERMIT NUMBER: **NH0022021**

PUBLIC NOTICE NUMBER: **NH-10-19**

NAME AND MAILING ADDRESS OF APPLICANT:

Bridgewater Power Company
PO Box 678
Ashland, NH 03217

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

Bridgewater Power Company
Route 3
Bridgewater, NH 03222

RECEIVING WATER: **Pemigewasset River (Class B)**

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) have cooperated in the development of a draft permit for the Bridgewater Power Company, which discharges stormwater and wastewater from boiler blowdown, floor drains, mechanical equipment cooling, condenser cooling, and generator cooling. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., Chapter 485-A of the New Hampshire Statutes: Water Pollution and Waste Disposal, and the New Hampshire Surface Water Quality Regulations, Env-Wq 1700 et seq. EPA has formally requested that the State certify the draft permit pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

The draft permit and explanatory fact sheet may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by contacting:

Undine Kipka
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1335
kipka.undine@epa.gov

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

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **October 9, 2019**, to the address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and NHDES for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

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

THOMAS E. O'DONOVAN, P.E., DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES

KEN MORAFF, DIRECTOR
WATER DIVISION
U.S. ENVIRONMENTAL PROTECTION
AGENCY - REGION I