

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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FACT SHEET AND SUPPLEMENTAL INFORMATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT TO DISCHARGE NON-CONTACT COOLING WATER (NCCW) TO CERTAIN WATERS OF THE COMMONWEALTH OF MASSACHUSETTS AND THE STATE OF NEW HAMPSHIRE

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I. Coverage under this Permit

A. Introduction

The Director of the Water Division, EPA Region 1, is issuing a notice of availability of the Draft NPDES General Permit for facilities that discharge non-contact cooling water (NCCW) to certain waters of the Commonwealth of Massachusetts and the State of New Hampshire. This permit will replace the NCCW General Permit (NCCW GP) that expired on November 4, 2019 (the “expired” General Permit). This Draft General Permit includes effluent limitations and monitoring requirements for flow, temperature, pH, and other parameters summarized below.

This Fact Sheet contains a summary of:

- Differences between the proposed Draft General Permit and the expired General Permit;
- Types of discharges that may be covered;
- Proposed effluent limitations;
- Proposed requirements for cooling water intake structures (CWIS);
- Monitoring requirements;
- Instructions for providing public comments or requesting a public hearing; and
- Legal information supporting this General Permit, including the basis for the draft permit conditions.

The Draft General Permit proposed by EPA is largely the same as the expired General Permit. Modifications are primarily intended to update information, improve clarity, update procedures for continuing coverage at the end of the permit term, and standardize language used throughout the permit. Specifically, the following are changes made to the expired General Permit in the Draft General Permit:

- Permittees are required to use NetDMR, a national web-based tool for regulated Clean Water Act permittees, to submit discharge monitoring reports (DMRs) electronically.
- Engineering and dilution calculations for NH were updated to account for the 10% reserve assimilative capacity requirement in the NHWQS – see Attachment B
- The minimum number of fish comprising an unusual impingement event (UIE) has been changed from 4 to 50. This higher number is more closely aligned with how UIEs are defined in NPDES permits. See Part 4.2.1.e of the Draft Permit.
- Minor changes to the Best Technology Available (BTA) requirements for those facilities that use a cooling water intake structure (CWIS) to withdraw water for cooling
- If EPA determines that whole effluent toxicity (WET) testing is warranted for any applicant, the number of WET tests required has been changed from 3 to 2.

B. Coverage of General Permits

Section 301(a) of the Clean Water Act (the Act or CWA) provides that the discharge of any pollutant to waters of the United States is unlawful except in accordance with a National Pollutant Discharge Elimination System (NPDES) permit, unless such a discharge is otherwise authorized by the Act. Although NPDES permits are often issued to individual dischargers, EPA's regulations authorize the issuance of "general permits" to categories of discharges or facilities. 40 CFR § 122.28. Violation of a condition of a general permit constitutes a violation of the Act and subjects the discharger to the penalties in § 309 of the Act.

The Director of a NPDES permit program is authorized to issue a general permit if there are a number of point sources operating in a geographic area that:

- Involve the same or substantially similar types of operations;
- Discharge the same types of wastes;
- Require the same effluent limitations or operating conditions;
- Require the same or similar monitoring requirements; and
- In the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.

NCCW is water that is used to absorb waste heat rejected from process or processes used, or from auxiliary operations and does not come into direct contact with any raw material, intermediate product, waste product (other than heat), or finished product.

EPA has determined that the Draft General Permit meets the criteria for issuing a general permit found in 40 CFR § 122.28(a)(2)(ii). These criteria are summarized below.

a) Involve the same or substantially similar types of operations

All of the facilities eligible for the General Permit have operations requiring cooling to reduce heat, and all facilities utilize and discharge a limited volume of water for this cooling in a manner such that the cooling water does not come into direct contact with any raw material, intermediate product, waste product (other than heat), or finished product. Based on EPA's experience with the expired NCCW General Permit, EPA anticipates the majority of facilities covered use NCCW in one or more manufacturing operations and/or air conditioning units.

b) Discharge the same types of wastes

All dischargers eligible for authorization under the General Permit discharge NCCW which is not co-mingled with other process water or storm water before either being monitored or discharged. If monitored prior to co-mingling with other process water or storm water, all other such water discharges must be covered by another NPDES permit. Therefore, as in the expired NCCW General Permit, the discharges covered by this General Permit will be of the same type of waste. The most notable pollutant in these discharges is heat. Other pollutants, such as chlorine or metals, may be of concern when

they are expected constituents of the water that is used for cooling, such as potable water or groundwater. The draft General Permit contains provisions for these potential situations.

c) Require the same effluent limitations or operating conditions

All discharges covered by the permit are subject to effluent limitations for flow, temperature, and pH. Temperature effluent limits are prescribed based on the category of the receiving water, and additional water quality-based limitations are prescribed in certain defined circumstances when municipal drinking water is used for cooling.

Other operating conditions include the requirement that permittees that withdraw surface water as the source of cooling water satisfy the Best Technology Available (BTA) standard applicable to cooling water intake structures (CWISs) under CWA § 316(b). As in the expired General Permit, BTA is required in all such cases. In the Draft General Permit, however, to satisfy the BTA, each facility must meet certain uniform requirements stated in Part 4.2.1 of the General Permit. The facility also must specify in its NOI how it will satisfy these BTA requirements. In all cases, the same uniform BTA requirements described in Part 4.2.1 apply to the CWIS, and the capacity of the CWIS is limited. The BTA requirements address aspects of the design, construction, location and/or capacity of the CWIS to minimize adverse environmental impacts. Low volume cooling water withdrawal limits (generally no greater than 1.0 MGD unless a review and approval for withdrawal up to 2 MGD is granted) and low intake velocities (no more than 0.5 feet per second) are operating conditions that apply to all facilities with CWISs seeking coverage under the NCCW GP.

d) Require the same or similar monitoring

Uniform permit monitoring requirements are found in Part 2.1 for Massachusetts facilities and in Part 3.1 for New Hampshire facilities. The monitoring frequencies and sample types for all effluent characteristics are identical. For all facilities with CWISs, there is an impingement monitoring requirement. This monitoring requirement is similar, but not the same, for all facilities due to the site-specific variations in the construction of water intake structures.

e) In the opinion of the Director, discharges are more appropriately controlled under a general permit than under individual permits

Given the similar nature of these facilities and their discharges and CWISs, as well as the efficiencies of regulating similar facilities under uniform conditions, EPA has determined that these small NCCW discharges and CWISs are more appropriately authorized to discharge under a general permit rather than under individual permits. In recognition of variations in operations and locations of various facilities, EPA has specified in the General Permit and Fact Sheet numerous situations where an individual permit is required or may be required by EPA, and these provisions have been retained in the 2023 Draft General Permit.

In conclusion, EPA has determined that, for the class of dischargers meeting the Draft General Permit eligibility requirements, coverage under a general permit is appropriate. This Draft General Permit is a reissuance of EPA Region I's administratively continued NCCW General Permit that expired on November 4, 2019. Based on EPA's experience with the facilities covered since the initial 2008 NCCW General Permit, variations in permitting conditions among permittees stem most often from variations in the source water and receiving water rather than from variations in the type of operations, the type of discharges, type of CWIS, or effluent limitations.

Facilities in Massachusetts and New Hampshire authorized by this General Permit will be allowed to discharge up to 1 million gallons per day (MGD) of NCCW. On a case-by-case basis, larger volume discharges of up to 2.0 MGD may be covered by this permit if EPA and the appropriate state approve the discharge as described below. Effluent flow for each facility authorized by the permit is limited to the flow reported on the Notice of Intent (NOI).

The discharge of surface water or groundwater that is used as source water in open loop geothermal heat pumps (sometimes described as ground source heat pumps) is allowed under the NCCW General Permit if the source water does not contain or come in direct contact with any pollutants other than heat and if all other requirements of the General Permit are met. If groundwater is the source of the cooling water, in whole or in part, the NOI sample analysis requirements described in Section 5.4 of the General Permit apply.

C. Eligibility

Under this General Permit, owners and operators of facilities that discharge up to 1 million gallons per day of NCCW and that are located in Massachusetts or New Hampshire are eligible for coverage. To be authorized by this permit, the applicant must submit a NOI to both EPA and the appropriate State within the timelines specified in the GP and as described below. The NOI must contain all the information required in Part 4 of the Draft General Permit, CWA § 316(b) Requirements for the Design and Operation of Cooling Water Intake Structures; and all the information required in Appendix 4. The NOI must state that the discharge meets the applicable requirements of the 2023 General Permit and that the applicant is requesting coverage under this General Permit. Permittees are encouraged to use the NOI format provided in Appendix 5 of the NCCW General Permit.

The facility's discharge(s) will not be covered under the 2023 NCCW GP until the facility receives written authorization to discharge from EPA.

Facilities with proposed new discharges that are seeking coverage under this General Permit must submit a NOI to EPA and the respective State, at least 60 days prior to the commencement of discharge. Facilities with existing coverage under the NCCW General Permit that expired on November 4, 2019, and that wish to seek coverage under this General Permit, must file an NOI to EPA and the respective State for coverage under this General Permit within 60 days of the effective date of this permit. If a facility received coverage under the NCCW General Permit that

expired on November 4, 2019, such facility must have submitted an Administrative Continuation Request (ACR) prior to December 4, 2019, to EPA in order to have retained authorization to discharge NCCW under the administratively continued NCCW GP. For any facility that was granted authorization to discharge under the 2014 GP but that did not submit an ACR, they are no longer covered by the 2014 GP.

Any eligible facility operating under an effective (unexpired) individual NPDES permit may request coverage under the General Permit. The individual permit will be terminated when coverage under the NCCWGP is granted. Facilities with expired individual permits that have been administratively continued may also apply for coverage under this General Permit. When General Permit coverage is granted, the expired individual permit will be terminated.

D. Exclusions

The General Permit excludes the following specific discharges from coverage:

- Facilities whose discharge(s) causes a violation of the water quality standards of the receiving water;
- Facilities that add chemicals to their discharge other than non-toxic chemicals used to adjust pH or for dechlorination;
- Facilities whose discharge(s) may adversely affect federal threatened or endangered species or their critical habitat;
- Discharges to Outstanding National Resource Waters;
- Any new or increased discharge to designated Wild and Scenic Rivers;
- Any new or increased discharge to other waters unless the discharge is shown to be consistent with the state's anti-degradation policies or the New Hampshire Water Conservation Rules (Env-Wq 2101, or as amended);
- Discharges to Class A waters in New Hampshire;
- Discharges to Areas of Critical Environmental Concern in Massachusetts unless both EPA Region 1 and MassDEP approve such discharge;
- Discharges to Essential Fish Habitat areas designated under the Magnuson-Stevens Fishery Conservation and Management Act, unless consultation has been completed as outlined in the Fact Sheet;
- Discharges to publicly owned treatment works (POTWs); and
- Facilities that require an individual permit based on the Director's consideration of the factors listed in section 5.11 of the General Permit.

This General Permit will not be available to "New Source" dischargers as defined in 40 CFR § 122.2 due to the site-specific nature of the environmental review required by the National Environmental Policy Act of 1969 (NEPA), 33 U.S.C. 4321 et seq., for those facilities. A New Source is defined as 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.

“New Sources” must comply with New Source Performance Standards (NSPS) and are subject to the NEPA process in 40 CFR § 6.600. Consequently, EPA has determined that it would be more appropriate to address “New Sources” through the individual permit process.

This General Permit will not be available to new facilities (including new offshore oil and gas extraction facilities), as defined in 40 CFR § 125.83, that have at least one cooling water intake structure (CWIS) with a design intake flow of greater than two (2) million gallons per day and that use at least 25 percent of the intake water for cooling purposes. New facilities with these attributes are regulated under the Phase I and/or Phase III regulations for CWIS. See 40 CFR part 125, subparts I and N. In addition, this General Permit will not be available to existing facilities, as defined in 40 CFR § 125.92(k), that use one or more CWISs with a cumulative design intake flow of greater than two (2) million gallons per day and that use at least 25 percent of the intake water exclusively for cooling purposes. CWISs at such existing facilities are regulated under the 2014 Existing Facilities Rule. See 40 CFR part 125, subpart J. This is further explained below. Consequently, for facilities subject to the Phase I Rule, the Phase III Rule, or the 2014 Existing Facilities Rule, EPA has determined that it would be more appropriate to authorize discharges and select the best technology available for the CWIS in an individual permit proceeding.

II. Permit Basis: Statutory and Regulatory Authority

A. Statutory Requirements

The CWA prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology-based effluent limitations and water quality-based effluent limitations (WQBELs) and other requirements, including monitoring and reporting, required by the Act. This Draft NCCW GP was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. Section 402 of the Act, 33 U.S.C. § 1342, authorizes EPA to issue NPDES permits allowing discharges that will meet certain requirements, including CWA sections 301 and 304 (33 U.S.C. §§ 1311 and 1341). Those statutory provisions state that NPDES permits must include effluent limitations requiring authorized discharges to: (1) meet standards reflecting specified levels of technology-based treatment requirements; (2) comply with State Water Quality Standards; and (3) comply with other state requirements adopted under authority retained by states under CWA Section 510, 33 U.S.C. § 1370.

During development of this Draft NCCW GP, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the expired (2014) NCCWGP. The regulations governing the EPA NPDES permit program are generally found at 40 CFR parts 122, 124, 125, and 136. The standard conditions of the Draft NCCW GP, found in Attachment A, are based on 40 CFR § 122.41 and consist primarily of

management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Sections 308(a) and 402(a)(2) of the CWA in accordance with 40 CFR §§ 122.41(j), 122.44(i), and 122.48.

EPA is required to consider technology and water quality-based requirements when developing permit limits. 40 CFR part 125, subpart A sets the criteria and standards that EPA must use to determine which technology-based requirements (i.e., requirements under Section 301(b) of the CWA and/or requirements established on a case-by-case basis under section 402(a)(1) of the CWA) should be included in permits.

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards and to the conditions of State certification under Section 401 of the CWA. Appropriate effluent limits and monitoring conditions are established according to numerical and narrative standards adopted under state and/or federal law for each stream-use classification. The CWA requires that NPDES permits include requirements to assure compliance with State water quality standards. Regulations governing State certification are set forth in 40 CFR §§ 124.53 and 124.55.

B. Technology Based Effluent Limitations

The CWA requires that all discharges, at a minimum, must meet effluent limitations based on pollutant reduction technologies that are available to the industry to control pollutants in their discharge. Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA, *see* 40 CFR part 125, subpart A, to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than 3 years after the date such limitations are established and in no case later than March 31, 1989. *See* 40 CFR § 125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has not promulgated National Effluent Guidelines for those discharges authorized by the NCCW GP. In the absence of effluent guidelines for these discharges, technology-based standards are determined by the permit writer on a case-by-case basis, in accordance with the statutory factors specified in CWA §§ 301(b)(2) and 304(b). These site-specific, technology-based effluent limitations reflect the best professional judgment (BPJ) of the permit writer under 40 CFR § 125.3(c)(2), taking into account the same statutory factors EPA would use in promulgating a national categorical rule, but considering unique factors relating to the applicant.¹

¹ *See also* U.S. EPA, 2010. “NPDES Permit Writers’ Manual,” Page 5-46, EPA-833-K-10-001, September 2010.

C. Water Quality Based Effluent Limitations (WQBELs)

WQBELs are required in NPDES permits when EPA and the States determine that effluent limitations more stringent than technology-based effluent limitations are necessary to attain or maintain State or Federal water quality standards. *See* CWA § 301(b)(1)(C). Water quality standards consist of three (3) 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) of the water body; and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards at 314 CMR 4.00 and the New Hampshire Surface Water Quality Standards at NH RSA 485-A:8 and Env-Wq 1700 include these elements. The State will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless site specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR § 122.44(d).

For discharges in Massachusetts, 314 CMR 4.05(3)(a-b) and 4.05(4)(a-b) establish standards for Class A, B, SA, and SB waters in Massachusetts. For discharges in New Hampshire, RSA 485-A8 II. states that “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”. In prescribing minimum treatment provisions for thermal wastes discharged to interstate waters, the department shall adhere to the water quality requirements and recommendations of the New Hampshire fish and game department, the New England Interstate Water Pollution Control Commission, or the United States Environmental Protection Agency, whichever requirements and recommendations provide the most effective level of thermal pollution control. In the absence of numeric temperature limits in New Hampshire Water Quality Standards, the numeric temperature limits in Massachusetts Water Quality Standards are included in the effluent limits for facilities in both Massachusetts and New Hampshire under this General Permit. EPA has determined, with NHDES concurrence, that the effluent temperature limits for cold and warm water fisheries are protective of the designated uses for Class B waters in New Hampshire.²

To ensure that discharges do not cause or contribute to violations of WQS under all expected conditions, WQBELs are derived assuming critical conditions for the receiving water³. For most pollutants and criteria, the critical flow in rivers and streams is some measure of the low flow of that river or stream. For rivers and streams in Massachusetts, the lowest flow condition at and above which aquatic life criteria must be applied is the lowest mean flow for seven consecutive days, expected once in 10 years, or 7-day 10-year low flow (7Q10). *See* 314 CMR 4.03(3)(a). In addition, for rivers and streams whose flows are regulated by dams or similar structures, human health criteria may be applied at the harmonic mean flow. *See* 314 CMR 4.03(3)(d).

² As noted earlier, discharges to Class A waters in New Hampshire are not eligible for permit coverage under the NCCW GP. *See* Section I.D, *supra*.

³ EPA Permit Writer’s Manual, Section 6.2.4

New Hampshire water quality regulations require that the available effluent dilution also be based on the 7Q10 flow of the receiving water. In addition, the State has reserved 10 percent of the Assimilative Capacity of the receiving water for future uses pursuant to RSA 485-A:13,I(a) and Env-Wq 1701.

For those discharges which are not granted coverage under this permit because the discharge contains pollutants in quantities which represent reasonable potential to cause or contribute to violations of water quality standards, the discharger must apply for an individual NPDES permit.

D. Antidegradation

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.

Massachusetts' statewide antidegradation policy, entitled "Antidegradation Provisions," is found in the State's WQSs at 314 CMR 4.04. Massachusetts guidance for the implementation of this policy is in an associated document entitled "Implementation Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00," dated October 21, 2009. According to the policy, no lowering of water quality is allowed, except in accordance with the antidegradation policy, and all existing in-stream uses, and the level of water quality necessary to protect the existing uses of a receiving water body must be maintained and protected.

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 each State's antidegradation requirements, including the protection of the existing uses of the receiving water. This General Permit does not apply to any new or increased discharge to receiving waters unless the discharge is shown to be consistent with the States' antidegradation policies. This

determination shall be made in accordance with the appropriate State antidegradation implementation procedures for this General Permit. EPA will not authorize such new or increased discharges under the NCCW GP until it receives a favorable antidegradation review and certification from the appropriate state.

E. Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified to include less stringent limitations or conditions than those contained in a previous permit except in compliance with one of the specified exceptions to those requirements. *See* CWA §§ 402(o), 303(d)(4); 40 CFR § 122.44(l). Anti-backsliding provisions apply to effluent limits based on technology, water quality, and/or State certification requirements. All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2014 GP.

F. Monitoring and Reporting 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 in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 CFR §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The Draft Permit specifies routine sampling and analysis requirements to provide ongoing, representative information on the levels of regulated constituents in the discharges. The monitoring program is needed to enable EPA and the State to assess the characteristics of the Facility's effluent, whether Facility discharges are complying with permit limits, and whether different permit conditions may be necessary in the future to ensure compliance with technology-based and water quality-based standards under the CWA. EPA and/or the State may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to CWA § 304(a)(1), State water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 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. 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*.⁴ 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

⁴ Fed. Reg. 49,001 (Aug 19, 2014).

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 level⁵ (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Operators of facilities that discharge NCCW under the authority of the final General Permit will be required to submit, both to EPA Region 1 and to the appropriate state authority, a Discharge Monitoring Report (DMR) containing effluent data. The frequency of reporting is determined in accordance with each state's provisions as described at Part 6 (Monitoring and Reporting Requirements) of the General Permit. The monitoring requirements have been established to yield data representative of the discharge under authority of CWA § 308(a) and 40 CFR §§ 122.41(j), 122.44(i) and 122.48, and as certified by each State.

Facilities in New Hampshire and Massachusetts that discharge intermittently and do not discharge NCCW during a particular month must submit to EPA and the appropriate state a DMR for that month indicating no discharge occurred, using the appropriate no discharge (NODI) code.

The Draft Permit includes new provisions related to DMR submittal through NetDMR, a national web-based tool that allows permittees to submit DMRs electronically via a secure internet application to EPA. NetDMR allows participants to discontinue mailing in hard copy DMRs. For more information on the timeline for NetDMR implementation, see section VI.A. of this Fact Sheet.

⁵ 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). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to 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 lab, 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).

G. Other Conditions

Standard condition requirements that must be included in all NPDES permits are found at 40 CFR §§ 122.41 and 122.42. Attachment A to the General Permit includes these requirements.

III. Effluent Limitations

Regarding the discharges of NCCW from the facilities covered by this permit, EPA is primarily concerned with the impacts of temperature (heat) and pH on the receiving water. However, total residual chlorine (TRC) is also a concern. Although facilities that add water treatment chemicals (other than non-toxic chemicals for pH adjustment and/or dechlorination) to the NCCW are not eligible for coverage, many facilities use municipal drinking water, which contains residual chlorine, for cooling. Therefore, this permit contains limits for TRC for such facilities, in addition to limits on temperature and pH. If, after submitting its NOI, a facility plans to initiate the use of municipal drinking water as an alternate source of NCCW, the facility shall submit a notice of change (NOC) prior to using this alternate source to obtain a TRC effluent limit and related reporting requirements. See Parts 2.2.4 and 3.2.4 of the General Permit.

A. Flow

The daily maximum flow limit for each facility will be the value reported by the facility's NOI, up to 1 MGD. Permittees are required to report their monthly average flows, which are expected to be consistent with the value reported in the NOI. Facilities that meet the other requirements of the NCCW GP may obtain coverage for discharges over 1 MGD but not more than 2 MGD based on EPA and state review and approval. The NCCW GP is intended for facilities with small to moderate NCCW discharges (up to 1 MGD) that are less likely than larger discharges to impact surface water quality due to higher dilution factors and the effluent limits established in the permit. However, if a facility discharges NCCW in volumes greater than 1 MGD but not more than 2 MGD, EPA and the appropriate state will review the discharge to determine whether the discharge is eligible for coverage under this General Permit.

B. 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 in a given 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. Rapid increases or decreases in ambient water temperature can directly affect aquatic life, particularly fish. Ambient water temperature can indirectly affect aquatic life by influencing water quality parameters such as dissolved oxygen, by which the solubility of oxygen decreases as water temperature increases.

The MA WQSs at 314 CMR 4.05(3)(b)2 provide that the instream temperature for Class B waters "shall not exceed 83°F (28.3°C) in warm water fisheries and shall not exceed 68°F (20°C)

in cold water fisheries based on the mean of the daily maximum temperature over a seven-day period, unless naturally occurring. The rise in temperature due to a discharge shall not exceed 3°F (1.7°C) in cold water fisheries nor 5°F (2.8°C) in warm water fisheries (based on the minimum expected flow for the month); in lakes and ponds the rise shall not exceed 3°F (1.7°C) in the epilimnion (based on the monthly average of maximum daily temperature).” In addition, “natural seasonal and daily variations that are necessary to protect existing and designated uses shall be maintained. There shall be no changes from natural background conditions that would impair any use assigned to this Class, including those conditions necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.”

The MA WQSs at 314 CMR 4.05(3)(a)2 require that the instream temperature for Class A waters “shall not exceed 68°F (20°C) based on the mean of the daily maximum temperature over a seven-day period in cold water fisheries, unless naturally occurring. Where a reproducing cold water aquatic community exists at a naturally occurring higher temperature, the temperature necessary to protect the community shall not be exceeded and natural daily and seasonal temperature fluctuations necessary to protect the community shall be maintained. Temperature shall not exceed 83°F (28.3°C) in warm water fisheries. The rise in temperature due to a discharge shall not exceed 1.5°F (0.8°C) for both cold water and warm water fisheries. In addition, “natural seasonal and daily variations that are necessary to protect existing and designated uses shall be maintained. There shall be no changes from natural background conditions that would impair any use assigned to this Class, including those conditions necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.”

The MA WQSs at 314 CMR 4.05(4)(a)2 require that the instream temperature for Class SA waters “shall not exceed 85°F (29.4°C) nor a maximum daily mean of 80°F (26.7°C), and the rise in temperature due to a discharge shall not exceed 1.5°F (0.8°C); In addition, “there shall be no change from natural background that would impair any uses assigned to this class, including those conditions necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.”

The MA WQSs at 314 CMR 4.05(4)(b)2 require that the instream temperature for Class SB waters “shall not exceed 85°F (29.4°C) nor a maximum daily mean of 80°F (26.7°C), and the rise in temperature due to a discharge shall not exceed 1.5°F (0.8°C) during the summer months (July through September) nor 4°F (2.2°C) during the winter months (October through June). In addition, “there shall be no changes from natural background that would impair any uses assigned to this class, including those conditions necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.”

This GP authorizes discharges only to Class B waters in New Hampshire, which are comprised of warm water and cold water fisheries. The State’s statutory and regulatory provisions do not specify numeric temperature criteria but do specify narrative criteria specific to thermal discharges in order to protect the existing and designated uses of the waterbody and restore and maintain the chemical, biological, and physical integrity of the State’s waters and to provide for the protection and propagation of fish, shellfish, and wildlife. See Env-Wq 1701.01 and 1703.01(b). New Hampshire’s environmental statutes and water quality standards dictate that in

Class B waters, “any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class.” See RSA 485-A:8, II and Env-Wq 1703.13(b). In prescribing minimum treatment provisions for thermal wastes discharged to interstate waters, the department shall adhere to the water quality requirements and recommendations of the New Hampshire fish and game department, the New England Interstate Water Pollution Control Commission, or the United States Environmental Protection Agency, whichever requirements and recommendations provide the most effective level of thermal pollution control. See RSA 485-A:8 VIII.

The effluent limits for temperature remain unchanged in the proposed permit due to anti-backsliding. The temperature limits were established to be consistent with narrative and numeric water-quality standards in New Hampshire and Massachusetts noted above.

EPA has not developed National Effluent Guidelines solely for NCCW. In the absence of published effluent guidelines, permit writers are authorized to develop technology-based limits using best professional judgment (BPJ) on a case-by-case basis. In the case of this General Permit, it is impracticable for EPA to develop technology-based limits for every discharge. However, EPA reserves the right to require facilities to apply for individual permits in the case where EPA believes technology-based limits are appropriate. It should be noted that facilities seeking alternative limits from the water-quality based limits (i.e., a § 316(a) variance) in this permit may be required to apply for an individual permit. Therefore, EPA has established effluent limits that meet Massachusetts and New Hampshire water quality standards for this General Permit.

C. pH

The effluent limits for pH in the Draft Permit are established to be consistent with water quality standards in New Hampshire and Massachusetts. These limits are continued from the expired NCCW GP. Based on water quality standards, the Draft Permit contains the following limits for the indicated waterbody classifications.

Massachusetts Class A and B waters: 6.5 – 8.3 standard units

Massachusetts Class SA and SB waters: 6.5 – 8.5 standard units

New Hampshire Class B waters: 6.5 – 8.0 standard units

For Massachusetts facilities, the pH range of 6.5 to 8.3 standard units (S.U.) for Class A and B waters and 6.5 to 8.5 S.U. for Class SA and SB waters must be achieved in the final effluent unless the Permittee demonstrates to MassDEP that Massachusetts Surface Water Quality Standards can be attained with an alternate range and submits an NOC (found in Appendix 8) with supporting documentation of this approval. Applicants must contact MassDEP to submit the appropriate effluent and ambient pH data required to make such a determination. If an alternate pH range is approved by MassDEP the Permittee shall sample ambient pH on the same day as the effluent pH and report the ambient pH value on the DMR. See Part 2.1, footnote 11 of the Draft Permit.

Sources of data that could be used to justify a change in the pH range limit include, but are not limited to, sampling results from the discharge, sampling results from the ambient receiving water, and dilution and/or mixing zone calculations.

For New Hampshire facilities, applicants may demonstrate compliance with the pH limits as explained in Parts 3.3.3 and 3.3.4 of the Draft Permit.

Effluent pH limits are also required to assess the potential for the water to dissolve and carry metals from metal piping used to convey NCCW to the receiving water. As the pH drops below 6.5 and water becomes more acidic, there is the greater potential of corrosion and leaching of piping that could result in the release of metals such as lead, copper, iron, and zinc.

Chemicals may be used for pH neutralization only, provided that EPA and the appropriate state are notified of their use in either the NOI or in the submission of a Notice of Change (NOC) Form found in Appendix 7, during the permit term.

D. Total Residual Chlorine (TRC)

The Draft GP will retain TRC concentration limits for permittees in Massachusetts and New Hampshire, but only for dischargers that use chlorinated municipal drinking water for NCCW. This will ensure that discharges comply with WQS for chlorine. Potable water sources typically are chlorinated to minimize or eliminate pathogens. Regulations at 40 CFR § 141.72 require that a public water system's residual disinfection concentration cannot be less than 0.2 mg/l for more than 4 hours. Therefore, the discharge of chlorinated drinking water has the potential to exceed WQS for chlorine. EPA does not believe that discharges from facilities using other water sources (e.g., groundwater) are likely to contain chlorine in concentrations sufficient to exceed WQS.

Massachusetts and New Hampshire have narrative criteria in their water-quality regulations that prohibit toxic discharges in toxic amounts (Massachusetts 314 CMR 4.03(3)(a) and New Hampshire Env-Wq 1703.21(a)). The proposed TRC limits will ensure that chlorine is not discharged in toxic amounts.

The State of New Hampshire's WQS for chlorine, found at Chapter 1700, Surface Water Quality Regulations, Part Env-Wq 1703.21(b), are the same as the recommended federal water quality criteria. The Commonwealth of Massachusetts' surface water-quality standards (MASWQS) require that "all surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." For each pollutant identified in 314 CMR 4.06(6)(d): *Table 29: Generally Applicable Criteria*, the concentrations identified or calculated for that pollutant in or pursuant to Table 29 shall be generally applicable criteria for all categories of surface waters, as specified therein; unless the Department determines that naturally occurring background concentrations are higher. Where the Department determines that naturally occurring background concentrations are higher, those concentrations shall be the allowable receiving water concentrations. 314 CMR 4.05(5)(e)(1).

Based on these standards, EPA will calculate the chlorine effluent limits on the federal water quality criteria, which are listed below:

- Freshwater acute – 19 µg/L (0.019 mg/L)
- Freshwater chronic – 11 µg/L (0.011 mg/L)
- Marine acute – 13 µg/L (0.013 mg/L)
- Marine chronic – 7.5 µg/L (0.0075 mg/L)

In the expired GP for Massachusetts, the maximum daily and average monthly concentration allowed in a permittee's discharge are based on the applicable water-quality criteria and the available dilution in the receiving water (based on the receiving water's 7Q10 and the maximum allowed discharge, see Attachment B for equations). For Massachusetts, effluent TRC limits will be based on the following equation:

$$\text{Effluent Limit} = (\text{Dilution Factor}) \times (\text{Water-Quality Criterion})$$

For New Hampshire, since we are required to reserve 10% of the receiving water assimilative capacity as described in Section II.C above, the TRC limits will be calculated as follows:

$$\text{Effluent Limit} = (\text{Dilution Factor}) \times (\text{Water-Quality Criterion}) \times 0.9$$

The Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters, dated February 23, 1990, states that waters shall be protected from unnecessary discharges of excess chlorine; the maximum effluent concentration of chlorine shall not exceed 1.0 mg/l TRC. In Massachusetts and New Hampshire the TRC limits established for discharges with high dilution factors will be capped at 1.0 mg/L based on this policy. EPA believes that this upper TRC effluent limit will adequately protect aquatic organisms from toxic amounts of chlorine.

Where applicable, the dilution factor and applicable chlorine limits will be approved by EPA during review of each facility's notice of intent (NOI). The permittee will be provided with these limits when notified of permit coverage.

E. Metals and Inorganic Anions

Many metals and inorganic anions can be found in the ground and surface water in Massachusetts and New Hampshire. Concentrations of these metals and inorganic anions vary widely depending on the geology and types of activities that occurred on the site. Metals, such as arsenic and iron, frequently build up in groundwater by leaching out of naturally occurring deposits under reducing conditions in surrounding bedrock or soils. Thus, metals can be naturally occurring constituents of groundwater, at times in concentrations that could violate surface water quality standards. Similarly, anions such as chloride can be a groundwater constituent as a result of saltwater intrusion, other hydrogeologic conditions or infiltration of road salt into the ground. Since these metals and inorganic anions are likely not removed from the groundwater during its use as NCCW, their concentrations are not likely to be lowered prior to discharge, although there may be a change in characteristics due to oxidation or other processes.

In some cases, the content of certain metals and inorganic anions in the discharge may have a reasonable potential to violate surface water quality standards. Metals and inorganic anions can be toxic to marine and freshwater organisms, as well as contaminate other plant and animal species. Often, aquatic organisms are even more sensitive than humans to metals in water. Ultimately, metals can become concentrated in the human food chain: food sources such as vegetables, grains, fruits, fish, and shellfish can become contaminated by accumulating metals from the soil and water used to grow them. Also, in the case of high iron content, when the discharge is oxidized after groundwater extraction, it can contribute to other violations of color and/or aesthetic standards.

For groundwater sources of NCCW, sampling for certain radionuclides must be conducted due to their possible subsurface presence in bedrock or soils. According to MASWQS at 314 CMR 4.05(5)(d) “all surface waters shall be free from radioactive substances in concentrations or combinations that would be harmful to human, animal, or aquatic life or the most sensitive designated use; result in radionuclides in aquatic life exceeding the recommended limits for consumption by humans, or exceed Massachusetts Drinking Water Regulations set forth in 310 CMR 22.09.” New Hampshire WQS at Env-Wq 1703.15-17 establish radionuclide concentration limits for surface waters, however, these radionuclides are not commonly tested in water samples at analytical laboratories. EPA has determined it is appropriate to test for the specific radionuclides with numeric drinking water standards (MCLs/MCLGs) in Massachusetts and New Hampshire.

EPA has selected the most appropriate metals and anions for analysis to characterize the most prevalent naturally occurring metals and anions in Massachusetts and New Hampshire groundwater. The following total recoverable metals, inorganic ions, and radionuclides have been selected to be analyzed when groundwater is used as the source of cooling water for any discharger authorized by this General Permit:

Antimony	Chromium (Total)	Iron	Silver
Arsenic	Chromium (VI)	Mercury	Zinc
Cadmium	Copper	Nickel	Lead
pH	Chloride		

Radionuclides: Gross Alpha, Radium 226 + Radium 228, Uranium

Additional parameter: Hardness of receiving surface water

While most groundwater is not expected to exhibit levels of concern for metals or anions, as a precaution, if a facility uses groundwater for NCCW, the facility is required to test for these metals and inorganic anions in the effluent, and to submit the results of these analyses with its NOI for evaluation by EPA or the State. If a submitted NOI shows that any effluent metal concentrations after consideration of dilution and known instream levels of such metal indicates a reasonable potential to cause or contribute to WQS violations, EPA may require an individual permit.

The results of the metal analyses required in the NOI will be considered by EPA and the State in a manner similar to the way that EPA sets WQBELs for metals in many individual permits. With such discharges, as well as other discharges where a WQBEL is needed, EPA uses its Recommended Criteria values for freshwater, adjusted for hardness (where hardness dependent) and converts them to “Total Recoverable Metals” limits.

Generally, national freshwater water quality-based criteria and effluent limits for metals are expressed at a hardness (H) value of 100 mg/L as calcium carbonate (CaCO₃) in the receiving water. While such a value may be appropriate for setting national criteria and limits, site-specific criteria using an adjusted hardness value should be considered to reflect regional, local or actual conditions. In determining the hardness dependent levels of metals in groundwater to evaluate NOIs for this General Permit, EPA intends to use actual hardness values of the receiving surface water. Therefore, laboratory analysis of hardness representative of the receiving surface water is required in the NOI.

F. Whole Effluent Toxicity Testing (LC₅₀ and C-NOEC)

Under CWA §§ 301, 303, and 402, EPA and the States may establish toxicity-based limitations to implement the narrative water quality criteria calling for “no toxics in toxic amounts”. *See also* 40 CFR § 122.44(d)(1). The Massachusetts WQSs at 314 CMR 4.05(5)(e) state, “All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.” New 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....” N.H. RSA 485-A:8, VI and the N.H. Code of Administrative Rules, PART Env-Wq 1703.21(a)(1).

In some instances, upon review of a facility’s NOI or past discharge monitoring data, EPA may request that an applicant conduct Whole Effluent Toxicity (WET) tests of its NCCW discharge, as authorized at 40 CFR § 122.44(d)(1)(v). These tests will include chronic (C-NOEC) and/or acute (LC₅₀) toxicity test(s) of such discharges. The purpose of these tests is to ensure that the discharge complies with the narrative WQS and that the receiving water shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife. These tests may be required when the receiving water has a dilution ratio of 10:1 or less and/or when pollutant concentrations indicate a reasonable potential to violate water quality standards. The protocols for these tests can be found online at <https://www.epa.gov/npdes-permits/epa-mpdes-permit-forms-attachments-new-england>.

G. Dilution Factors and Mixing Zones

The dilution factor is used to compute the effluent limits for total residual chlorine in this GP and also may be used to determine whether in-stream temperature monitoring is required and, in the case of metals and other parameters, determine whether an individual permit may be required, as described in Section III.E above. The available dilution at a specified critical drought flow condition in the receiving water and the facility design flow are used in computing the dilution factor. For Massachusetts, the regulations for calculating dilution factors and mixing zones are located at 314 CMR 4.03 and in the Massachusetts Water Quality Standards Implementation

Policy for Mixing Zones. For New Hampshire, these regulations are located at Env-Wq 1705 and Env-Wq 1707. In all cases, mixing zones in Massachusetts must meet the criteria at 314 CMR 4.03(2) and mixing zones in New Hampshire must meet the minimum criteria presented in Env-Wq 1707.02.

For discharges to freshwater, the WQS for each state establish the lowest flow condition in the rivers and streams to meet the water-quality criteria as the 7Q10 low flow. This flow condition is found at 314 CMR 4.03(3)(a) in the Massachusetts Standards and at Part Env-Wq 1705.02 in the New Hampshire regulations. Because 10 % of the river's assimilative capacity is held for future needs in New Hampshire, in accordance with Env-Wq 1705.01, the dilution factor is multiplied by 0.90 prior to use in permit limit calculations.

For marine waters in Massachusetts, the critical hydrologic condition at which water-quality must be met is established on a case-by case basis. Existing uses are to be protected and the selected hydrologic condition is not to interfere with the attainment of designated uses (314 CMR 4.03(3)(c)). For discharges to tidal waters in New Hampshire, the low flow condition shall be equivalent to the conditions that result in a dilution that is exceeded 99 % of the time (see Part Env-Wq 1705.02).

Dilution factors for freshwater in NH are calculated using the 7Q10 of the receiving water and the design flow of the facility. DFs for tidal discharges are determined using CORMIX® modeling. In order to satisfy Massachusetts and New Hampshire regulations, EPA uses the 7-day 10-year low flow statistic for rivers and streams to calculate dilution factors.

The dilution factor calculations for Massachusetts and New Hampshire facilities are found in Attachment B to the General Permit. For the convenience of facilities that were granted coverage under the expired NCCW General Permit, the 7Q10 estimates for those facilities are posted at <http://www.epa.gov/region1/npdes/nccwgp.html> and can be used when re-applying for coverage under this General Permit. Applicants may also call their State contacts to request a revised 7Q10 flow. EPA may use the prior 7Q10 or revised 7Q10 to determine the appropriate permit limits in the letter of notification of coverage that will be provided to the applicant.

IV. Cooling Water Intake Structure Requirements (CWIS)

A. Background

With any NPDES permit issuance or reissuance, EPA is required to evaluate or re-evaluate compliance with applicable standards, including the technology standard specified in Section 316(b) of the CWA for cooling water intake structures. Section 316(b) requires that:

[a]ny standard established pursuant to section 301 or section 306 of this Act 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 operation of CWISs can cause or contribute to a variety of adverse environmental effects, such as killing or injuring fish larvae and eggs entrained in the water withdrawn from a water body and sent through the facility's cooling system, or by killing or injuring fish and other organisms by impinging them against the intake structure's screens.

In order to satisfy the requirements of § 316(b), the location, design, construction, and capacity of the facility's CWIS(s) must reflect "the best technology available for minimizing adverse environmental impacts" ("BTA"). CWA § 316(b) applies to facilities with point source discharges authorized by a NPDES permit that also withdraw water from waters of the United States through a CWIS for cooling purposes. EPA has determined that regulations at CWA § 316(b) are applicable to some of the facilities that will seek coverage under the NCCW GP and has established requirements for CWIS in the Draft GP.

On December 18, 2001, EPA published national technology-based performance requirements for cooling water intake structures at new facilities. *See* 66 Fed. Red. 65,255 ("Phase I Rule"). *See* 40 CFR Part 125, Subpart I. The Phase I Rule, which is codified at 40 CFR §§ 125.80 through 125.89 and became effective on January 17, 2002, applies to new facilities that have a design intake flow of greater than 2 MGD and use at least 25 percent of water withdrawn for cooling purposes. On August 15, 2014, EPA published a Final Rule establishing requirements for cooling water intake structures at existing facilities under § 316(b) of the CWA. *See* 79 Fed. Reg. 48,300 ("Final 316(b) Rule for Existing Facilities" or "Existing Facilities Rule"). The Existing Facilities Rule, which is codified at 40 CFR §§ 125.94 through 125.99 and became effective on October 14, 2014, applies to all existing power generating facilities and existing manufacturing and industrial facilities with a design intake flow greater than 2 MGD and which use at least 25 percent of the water they withdraw exclusively for cooling purposes.

The Draft NCCW GP limits discharge flow to 1 MGD but would consider flows above that on a case-by-case basis. However, in no case is a facility that withdraws more than 2 MGD from waters of the US eligible to seek coverage under the Draft NCCW GP. *See* Draft NCCW GP Part 1.1. In other words, applicants meeting the applicability criterion for flow in the Phase I Rule (40 CFR § 125.81(a)(3)), the Phase III Rule (40 CFR § 125.131(a)(3)), or the Existing Facilities Rule (40 CFR § 125.91(a)(2)) are not eligible for the Draft NCCW GP. The Phase I, Phase III, and

Existing Facilities Rules establish application requirements and BTA requirements that are best implemented through an individual permit. CWISs not subject to one of these rules must still meet requirements under section 316(b), but the permitting authority establishes such requirements on a case-by-case basis, using best professional judgement (BPJ), rather than applying the substantive requirements of the rules. 40 CFR §§ 125.80(c), 125.90(b), 125.130(c). New and existing facilities seeking coverage under the NCCW GP and which withdraw cooling water from waters of the United States must meet requirements established under section 316(b). Based on BPJ, EPA is herein proposing permit conditions for the best technology available (BTA) for minimizing the adverse environmental impacts associated with impingement mortality and entrainment with the operation of CWIS at these facilities.

B. Applicability

Facilities authorized to discharge under this General Permit are subject to the BTA requirements of the General Permit only if they use a CWIS to withdraw cooling water from waters of the United States. Facilities that use groundwater or municipal water as the source of NCCW are not subject to the BTA requirements of the GP. EPA anticipates that most facilities that apply for coverage under this re-issued NCCW GP will not be subject to the BTA provisions, because most facilities that received authorization under the prior NCCW GPs used groundwater or municipal water as the source of their NCCW.

C. Best Technology Available Requirements

All facilities for which § 316(b) BTA requirements apply must:

- 1) Minimize the volume of cooling water withdrawn; and
- 2) Operate a physical exclusion technology that either a) has an actual velocity of no greater than 0.5 fps measured at the opening of the intake structure or b) returns all impinged aquatic life to the source waterbody in a manner that maximizes survival.

For this issuance of the General Permit, EPA is streamlining the BTA requirements based on review of NOIs and narrative CWIS descriptions submitted for the 2008 and 2014 permits. At the same time, EPA recognizes that facilities authorized under the General Permit may have different intake designs and operational conditions and, as such, the permit must offer flexibility in how Permittees meet these requirements. While facilities must meet both of the above requirements to satisfy § 316(b), the General Permit provides flexibility for facilities in the methods employed to meet these requirements. As described below, each facility shall select and implement a site-specific combination of design and operational measures to reduce the adverse environmental effects of the CWIS in accordance with the BTA requirements above. The information required in the NOI will document how Permittees comply with the two BTA requirements above.

1. Minimize the Volume of Cooling Water Withdrawn

Permittees must minimize the volume of cooling water withdrawn. Entrainment impacts of cooling water intake structures are closely linked to the amount of water passing through the intake structure because the eggs and larvae of some aquatic species are free-floating and may be drawn with the flow of cooling water into an intake structure. *See* 66 Fed. Reg. 65,277. When evaluating adverse environmental impacts under Section 316(b), EPA generally considers that entrainment is proportional to the volume of the water withdrawn and that a low intake capacity is one of the most effective means of reducing entrainment. *See* 66 Fed. Reg. 65,273; 79 Fed. Reg. 48,331. Impingement impacts are directly correlated with flow rates and intake velocities of CWIS. Reducing water withdrawals, for instance by reducing the capacity of the pumps or through seasonal or intermittent operation of pumps, can minimize adverse impacts of the CWIS.

Review of past NOIs and narrative CWIS descriptions indicates that Permittees use several methods to minimize cooling water withdrawals. Some facilities may have seasonal cooling needs or periods of equipment testing or maintenance activities during which cooling water is not necessary. Ceasing cooling water withdrawals during these periods will result in a reduction in cooling water withdrawals relative to design flows. This may be particularly effective if periods of downtime are scheduled when the densities of early life stages are lowest or during key migration periods (in New England rivers this period often occurs between April and August). Other facilities may limit withdrawals based on cooling demand either by using variable frequency drive pumps or by running a series of pumps with different design capacities and, thereby, withdrawing only the amount of cooling water that is actually required.

EPA also considers water reuse to be a flow reduction technology that minimizes entrainment. In the Phase I Rule, EPA noted that it “considers the withdrawal of water for use and reuse as both process and cooling water analogous to the reduction of cooling water intake flows achieved through the use of a recirculating cooling water system.” 66 Fed. Reg. at 65,278. Under this rule, a new facility can meet the requirement in § 125.84(b) to reduce intake flow to a level commensurate with that which can be attained by closed-cycle cooling “by reusing or recycling water withdrawn for cooling purposes in subsequent industrial processes.” 40 CFR § 125.86(b)(1)(ii); *see also* 66 Fed. Reg. at 65,308, 65,310. In the Existing Facilities Rule, EPA stated that “water reuse (defined as using water for multiple processes) can reduce the volume of water needed for cooling, process, or other uses. For example, a Permittee might withdraw water for non-contact cooling water and then reuse the heated effluent as part of an industrial process. In effect, the Permittee has eliminated the need to withdraw additional water for the latter process.” 79 Fed. Reg. at 48,332-33; *see also id.* at 48,331. A facility applying for coverage under the NCCW GP must specify all measures that it takes to minimize entrainment, including water reuse.

Finally, the NCCW GP is generally limited to facilities that withdraw less than 1 MGD, which may be a relatively low volume of water as compared to the waterbody. In previous rulemakings, EPA has considered that withdrawing a low percentage of the waterbody flow or volume for cooling could be a factor that informs the degree of potential entrainment and/or impingement since smaller volumes may affect fewer fish. *See* 66 Fed. Reg. 65,276-77; Technical Development Document for the 2014 Final Existing Facilities Rule at 5-16. For example, the Phase I Rule established capacity-based limits for rivers and streams, for lakes and reservoirs,

and for estuaries and tidal rivers. 40 CFR § 125.84(b)(3) and (c)(2). For CWISs located in rivers and streams, the proportional flow of the CWIS must be no greater than 5 percent of the source water mean annual flow. 40 CFR § 125.84(b)(3)(i) and (c)(2)(i). Withdrawing a relatively low percentage of the source waterbody volume can be one way to provide protection for aquatic life as larger proportionate withdrawals of water may result in commensurately greater levels of entrainment. *See* 66 Fed. Reg. 65,277.

Applicants shall document compliance with this BTA requirement in the NOI. Applicants must demonstrate that the volume of cooling water is minimized by providing the following information:

- The design capacity of CWIS in MGD.
- The maximum monthly average intake of the CWIS in MGD during the previous five years and the month in which this flow occurred. This value is calculated as the sum of the daily average flows for each day of a month, divided by the number of days in that month.
- The source water's water body type (estuary, freshwater river or stream, lake or reservoir, ocean, or tidal river).
- The annual mean flow of the source waterbody if the CWIS is located on a freshwater river or stream, in cubic feet per second (cfs). When United States Geological Survey (USGS) river gauge information for the source water is available, the annual mean flow calculated by USGS for all available years of record of the gauge shall be used.⁶
- The design intake flow as a percent of the annual mean flow if the CWIS is located on a freshwater river or stream.
- The seven-day, 10-year low flow (7Q10) of the source water if the CWIS is located on a freshwater river or stream, in cubic feet per second (cfs). See Attachment B of the General Permit for information on how to determine the 7Q10 of the source water.
- The design intake flow as a percent of the 7Q10 of the source water if the CWIS is located on a freshwater river or stream.
- The reuse of cooling water in manufacturing or other cooling processes.

2. Operate a Physical Exclusion Technology

Cooling water intakes must have a physical screen or other exclusion technology in order to prevent entrainment or entrapment within the intake, which may result in death or injury of aquatic life. The design of a physical exclusion technology may take many forms including a

⁶ This information can be found in the USGS Water Resource Data, Water Year 2005 Publication, located on the USGS website at http://web10capp.er.usgs.gov/adr_lookup/wdr-ma-05/.

static metal grate or screen or a conventional traveling screen.⁷

For this General Permit, any physical exclusion system with a through-screen design velocity of the CWIS of less than 0.5 feet per second is considered the BTA for impingement mortality. The velocity of water entering a cooling water intake structure exerts a direct physical force against which fish and other organisms must act to avoid impingement or entrainment. As velocity increases at a CWIS, so does the potential for impingement and entrainment. EPA considers velocity to be one of the more important factors that can be controlled to minimize impingement at CWIS. The 0.5 fps through screen requirement is well-supported by existing literature and serves as an appropriately protective measure. A requirement that protects almost all fish and life stages is particularly appropriate to provide a margin of safety when, as is common, screens become occluded by debris during operation of a facility and velocity increases through the portions of a screen that remain open. 66 Fed. Reg. 65,302. If Permittees use through-screen velocity to satisfy this requirement, the intake must be maintained to ensure that debris does not build up on the screens. Debris will block flow through the open area of the screen and increase the through-screen velocity. Permittees must demonstrate that they continue to meet the through-screen velocity requirement by inspecting the intake for debris (which could include using a pressure differential on the pumps to monitor velocity) and employing a mechanism to remove debris at a frequency sufficient to maintain the intake velocity.

If the physical exclusion system does not meet a through-screen velocity of no greater than 0.5 fps, the system must:

- Return all observed live fish impinged on or in the CWIS to the source water in a manner that maximizes their chance of survival and minimizes the opportunity for re-impingement. For example, a traveling screen rotates to a position where debris and aquatic life are cleaned off of the screens into a collection system. This system must include a mechanism to transport impinged fish to open water away from the CWIS, thus allowing the fish to survive the initial impingement and diminishing the chances of subsequent repeated impingement.
- Ensure that chlorinated water (including potable water) is not used to spray fish off of any screening system. Chlorine, even at extremely low levels, can be toxic to aquatic life. Fish that are impinged and transported to the receiving water by well-designed and operated fish return system are still subjected to stress. The exposure of these impinged organisms to chlorinated water would further elevate the potential for stress and could lead to mortality.
- Ensure that, if used, a low-pressure spray [(rated at 20 pounds per square inch (psi) or less] is used to remove aquatic life from screens.

⁷ The Technical Development Document for the Phase I Rule, available at https://www.epa.gov/sites/default/files/2015-04/documents/cooling-water_phase-1_tdd_2001.pdf includes descriptions of a number of intake technologies that would satisfy this requirement, including conventional traveling screens.

Applicants shall document compliance with this BTA requirement in the NOI. Applicants must demonstrate that a physical exclusion system is used and meets these requirements by providing the following information:

- Calculation of through-screen velocity at the design intake flow or the actual intake flow (in feet per second).
- A description of the procedures to monitor and maintain the through-screen velocity and ensure that debris does not occlude the screens and increase the through-screen velocity above 0.5 fps.
- A description of the physical exclusion system including how fish are returned to the source waterbody (if removed).
- Certification that chlorinated water is not used to remove organisms from a physical exclusion system and, if spray wash is used, only low pressure spray (i.e., less than 20 psi) is used to remove aquatic life. Technical Development Document for the 2014 Final Rule p. 6-29.

Finally, the NOI should include a discussion of the historical occurrence of impinged fish at the CWIS. If impingement has been observed, Permittees shall describe the number and species of fish impinged, the duration of impingement, the condition of impinged fish (dead or alive), and actions taken (e.g. fish returned to river, fish collected, cooling water intake flow reduced.). This information is limited to the five years preceding the date of the applicant's NOI.

The documented characterization of site-specific biological features of the source water body in the vicinity of the facility's CWIS during the seasons when the CWIS may be in use is necessary for EPA to evaluate the potential for and minimization of impingement mortality and entrainment based on the location, design, construction and capacity of each CWIS. Facilities should consult with state and local wildlife authorities to characterize biological features of the source water body. Facilities may use a previous biological characterization in the NOI if there is no new information available.

BTA Related Requirements:

Conduct and document a program to monitor for impinged fish and invertebrates: Due to the variability in CWIS designs, CWIS locations, and the operations of different facilities, there is not one single program or monitoring frequency applicable to all facilities to fulfill the General Permit requirement for a program to regularly monitor for impinged fish and impinged invertebrates. Rather, each permittee covered by the General Permit must design, conduct and document an impingement monitoring program based on site-specific factors at its facility. These site-specific factors include, but are not limited to, access to each CWIS, ability to observe potential impingement events, the intermittent or continuous nature of CWIS withdrawals, the timing of operational shifts, the nature of the facility's fish return systems, the facility's fish return procedures, the abundance of fish in the source water body, and the documentation of past

impingement monitoring. Each applicant that operates a CWIS shall submit an impingement monitoring program with its NOI.

In cases where EPA has required an impingement monitoring program, one representative approach has been to document the number of fish and invertebrates impinged during three eight-hour periods (total of 24 hours of monitoring per week) spaced over the course of a week (e.g.; Monday morning, Wednesday afternoon and Friday evening). This frequency may be appropriate where the permittee has reasonable access to the CWIS at these times during the operational shifts when cooling water is being withdrawn and an operator is able to visually observe any accumulated impinged fish or invertebrates over discrete time periods during continuous operation and is able to remove and return live organisms to the surface water. As provided in Part 4.2.1.d of the General Permit, EPA may require an applicant or permittee to explain in writing why its program to regularly monitor for impinged fish and impinged invertebrates is appropriate for its particular CWIS and situation.

Report unusual impingement events: An unusual impingement event is defined as the observation by the Permittee of fifty (50) or more fish on the CWIS during any one of the following activities or situations, requiring notification as described in Part 6.1.3 of the Permit: 1) during a regular impingement monitoring program observation event, 2) at any time during the inspection of a CWIS, or 3) when the cumulative number of individual fish observed on the CWIS totals fifty (50) or more based on multiple observations over the course of any 4-hour period.

The permittee must report an unusual impingement event to EPA by telephone within 24 hours of the event and provide a written report within five business days. The information that must be provided in the reports can be found in section 4.2.1.e of the General Permit. EPA must be notified quickly of an unusual impingement event in order to assist the permittee in developing additional BTA measures to reduce impingement of fish and other organisms in the CWIS.

3. Requirements for CWISs Related to Endangered Species and Essential Fish Habitat

For facilities that intake cooling water from the Connecticut River from the CT/MA border, upstream to the Turners Falls Dam in MA, the Deerfield River and, the Merrimack River in MA upstream to the Essex Dam, (the “designated areas”), the maximum through-screen velocity for such intake structures shall be maintained at 0.2 feet per second (fps) in order to prevent entrainment of early life stages of federally protected shortnose sturgeon that may be present.

For facilities that intake cooling water downstream of the Holyoke Dam to the MA/CT border, the Merrimack River in Massachusetts upstream to the Essex Dam and Great Bay, the Piscataqua, Salmon Falls and Cochecho Rivers in New Hampshire (also identified as the “designated areas”), the maximum through-screen velocity for such intake structures shall also be maintained at 0.2 fps in order to prevent entrainment of early life stages of federally protected Atlantic sturgeon that may be present. This velocity is recommended in Appendix D to the Biological Opinion submitted by NOAA Fisheries regarding the final 2014 regulations implementing CWA § 316(b). Although the 2014 Final 316(b) Rule does not apply to the facilities eligible for coverage under this permit (as discussed above) the through-screen velocity

requirements to protect eggs and larval fish at cooling water intake structures is determined by BPJ for this General Permit. The protection is designed for both federally protected species under the Endangered Species Act (ESA) as well as the designated habitat identified as part of essential fish habitat (EFH) requirements. The maximum through-screen velocity of 0.2 fps shall be maintained in addition to all of the general and facility-specific BTA requirements of the General Permit for intakes located within the designated areas.

During the public comment period, EPA will consult with NOAA Fisheries Protected Resources (ESA) as well as NOAA Fisheries Habitat and Ecosystem Services Division (EFH) on behalf of the 37 facilities who were covered under the 2014 NCCW GP and who are expected to seek coverage under this permit in the designated areas in order to determine the adequacy of existing CWISs in protecting endangered shortnose sturgeon and Atlantic sturgeon early life stages, as well as essential fish habitat. Additional BTA requirements, such as wedgewire screens with a mesh size of ≤ 10 mm, may be required to protect larval sturgeon.

4. Summary

The permit requirements discussed above represent the best technology available (BTA) for minimizing the adverse environmental impact of CWIS for sources eligible for coverage under this GP. EPA believes that this approach ensures that Permittees that withdraw cooling water from surface waters and which are covered under this General Permit will comply with the CWA requirement to minimize entrainment and impingement, while providing sufficient flexibility for individual facilities that may employ a range of cooling water intake designs.

V. Application Requirements and Notice of Intent

A. General NOI Information Requirements

To obtain coverage under the NCCW General Permit, owners or operators of facilities that meet the eligibility requirements in Part 1 of the permit are required to submit a notice of intent (NOI) to EPA and the appropriate state at the addresses listed in Appendix 6 of the NCCW GP. An eligible facility that submits a complete and accurate NOI does not need to apply for an individual permit for a regulated discharge, unless EPA specifically notifies the owner or operator that an individual permit application must be submitted. The NOI consists of either the suggested NOI format in Appendix 5 of the NCCW GP or other written correspondence containing all of the information required in Appendix 4 of the NCCW GP.

B. NOI Timeframes

1. Proposed (New) Discharges: Facilities that were not covered under the previous NCCW GP (which expired on November 4, 2019) or that were previously covered and not administratively continued, and that are seeking coverage under the new NCCW GP must submit an NOI to EPA and the appropriate state, post-marked at least 60 days prior to the commencement of discharge or as soon as practicable. In the case of a proposed new discharge to New Hampshire waters, additional lead time may be necessary (contact the NHDES at the address listed in Appendix 6 of this General Permit to determine whether additional lead time is necessary).
2. Existing Permitted Discharges: Facilities that were covered under the administratively continued NCCW GP, (which expired on November 4, 2019), and that seek coverage under the new General Permit, must submit an NOI to EPA and the respective State within 60 days after the effective date of the new General Permit. An NOI is not required if the permittee submits a notice of termination (NOT), as set forth in Part 7.1 of the General Permit before the 60 day time frame expires.

C. NOI Information Requirements Related to the CWIS and BTA

Facilities seeking coverage under this General Permit that withdraw surface water for use as non-contact cooling water must submit information characterizing the facility's CWIS and assess the potential for impingement and entrainment of aquatic organisms on or within the CWIS. The facility-specific requirements for the NOI can be found in Section 4.2 of the draft General Permit and Section IV.C of this Fact Sheet.

D. Essential Fish Habitat

1. Introduction

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (*see* 16 U.S.C. § 1801 *et seq.*, 1998), EPA is required to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) if EPA's action or proposed actions that it 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" 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. *See* 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. The EFH regulations clarify that "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are used by the managed fish species, and those areas historically used by those species, where appropriate.

EFH is only designated for fish species for which federal Fisheries Management Plans exist. *See* 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.nefmc.org/library/omnibus-habitat-amendment-2>. 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. In a letter to EPA New England dated October 10, 2000, NOAA Fisheries agreed that for NPDES permit actions, EFH initial notification for purposes of consultation can be accomplished in the EFH section of the Draft Permit's supporting Fact Sheet or Federal Register Notice.

The federal action being considered in this case is EPA's proposed National Pollutant Discharge Elimination System (NPDES) permit reissuance of the non-contact cooling water General Permit (NCCW GP), providing coverage for facilities in Massachusetts and New Hampshire. Parts 1.3.8 and Part 5.11.2.k of the Draft General Permit state that water withdrawal and discharges to designated areas under the Essential Fish Habitat Act are excluded unless the requirements specified in the Draft General Permit are fulfilled. The Draft General Permit includes water withdrawal requirements and effluent limitations and monitoring requirements for facilities that withdraw from and discharge into both freshwater and tidal waters of Massachusetts and rivers of New Hampshire, with the exception of those waters listed in Part 1.4.3 and Part 1.4.4 of the Draft General Permit.

2. EFH Species

The 2014 NCCW GP had authorized four discharges to marine waters of Massachusetts, with two facilities discharging directly to Boston Inner Harbor, one discharging to Plymouth Harbor, and one discharging to the lower Mystic River. Using the NOAA EFH Mapper⁸, EPA reviewed

⁸ NOAA EFH Mapper available at <https://www.habitat.noaa.gov/apps/efhmapper/>

available EFH information and assembled a list of 31 federally managed species, identified in Table 1, with designated EFH in the coastal and inland waters of Massachusetts. In addition, two of the three New Hampshire facilities do not withdraw water from the Merrimack River but do discharge non-contact cooling water into the EFH designated waters of the Merrimack River (Atlantic salmon). The remaining New Hampshire facility is not located near an EFH designated waterbody. The review also identified three habitat areas of particular concern. The analysis confirmed that consultation with NOAA Fisheries under the Magnuson-Stevens Fishery Conservation and Management Act is required.

Table 1. Species and life stages with designated EFH and Habitat Areas of Particular Concern within the NCCW GP coverage areas that include Massachusetts and New Hampshire inland waters and Massachusetts marine waters.

Species/Management Unit	Lifestage(s) Found at Location
Atlantic Salmon	ALL
Atlantic Sea Scallop	ALL
Atlantic Wolffish	ALL
Winter Flounder	Eggs, Juvenile, Larvae/Adult
Little Skate	Juvenile, Adult
Ocean Pout	Adult, Juvenile
Atlantic Herring	Juvenile, Adult, Larvae
Atlantic Cod	Larvae, Adult, Juvenile, Eggs
Pollock	Juvenile, Eggs, Larvae
Red Hake	Adult, Eggs/Larvae/Juvenile
Silver Hake	Eggs/Larvae, Adult
Yellowtail Flounder	Adult, Juvenile, Larvae, Eggs
White Hake	Larvae, Adult, Eggs, Juvenile
Windowpane Flounder	Adult, Larvae, Eggs, Juvenile
Winter Skate	Adult, Juvenile
American Plaice	Adult, Juvenile, Larvae, Eggs
Thorny Skate	Juvenile
Bluefin Tuna	Adult
Basking Shark	ALL
White Shark	Neonate
Sand Tiger Shark	Neonate/Juvenile
Northern Shortfin Squid	Adult
Longfin Inshore Squid	Juvenile, Adult

Species/Management Unit	Lifestage(s) Found at Location
Atlantic Mackerel	Eggs, Larvae, Juvenile, Adult
Bluefish	Adult, Juvenile
Atlantic Butterfish	Eggs, Larvae, Juvenile, Adult
Spiny Dogfish	Sub-Adult Female, Adult Male, Adult Female
Atlantic Surfclam	Juvenile, Adult
Scup	Juvenile
Summer Flounder	Larvae, Juvenile, Adult
Black Sea Bass	Adult
Habitat Areas of Particular Concern	
Inshore 20m Juvenile Cod	
Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)	
Summer Flounder	

3. Analysis of Effects

EPA has identified three potential sources of impact to aquatic species associated with the discharge of NCCW: the cooling water intake structure; discharge of heated effluent; and effluent toxicity.

A. Cooling Water Intake Structures (CWIS): Cooling water may be drawn from groundwater, potable water sources or surface water sources. Intake structures are used by facilities that draw cooling water from an adjacent surface water. Adverse environmental impacts associated with the use of CWIS result from both the entrainment and the impingement of aquatic organisms. According to § 316(b) of the Clean Water Act, any point source that uses a CWIS must ensure that its location, design, construction, and capacity reflect the best technology available (BTA) to minimize these adverse environmental impacts.

Facilities with CWIS that are eligible for coverage under the proposed NCCW General Permit must comply with the permit’s general BTA requirements, facility-specific BTA requirements and suggested BTA components that address reducing impingement and entrainment of aquatic life through a CWIS. The impacts to aquatic life from CWISs and the BTA requirements for facilities seeking coverage are described in Part 4 of the Draft General Permit.

B. Entrainment: The potential to impact aquatic organisms by entrainment largely depends on the presence and abundance of organisms that are vulnerable to entrainment and the water flow required for cooling. The primary means of reducing entrainment of aquatic life through a CWIS is to reduce the volume of the water withdrawal. Under the permit’s general BTA requirements, a facility must cease or

reduce the intake of cooling water whenever withdrawal of source water is not necessary.

Other considerations to minimize entrainment include the location and design of the intake structure. Under the permit's facility-specific BTA requirement, each facility submits to the permitting authority a facility-specific BTA description that consists of the CWIS attributes and the design and operational measures that reduce the entrainment of shellfish and fish. The description must contain measures such as reducing the intake flow of a facility commensurate with a closed-cycle recirculating system to achieve a proportional reduction in entrainment of aquatic organisms; locating CWIS in an area where entrainment will be minimized; and/or the use of fine screen mesh or exclusion devices to reduce entrainment.

The potential exists for a number of EFH species and forage species to be present, as eggs or larvae, in proximity to the CWIS. However, for some species, including Atlantic salmon, it is unlikely that a significant numbers of eggs would be free floating in the proximity of the CWIS, given the negative buoyancy of the eggs and their demersal nature. In addition, a majority of species covered under EFH spawn and complete their lifecycle in estuarine or marine environments, while the majority of CWIS covered under this Draft General Permit are expected to be located in freshwater. Entrainment will be further minimized by the flow limitation, flow reduction and entrainment reduction requirements included in the proposed permit. Based on the CWIS requirements of the proposed General Permit and the relatively low volumes of water withdrawn, EPA believes the potential for reduction of quality and/or quantity of essential habitat through the entrainment of EFH species and their forage species is minimal.

- C. Impingement:** Organisms that are too large to pass through intake traveling screens or fixed screens are still vulnerable to being impinged on these screens. CWIS intake location and design, as well as the cooling water flow requirements, are major factors in assessing impingement potential. Juvenile lifestages are particularly vulnerable to impingement, but adults of certain species are also at risk. EPA believes the potential for reduction of quality and/or quantity of essential habitat through the impingement of EFH species and forage species at the existing facilities expected to be covered under the Draft General Permit to be minimal due to the relatively low volumes and approach velocity limits (0.5 fps or 0.2 fps) of water withdrawn.

The Draft General Permit requires that all facilities comply with both the general and the facility-specific BTA requirements to reduce impingement mortality of aquatic life and to minimize the potential for impingement. The four general BTA requirements are: to cease or reduce the intake of cooling water whenever withdrawal of source water is not necessary; to return all observed live impinged fish to the source water in a manner that maximizes their chance of survival; to ensure that chlorinated water is not sprayed on impinged fish or invertebrates; and to conduct and document a program tailored to the facility's CWIS to regularly monitor for impinged

fish and invertebrates and make the results of the program available to the permitting authority.

Based on the intake reduction requirements of the proposed permit and the relatively low volumes of water withdrawn, EPA believes the potential for reduction of quality and/or quantity of essential habitat through the impingement of EFH species and their forage species is minimal.

D. Discharge of Heated Effluent: Thermal impacts associated with the discharge are affected by the dilution capacity of the receiving water, the flow rate of discharge, and the difference in temperature of the effluent compared to the ambient water. The discharge of heated effluent is common to all facilities covered under the Draft General Permit. Each State has developed thermal limits for various water bodies that are designed to be protective of the aquatic environment of that water body. The effluent limits for temperature in the permit remain unchanged from the 2014 Permit. Massachusetts and New Hampshire will continue to use the same thermal limits for designated cold (68°F/20°C) and warm water (83°F/28.3°C) fisheries (see discussion in Section II.C. of this Fact Sheet). Massachusetts further distinguishes between fresh and saltwater sources, and limits temperatures in SA and SB waters to 85°F/29.4°C. Massachusetts also limits the ΔT (change in the temperature of the receiving water body as a result of the discharge) depending on the classification of the water body and its predominant fishery. (See Draft General Permit Attachment A). The monitoring requirements for facilities located in both States require that temperature samples be taken from the effluent stream before it is commingled with other discharges or the receiving water.

In addition, facilities are permitted to discharge up to 1 MGD of non-contact cooling water and may be granted approval to discharge up to 2 MGD. Because many facilities' discharges are well under this limit, the thermal impacts of the discharges on the receiving water are often low due to high dilution factors.

Because the discharges are limited and are required to attain thermal water quality standards, which will protect the fishery designations of the receiving water bodies, EPA believes that the heated effluent will continue to have minimal impacts on aquatic resources, including the potential for reduction of quality and/or quantity of essential habitat through impacts to EFH species and their forage species. This evaluation is based on the thermal limitations in the Draft General Permit, the flow limitations in the Draft General Permit and the requirement that the temperatures must meet state water quality standards.

E. Effluent Toxicity: Non-contact cooling water does not come into contact with any raw material, intermediate product, waste product, or finished product. NCCW discharges from facilities seeking coverage under the Draft General permit are not expected to contain pollutants in toxic amounts. For facilities that use potable water as their cooling water source water, the permit establishes Total Residual Chlorine (TRC) limits that are adequate to protect aquatic-life criteria for chlorine based on the

States' water quality standards. The Draft General Permit prohibits the addition of toxic materials or chemicals to NCCW and prohibits the discharge of pollutants in amounts that would be toxic to aquatic life. It also prohibits any discharge that violates State or Federal water quality standards. Further, EPA may require that a facility conduct toxicity testing where needed to verify that the discharge is not having toxic impacts on sensitive species. The permit prohibits the addition of toxic materials to the NCCW discharge, limits the TRC concentration in the discharge where necessary, and establishes that EPA can request toxicity testing of the discharge if necessary. Therefore, the regulated discharges covered under this proposed General Permit are not expected to reduce the quality and/or quantity of essential habitat because there will be no exposure of the habitat to toxic effects on receiving water aquatic life, including EFH species and their forage species.

4. EPA's Finding of all Potential Impacts to EFH

EPA has determined that operation of facilities covered by the NCCW GP, as governed by this permit action, may adversely affect the EFH of the species listed above as well as the Habitat Areas of Particular Concern. The Draft General Permit has been conditioned in the following way to minimize any impacts that reduce the quality and/or quantity of EFH and Habitat Areas of Particular Concern.

- This Draft General Permit action does not provide coverage for new sources of pollutants. It is the reissuance of an existing NPDES General Permit;
- Of the 37 facilities expected to seek coverage under this Draft General Permit, only six facilities possess cooling water intake structures (CWISs) that withdraw from surface waters. Of these, four facilities withdraw water from EFH designated waterbodies. These intakes are regulated by design, approach velocity limits, water withdrawal limits, and monitoring. The requirements will minimize potential impacts to the quality and/or quantity of EFH by mitigating impingement or entrainment of EFH designated species or their prey;
- Effluent flow, temperature, pH, total residual chlorine, metals and inorganic anions are regulated by the Draft General Permit to meet State water quality standards;
- The effluent limits for temperature are based on State water quality standards: cold water fisheries (68°F/20°C) and warm water fisheries (83°F/28.3°C). There are additional limits for the ΔT (change in the temperature of the receiving water body as a result of the discharge) depending on the classification of the water body and its predominant fishery;
- The cooling water does not come in contact with process waters from the facilities, so the introduction of process water pollutants is not allowed;
- The Draft General Permit prohibits the discharge of pollutants or combination of pollutants in toxic amounts;

- Based on information submitted by each facility operator in its Notice of Intent, EPA may require whole effluent toxicity testing of the effluent and include an LC₅₀ limit to ensure that the discharge does not present toxicity problems;
- The effluent limitations and conditions in the Draft General Permit were developed to be protective of all aquatic life and are not expected to reduce the quality and/or quantity of EFH; and
- The Draft General Permit prohibits violations of the state water quality standards.

EPA has determined that the conditions and limitations contained in the NCCW Draft General Permit adequately protect the essential fish habitat of the managed species listed above and the Habitat Areas of Particular Concern. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries Habitat and Ecosystem Services Division will be contacted and an EFH consultation will be reinitiated.

At the beginning of the public comment period, EPA notified NOAA Fisheries Habitat and Ecosystem Services Division that the Draft General 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.

In addition to this Fact Sheet and the Draft Permit, information supporting EPA's finding will be summarized in a letter under separate cover and submitted to the NOAA Fisheries Habitat and Ecosystem Services Division during the public comment period.

E. Endangered Species

The Endangered Species Act (ESA) of 1973 requires federal agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries), also known collectively as "the Services", that any actions authorized, funded, or carried out by the EPA (e.g., EPA issued NPDES permits authorizing discharges to waters of the United States) are not likely to jeopardize the continued existence of any Federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species. 16 U.S.C. § 1536(a)(2); 50 CFR § 402; *see also* 40 CFR § 122.49(c).

Section 7 of the ESA provides for formal and informal consultation with the Services. For NPDES permits issued in Massachusetts and New Hampshire where EPA is the permit issuing agency, Draft NPDES Permits and their supporting Fact Sheets are routinely submitted to the Services for their overall evaluation prior to issuance. When appropriate, EPA will initiate an informal consultation with the Services during a proposed Permit's public comment period. When evaluating the EPA's working experience with the Services on numerous prior permits and identification of certain endangered species, general geographic areas of concern in the States and the potentially affected waters, including critical habitats, EPA has prepared this Draft

General Permit to ensure adequate protection (may affect, but not likely to adversely affect) under the ESA.

Non-contact cooling water (NCCW) is water used for cooling that does not come into direct contact with any raw material, intermediate product, waste product (other than heat), or finished product. The General Permit specifically excludes coverage to facilities whose discharge(s) are likely to jeopardize the continued existence of listed threatened or endangered species or the critical habitat of such species. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat. Further, facilities that add water treatment chemicals to the NCCW (besides certain non-toxic pH adjustment and dechlorination chemicals) are not eligible for coverage under this permit. The requirements in this General Permit are consistent with information previously provided by the Services to EPA during the development of other recently issued general permits. Therefore, EPA Region 1 has made the preliminary determination that adoption of this General Permit is not likely to adversely affect any threatened or endangered species or designated critical habitat.

Section I.D. (Exclusions) of this Fact Sheet specifically excludes coverage under the NCCW GP to “Facilities whose discharge(s) may adversely affect federal threatened or endangered species or their critical habitat”. The NCCW GP effluent limits are sufficiently stringent to assure that water quality standards are achieved which protect both aquatic life and human health. The effluent limitations established in the NCCW GP ensure the maintenance of the receiving water as an aquatic habitat. Further, the NCCW GP requires that individual permits be issued if actual environmental conditions (including the protection of federally endangered species) are not adequately covered by the NCCW GP.

The federally protected ESA species found in Massachusetts and New Hampshire are listed in Table 2.

Table 2. The list of the eighteen federally protected species in Massachusetts and twelve federally protected species in New Hampshire.

Massachusetts (18)
Dwarf wedgemussel (<i>Alasmidonta heterodon</i>)
Northeastern bulrush (<i>Scirpus ancistrochaetus</i>)
American Chaffseed (<i>Schwalbea americana</i>)
Sandplain gerardia (<i>Agalinis acuta</i>)
Piping plover (<i>Charadrius melodus</i>)
Red Knot (<i>Calidris canutus rufa</i>)
Roseate tern (<i>Sterna dougallii dougallii</i>)
Northern red-bellied cooter (<i>Pseudemys rubriventis</i>)
Bog turtle (<i>Glyptemys mühlenbergii</i>)
Plymouth Redbelly Turtle (<i>Pseudemys rubriventis bangsi</i>)
Small whorled pogonia (<i>Isotria medeoloides</i>)
Puritan tiger beetle (<i>Cicindela puritana</i>)
American burying beetle (<i>Nicrophorus americanus</i>)
Northeastern beach tiger beetle (<i>Cicindela dorsalis</i>)
Rusty patched bumble bee (<i>Bombus affinis</i>)
Northern long-eared bat (<i>Myotis septentrionalis</i>)
Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>) *
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)*

New Hampshire (12)
Dwarf wedgemussel (<i>Alasmidonta heterodon</i>)
Northeastern bulrush (<i>Scirpus ancistrochaetus</i>)
Jesup’s milk-vetch (<i>Astragalus robbinsii</i> var. <i>jesupii</i>)
Piping plover (<i>Charadrius melodus</i>)
Red Knot (<i>Calidris canutus rufa</i>)
Roseate tern (<i>Sterna dougallii dougallii</i>)
Karner blue butterfly (<i>Lycaeides melissa samuelis</i>)
Canada lynx (<i>Lynx canadensis</i>)
Small whorled pogonia (<i>Isotria medeoloides</i>)
Northern long-eared bat (<i>Myotis septentrionalis</i>)
Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>)*
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)*

*These species are listed under the jurisdiction of NOAA Fisheries, all others are listed under the jurisdiction of USFWS.

In addition, Table 3 contains federally protected marine species that are present in the near coastal waters of Massachusetts and New Hampshire. These species are listed under the jurisdiction of NOAA Fisheries:

Table 3. The list of the four federally protected marine reptile and two federally protected marine mammal species found in the near coastal waters of Massachusetts and New Hampshire.

Marine Reptiles (4)	Marine Mammals (2)
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	North Atlantic right whale (<i>Eubalaena glacialis</i>)
Loggerhead sea turtle (<i>Caretta caretta</i>)	Fin whale (<i>Balaenoptera physalus</i>)
Kemp’s ridley sea turtle (<i>Lepidochelys kempii</i>)	
Green sea turtle (<i>Chelonia mydas</i>)	

Of the species listed in Tables 2 and 3 above, the presence of a number of plants and animals, based on their terrestrial, semi-aquatic or near shore beach habitats, are not expected to overlap with the effluent discharges expected to be covered under the NCCW GP. Table 4 lists the

species whose habitats do not overlap with the action areas of the expected discharges. EPA has determined that there are no plausible routes of effects to the species in Table 4 from the discharge. Therefore, EPA has made the determination of “No Effect” for the 17 federally protected species listed in Table 4, as well as their prey. No ESA consultation with the Services is required for these species.

Table 4. The seventeen species whose habitats are not expected to overlap with the action areas of the intakes and outfalls covered under the NCCW GP.

Northeastern bulrush (<i>Scirpus ancistrochaetus</i>)
American Chaffseed (<i>Schwalbea americana</i>)
Sandplain gerardia (<i>Agalinis acuta</i>)
Jesup’s milk-vetch (<i>Astragalus robbinsii</i> var. <i>jesupii</i>)
Piping plover (<i>Charadrius melodus</i>)
Red Knot (<i>Calidris canutus rufa</i>)
Roseate tern (<i>Sterna dougallii dougallii</i>)
Northern red-bellied cooter (<i>Pseudemys rubriventis</i>)
Bog turtle (<i>Glyptemys muhlenbergii</i>)
Plymouth Redbelly Turtle (<i>Pseudemys rubriventis bangsi</i>)
Karner blue butterfly (<i>Lycaeides melissa samuelis</i>)
Canada lynx (<i>Lynx canadensis</i>)
Small whorled pogonia (<i>Isotria medeoloides</i>)
Puritan tiger beetle (<i>Cicindela puritana</i>)
American burying beetle (<i>Nicrophorus americanus</i>)
Northeastern beach tiger beetle (<i>Cicindela dorsalis</i>)
Rusty patched bumble bee (<i>Bombus affinis</i>)

In addition, EPA has outlined the action areas of the 37 facilities that were covered under the 2014 GP, which expired on November 4, 2019 (the “expired” General Permit). These facilities, identified in Appendix 4, Table A, are expected to seek coverage under this proposed GP. None of these facilities' action areas overlap with the expected habitat of the dwarf wedgemussel⁹ in the Connecticut River watershed. Therefore, no consultation is required for the dwarf wedgemussel with USFWS for this GP.

However, one terrestrial listed endangered species, the northern long-eared bat (*Myotis septentrionalis*) is identified as occurring statewide in Massachusetts and New Hampshire and could potentially come in contact with the aquatic action area of the facilities seeking coverage under the NCCW GP.

The endangered northern long-eared bat is under the jurisdiction of the USFWS. According to the USFWS, the bat is found in the following habitats based on seasons, “winter – mines and caves; summer – wide variety of forested habitats.” This species is not considered aquatic. However, because the regulated discharges from the 37 facilities expected to seek coverage in Massachusetts and New Hampshire are located throughout the states, EPA prepared an Effects Determination submission for the NCCW GP issuance and presented it to USFWS. Based on the information submitted by EPA, the USFWS recorded the determination of “No Effect” on the

⁹ <https://ipac.ecosphere.fws.gov/>

northern long-eared bat by letter, dated March 30, 2023¹⁰. The determination of “No Effect” concluded EPA’s consultation responsibilities for the NCCW GP NPDES permitting action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Regarding protected species under the jurisdiction of NOAA Fisheries, a number of anadromous and marine species and life stages may overlap the action areas of the 37 facilities expected to seek coverage under the proposed NCCW GP. As noted in the species list above, Atlantic sturgeon and shortnose sturgeon habitat, along with Atlantic sturgeon designated critical habitat may overlap with NCCW GP action areas in certain rivers in Massachusetts and New Hampshire. The following sea turtles - leatherback sea turtles, loggerhead sea turtles, Kemp’s ridley sea turtles and green sea turtles may overlap with coastal facilities’ action areas. In addition, North Atlantic right whales and fