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"),

PCC Structurals, Inc.

is authorized to discharge from a facility located at

PCC Structurals, Inc.
24 Granite Street
Northfield, NH 03276-1632

to receiving water named

Winnipesaukee River

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

This Permit shall become effective the first day of the month immediately following 60 days after issuance.[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 October 26, 2018.

This Permit consists of this **cover page(s)**, **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 Moraff, Director
Water Division
Environmental Protection Agency
Region 1
Boston, MA

[1] Pursuant to 40 Code of Federal Regulations (CFR) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, the Permit will become effective upon the date of signature. Procedures for appealing EPA's Final Permit decision may be found at 40 CFR § 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 non-contact cooling water through Outfall Serial Number 001 to the Winnipesaukee River. The discharge shall be limited and monitored as specified below; the receiving water shall be monitored as specified below.

Effluent Characteristic	**Effluent Limitations**		**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Maximum Daily**	**Measurement Frequency[4]**	**Sample Type[5]**
Effluent Flow	Report MGD	0.22 MGD	Continuous	Meter
pH[6]	6.5 - 8.0 S.U.		1/Week	Grab
pH of upstream receiving water[7]	Report	Report	1/Week	Grab
Temperature[8]	---	90.0°F	3/Week	Grab
Total Residual Chlorine (TRC)[9]	1.0 mg/L	1.0 mg/L	1/Week	Grab
Total Copper	---	Report mg/L	1/Month	Grab
Whole Effluent Toxicity (WET) Testing[10,11]				
LC_{50}	---	Report %	1/year	Composite
Hardness	---	Report mg/L	1/year	Composite
Ammonia Nitrogen	---	Report mg/L	1/year	Composite
Total Aluminum	---	Report mg/L	1/year	Composite
Total Cadmium	---	Report mg/L	1/year	Composite
Total Copper	---	Report mg/L	1/year	Composite
Total Nickel	---	Report mg/L	1/year	Composite
Total Lead	---	Report mg/L	1/year	Composite
Total Zinc	---	Report mg/L	1/year	Composite

Ambient Characteristic[12]	Reporting Requirements		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type[5]
Hardness	---	Report mg/L	1/year	Grab
Ammonia Nitrogen	---	Report mg/L	1/year	Grab
Total Aluminum	---	Report mg/L	1/year	Grab
Total Cadmium	---	Report mg/L	1/year	Grab
Total Copper	---	Report mg/L	1/year	Grab
Total Nickel	---	Report mg/L	1/year	Grab
Total Lead	---	Report mg/L	1/year	Grab
Total Zinc	---	Report mg/L	1/year	Grab
Dissolved Organic Carbon[13]	---	Report mg/L	1/year	Grab
pH[14]	---	Report S.U.	1/year	Grab
Temperature[14]	---	Report °C	1/year	Grab

Footnotes are listed below.

Footnotes:

1. Effluent samples shall yield data representative of the discharge. A routine sampling program shall be developed in which samples are taken at the discharge point prior to discharge to the Winnipesaukee River, prior to co-mingling with any other wastestream. Changes in sampling location must be approved in writing by the Environmental Protection Agency Region 1 (EPA). The Permittee shall report the results to EPA and the New Hampshire Department of Environmental Services (the "State") of any additional testing above that required herein, if testing is done in accordance with 40 CFR Part 136.

2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

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). For calculating and reporting the average monthly concentration when one or more values are not detected, assign a value of zero to all non-detects and report the average of all the results. The number of exceedances shall be enumerated for each parameter in the field provided on every Discharge Monitoring Report (DMR).

4. Measurement frequency of 1/week is defined as the sampling of one discharge event in each seven-day calendar week. Measurement frequency of 1/month is defined as the sampling of one discharge event in each calendar month. Measurement frequency of 1/year is defined as the sampling of one discharge event during one calendar year. 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 (NODI) Code.

5. Each composite sample will consist of at least eight grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.

6. The pH shall be within the specified range at all times except when otherwise allowed under Part I.C.1. of the Permit. When the pH range is outside of the specified range and Part I.C.1.b applies, results of the ambient pH sample obtained to demonstrate compliance with this limit shall be reported in the discharge monitoring report (DMR). When required, the ambient sample shall be taken within one (1) hour of the effluent sample and the Permittee must specify to which weekly sample the ambient sample corresponds. If the pH is within the specified range, the Permittee shall report an appropriate NODI code for background pH.

7. Upstream receiving water monitoring and reporting is required if the permittee is demonstrating compliance of its effluent's pH in accordance with Part I.C.1.b of this permit.

8. The temperature limit is an instantaneous maximum limit, not a maximum daily limit (i.e., 90°F is the highest allowable value for any single grab sample). The highest sample measurement value for the month shall be reported. The Permittee shall report on each DMR, the number of events per month that a grab sample showed an exceedance of the temperature limit.

9. TRC monitoring is required only when any municipal water is used as a source of NCCW and is discharged through this outfall. For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. § 136 that achieves a ML no greater than 30 µg/L.

10. The Permittee shall conduct acute (LC_{50}) 1/year in accordance with test procedures and protocols specified in **Attachment A** of this permit. LC_{50} is defined in Part II.E. of this permit. The Permittee shall test the daphnid, *Ceriodaphnia dubia*, and the fathead minnow, *Pimephales promelas*.

Once per year WET testing shall be conducted in rotating calendar quarters to ensure that testing is representative of seasonal variations. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal that includes the results for that toxicity test.

11. 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. Even where alternate dilution water has been used, the results of the

receiving water control (0% effluent) analyses must be reported. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.

12. 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.

13. Monitoring and reporting for dissolved organic carbon (DOC) is not a requirement of the Whole Effluent Toxicity (WET) tests but is an additional requirement. The Permittee may analyze the WET samples for DOC or may collect separate samples for DOC concurrently with WET sampling.

14. 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. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify EPA as soon as they know or have reason to believe (40 CFR § 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 (µg/L);
(2) 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and for 2-methyl-4,6-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 CFR § 122.21(g)(7); or
(4) Any other notification level established by EPA in accordance with 40 CFR § 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 CFR § 122.21(g)(7); or
(4) Any other notification level established by EPA in accordance with 40 CFR § 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 II.D.1.e.(1) of this Permit (24-hour reporting).

2. The discharge of any sludge and/or bottom deposits from any storage tank or basin at the Facility to the receiving water is prohibited.

3. The discharge of any process water except non-contact cooling water is prohibited.

4. The discharge of biocides is prohibited, except as authorized under conditions of Part I.C.3.

C. SPECIAL CONDITIONS

1. Provision to Modify pH Range

   a. When the source water for the discharge is not the receiving water (i.e., groundwater or municipal water), 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 CFR subchapter N Parts 405 through 471.

   b. When the source water for the discharge is exclusively the receiving water, the pH of the discharge shall be in the range of 6.5 to 8.0 Standard Units (s.u.) unless the ambient pH in the receiving water is outside of this range and it is not altered by the facility's discharge or activities. If the permittee's discharge pH is lower than 6.5 s.u.,

the permittee may demonstrate compliance by showing that the discharge pH was either no more than 0.5 s.u. higher than or 0.3 s.u. lower than the ambient upstream receiving water pH. If the permittee's discharge pH is higher than 8.0 s.u., the permittee may demonstrate compliance by showing that the discharge pH is either no more than 0.5 s.u. lower than or 0.3 s.u. higher than the upstream receiving water pH. For this demonstration the upstream receiving water sample must be collected within one hour of the effluent sampling. The location where the upstream ambient pH sample is collected shall be representative of upstream conditions unaffected by the facility's discharge(s) or activities.

2. Cooling Water Intake Structure

The design, location, construction, and capacity of the cooling water intake structure shall reflect the best technology available (BTA) for minimizing the adverse environmental impacts from the impingement and entrainment of various life stages of fish (e.g., eggs, larvae, juveniles, and adults). The following requirements have been determined to represent the BTA for minimizing adverse impacts:

a. The flow of Winnipesaukee River water withdrawn through the facility's CWIS shall not exceed 0.25 MGD. In addition, the Permittee shall operate its variable speed-driven pumps to withdraw only the minimum amount required to meet the Facility's water demand. Furthermore, to the extent practicable, uncontaminated river water not used in the operation of the process water washout pumps shall be used for cooling.

b. The Permittee shall operate the intake pumps to withdraw NCCW such that only the minimum required amount of cooling water is pumped to meet the facility's cooling demands. In other words, the Permittee must cease or reduce the intake of cooling water whenever withdrawal of source water is not necessary. This is especially important April 15 to June 15 due to the presence of larval aquatic life in New England freshwater waterbodies;

c. The Permittee shall maintain the existing 0.2-inch, removable screens, which surround the 4-inch PVC pipe that withdraws water from the 8-foot by 8-foot intake sump, so that they remain free of excess debris and can be visually inspected for impinged fish from above.

d. The design through-screen velocity at the intake screens at the inlet of the cooling water intake pipes shall not exceed 0.5 fps. This maximum velocity must not be exceeded under all conditions, including during minimum ambient source water surface elevations (based on BPJ using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure. The intake structure must be monitored by visual or remote inspection at least weekly, when feasible, to ensure that the effective velocity does

not exceed 0.5 fps. Remote inspection may include use of a differential pressure gauge to measure flow and ensure screens do not become clogged. The intake screens must be cleared of debris when visual or remote inspections indicate that the maximum velocity of 0.5 fps may be exceeded. A weekly inspection report shall be attached to each monthly DMR to include time periods that inspections could not be conducted due to icing or other unsafe conditions in the river.

e. No change in the location, design, or capacity of the present structure, or replacement of any component of the present structure, unless specified by this permit, may be made without prior approval by EPA and DES.

f. The Permittee shall maintain an Entrainment/Impingement Monitoring Program that includes the following:

(1) Inspection of the intake sump and screens is required once per week and the pre-pump filters must be inspected each time they are cleaned or replaced.
(2) A monitoring log must be maintained on-site to document the program and shall include the following information:

i. date and time of each inspection;
ii. name of observer/operator; and
iii. total daily withdrawal volume for the day of the inspection.
iv. appropriate reference material to ensure that those involved in planning and conducting the inspection have the necessary knowledge and ability to 1) ensure sampling accuracy and effectiveness, including the ability to identify all fish found in this area to the species level; and 2) return trapped organisms to the river by means designed to maximize their survival. The monitoring log must be made available for review by EPA, NHDES, and New Hampshire Fish & Game (NHF&G) when requested.

(3) If any adult or juvenile fish are observed against the impingement screens, the following information must also be collected:

i. The CWIS intake location (intake sump, screen or pre-pump filter) where each fish was found; and
ii. The number of fish; and for each fish observed:

(a) identification of each fish species; if possible;
(b) total length of each fish;
(c) condition of the fish (alive, injured, dead); and
(d) treatment of the fish (released or discarded).

(4) All live adult and juvenile fish and other aquatic organisms impinged on the intake screen or otherwise trapped in the CWIS sump shall be returned to the river

by means designed to maximize their survival. All solid materials removed from the sump, screens and filters, except for naturally occurring materials such as leaves, branches, and grass, are prohibited from being discharged to the river.

g. Any unusual impingement/entrainment event must be reported to the EPA, NHDES, and NHF&G within 24 hours by telephone. An "unusual impingement/entrainment event" is defined as any occasion that the Permittee observes or estimates based on time-limited observations, four or more fish within any 24-hour period that is either trapped within the intake sump, impinged on the intake screens, or found in the pre-pump filters. The 24-hour notice must be followed with a written report within ten working days of the event, which includes the following information:

(1) species, sizes, and approximate number of fish involved in the incident;
(2) time and date of the occurrence;
(3) operating mode of the facility, including the estimated volume of intake water;
(4) the Permittee's opinion as to the suspected cause for the incident; and
(5) corrective action the Permittee will take to prevent or reduce the likelihood of a recurrence of the incident, to the maximum extent practicable

3. Discharges of Chemicals and Additives

The discharge of any chemical or additive, including chemical substitution that was not reported in the application submitted to EPA or provided through a subsequent written notification submitted to EPA is prohibited. Upon the effective date of this Permit, chemicals and/or additives that have been disclosed to EPA 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 unless otherwise notified by EPA. To request authorization to discharge a new chemical or additive, the Permittee must submit a written notification to EPA 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) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;

(4) The frequency (e.g., hourly, daily), magnitude (i.e., maximum application concentration), duration (e.g., hours, days), and method of application for the chemical/additive;
(5) If available, the vendor's reported aquatic toxicity (i.e., NOAEL and/or LC_{50} in percent for aquatic organism(s)).

b. Written rationale that demonstrates that the discharge of such chemicals and/or additives as proposed will not: 1) will not add any pollutants in concentrations that 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.

4. If water withdrawn from the river is used in a process and/or becomes or has the potential to become contaminated by a process, it is prohibited from being discharged to the river in accordance with Part I.B.3 of 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

The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State electronically using NetDMR no later than the 15th day of the month following the monitoring period. 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 following the monitoring period), 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 EPA WD:

(1) Transfer of Permit notice;
(2) Request for changes in sampling location;
(3) Request to discharge new chemicals or additives;
(4) Report on unacceptable dilution water/request for alternative dilution water for WET testing.

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. Written Notifications

Written notifications required by Part II, Standard Conditions must be done electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system that will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

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.D.3 through I.D.5 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 that 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 Enforcement and Compliance Assurance Division (ECAD) at:

617-918-1510

c. Verbal reports and verbal notifications shall also be made to the State's Regional NPDES inspector at:

603-271-2985

E. STATE 401 CERTIFICATION CONDITIONS

This Permit is in the process of receiving State water quality certification issued by the State under § 401(a) of the CWA and 40 CFR § 124.53. EPA will incorporate all appropriate State water quality certification requirements (if any) into the Final Permit.

Attachment A

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

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

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

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

II. METHODS

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

https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods

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

III. SAMPLE COLLECTION

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

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

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

IV. DILUTION WATER

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

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

Written requests for use of ADW with supporting documentation must be sent electronically to the NPDES Applications Coordinator in EPA Water Division (WD) at the following email address:

R1NPDESReporting@epa.gov

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 EPA Region 1 website at https://www.epa.gov/aboutepa/epa-region-1-new-england (click on NPDES, EPA Permit Attachments, Self-Implementing Alternate Dilution Water Guidance) for important details on alternate dilution water substitution requests.

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

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

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

Footnotes:

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

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

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

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

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

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

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

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

A. GENERAL REQUIREMENTS

1. Duty to Comply

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

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

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

(1) Criminal Penalties

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

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

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

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

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

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

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

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

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

2. Permit Actions

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

condition.

3. Duty to Provide Information

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

4. Oil and Hazardous Substance Liability

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

5. Property Rights

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

6. Confidentiality of Information

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

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

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

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

7. Duty to Reapply

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

8. State Authorities

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

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

9. Other Laws

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

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

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

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

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

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

c. Notice

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

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

d. *Prohibition of bypass.*

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

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

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

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

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

5. Upset

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

improper operation.

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

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

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

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

C. MONITORING REQUIREMENTS

1. Monitoring and Records

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

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

c. Records of monitoring information shall include:

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

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

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

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

2. Inspection and Entry

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

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

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

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

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

D. REPORTING REQUIREMENTS

1. Reporting Requirements

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

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

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

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

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

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

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

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

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

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

e. *Twenty-four hour reporting.*

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

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

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

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

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

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

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

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

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

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

2. Signatory Requirement

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

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

3. Availability of Reports.

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

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

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

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

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

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

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

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

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

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

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

Bypass see B.4.a.1 above.

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

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

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

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

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

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

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

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

Direct Discharge means the "discharge of a pollutant."

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

Discharge

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

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

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

Discharge of a pollutant means:

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

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

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

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

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

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

Agency.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Municipality

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

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

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

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

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

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

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

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

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

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

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

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

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

NPDES means "National Pollutant Discharge Elimination System."

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

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

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

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

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

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

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

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

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

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

(a) Sewage from vessels; or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Upset see B.5.a. above.

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

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

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

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

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

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

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

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

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

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

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

(f) The territorial sea; and

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

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

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

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

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

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

2. Commonly Used Abbreviations

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

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION 1
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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: NH0001023

PUBLIC NOTICE START AND END DATES: March 26, 2026 – April 27, 2026

NAME AND MAILING ADDRESS OF APPLICANT:

PCC Structurals, Inc.
P.O. Box 188
Tilton, NH 03276-0188

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

PCC Structurals, Inc.
24 Granite Street
Northfield, NH 03276-1632

RECEIVING WATER AND CLASSIFICATION:

Winnipesaukee River (USGS Basin ID: 01081000 Winnipesaukee River at Tilton, NH)
Assessment Unit: NHRIV00020203-12
Hydrologic Code: 010700020203-12

Class B

SIC CODE: 3365 - Aluminum Foundries (except die-castings)
NAICS CODE: 331524 - Aluminum Foundries (except die-casting)

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Appendices

1.0 Proposed Action

PCC Structurals, Inc. (the "Permittee") has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to authorize to authorize pollutant discharges from and cooling water withdrawals by PCC Structurals (the "Facility"). The Facility proposes to discharge certain pollutants to and withdraw water for cooling from the Winnipesaukee River.

The permit currently in effect was issued by EPA on October 26, 2018 with an effective date of October 26, 2018 and expired on September 30, 2024 (the "2018 Permit"). The Permittee filed an application seeking NPDES permit reissuance from EPA dated April 3, 2023, as required by 40 Code of Federal Regulations (CFR) § 122.6. Since the permit application was deemed timely and complete by EPA on September 27, 2023, the Facility's 2018 Permit has been administratively continued pursuant to 40 CFR § 122.6 and § 122.21(d).

This NPDES Permit is issued by EPA under federal law. *See* 33 U.S.C. § 1342(a). New Hampshire construes Chapter 485-A (Water Pollution and Waste Disposal) of Title 50 of the New Hampshire Revised Statutes (Water Management and Protection), to authorize NHDES to "consider" a federal NPDES permit to be a State surface water discharge permit. As such, the terms and conditions of the permit may be incorporated into and constitute a discharge permit issued by NHDES.

2.0 Statutory and Regulatory Authority for Setting NPDES Permit Requirements

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 to the extent authorized under specific provisions 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" on the condition that the discharge will comply with the standards specified in certain other provisions of the statute (e.g., CWA §§ 301, 306 and 403). CWA § 402(a)(1). NPDES permits generally contain discharge limitations and, if applicable, cooling water intake structure (CWIS) requirements, and they also establish related monitoring and reporting requirements. *See* CWA §§ 402(a)(1) and (2) and 316(b). The regulations governing EPA's NPDES permit program are generally found in 40 CFR Parts 122, 124, 125, and 136.

"Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" to achieve the statutory mandates of Sections 301 and 402 of the CWA. *Arkansas v. Oklahoma,* 503 U.S. 91, 105 (1992). Technology-based effluent limitations (TBELs) represent the minimum level of pollutant discharge control that must be satisfied under Sections 301(b) and 402(a)(1) of the CWA. *See also* 40 CFR § 125.3(a). When limits more stringent than technology-based limits are needed to maintain or achieve compliance with

state water quality standards (WQS), then NPDES permit must include water quality-based effluent limits (QBELs). *See* CWA §§ 301(b)(1)(C) and 401; 40 CFR §§ 122.4(d), 122.44(d)(1) and (5), 124.53, and 124.55.

In addition, point source dischargers subject to Sections 301 or 306 that have cooling water intake structures must meet the cooling water intake structure requirements of CWA § 316(b), 33 U.S.C. § 1326(b). The federal standards for cooling water intake structures are specified in 40 CFR Part 125, subparts I (for new facilities) and J (for existing facilities), as well as subpart N (for new offshore oil and gas extraction facilities). In addition, NPDES permits must also include any more stringent permit conditions needed for cooling water intake structures to satisfy state law requirements, including state water quality standards. 40 CFR §§ 125.84(e) and 125.94(i).

2.1 Technology-Based Requirements

NPDES permit limits must, at a minimum, satisfy applicable federal technology standards under the CWA. CWA §§ 301(b), 304(b) and 402(a); 40 CFR § 125.3(a). The statute specifies several different narrative technology standards that apply to different types of pollutants. Technology-based effluent limitations are set to reflect the greatest degree of pollution control that can be achieved by using a technology that satisfies the applicable technology standard. Effluent limitations based on the best practicable control technology currently available (BPT) standard apply to "conventional pollutants" under certain circumstances, while effluent limitations applied to conventional pollutants are otherwise based on the best conventional control technology standard (BCT). *See* CWA §§ 301(b)(2)(E) and 304(a)(4), (b)(1) and (b)(4). *See also* 40 CFR §§ 125.3(a)(2)(i) and (ii). Effluent limitations based on the best available technology economically achievable (BAT) apply to toxic and non-conventional pollutants. *See* CWA § 301(b)(1)(A) and (b)(2)(A) – (D) and (F), and 304(b)(2); 40 CFR §§ 125.3(a)(iii) and (iv); and 401.12. If a discharger is a "new source" under Section 306 of the CWA, 33 U.S.C. § 1316, however, then it must meet new source standards based on the "best available demonstrated technology" (BADT). *See also* 40 CFR §§ 122.2 (definition of "new source") and 122.29.

Subpart A of 40 CFR Part 125 establishes criteria and standards for developing and applying technology-based requirements in permits under § 301(b) and 402(a) of the CWA. Where EPA has established national effluent limitation guidelines (ELGs) for an industrial category or subcategory, permit *limits* for a facility within that category are set by applying the limits from the national guideline. 40 CFR § 125.3(c)(1). *See also* CWA § 402(a)(1)(A). Where EPA has not yet promulgated an applicable national ELG, then the permitting authority develops permit limits based on a facility-specific, Best Professional Judgment (BPJ) application of the relevant technology standard. 40 CFR § 125.3(c)(2). *See also* CWA § 402(a)(1)(B). Where national ELGs have been promulgated for some, but not all, of the pollutants regulated by the permit, limits are set using the appropriate approach for each pollutant. 40 CFR § 125.3(c)(3). The Facility's stormwater discharges are covered by the EPA Multi-Sector General Permit ("MSGP") for Stormwater Associated with Industrial Activity (MSGP # NHNHNOEJ02) and will not be discussed further in this Fact Sheet."

For cooling water intake structures (CWISs), CWA § 316(b) requires that the construction, location, design, and capacity of CWISs reflect the best technology available for minimizing adverse environmental effects (BTA). CWIS requirements for new facilities are determined in accordance with 40 CFR Part 125, Subpart I (the New Facilities Rule. *See* 40 CFR §§ 125.80(c), 125.81(d) and 125.90(b).[1] Furthermore, CWIS requirements for new offshore oil and gas extraction facilities are determined in accordance with 40 CFR Part 125, subpart N. Cooling water intake structure requirements for existing facilities are developed in accordance with 40 CFR Part 125, Subpart J (the Existing Facilities Rule). For some facilities, the Rule provides specific requirements for satisfying the BTA standard, whereas for other existing facilities, the Rule provides that requirements should be determined on a case-by-case, BPJ basis. *See* 40 CFR §§ 122.44(b)(3) and 125.90(b), 125.91, and 125.94.

Discharges from facilities other than publicly owned sewage treatment plants must generally comply with technology standards as expeditiously as practicable but in no case later than either three years after the date such limitations are established or March 31, 1989, whichever comes first. *See* 40 CFR § 125.3(a)(2). NPDES permits may not include compliance schedules inconsistent with a CWA statutory compliance deadline. *See* 40 CFR§ 122.47(a)(1).

2.2 Water Quality-Based Requirements

The CWA and EPA regulations require that NPDES permits include effluent limits and/or CWIS requirements based on water quality considerations when such limits are necessary to meet state or federal WQS that apply to the affected waterbodies. Such water quality-based effluent limits (WQBELs) are necessary when TBELs would be less stringent and would interfere with the attainment or maintenance of WQS in the receiving water. *See* CWA § 301(b)(1)(C) and 40 CFR §§ 122.44(d)(1),122.44(d)(5), 125.84(e) and 125.94(i).

In the Draft Permit, EPA is proposing changes to previous water quality-based permit requirements to comport with the Supreme Court's decision in City and County of San Francisco v. EPA, No. 23-753 (S. Ct. Mar. 4, 2025). At issue in that case were two broad narrative provisions prohibiting discharges that cause or contribute to violations of applicable water quality standards. The Supreme Court's opinion refers to these narrative provisions as "end-result" requirements, explaining them as "permit provisions that do not spell out what a permittee must do or refrain from doing but instead make a permittee responsible for the quality of the water in the body of water into which the permittee discharges pollutants." San Francisco v. EPA, No. 23-753, slip op. at 2. The Supreme Court held that the Clean Water Act "does not authorize EPA to include 'end-result' provisions in NPDES permits." Id. At 20. Consistent with this holding in San Francisco v. EPA, EPA is not including language in the Draft Permit that is analogous to the permit text rejected by the Court (i.e., "The discharge shall not

[1] *See also* July 6, 2022, Transmittal of Revised Framework for Best Professional Judgement for Cooling Water Intake Structures at Hydroelectric Facilities. https://www.epa.gov/sites/default/files/2021-01/documents/transmittal_of_framework_for_bpj_for_cwis_at_hydroelectric_facilities_final_memo.pdf

cause a violation of the water quality standards of the receiving water."). Specifically, these analogous requirements that have been removed in the Draft Permit are in Section I.A.2-7 of the 2018 Permit.

In the development of the Draft Permit, EPA conducted a thorough reasonable potential analysis on all pollutants of concern (i.e., all pollutants identified in the past five years of monthly Discharge Monitoring Reports [DMRs] and in the most recent permit application) using all available information to ensure that all pollutants of concern were either already consistently below levels that may violate applicable water quality standards (WQS) or received a protective WQBEL in the permit if the data demonstrated the reasonable potential to cause or contribute to an excursion of WQS. Some of EPA's pollutant-specific reasonable potential calculations for specific pollutants of concern are shown in Appendix B of this Fact Sheet, though a reasonable potential analysis was conducted for all pollutants identified in the DMRs and/or permit application. Additionally, the Whole Effluent Toxicity (WET) testing requirements in the Draft Permit operate as a surrogate for other potential sources of toxicity.

Based on this information, EPA has determined that the permit is fully protective of all applicable water quality standards based on all currently available information. The narrative water quality-based requirements in previous iterations of this permit (e.g., "The discharge shall not cause a violation of the water quality standards of the receiving waters") were not in lieu of any more specific water quality requirements. To be clear, the Draft Permit without these generic narrative conditions is sufficiently stringent to ensure compliance with water quality standards under current conditions and their removal does not allow for any associated lowering of water quality in the effluent. Therefore, these conditions are not necessary given EPA's determination that the limits in this permit are sufficient to meet WQS, and thus they are not included in the Draft Permit as requirements based on CWA Section 301(b)(1)(C).[2]

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 CFR §§ 131.10 - 131.12. Generally, WQSs consist of three parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded and to protect high quality and National resource waters. *See* CWA § 303(c)(2)(A) and 40 CFR § 131.12. In this case, the applicable state WQSs are found in the New Hampshire Code of Administrative Rules, Surface Water Quality Regulations, Chapter Env-Wq 1700 *et seq*., and, N.H. Rev. Stat. Title L, Water Management and Protection, Chapter 485-A, Water Pollution and Waste Disposal, Sections 485A:8 – 12.

[2] Given that the removal of these provisions is not considered relaxation of the permit, this change is consistent with CWA § 402(o) and § 303(d)(4).

As a matter of state law, state WQSs specify different water body classifications, each of which is associated with certain designated uses and particular numeric and narrative water quality criteria intended to help attain the designated uses. Then the state assigns one of the water body classifications to each water body in the state. 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 limit(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" assessment 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 CFR § 122.44(d)(1)(vi)(A) – (C). Furthermore, when CWIS requirements are needed to ensure that state WQS are satisfied, the permitting authority should establish those requirements on a case-by-case basis. *See* CWA § 301(b)(1)(C); 40 CFR §§ 125.84(e) and 125.94(i); and N.H. Code R. Env-Wq 1701.02(b) (Applicability). *See also id.* 1708.03 (Submittal of Data).

2.2.2 Antidegradation

Federal regulations found at 40 CFR § 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 a 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 CFR § 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 CFR § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C), and 40 CFR § 122.44(d)(1), NPDES permits must include any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA. In addition, permit limits "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 CFR § 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 CFR § 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 CFR § 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's WQSs, or 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 CFR § 124.53 and § 124.55.

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. 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 EPA's permit appeal procedures of 40 CFR Part 124.

In addition, the State may 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, including water quality standards.

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 CFR § 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 CFR §§ 122.4(d) and 122.44(d).

EPA has requested permit certification by the State pursuant to 40 CFR § 124.53 and expects that the Draft Permit will be certified.

2.3 Effluent Flow Requirements

Generally, EPA uses a discharger's effluent flow volume 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 its reasonable potential and WQBEL calculations to ensure compliance with WQSs under CWA § 301(b)(1)(C). Should a facility's 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 a reasonable potential to do so at a higher flow due to the decreased dilution in the receiving water (which, conversely, means there will be a higher concentration of the pollutants). 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.[3] In this regard, the effluent flow limitation is a component of any WQBELs because the WQBELs are premised on a maximum flow level. The effluent flow limit may also be necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

Setting limits on effluent flow volumes 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 CFR §§ 122.4(a) and (d), 122.43 and 122.44(d). Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is also consistent with EPA's authorities under the CWA.

As provided in Part II.B.1 (Standard Conditions) of the proposed permit and 40 CFR § 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, an 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 CFR §§ 122.41(d), (e).

[3] EPA's regulations regarding "reasonable potential" require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," *id.* 40 CFR §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).

2.4 Cooling Water Intake Structure Requirements

2.4.1 CWA § 316(b) – The BTA Standard

Section 316(b) is the CWA's only provision that directly requires regulation of the withdrawal of water from a water body, as opposed to the discharge of pollutants into a water body. Rather than address all types of water withdrawal, however, this provision only governs the withdrawal of water for cooling purposes through a CWIS by a point source discharger. Specifically, CWA § 316(b) provides that:

> [a]ny standard established pursuant to [CWA sections 301 or 306] and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

33 U.S.C. § 1326(b). The plain meaning of this language is that Congress wanted EPA to ensure that the best technology available (BTA) for minimizing adverse environmental impacts from CWISs would be utilized by plants withdrawing water from the Nation's water bodies for their cooling processes. The legislative history related to CWA § 316(b) is relatively sparse, but what exists reinforces the plain meaning of the statutory language. In the House Consideration of the Report of the Conference Committee (Oct. 4, 1972) on the final version of the 1972 CWA Amendments, Representative Clausen stated that "[s]ection 316(b) requires the location, design, construction and capacity of cooling water intake structures of steam-electric generating plants to reflect the best technology available for minimizing any adverse environmental impact." 1972 Legislative History at 264.

The impetus for enacting CWA § 316(b) seems to have been Congressional awareness of the problem of fish being harmed by power plant CWISs, as evidenced by the Senate Consideration of the Report of the Conference Committee (Oct. 4, 1972) for the final 1972 CWA Amendments. Id. at 196–99, 202.[4] CWA § 316(b) does not, however, apply only to steam-electric power plants. It also applies to other types of point source dischargers, such as manufacturing facilities, that withdraw water through a CWIS from a water of the United States to use for cooling. *See* 79 Fed. Reg. 48300 (Aug. 15, 2014) (Final Rule) (the "Existing Facilities Rule").

The two primary types of adverse environmental impact caused by the withdrawal of water through a cooling water intake structure are "impingement" and "entrainment." Impingement occurs when a facility draws water into its CWIS and organisms too large to pass through the CWIS's screens are unable to swim away and become trapped against the screens and other parts of the intake structure. The extent to which a CWIS impinges aquatic life can be affected

[4] In re Pub. Serv. Co. of New Hampshire (Seabrook Station, Units 1 and 2), 1 E.A.D. 332 (Adm'r 1977), 1977 EPA App. LEXIS 16, *19–*20; In re Brunswick Steam Elec. Plant, Decision of the Gen. Counsel No. 41, at 200–01 (1976) [hereinafter "Brunswick"].

by the number and type of organisms present in the water body from which the cooling water is withdrawn, the size of the organisms relative to the size of the openings in the CWIS's screens, and the velocity and volume of water being withdrawn through the CWIS. Impinged organisms may be killed, injured or weakened from contacting the CWIS's screens and fish return system (i.e., the system used to return impinged organisms back to the source water) depending on the characteristics of those systems, including any systems used to clean and backwash the screens. In some cases, contact with screens or other equipment can directly kill an organism, whereas in other cases it can strip an organism of its protective slime and/or scales or cause other injuries, which may result in delayed mortality. *See* 66 Fed. Reg. 65263.

Entrainment occurs when a facility takes water from a water body through its CWIS and fish eggs, larvae, and other planktonic organisms small enough to pass through the intake screens are in the water and are pulled into the cooling system along with the water. *See* 76 Fed. Reg. 22197. Entrained organisms are typically killed by exposure to high water velocity and pressure, collisions with CWIS surfaces, exposure to increased water temperature, and/or exposure to chemical anti-biofouling agents. *See* 79 Fed. Reg. 48318. The number of organisms entrained is dependent upon the volume and velocity of cooling water flow drawn through the plant and the concentration of organisms in the source water body that are small enough to pass through the CWIS screens. *See* 79 Fed. Reg. 48321 n. 37. The extent of entrainment can also be affected by an intake structure's location, the type and quantity of organisms present in the water body, and the characteristics of any intake screening system or other entrainment reduction equipment used by the facility. Entrainment may also vary by season because of seasonal differences in the assemblage of organisms present in the water. For example, a CWIS located near a fish spawning area is likely to entrain larger numbers of eggs and larvae during the spawning season.

2.4.2 CWA § 316(b) - Regulations

On April 20, 2011, EPA proposed new regulations for applying the BTA standard of CWA § 316(b) to CWISs at existing power plants and manufacturers, and to CWISs for new units at existing facilities. 76 Fed. Reg. 22174 (Apr. 20, 2011) (the "Proposed Existing Facilities Rule").

On August 15, 2014, EPA promulgated those regulations in final form. 79 Fed. Reg. 48300. The Existing Facilities CWIS Rule establishes detailed requirements for determining and implementing the BTA for minimizing impingement and entrainment impacts of CWISs at existing facilities that have cumulative design intake flows greater than 2 million gallons per day (MGD) and that use 25% or more of the intake water for cooling purposes. 40 CFR § 125.91(a). The Existing Facilities Rule became effective October 14, 2014, and was upheld on appeal by the U.S. Court of Appeals for the Second Circuit on July 23, 2018.[5]

The maximum flow capacity of the Facility's CWIS is 0.288 MGD (0.39 cfs) at the standard operating configuration (i.e., only one of the two pumps used at any given time). The 2018

[5] *Cooling Water Intake Structure Coal. v. EPA*, 905 F.3d 49 (2d Cir. 2018).

Permit limited intake flow to 0.25 MGD. The design intake flow of the CWIS is less than the regulatory threshold of 2 MGD in the Existing Facilities Rule. As such, the regulations for existing facilities under 40 CFR §§125.94 through 125.99 do not apply to this facility. In cases where facilities have a design intake flow of 2 MGD or less, EPA sets appropriate requirements on a site-specific basis, using best professional judgment (BPJ). *See* 40 CFR § 125.90(b). Therefore, EPA has developed technology-based requirements for this CWIS by applying § 316(b) on a site-specific basis using BPJ.

Sections 301(b)(1)(C), 401, and 510 of the CWA authorize EPA to issue permit conditions to ensure that cooling water withdrawals are consistent with state WQS, because NPDES permits must assure that the overall "activity" associated with a discharge will not violate applicable WQSs. See *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology*, 511 U.S. 700, 711 – 12 (1994); *Riverkeeper, Inc. v. U.S. EPA*, 358 F.3d 174, 200 – 202 (2d Cir. 2004) (Riverkeeper I)(upholding 40 CFR § 125.84(e)); In re Dominion Energy Brayton Point, LLC, 12 E.A.D. 490, 619-41 (EAB 2006). Accordingly, EPA regulations specify that permits must include any more stringent BTA conditions needed to comply with applicable state law requirements, including state WQSs. See 40 CFR §§ 125.84(e), 125.94(i). Therefore, EPA-issued NPDES permits addressing CWISs must satisfy: (1) the BTA standard of CWA § 316(b); (2) applicable state water quality requirements; and (3) applicable conditions of a state certification under CWA § 401. The standards that are most stringent ultimately determine the Final Permit limits.

New Hampshire's standards state as follows:

> [t]hese rules shall apply to any person who causes point or nonpoint source discharge(s) of pollutants to surface waters, or who undertakes hydrologic modifications, such as dam construction or water withdrawals, or who undertakes any other activity that affects the beneficial uses or the level of water quality of surface waters.

N.H. Code R. Env-Wq 1701.02(b) (Applicability). See also id. 1708.03 (Submittal of Data). This language clearly indicates the applicability of New Hampshire's WQS to cooling water withdrawals from the State's waters. See NH Env-Wq §§ 1701.02(b), 1703.19. Since the NPDES permit that EPA expects to issue to PCC Structurals will be subject to State Certification under CWA § 401, the permit will also need to satisfy any NHDES conditions of such a certification. See also 40 CFR §§ 124.53 and 124.55. EPA anticipates that NHDES will provide this certification before the issuance of the Final Permit.

2.5 Monitoring and Reporting Requirements

2.5.1 Monitoring Requirements

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

The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharges and cooling water withdrawals in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 CFR §§ 122.41(h), (j) and (1)(9), 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 discharges. The monitoring program is needed to enable EPA and the State to determine: (a) the characteristics of the Facility's effluent and cooling water withdrawals, (b) whether Facility's discharges and cooling water withdrawals are complying with permit limits, and (c) 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 numeric effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 CFR Part 122.

NPDES permits require that the approved analytical procedures found in 40 CFR Part 136 be used for sampling and analysis unless other procedures are explicitly specified. *See* 40 CFR § 122.41(j)(4). 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*.[6] This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 CFR § 122.21(e)(3) (completeness), 40 CFR § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 CFR § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level[7] (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or

[6] Fed. Reg. 49,001 (Aug. 19, 2014).

[7] 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).

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

2.5.2 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 to EPA electronically via a secure internet application through the Environmental Information Exchange Network. NetDMR has eliminated the need for participants to mail in paper forms to EPA under 40 CFR §§ 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 EPA's NetDMR support portal webpage.[8]

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 Final Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Exceptions are provided in the permit such as for providing certain reports, information, and requests to EPA's NPDES Applications Coordinator in the Water Division and written notifications required under Part II Standard Conditions.

2.6 Standard Conditions

The Standard Conditions, included as Part II of the Draft Permit, are based on applicable regulations found in EPA's NPDES permitting regulations. *See* 40 CFR § 122.41. *See also, generally,* 40 CFR Part 122.

2.7 Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified with conditions less stringent than the corresponding conditions in a previous permit issued to the same facility unless doing so is authorized by one of the specified exceptions to the anti-backsliding requirements. *See* CWA §§ 402(o) and 303(d)(4) and 40 CFR § 122.44(*l*).

[8] https://netdmr.zendesk.com/hc/en-us

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 2018 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.

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility

PCC Structurals, Inc. in Northfield, NH specializes in complex air and vacuum aluminum investment cast components for aerospace, military, energy, and commercial applications (https://www.pccstructurals.com/locations/pcc-structurals-tilton.html). The Facility manufactures aluminum cast products through a process called investment casting (a.k.a. lost wax process) and is located along the eastern bank of Winnipesaukee River on Granite Street in Northfield, NH. A location map is provided in Figure 1 and a flow schematic is provided in Figure 2. Non-contact cooling water (NCCW) is used to cool several types of machinery including die presses and hydraulic units. The Facility operates 24 hours per day, seven days per week. PCC Structurals ships some products to another PCC Structurals facility located in nearby Franklin, NH for further finishing operations including parts grinding, straightening, and acid etching.

3.1.1 Effluent Limitation Guidelines

EPA has established National Effluent Limitation Guidelines (ELGs) for the Metal Molding and Casting Point Source Category, which is applicable to processes performed by PCC Structurals. See 40 CFR Part 464. Based on the most recent information provided by the Permittee, the pertinent subpart of these regulations for PCC Structurals is Subpart A (40 CFR § 464.10) Aluminum Casting. However, as previously mentioned, the Facility discharges all process wastewater to the local POTW. The NCCW, which is discharged directly to the Winnipesaukee River and subject to this NPDES permit, is a non-process wastewater not covered by the ELG for the Metal Molding and Casting Point Source Category. Therefore, additional information regarding the application of 40 C.F.R. Part 464 to PCC Structurals is not included in this Fact Sheet.

EPA has not promulgated technology-based effluent limitation guidelines (ELGs) for non-contact cooling water discharges in 40 CFR Subchapter N Parts 405 through 471. Therefore, in accordance with CWA § 402(a)(1)(B) and 40 CFR § 125.3(c)(2), EPA may establish effluent limitations on a case-by-case basis using BPJ. EPA's NPDES permitting regulations at 40 CFR §125.3(c)(2) state that permits developed on a case-by-case basis under Section 402 (a)(1)(B) of the CWA shall apply the appropriate factors listed in 40 CFR § 125.3(d) and must consider 1) the

appropriate technology for the category or class of point sources of which the applicant is a member, based on available information, and 2) any unique factors relating to the applicant.

3.1.2 Measure of Production

In accordance with 40 CFR § 122.45(b)(2), EPA based the calculation of effluent limitations on a reasonable measure of actual production by the Facility. EPA determined that the measure of production appropriate for this Facility is the maximum daily permitted flow limit for the NCCW of 0.22 MGD. The maximum effluent flow reflects the amount of NCCW needed for plant operations.

3.2 Location and Type of Discharge

Outfall 001 discharges non-contact cooling water through an approximately 12-inch pipe located at Latitude 43° 26’ 30” Longitude 71° 35’ 13” on the eastern bank of Winnipesaukee River. The approximate linear distance measured from Outfall 001 to the facility’s main building is 1,100 feet. Sampling in accordance with the NPDES permit is conducted inside the main building at a spigot prior to the cooling water leaving the plant.

The Permittee has requested the continued authorization to discharge NCCW from Outfall 001 into the Winnipesaukee River. In addition, the Permittee withdraws water for non-contact cooling from the Winnipesaukee River via its cooling water intake structure (CWIS). A schematic of water flow is provided in Figure 2.

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 August 2020 through July 2025 is provided in Appendix A of this Fact Sheet.

3.3 Cooling Water Intake Structure

The Permittee’s CWIS is located on the eastern bank of the Winnipesaukee River. River water is drawn into the CWIS by gravity through a 4-inch PVC pipe that runs 32 feet to another structure that houses PCC Structurals’ NCCW pumps. A diagram of the CWIS is provided in Figure 3. There have been no modifications either to the CWIS or its associated pumps since the issuance of the 2018 Permit.

4.0 Description of Receiving Water and Dilution

4.1 Receiving Water

The Facility discharges through Outfall 001 to the Winnipesaukee River (Assessment Unit NHRIV700020203-12). The Winnipesaukee River flows south and converges with the Pemigewasset River to form the Merrimack River in Franklin, New Hampshire.

The Winnipesaukee River is classified as Class B by the State of New Hampshire. According to New Hampshire's WQS "*Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100 milliliters, or greater than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life or to the maintenance of aquatic life in said receiving waters. The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes. The commissioner shall adopt rules, under RSA 541-A, relative to dissolved oxygen water quality standards in a manner consistent with Environmental Protection Agency guidance on dissolved oxygen water criteria published pursuant to section 304(a) of the Clean Water Act, and other relevant scientific information. 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 status of each designated use is presented in Table 1.

Table 1: Summary of Designated Uses and Listing Status

Designated Use	Status	Parameters
Aquatic Life Integrity	Insufficient Information/No data	None
Fish Consumption	Not meeting water quality standards/thresholds. The impairment is marginal. TMDL completed	Mercury
Potential Drinking Water Supply	Meets water quality standards/thresholds by a relatively large margin/Good	None
Primary Contact Recreation	Insufficient Information/No data	None
Secondary Contact Recreation	Insufficient Information/No data	None
Wildlife	Insufficient Information/No data	None

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 A 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.[9] The critical flow is a measure of the low flow of the receiving water and may stipulate the magnitude, duration, and frequency of allowable excursions from the magnitude component of criteria in order to prevent adverse impacts of discharges on existing and designated uses. State WQSs specify the hydrologic condition at which water quality criteria must be applied. For non-tidal rivers and streams for New Hampshire, permit limits for all aquatic life criteria and human health criteria for non-carcinogens shall be based on the 7Q10 flow. See Env-Wq 1705.2.

7Q10 Streamflow Analysis

River flow in the Winnipesaukee River is controlled by upstream dams both for summer recreational activities and annual fall dam maintenance. Because the 7Q10 flow is not necessarily representative of river flows for a controlled/regulated river, the 2018 Permit was developed based on EPA's determination that best professional judgment should be utilized to identify alternative methods for defining low flow, such as, for example, the minimum guaranteed release flow for the upstream dam. Using information on upstream dam releases, EPA determined that the appropriate critical low flow value to use for the development of the 2018 Permit was 50 cubic feet per second (cfs) or 32 MGD.

During the development of the Draft Permit, the NH Dam Bureau confirmed that during fall shutdowns or drawdowns in October, approximately 50 cfs is released from the dams upstream. As this occurs annually, it is still appropriate to use 50 cfs as the critical low flow upstream of the facility, as was done during the 2018 permit reissuance[10]. Therefore, EPA applied a critical flow value of 50 cfs (32 MGD) to develop the Draft Permit.

Dilution Factor Calculation – Outfall 001

The dilution factor for PCC Structurals' Outfall 001 was calculated using the following equation:

Dilution Factor = $0.9*Q_S/Q_D$

Where Q_S = critical low flow of the Winnipesaukee River just downstream of outfall 001 = (critical flow upstream of the outfall + design flow of the facility = 50 cfs + 0.34 cfs = 50.34 cfs)

Q_D = permitted flow of Outfall 001 = 0.22 mgd = 0.34 cfs

[9] EPA Permit Writer's Manual, Section 6.2.4
[10] Email from Hayley Franz, NHDES to Meridith Finegan, EPA, October 3, 2025.

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

Dilution Factor = 0.9*50.34/0.34 = 133

EPA used this dilution factor (DF) in its quantitative derivation of WQBELs for pollutants in the Draft Permit.

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.

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 and ambient data are included in Appendix A. EPA's Reasonable Potential Analysis is included in Appendix B and results are discussed in the applicable sections below.

5.1.1 Effluent Flow

The Facility's 2018 Permit includes a maximum daily flow limit of 0.22 MGD. From August 1, 2020 through July 31, 2025 (Appendix A), the effluent flow has ranged from 0.046 MGD to 0.208 MGD. The Draft Permit retains the maximum daily flow limit of 0.22 MGD. Flow shall be measured continuously using a totalizer or similar device, when the Facility is discharging.

5.1.2 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. Not only can sudden pH changes kill aquatic life, but pH can also affect the toxicity of other pollutants in the water.

From August 2020 through July 2025 (Appendix A), pH has ranged from 5.7 to 7.43 S.U., with 5 violations of the permitted range. The Draft Permit requires a pH range of 6.5 to 8.0 S.U. when the Facility is discharging, monitored weekly by grab samples. The pH limitations are based on the State WQSs for Inland Water, Class B 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 are based on CWA § 301(b)(1)(C) and 40 CFR § 122.44(d).

The draft permit includes a new provision to modify the pH range when the ambient pH in the receiving water is outside the range of 6.5 – 8.0 S.U. and it is not altered by the facility's discharge or activities. If the permittee's discharge pH is lower than 6.5 S.U., the permittee may demonstrate compliance with the pH limit by showing that the discharge pH was either no more than 0.5 S.U. higher than or 0.3 S.U. lower than the ambient upstream receiving water pH. If the permittee's discharge pH is higher than 8.0 S.U., the permittee may demonstrate compliance with the pH limit by showing that the discharge pH is either no more than 0.5 S.U. lower than or 0.3 S.U. higher than the upstream receiving water pH. This demonstration requires an upstream receiving water sample to be collected within one hour of the effluent sampling. This provision only applies when the receiving water is exclusively used as the source water. See Part I.C.1. of the Draft Permit.

5.1.3 Temperature

Section 502(6) of the Clean Water Act defines heat as a "pollutant." *See* 33 U.S.C. § 1362(6). Water temperature affects the metabolic and reproductive activities of aquatic organisms and can determine which fish and macroinvertebrate species can survive or thrive in a water body. Certain cold-blooded species cannot regulate their body temperature through physiological means, so their body temperatures reflect the temperatures of the water they inhabit. In addition, rapid changes (increases or decreases) in ambient water temperature can directly affect aquatic life, particularly fish. Changes to a water body's temperature profile could also cause aquatic life to avoid the water body if the new temperatures are outside the organisms' preferred temperature range. Alteration of ambient water temperature can also indirectly affect aquatic life by influencing other water quality parameters. For example, changes in water temperature can affect dissolved oxygen levels because the solubility of oxygen decreases as water temperature increases.

Ambient water temperature is an important factor for aquatic life and can influence other water quality aspects such as dissolved oxygen (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.[11]

> *If the temperature of a reach of stream is raised by 5-10° C., it is probable that cold water fish will avoid this reach and that they will be replaced by warm water fish. Thus, without any direct visible mortality, the character of the fish and supporting aquatic life will*

[11] Moyle, P.B. and J.J. Cech Jr., 2004. Fishes, an introduction to ichthyology. Prentice Hall, Upper Saddle River, NJ, USA.

change. It will also change because the temperature impacts successful spawning and hatching of eggs.[12]

The Winnipesaukee River in the Tilton, NH area is primarily considered a warm water fishery. The State's statutory and regulatory provisions do not specify numeric temperature criteria but do specify narrative criteria specific to thermal discharges 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, RSA 485-A:8 VIII, and Env-Wq 1703.13(b).

The 2018 Permit included an instantaneous maximum temperature limit of 90° F. During the reporting period, the maximum daily temperature at Outfall 001 has ranged from 52°F to 93.6°F with a median of 70°F and 4 exceedances of the daily maximum limit of 90°F. See Appendix A.

EPA re-evaluated the heat balance analysis that was conducted during the development of the 2018 Permit to confirm whether the PCC Structurals discharge will change the instream temperature to the extent that it would pose a threat to the Winnipesauke River's ecosystem or otherwise violate state water quality standards. The heat balance analysis approach for the Draft Permit applies parameters representing a worst-case scenario (i.e., low river flow, high discharge flow, and maximum permitted effluent temperature). The basic equations used for the calculation of river temperature rise are as follows:

$$\Delta Tr = mp/mr \times \Delta Tp$$

Where:

mp = maximum permitted daily discharge (MGD)
ΔTp = change in temperature, effluent – influent, °F
mr = 7Q10 (MGD) * 0.9 (10% reserve for NH)
ΔTr = change in river temperature, °F

PCC Structurals has a maximum effluent temperature limit of 90.°F and a maximum permitted discharge flow of 0.22 MGD. The 7Q10, or in this case the alternative critical low flow, as previously discussed, is 32 MGD. The Permittee reported a high intake temperature of 71.6 °F for during the summer months (June and September) and 53.6 °F during the winter months (December and March) for the period of August 1, 2020 through July 31, 2025. Applying the maximum effluent temperature limit of 90 °F with a high intake temperature of 71.6 °F would

[12] http://www.watercenter.org/physical-water-quality-parameters/water-temperature/water-temperature-effects-on-fish-and-aquatic-life/

result in a delta T of 18 °F during the summer months. After complete mixing in the Winnipesaukee River at this delta T, this would represent a temperature increase of 0.14 °F.

Therefore:

$$\Delta TP = \text{effluent} - \text{influent} = 90°F - 71.6°F = 18°F \text{ (summer)}$$

$$\Delta Tr = mp/mr * \Delta TP = [0.22 \text{ MGD}/ (32 \text{ MGD} * 0.9) \text{ MGD}] * 18°F = 0.14 °F \text{ (summer)}$$

As calculated and assuming complete mixing, PCC Structurals' effluent discharges under worse-case conditions would raise the Winnipesaukee River temperature in the vicinity downstream of the outfall by 0.14°F during low flow, summer conditions. During the winter, assuming an instream temperature of 53.6°F and an effluent temperature equal to the temperature limit of 90°F, the resulting ΔTP of 36.4°F would result in an instream temperature increase of 0.31 °F.

$$\Delta TP = \text{effluent} - \text{influent} = 90°F - 53.6°F = 36.4°F \text{ (winter)}$$

$$\Delta Tr = mp/mr * \Delta TP = [0.22 \text{ MGD}/ (32 \text{ MGD} * 0.9) \text{ MGD}] * 36.4°F = 0.28°F \text{ (winter)}$$

EPA finds that these heat balance calculations show that the estimated temperature increases both during the summer and winter are not likely to alter the fish community or impact the fish present. Therefore, the Draft Permit maintains the daily maximum temperature limit of 90°F (measured three times per week) at the daily maximum flow limit of 0.22 MGD for the discharge of NCCW through Outfall 001.

5.1.4 Total Residual Chlorine

Chlorine and chlorine compounds are toxic to aquatic life. Free chlorine is directly toxic to aquatic organisms and can react with naturally occurring organic compounds in receiving waters to form toxic compounds such as trihalomethane. Potable water sources are typically chlorinated to minimize or eliminate pathogens. 40 CFR § 141.72 stipulates that a public water system's residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours. The Permittee has the capability to use municipal water for its cooling water source when the ambient instream temperature approaches 80°F.

The New Hampshire WQS at Env-Ws 1703.21(a) prohibit the discharge of toxic pollutants in toxic amounts. instream chlorine criteria defined in the New Hampshire Code of Administrative Rules, Env-Wq 1703.21 and Table 1703.1. These freshwater instream criteria for chlorine are 11 µg/L (chronic) and 19 µg/L (acute). The water quality-based chlorine limits are calculated as the criteria times the dilution factor, as follows:

Chronic criteria * dilution factor = Chronic limit

11 µg/L * 132 =1,452 µg/L = 1.5 mg/L (average monthly)

Acute criteria * dilution factor = Acute limit
19 µg/L * 132 = 2,508 µg/L = 2.5 mg/L (maximum daily)

Due to the potential toxic impacts of TRC on aquatic life, the Draft Permit includes a weekly monitoring requirement, monthly average and daily maximum limits that apply during any week that municipal water is used for cooling that is discharged to Outfall 001. EPA Region 1 has historically established a maximum daily total chlorine residual concentration of 1.0 mg/L whenever the average monthly and/or the maximum daily limit(s) allowed under NH Standards at Env-Wq 1703.21 and Table 1703-1, after factoring in available dilution, would be less stringent than 1.0 mg/L. This approach is consistent with the provisions at Section 101(a)(3) of the Act, and New Hampshire standards at Env-Ws 1703.21(a) which prohibit the discharge of toxic pollutants in toxic amounts. Therefore, monthly average and maximum daily TRC limits of 1.0 mg/L are included in the draft permit.

5.1.5 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. In aquatic systems, metal bioavailability refers to the concentration of soluble metal that adsorb onto, or absorb into and across, membranes of living organisms. The greater the bioavailability, the greater the potential for bioaccumulation, leading to increased toxicological effects.[13] Toxicity results when metals are biologically available at toxic concentrations affecting the survival, reproduction and behavior of an organism.

5.1.6.1 Applicable Metals Criteria

State water quality criteria for cadmium, copper, lead, nickel and zinc are established in terms of dissolved metals. However, many inorganic components of the receiving water, including metals, are in particulate form, and differences in the chemical composition between the effluent and the receiving water affects the partitioning of metals between the particulate and dissolved fractions as the effluent mixes with the receiving water, often resulting in a transition from the particulate to dissolved form (The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion (USEPA 1996 [EPA-823-B96-007]).

[13] Magelhaes, Danielly et al. 2015. *Metal bioavailability and toxicity in freshwaters.* Environmental Chemistry Letters. DOI 10.1007/s10311-015-0491-9.

Consequently, quantifying only the dissolved fraction of metals in the effluent prior to discharge may not accurately reflect the biologically available portion of metals in the receiving water. Regulations at 40 CFR § 122.45(c) require, with limited exceptions, that effluent limits for metals in NPDES permits be expressed as total recoverable metals.

The criteria for cadmium, copper, lead, nickel and zinc are hardness-dependent using the equations in NH Env Wq-1703. The estimated hardness of the Winnipesaukee downstream of the facility is calculated using the critical low flow, the effluent flow limit, and the median hardness for both the receiving water upstream of the discharge and the facility effluent. Effluent and receiving water data are presented in Appendix A. Using the mass balance equation discussed in Appendix B, the resulting downstream hardness is 20.0 mg/L and the corresponding criteria are also presented in Appendix B. See Env-Wq 1703.22(f).

5.1.6.2 Reasonable Potential Analysis and Limit Derivation

To determine whether the effluent has the reasonable potential to cause or contribute to an exceedance above the in-stream water quality criteria for each metal, EPA uses the mass balance equation presented in Appendix B to project the concentration downstream of the discharge and, if applicable, to determine the limit required in the permit. The Permittee has obtained annual monitoring data for total recoverable aluminum, cadmium, copper, lead, nickel and zinc in the discharge and the receiving water in conjunction with Whole Effluent Toxicity testing. For Outfall 001, for the monitoring period, there were results from four WET tests.

Based on the information described above, the results of this analysis for each metal are presented in Appendix B. As shown, there is no reasonable potential to cause or contribute to an excursion of WQS for aluminum, cadmium, lead, nickel and zinc any of these metals, so the Draft Permit does not propose any new limits for these metals.

Regarding copper, the permittee reported an elevated copper result of 0.7 mg/L in October 2022, which is orders of magnitude greater than the other results reported during the review period. EPA also identified another elevated copper sample in 2025 Q3 (not included in Attachment A because it is outside the review period). Given that the discharge is non-contact cooling water and is not likely a source of copper or any other metal, the discharge does not have the reasonable potential to cause or contribute to a violation of water quality standards. However, to ensure the discharge is consistently below levels that would cause or contribute to an excursion of water quality standards, EPA is proposing a monthly copper monitoring requirement in the Draft Permit.

5.1.6 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 Final Permit will lead to the generation of data to assess whether the Facility discharges 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 CFR § 122.44(d)(1New Hampshire statute and 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))." EPA generally considers WET testing in addition to chemical specific criteria when evaluating whether discharges from a facility meet WQSs.

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 $LC_{50.}$ For a Facility with a dilution factor between 100:1 and 1,000:1, EPA's *Technical Support Document for Water Quality-based Toxics Control* (1991) recommends either acute or chronic toxicity testing and recommends that toxicity testing be required even if the effluent is not determined to cause or contribute to an excursion above water quality criteria. EPA's *Technical Support Document for Water Quality-based Toxics Control* (1991) recommended criterion to prevent acutely toxic effects is 0.3 T.U.

The 2018 Permit requires the reporting of the C-NOEC value, using the daphnid (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*) as the test species. For the period of August 1, 2020 through July 31, 2025 (Appendix A), the WET tests showed all C-NOEC results at 100% with the exception of one result of 50% for *Ceriodaphnia dubia* and one result of 50% for *Pimephales promelas*.

As stated above, the 2018 Permit does not include WET limits and the result of 50% toxicity on one or two occasions does not indicate that the discharge has reasonable potential to cause or contribute to chronic toxicity in the receiving water. EPA also identified a result of 25% toxicity in 2025 Q3 (not included in Appendix A because it is outside of the review period). Given the dilution factor above 100, the WET result would need to be below 1% effluent (compared to the actual result of 25-50% effluent) to pose any risk to the receiving water. In other words, the 25-50% result from the last permit term indicates that the discharge was 25-50 times less toxic than what would cause in-stream toxicity, even under critical low flow conditions (i.e., based on the dilution factor of 133, the C-NOEC result would need to be below 0.75% (1/133) effluent to pose any chronic toxicity in the receiving water under critical conditions). Additionally, the only

discharge that is authorized by this permit is NCCW. Therefore, the only "pollutant" of concern is heat, the effect of which would not be identified through WET testing. Based on the high dilution factor, EPA considers that acute WET testing is a more appropriate test to understand any potential toxic impacts (which will also provide equivalent metals data, etc.).

Based on this information and in accordance with 40 CFR § 122.44(d), the Draft Permit proposes to replace the chronic WET testing requirement with an acute WET testing requirement to determine whether there is any potential for acute toxicity. This requirement will also provide additional metals data (ambient and effluent) to determine whether the facility is a source of copper or any of the other metals described in the section above. The Draft Permit maintains the annual WET testing frequency and the two species (daphnid, *Ceriodaphnia dubia* and fathead minnow, *Pimephales promelas*) from the 2018 Permit. Toxicity testing must be performed in accordance with EPA Region 1's test procedures and protocols specified in Attachment A, Freshwater Acute Toxicity Test Procedure and Protocol of the Draft Permit.

5.2 Special Conditions

5.2.1 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. In this case, PCC Structurals does not add any chemicals or additives to the NCCW. Therefore, consistent with the 2018 Permit, the Draft Permit prohibits the addition of chemicals to the NCCW and furthermore requires that the Permittee contact both EPA and NHDES to request authorization to use and discharge a non-contact cooling system chemical.

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 in writing of the discharge a new chemical or additive; allows for EPA 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:

- Product name, chemical formula, general description, 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 application concentration), 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 LC_{50} in percent for aquatic organism(s)).

The Permittee must also provide an explanation that demonstrates that the discharge of such chemical or additive: 1) will not add any pollutants in concentrations that 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 unless otherwise notified by EPA.

5.2.2 Cooling Water Intake Structure (CWIS) Requirements

When a CWIS withdraws water from a water body, it can cause or contribute to a variety of adverse environmental effects, such as killing or injuring fish and other organisms by impinging them against the CWIS's screens and killing or injuring fish eggs and larvae by entraining them in the water withdrawn from the water body and sent through the facility's cooling system. Impingement and entrainment of aquatic organisms by CWISs are considered to be adverse environmental impacts under CWA § 316(b).[14] As explained in Section 2.4 above, PCC Structurals is a point source discharger of pollutants that operates a CWIS with a design intake flow less than 2 MGD. As such, the regulations for existing facilities under 40 CFR §§125.94 through 125.99 do not apply to this Facility. Therefore, EPA set appropriate requirements for this Facility on a site-specific basis, using best professional judgment (BPJ). *See* 40 CFR § 125.90(b).

Location, Construction, Design, and Capacity of the CWIS

Section 316(b) of the CWA requires the location, design, construction, and capacity of CWIS reflect the best technology available for minimizing adverse environmental impact. See 33 U.S.C. § 1326(b). As explained above, the principal adverse environmental impacts typically associated with CWISs evaluated by EPA are the *entrainment* of fish eggs, larvae, and other small forms of aquatic life through the plant's cooling system, and the *impingement* of fish and other larger forms of aquatic life on the intake screens. EPA reviewed the location, design, and capacity of PCC Structurals' CWIS in establishing site-specific technology-based requirements applicable to the continued operation of its intake system based on BPJ.

<u>CWIS Location and Source Waterbody Characterization</u>

[14] 79 Fed. Reg. 48303.

The term “location” refers to the water body, or segment of the water body, in which the CWIS is located. Location also refers to where the intake is located within a particular water body, such as its placement within the water column and its locations relative to the shoreline, the point of thermal discharges, and any particularly sensitive resource areas (e.g., migration routes, spawning areas).

The PCC Structurals CWIS is located on the eastern bank of the Winnipesaukee River in a segment of the river which is just outside of downtown Tilton, NH. The direction of river flow is in the southerly direction. The relative velocity of the river in this segment is considered as slow to moderate during most of the year. The average river width along an east-west transect at PCC Structurals’ location is approximately 300 feet. A small island is located in the Winnipesaukee River opposite the northern end of PCC Structurals’ property. This island divides the river into two channels, the channel flowing by PCC Structurals being the slightly narrower channel, with a width of approximately 100 feet.

Several fish species are stocked annually by the NHF&G including trout (brook, rainbow, and/or brown trout depending on the year) and river herring (blueback and alewife), which are stocked in lake Winnisquam and migrate into the Winnipesaukee River beginning in July. Resident (non-stocked) species include American eel (catadromous species) and smallmouth bass. Parts of the Winnipesaukee River may contain other fish species such as yellow perch, sucker, chain pickerel, brown bullhead, bluegill, and pumpkinseed.

Adult landlocked Atlantic salmon can migrate downstream into the Winnipesaukee River but there is no clear evidence of spawning since stocking has ceased. Atlantic salmon are anadromous species, but are not likely to navigate past the many man-made obstructions to fish passage to access the Winnipesaukee River. Any migrating adult anadromous fish that may be able to reach the Winnipesaukee would likely be able to overcome the relatively small intake velocity of the Facility’s CWIS. On the other hand, juvenile, catadromous American eels have the ability to ascend obstacles that block other fish species. They can work their way through cracks in dams and climb vertical surfaces with only a trickle of water. However, dams and other barriers have greatly reduced the distribution of eels, which were once present in nearly all freshwater habitats that could be reached from the ocean. Eels may remain in freshwater for over 20 years before migrating back to the ocean.

Trout species, for the most part, engage in nest building or deposit eggs within the gravel of the benthic substrate. Larval development generally takes place associated with the gravel, as well. Therefore, large numbers of eggs and larvae of these species would not be expected to be dispersed as free-floating organisms in the water column of this channel of the Winnipesaukee River, some 10 to 12 feet from the shore, where the Facility’s CWIS intakes are located. The cooling water intake structure is located along the bank of the Winnipesaukee River with a 10” intake pipe 8” above the river bottom and 13” below the water level at low flow. The free-swimming fry, however, do emerge from the gravel substrate, to search for food. Juvenile and adult life stages of these species tend to prefer habitat associated with the riverbank. This habitat is characterized by diminished river flow and the presence of

underwater structure (e.g., rocks). If these species do encounter the intake pipes, some 10 to 12 feet away from the riverbanks, the low intake velocity can generally be resisted by these life stages.

CWIS Design

The "design" element of a CWIS refers to the various components that make up the CWIS itself, including, but not limited to, screening systems intended to keep aquatic organisms and debris from being drawn into the Facility's cooling system as well as pumps and technologies that influence the volume and/or velocity of water drawn into the plant.

The cooling water intake structure draws in water utilizing a 200 gallon per minute pump. Cooling water is withdrawn from the river via two 10-inch cast iron pipes that extend from the block house approximately 10-12 feet into the river. The intake pipes are located at a depth of about 18 inches below the river surface at low flow conditions. Based on the diameter if the two pipes and a design flow of 200 gpm (100 gpm/pipes), EPA calculated a design intake velocity of 0.4 fps.

$V = Q/A$

Q = 200 gpm = 0.446 cubic feet per second (cfs)/2 pipes = 0.223 cfs

$A = \pi r^2$ where r = 5 inches = 0.42 ft

$V = 0.223 \text{ cfs} / \pi (0.42)^2 = 0.4 \text{ fps}$

Due to the location in the river, the permittee does not conduct a visual inspection of the intake pipes. The 2018 Permit required PCC Structurals to establish routine inspections of the intake sump and screens for impinged organisms. A 4-inch PVC intake pipe located in the sump draws water into the cooling system. The pipe is surrounded by 0.2-inch mesh screen panels that can be moved for maintenance activities. Following the issuance of the 2018 permit, PCC Structurals installed a seal at the 4-inch PVC pipe to prevent young fish and small organisms' from entering the screened-in area of the sump from the river. The intake structure pumps draw river water into the facility through two high pressure, fine mesh filters. Once in the facility, the water is either circulated through piping and discharged (without coming into contact with any raw material, intermediate product, waste product or finished product) or utilized to cool several types of machinery including die presses and hydraulic units. The cooling water is also used in a water jet blasting process which is discharged as industrial wastewater through the facility's NHDES Industrial Pretreatment Discharge Permit. This system is utilized each day that the facility is operational, which is approximately 260 days per year with no seasonal changes in the operation of the system. The water used in the cooling water process is not recycled in any process in the facility nor is it generated in any process in the facility to be reused as cooling water.

In addition, based on the maximum intake flow and assuming that the open ends of the intake pipes are free of accumulated river sediment or debris, the intake velocity is less than 0.5 feet per second (fps).[15]

As required by the 2018 Permit, PCC Structurals maintains a CWIS monitoring program which includes: visually inspecting the intake sump and screens at least once per week and inspecting the pre-pump filters during cleaning or replacement; and maintaining a monitoring log. There have been no recorded adult or juvenile fish observed in intake structure or against the impingement screens.

Construction

The term "construction" refers to the physical aspects of installing the CWIS or any associated technologies. For an existing Facility and CWIS such as PCC Structurals, EPA considers any adverse impacts that might occur as a result of modifying a CWIS, including installation of any new technology designed to minimize impingement and entrainment. Since the Permittee previously installed new intake screens, no "construction" would be expected during the permit term that would result in any adverse impacts to fish or other aquatic life.

Capacity

Generally, limiting flow capacity is the single most effective operational measure to minimize the adverse environmental impacts of entrainment and impingement. The maximum flow capacity of the PCC Structurals' NCCW system is 0.288 MGD (0.39 cfs) (the system is operated using one pump at any given time, with the other pump being redundant). The 2018 Permit limited intake flow to 0.25 MGD. Therefore, the Draft Permit's maximum allowable intake flow remains 0.25 MGD. As previously stated, at maximum intake capacity (0.288 MGD) compared to the Winnipesauke River's critical low flow (32 MGD), the facility withdraws approximately 0.9% of the critical river flow. For comparison, the Phase I Rule, which is not applicable to this permit, uses a value of 5% of the mean annual flow as the upper limit allowed for the location of a new facility with a CWIS in a freshwater river. See 40 CFR § 125.84(b)(3)(i). The small percentage of water withdrawn by the Facility, relative to the expected river flow, minimizes the potential for drifting organisms to be pulled into the CWIS.

Thus, as a component of BTA for this Facility to minimize adverse environmental effects, the CWIS capacity is limited to 0.25 MGD. This 0.25 MGD intake limit represents a low intake flow both in absolute terms and as compared to river flow, even under historic low flow conditions.

[15] A through-screen velocity of 0.5 fps or less is generally accepted as resulting in a 96 percent or better reduction in impingement mortality for most species and is consistent with compliance alternatives for meeting the requirements of § 316(b) for new and existing facilities. See 40 C.F.R. § 125.94(c)(2). See also 66 Fed. Reg. 65,274 [December 18, 2001] and 79 Fed. Reg. 48336 [August 14, 2014].

In addition, PCC Structurals employs variable frequency drives to withdraw NCCW and operates the pumps such that only the minimum required amount of cooling water is pumped to meet the Facility's cooling demands. Furthermore, the Draft Permit requires the Permittee, to the extent practicable, to use the uncontaminated river water that is not used in the operation of the process water washout pumps as cooling water. These further reductions in CWIS capacity are also components of BTA.

Thus, as a component of BTA for this Facility to minimize adverse environmental effects, the CWIS capacity is limited to 0.25 MGD. This 0.25 MGD intake limit represents a low intake flow both in absolute terms and as compared to river flow, even under historic low flow conditions. In addition, PCC Structurals employs variable frequency drives to withdraw NCCW and operates the pumps such that only the minimum required amount of cooling water is pumped to meet the Facility's cooling demands. Furthermore, the Draft Permit requires the Permittee, to the extent practicable, to use the uncontaminated river water that is not used in the operation of the process water washout pumps as cooling water and also requires the permittee to continue operating the intake pumps to withdraw NCCW such that only the minimum required amount of cooling water is pumped to meet the facility's cooling demands. In other words, the Permittee must cease or reduce the intake of cooling water whenever withdrawal of source water is not necessary. This is especially important April 15 to June 15 due to the presence of larval aquatic life in New England freshwater waterbodies. These further reductions in CWIS capacity are also components of BTA.

BTA Determination and Permit Conditions

Based on the characteristics of PCC Structurals' CWIS detailed in this Fact Sheet, juvenile or adult life stages of fish species that may swim near the facility will likely experience minimal impingement potential due to the CWIS' low design capacity, low capacity compared to 7Q10 low river flow, and low intake velocity. Based on the assessment of the characteristics of fish eggs and larvae in the Winnipesaukee River and the location and capacity of the intake in the river, the potential for entrainment by the CWIS is also low. Therefore, EPA has determined that maintaining the current location, design, and capacity of the CWIS represents the BTA for minimizing adverse environmental impact. Part I.C.2. of the Draft Permit establishes the following permit conditions as the BTA:

1. The maximum intake flow rate shall not exceed 0.25 MGD;

2. The Permittee shall operate the intake pumps to withdraw NCCW such that only the minimum required amount of cooling water is pumped to meet the facility's cooling demands. In other words, the Permittee must cease or reduce the intake of cooling water whenever withdrawal of source water is not necessary. This is especially important April 15 to June 15 due to the presence of larval aquatic life in New England freshwater waterbodies;

3. To the extent practical, uncontaminated river water not used in the operation of the process water washout pumps shall be used for cooling;

4. The intake pipes are located away from the riverbank and above the river bottom. The through-screen intake velocity at the intake screens shall not exceed 0.5 fps;

5. The 0.2-inch screens surrounding the 4-inch pipe that withdraws water from the intake sump must be maintained (i.e., periodic removal of debris build-up) and the sump and screens visually inspected for fish as described below;

6. The Permittee is required to remove accumulated sediment from intake pipes, report when this is completed and periodically inspect to ensure accumulation within the intake pipes does not cause the intake velocity to increase above 0.5 fps; and

7. Entrainment/Impingement Monitoring - The Draft Permit requires the Permittee to maintain a biological monitoring program, including inspection of all areas where adult and juvenile fish may become trapped or impinged and maintenance of a log documenting any findings. According to company representatives, the Facility has not had any issues with entrainment/impingement. Considering the Draft Permit Based on Considering the requirements described above, EPA has determined that the potential for impingement and entrainment at this location is low. Therefore, visual impingement/entrainment monitoring of the intake sump and screens is required once per week. In addition, the pre-pump filters must be inspected for fish or other organisms each time they are cleaned or replaced. A log similar to what is maintained under the 2018 Permit is required. The Draft Permit also requires reporting of any unusual impingement/entrainment monitoring events.

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 species of fish, wildlife, or plants that have been federally listed as endangered or threatened (listed species) and regarding habitat of such species that has been designated as critical (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 and the Secretary of Commerce, 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 federally protected bird, terrestrial and freshwater species, while the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) administers Section 7 consultations for listed species of marine organisms (including marine mammals and reptiles), as well as for anadromous fish species.

The federal action being considered in this case is EPA's proposed reissuance of an NPDES permit for the Facility's discharge of pollutants. The Draft Permit is intended to replace the 2018 Permit in authorizing discharges from the Facility. As the federal agency charged with authorizing the Facility's pollutant discharges, EPA assesses potential impacts to federally listed species and critical habitat and initiates consultation to the extent required, under Section 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants in the expected action area of the outfalls to determine if EPA's proposed NPDES permit could potentially impact any such listed species.

6.1.1 Terrestrial and Avian Species (US Fish and Wildlife Service)

Regarding protected species under the jurisdiction of USFWS, two species may be present in the action area of the Facility's discharge, the proposed endangered tricolored bat (*Perimyotis subflavus*) and the proposed endangered Monarch butterfly (*Danaus plexippus*).

According to the USFWS, the tricolored bat "primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees" in the warm season. "In addition, tricolored bats have been observed roosting during summer among pine needles, within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly."

Because the Facility's projected action area in Northfield, New Hampshire overlaps with the general ranges of the tricolored bat, EPA completed a Determination Key on potential effects of the project to the tricolored bat in the Information for Planning and Consultation (IPaC) system provided by the USFWS. The USFWS system confirmed by letter on November 26, 2025 that, based on the specific project information submitted, the project would have "no effect" on the tricolored bat[16].

The Monarch butterfly is proposed for listing as endangered under the ESA and is considered potentially present throughout the state of New Hampshire. The USFWS notes[17] that the monarch butterfly is a terrestrial insect species that serves the role of a pollinator in the

[16] USFWS IPaC Project code: 2026-0020646 Letter dated 11/26/2025
[17] https://www.fws.gov/species/monarch-danaus-plexippus

ecosystem. The eastern population migrates to overwintering sites in Mexico over several generations each year, making it vulnerable to habitat changes across its range. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they lay eggs on milkweed plants, as that is the only food the caterpillars can eat. In New England, these butterflies use milkweed plants to lay their eggs in June and July.

EPA has determined that the PCC Structural treated discharge covered by the Draft Permit and released to the Winnipesaukee River does not come in contact with and therefore does not have a negative impact on flowering plants and the milkweed plant. Also, monarch butterflies are not expected to come in direct contact with the discharge. Therefore, EPA has determined that PCC Structural's discharge will have no effect, either indirect or direct, on the proposed threatened monarch butterfly. No further ESA coordination with USFWS is required for this species.

This concluded EPA's consultation responsibilities for this NPDES permitting action under ESA section 7(a)(2) with respect to the tricolored bat and monarch butterfly. No ESA section 7 consultation is required with USFWS for these species.

6.1.2 Marine and Anadromous Species (National Marine Fisheries Service)

Regarding protected species under the jurisdiction of NOAA Fisheries, several anadromous and marine species and life stages are present in New Hampshire waters. However, the action area for the PCC Structural facility is located approximately 50 miles from the coast and 35 miles from the nearest anadromous species habitat. No protected species under the jurisdiction of NOAA Fisheries overlap with the action area. Therefore, no consultation is required.

Although the proposed permit action is deemed to have no effect on listed species, EPA notified USFWS and NOAA Fisheries Protected Resources Division at the beginning of the public comment period that the Draft Permit and Fact Sheet were available for review and provided a link to the EPA NPDES Permit website to allow direct access to the documents.

Initiation of consultation is required and shall be requested by EPA or by USFWS/NOAA Fisheries where discretionary federal involvement or control over the action has been retained or is authorized by law and if: 1) new information reveals that the action may affect listed species or critical habitat in a manner or to an extent not previously considered in the analysis; 2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the previous analysis; 3) a new species is listed or critical habitat designated that may be affected by the identified action; or 4) there is any incidental taking of a listed species that is not covered by an incidental take statement.

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801, et seq., EPA is required to consult with NOAA Fisheries if proposed actions that EPA funds, permits, or undertakes, "may adversely impact any essential fish habitat." See 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". See 16 U.S.C. § 1802(10). "Adverse impact" means any impact that reduces the quality and/or quantity of EFH. 50 CFR § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b)(1)(A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. A New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment in 2017 updated the descriptions. The information is included on the NOAA Fisheries website at: https://www.fisheries.noaa.gov/topic/habitat-conservation. In some cases, a narrative identifies rivers and other waterways that should be considered EFH due to present or historic use by federally managed species.

EPA has determined that the Winnipesaukee River is not covered by the EFH designation for riverine systems at the location of the Facility as determined by the NOAA EFH Mapper.[18] Therefore, consultation with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act is not required.

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 the permit writer, Meridith Finegan at the following email address: finegan.meridith@epa.gov.

Prior to the close of the public comment period, any person may submit a written request to EPA 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 CFR § 124.12 are satisfied. In reaching a final decision on the Draft Permit, 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 on EPA's website.

Following the close of the comment period, and after any public hearings, if such hearings are held, EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant,

[18] NOAA EFH Mapper available at http://www.habitat.noaa.gov/protection/efh/efhmapper/

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 CFR § 124.19.

If for any reason, comments on the Draft Permit and/or a request for a public hearing cannot be emailed to the permit writer specified above, please contact them at telephone number: (617) 918-1533.

8.0 Administrative Record

The administrative record on which this Draft Permit is based may be accessed by contacting Meridith Finegan at 617-918-1533 or via email to finegan.meridith@epa.gov.

Date March 2026

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

Figure 1: Site Plan

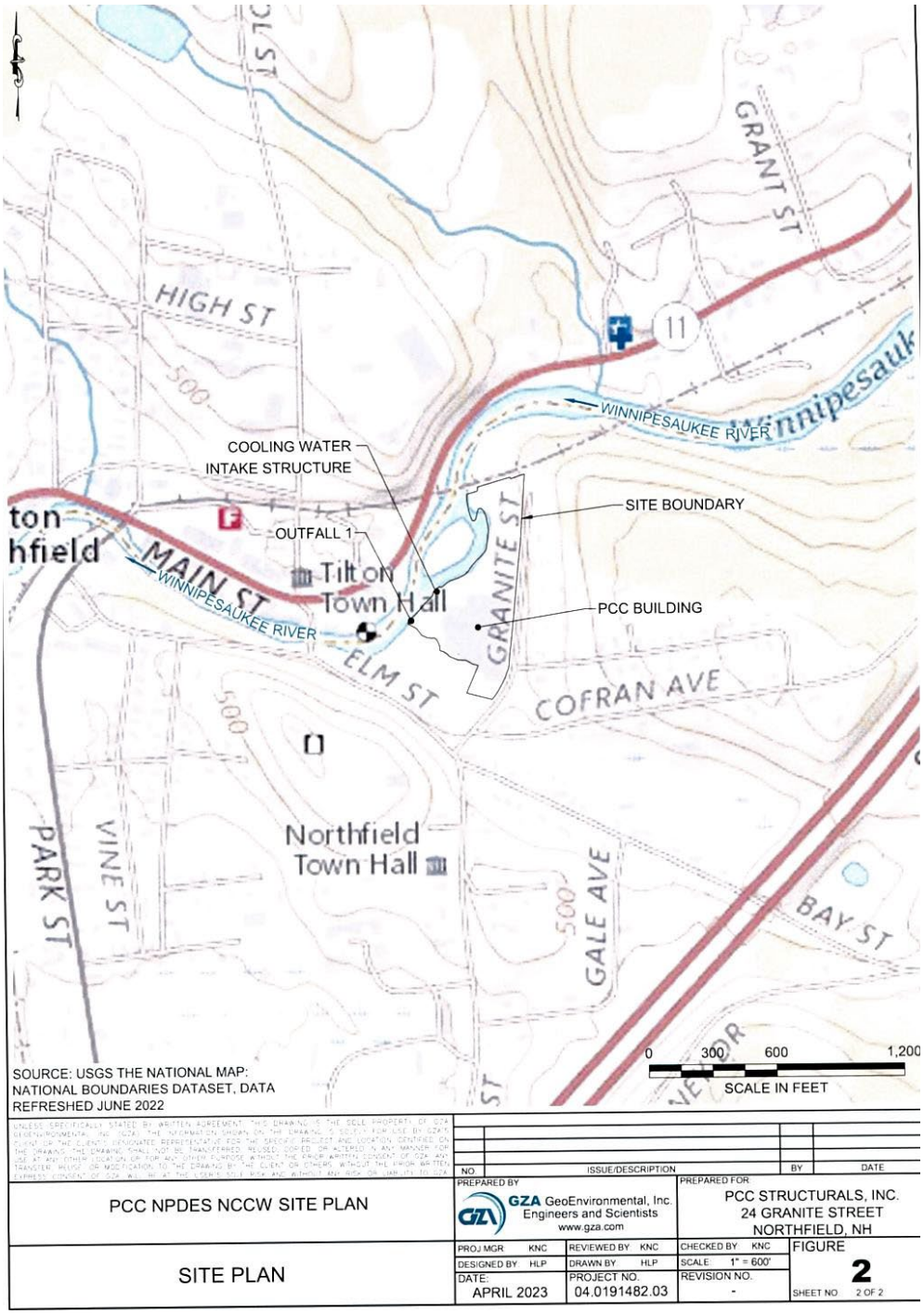


Figure 2: Schematic of Water Flow

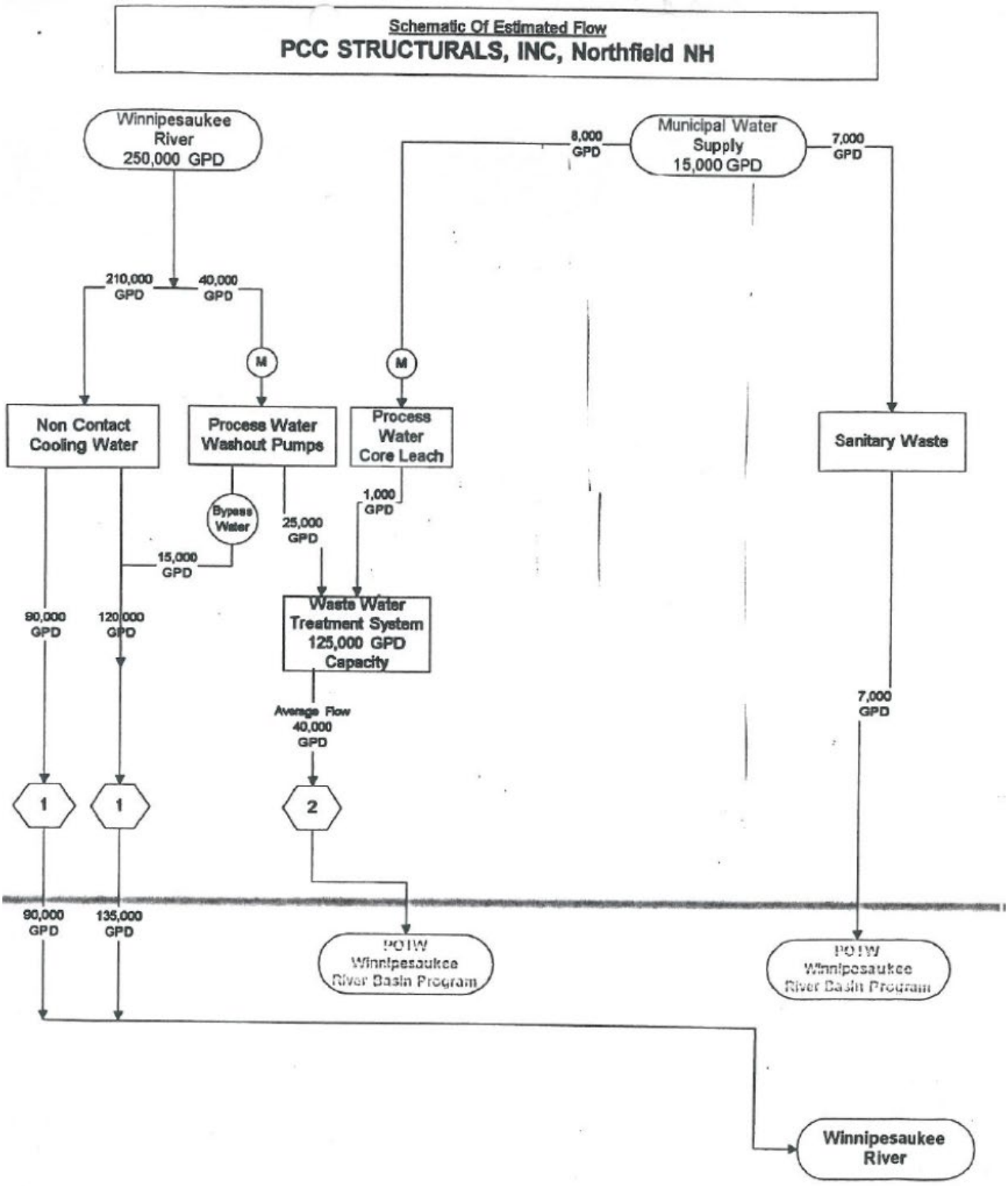
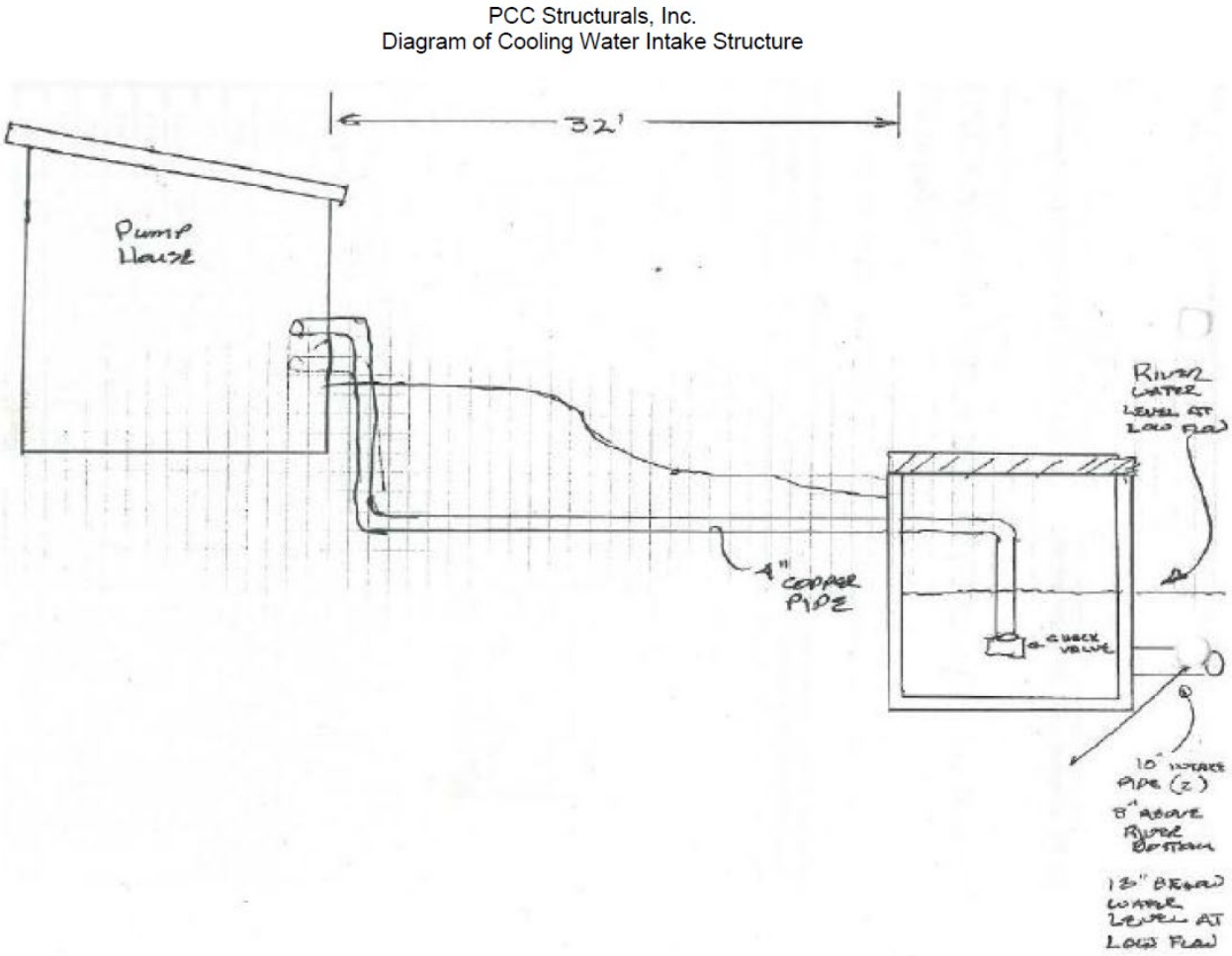


Figure 3: Diagram of CWIS



Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	Flow	Flow	pH	pH	Temperature, water deg. fahrenheit	Temperature, water deg. fahrenheit	Number of Events
	Monthly Avg	Daily Max	Minimum	Maximum	Monthly Avg	Maximum	MO TOTAL
Units	MGD	MGD	SU	SU	deg F	deg F	# exceed
Effluent Limit	Report	0.22	6.5	8	Report	90	Report
Minimum	0.01436	0.046	5.7	6.78	46.6	51.7	0
Maximum	0.832	0.20771	7	7.43	86.7	93.6	1
Median	0.0627	0.07918	6.71	7.04	64.2	70.35	0
No. of Violations	N/A	0	5	0	N/A	4	N/A
Monitoring Period End Date							
8/31/2020	0.832	0.046	6.6	7.1	86.7	**93.6**	0
9/30/2020	0.41	0.062	6.8	7.1	75	83.7	0
10/31/2020	0.04	0.05	6.76	6.92	67	73	0
11/30/2020	0.39	0.052	6.8	6.9	58	66	0
12/31/2020	0.04	0.055	6.8	7.05	51	58.1	0
1/31/2021	0.04	0.05	6.89	7.04	46.6	55.1	0
2/28/2021	0.05	0.07	6.9	7.02	51.2	58.4	0
3/31/2021	0.05	0.07	6.68	6.99	53.3	60.4	0
4/30/2021	0.056115	0.06911	6.71	6.92	62.2	69.1	0
5/31/2021	0.056479	0.084237	6.8	7.04	66.2	79.2	0
6/30/2021	0.06412	0.0822	6.87	7.14	82.1	**93.2**	0
7/31/2021	0.054725	0.20771	**6.41**	7.13	79.4	85.9	0
8/31/2021	0.043718	0.15487	6.69	6.92	83.7	88.1	0
9/30/2021	0.054	0.074	6.66	6.95	76	81.3	0
10/31/2021	0.08	0.079	6.85	7.09	66.8	70.9	0
11/30/2021	0.055	0.066	6.83	6.91	59.8	62.2	0
12/31/2021	0.066	0.08	6.75	6.93	54.7	69.8	0
1/31/2022	0.064	0.072	6.84	7.06	48.9	51.7	0
2/28/2022	0.063	0.076	6.72	7.05	49.28	62.6	0
3/31/2022	0.065	0.081	7	6.78	48.15	56.7	0
4/30/2022	0.05639	0.09163	6.68	6.78	52.75	58	0
5/31/2022	0.063984	0.08374	6.7	7.26	67.39	76.8	0
6/30/2022	0.066373	0.08771	6.68	7.12	76.214	85.6	0
7/31/2022	0.08516	0.2034	6.95	7.21	83.85	89.1	0
8/31/2022	0.07	0.2	6.93	7.09	83.69	88.8	0
9/30/2022	0.01436	0.07936	6.82	7.03	73.69	81.9	0
10/31/2022	0.05941	0.08408	6.83	7.07	68.8	58.7	0
11/30/2022	0.05485	0.07401	6.78	7.05	54.7	60.8	0
12/31/2022	0.0486	0.07316	6.75	6.89	49.25	54.5	0
1/31/2023	0.04996	0.07418	6.71	6.91	52.7	58.5	0

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	Flow	Flow	pH	pH	Temperature, water deg. fahrenheit	Temperature, water deg. fahrenheit	Number of Events
	Monthly Avg	Daily Max	Minimum	Maximum	Monthly Avg	Maximum	MO TOTAL
Units	**MGD**	**MGD**	**SU**	**SU**	**deg F**	**deg F**	**# exceed**
Effluent Limit	**Report**	**0.22**	**6.5**	**8**	**Report**	**90**	**Report**
Minimum	**0.01436**	**0.046**	**5.7**	**6.78**	**46.6**	**51.7**	**0**
2/28/2023	0.05834	0.07524	6.7	6.88	51.76	64.5	0
3/31/2023	0.06271	0.07646	6.65	6.83	52.73	63	0
4/30/2023	0.064689	0.07645	6.59	6.91	58.025	63.3	0
5/31/2023	0.0637	0.0774	6.71	6.96	66.39	80.1	0
6/30/2023	0.06576	0.08479	6.73	7.11	76.81	84	0
7/31/2023	0.0623	0.07717	**6.49**	6.83	83.58	**91**	1
8/31/2023	0.06598	0.08223	**6.44**	6.85	80.35	84.8	0
9/30/2023	0.06268	0.08162	**6.35**	7.43	75.31	86.8	0
10/31/2023	0.060343	0.07853	6.57	6.98	67.525	79	0
11/30/2023	0.056615	0.07422	6.77	7.23	60.45	67	0
12/31/2023	0.023364	0.06542	6.76	6.9	50.3	53	0
1/31/2024	0.06269	0.07531	6.69	6.93	48.6	53.2	0
2/29/2024	0.0666	0.0796	6.7	7.17	51	55.5	0
3/31/2024	0.0637	0.08	6.58	7.31	51.52	58.6	0
4/30/2024	0.06832	0.08144	6.79	7.23	59.66	63.8	0
5/31/2024	0.07607	0.09654	6.97	7.15	72.23	84.4	0
6/30/2024	0.0803	0.1185	**5.7**	7.09	82.07	86.7	0
7/31/2024	0.0763	0.107	6.6	7.19	80.91	84.9	0
8/31/2024	0.0777	0.0911	6.59	7.09	82.96	85	0
9/30/2024	0.0779	0.0954	6.57	7.07	76.31	82.9	0
10/31/2024	0.0761	0.086	6.73	7	68.93	76.6	0
11/30/2024	0.0779	0.0954	6.6	6.99	61.56	67.7	0
12/31/2024	0.0744	0.0874	6.74	7.28	53.73	60.6	0
1/31/2025	0.073	0.1351	6.73	7.38	46.81	55.6	0
2/28/2025	0.0624	0.0857	6.63	6.98	49.51	59.6	0
3/31/2025	0.0566	0.0675	6.58	7.07	52.73	58.8	0
4/30/2025	0.0566	0.0645	6.6	7.04	60.78	75.3	0
5/31/2025	0.0537	0.0717	6.56	6.94	68.45	78.5	0
6/30/2025	0.0509	0.07	6.69	6.87	77.45	86.3	0
7/31/2025	0.0303	0.0903	6.75	7.13	82.88	**90.1**	1

Outfall - Monitoring Location - Limit Set: 001 - 1 - T

Parameter	Ammonia	NOEC Static Renewal 7Day Chronic Ceriodaphnia dubia	NOEC Static Renewal 7Day Chronic Pimephales promelas	Aluminum, total [as Al]	Cadmium, total [as Cd]	Copper, total [as Cu]	Hardness, total [as CaCO3]	Lead, total [as Pb]
	Daily Max	Monthly Avg Min	Monthly Avg Min	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	mg/L	%	%	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	No Data	50	50	0.017	No Data	0.018	15.3	0
Maximum	No Data	100	100	0.05	No Data	0.7	19	0.018
Median	No Data	Non-Detect	Non-Detect	Non-Detect	No Data	Non-Detect	Non-Detect	Non-Detect
No. of Violations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monitoring Period End Date								
9/30/2020	NODI: 9		NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2021	< .05	100	100	0.05	< .0005	0.047	15.3	< .0005
12/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2022	< .05	100	50	0.024	< .0005	0.7	19	0.018
3/31/2023	< .05	100	100	0.017	< .0005	0.018	16	< .0005
6/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2024	< .05	50	100	0.022	< .0005	0.038	16	< .0005
9/30/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2025	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2025	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9

Outfall - Monitoring Location - Limit Set: 001 - 1 - T

Parameter	Nickel, total [as Ni]	Zinc, total [as Zn]
	Daily Max	Daily Max
Units	mg/L	mg/L
Effluent Limit	Report	Report
Minimum	0	0
Maximum	0.0038	0.069
Median	Non-Detect	Non-Detect
No. of Violations	N/A	N/A
Monitoring Period End Date		
9/30/2020	NODI: 9	NODI: 9
12/31/2020	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9
9/30/2021	< .001	0.0072
12/31/2021	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9
6/30/2022	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9
12/31/2022	0.0038	0.069
3/31/2023	< .001	< .005
6/30/2023	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9
3/31/2024	NODI: 9	NODI: 9
6/30/2024	< .001	0.011
9/30/2024	NODI: 9	NODI: 9
12/31/2024	NODI: 9	NODI: 9
3/31/2025	NODI: 9	NODI: 9
6/30/2025	NODI: 9	NODI: 9

Outfall - Monitoring Location - Limit Set: 001 - EG - A

Parameter	Number of Events
	MO TOTAL
Units	# exceed
Effluent Limit	Report
Minimum	0
Maximum	2
Median	0
No. of Violations	N/A
Monitoring Period End Date	
8/31/2020	0
9/30/2020	0
10/31/2020	0
11/30/2020	0
12/31/2020	0
1/31/2021	0
2/28/2021	0
3/31/2021	0
4/30/2021	0
5/31/2021	0
6/30/2021	0
7/31/2021	1
8/31/2021	0
9/30/2021	0
10/31/2021	0
11/30/2021	0
12/31/2021	0
1/31/2022	0
2/28/2022	0
3/31/2022	0
4/30/2022	0
5/31/2022	0
6/30/2022	0
7/31/2022	0
8/31/2022	0
9/30/2022	0
10/31/2022	0
11/30/2022	0
12/31/2022	0
1/31/2023	0
2/28/2023	0
3/31/2023	0

Outfall - Monitoring Location - Limit Set: 001 - EG - A

Parameter	Number of Events
	MO TOTAL
Units	# exceed
Effluent Limit	Report
Minimum	0
4/30/2023	0
5/31/2023	0
6/30/2023	0
7/31/2023	1
8/31/2023	1
9/30/2023	1
10/31/2023	0
11/30/2023	0
12/31/2023	0
1/31/2024	0
2/29/2024	0
3/31/2024	0
4/30/2024	0
5/31/2024	0
6/30/2024	2
7/31/2024	0
8/31/2024	0
9/30/2024	0
10/31/2024	0
11/30/2024	0
12/31/2024	0
1/31/2025	0
2/28/2025	0
3/31/2025	0
4/30/2025	0
5/31/2025	0
6/30/2025	0
7/31/2025	0

Outfall - Monitoring Location - Limit Set: 001 - RW - T

Parameter	pH	Ammonia	Aluminum, total [as Al]	Cadmium, total [as Cd]	Copper, total [as Cu]	Hardness, total [as CaCO3]	Lead, total [as Pb]	Nickel, total [as Ni]
	Maximum	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	6.07	No Data	0.012	No Data	No Data	14	No Data	No Data
Maximum	6.82	No Data	0.039	No Data	No Data	19	No Data	No Data
Median	Non-Detect	No Data	Non-Detect	No Data	No Data	Non-Detect	No Data	No Data
No. of Violations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monitoring Period End Date								
9/30/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2021	6.48	< .05	0.039	< .0005	< .001	15.6	< .0005	< .001
12/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2022	6.38	< .05	0.012	< .0005	< .001	19	< .0005	< .001
3/31/2023	6.07	< .05	0.012	< .0005	< .001	16	< .0005	< .001
6/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2024	6.82	< .05	0.021	< .0005	< .001	14	< .0005	< .001
9/30/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2025	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2025	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9

Outfall - Monitoring Location - Limit Set: 001 - RW - T

Parameter	Zinc, total [as Zn]	Temperature, water deg. fahrenheit
	Daily Max	Maximum
Units	mg/L	deg F
Effluent Limit	Report	Report
Minimum	0	35.6
Maximum	0.034	71.6
Median	Non-Detect	Non-Detect
No. of Violations	N/A	N/A
Monitoring Period End Date		
9/30/2020	NODI: 9	NODI: 9
12/31/2020	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9
9/30/2021	0.034	38
12/31/2021	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9
6/30/2022	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9
12/31/2022	< .005	53.6
3/31/2023	< .005	35.6
6/30/2023	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9
3/31/2024	NODI: 9	NODI: 9
6/30/2024	< .005	71.6
9/30/2024	NODI: 9	NODI: 9
12/31/2024	NODI: 9	NODI: 9
3/31/2025	NODI: 9	NODI: 9
6/30/2025	NODI: 9	NODI: 9

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)[1] 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.*, sample results in which a parameter is not detected above laboratory detection limits). For datasets of 10 or more samples, EPA uses the upper bound effluent concentration at the 95th percentile of the dataset. For datasets of less than 10 samples, EPA uses the maximum value of the dataset.

For Freshwater Discharges

For freshwater discharges, 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:

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

Where:

C_s = upstream concentration[2]
Q_s = upstream flow (critical low flow upstream of the outfall)
C_e = effluent concentration[3]
Q_e = effluent flow of the facility (design flow)
C_d = downstream concentration
Q_d = downstream flow (Q_s + Q_e)

Solving for the downstream concentration results in:

[1] Available at: https://www3.epa.gov/npdes/pubs/owm0264.pdf
[2] Median concentration for the receiving water just upstream of the facility's discharge taken from all available information (including WET testing data) during the review period.
[3] The 95th percentile (for n ≥ 10) or maximum (for n < 10) concentrations from all available data (including DMR data and/or WET testing data) during the review period.

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

When both the downstream concentration (C_d) and the effluent concentration (C_e) exceed the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above the water quality standard. *See* 40 CFR § 122.44(d). 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. *See* 40 CFR § 122.44(d)(1)(iii). Limits are calculated by using the criterion as the downstream concentration (C_d) and rearranging the mass balance equation to solve for the effluent concentration (C_e). Refer to the pollutant-specific section of the Fact Sheet for a discussion of these calculations, any assumptions that must be made and other relevant permit requirements.

For any pollutant(s) with an existing WQBEL, EPA notes that the analysis described in 40 CFR § 122.44(d)(1)(i) has already been conducted in a previous permitting action demonstrating that there is reasonable potential to cause or contribute to an excursion of WQS. Given that the permit already contains a WQBEL based on the prior analysis and the pollutant(s) continue to be discharged from the facility, EPA has determined that there is still reasonable potential for the discharge of this pollutant(s) to cause or contribute to an excursion of WQS. Therefore, the WQBEL will be carried forward unless it is determined that a more stringent WQBEL is necessary to continue to protect WQS or that a less stringent WQBEL is allowable based on anti-backsliding regulations at CWA §§ 402(o) and 303(d)(4) and 40 CFR § 122.44(l). For these pollutant(s), if any, the mass balance calculation is not used to determine whether there is reasonable potential to cause or contribute to an excursion of WQS, but rather is used to determine whether the existing limit needs to be more stringent in order to continue to protect WQS.

From a technical standpoint, when a pollutant is already being controlled as a result of a previously established WQBEL, EPA has determined that it is not appropriate to use new effluent data to reevaluate the need for the existing limit because the reasonable potential to cause or contribute to an excursion of WQS for the uncontrolled discharge was already established in a previous permit. If EPA were to conduct such an evaluation and find no reasonable potential for the controlled discharge to cause or contribute to an excursion of WQS, that finding could be interpreted to suggest that the effluent limit should be removed. However, the new permit without the effluent limit would imply that existing controls are unnecessary, that controls could be removed and then the pollutant concentration could rise to a level where there is, once again, reasonable potential for the discharge to cause or contribute to an excursion of WQS. This could result in an illogical cycle of applying and removing pollutant controls with each permit reissuance. EPA's technical approach on this issue is in keeping with the Act generally and the NPDES regulations specifically, which reflect a precautionary approach to controlling pollutant discharges.

The table below presents the reasonable potential calculations and, if applicable, the calculation of the limits required in the permit. Refer to the pollutant-specific section of the Fact Sheet for a detailed discussion of these calculations, any assumptions that were made and the resulting permit requirements.

Pollutant	Conc. Units	Q_s (MGD)	C_s [1]	Q_e (MGD)	C_e [2]		Q_d (MGD)	C_d		Criteria		Reasonable Potential		Limits	
					Acute	Chronic		Acute	Chronic	Acute	Chronic	C_e & C_d > Acute Criteria	C_e & C_d > Chronic Criteria	Acute	Chronic
Aluminum	µg/L	32	23	0.22	50.0	50.0	32.22	23.2	23.2	675.0	78.3	N	N	N/A	N/A
Cadmium	µg/L	32	0	0.22	0.0	0.0	32.22	0.0	0.0	0.4	0.2	N	N	N/A	N/A
Copper	µg/L	32	0	0.22	47.0	47.0	32.22	0.3	0.3	2.8	2.1	N	N	N/A	N/A
Lead	µg/L	32	0	0.22	18.0	18.0	32.22	0.1	0.1	9.5	0.4	N	N	N/A	N/A
Nickel	µg/L	32	0	0.22	3.8	3.8	32.22	0.0	0.0	108.2	12.0	N	N	N/A	N/A
Zinc	µg/L	32	0	0.22	69.0	69.0	32.22	0.5	0.5	27.6	27.6	N	N	N/A	N/A

[1]Median concentration for the receiving water just upstream of the facility's discharge taken from the WET testing data during the review period (see Appendix A).

[2]Values represent the 95th percentile (for n ≥ 10) or maximum (for n < 10) concentrations from the DMR data and/or WET testing data during the review period (see Appendix A). If the pollutant already has a limit (for either acute or chronic conditions), the value represents the existing limit

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY-REGION 1 (EPA)
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

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

JOINT EPA PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE UNITED STATES UNDER SECTION 402 OF THE CLEAN WATER ACT (CWA), AS AMENDED; AND NHDES PUBLIC NOTICE OF ISSUANCE OF A STATE SURFACE WATER PERMIT UNDER NH RSA 485-A:13, I(a).

PUBLIC NOTICE PERIOD: March 26, 2026 – April 27, 2026

PERMIT NUMBER: NH0001023

NAME AND MAILING ADDRESS OF APPLICANT:

PCC Structurals, Inc.
P.O. Box 188
Tilton, NH 03276-0188

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

PCC Structurals, Inc.
24 Granite Street
Northfield, NH 03276-1632

RECEIVING WATER: Winnipesaukee River, Class B

PREPARATION OF THE DRAFT PERMIT:

EPA is issuing for public notice and comment the Draft NPDES Permit for PCC Structurals, Inc., which discharges non-contact cooling water. The effluent limits and permit conditions imposed have been drafted pursuant to, and assure compliance with, the CWA, including EPA-approved State Surface Water Quality Standards at Env-Wq 1700 et seq. NHDES cooperated with EPA in the development of the Draft NPDES Permit. NHDES plans to adopt EPA's permit under Chapter 485-A of the New Hampshire Statutes (NH RSA 485-A:13, I(a)). NHDES retains independent authority under State law to publish their CWA § 401 certification public notice separately from EPA's permit.

INFORMATION ABOUT THE DRAFT PERMIT:

The Draft Permit and explanatory Fact Sheet may be obtained at no cost at https://www.epa.gov/npdes-permits/new-hampshire-draft-individual-npdes-permits or by contacting:

Meridith Finegan
Telephone: (617) 918-1533
Finegan.meridith@epa.gov

Any electronically available documents that are part of the administrative record can be requested from the EPA contact above.

PUBLIC COMMENT AND REQUESTS FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by **April 27, 2026**, which is the close of the public comment period. Comments, including those pertaining to NHDES proposed issuance of a State Surface Water Permit, should be submitted to the EPA contact at the address or email address listed above. If you prefer to submit comments by mail, please call or email the EPA contact above to make arrangements for that. Upon the close of the public comment period, EPA will make all comments available to NHDES.

Any person, prior to the close of the public comment period, may submit a request in writing to EPA and NHDES for a public hearing on the Draft Permit under 40 CFR § 124.10 and/or NHDES proposed issuance of a State Surface Water 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 Regional Administrator finds that response to this notice indicates significant public interest.

In reaching a final decision on this Draft Permit, the Regional Administrator will respond to all significant comments and make the responses available to the public.

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 notify the applicant and each person who has submitted written comments or requested notice.

KEN MORAFF, DIRECTOR
WATER DIVISION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION I

RENE PELLETIER, DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES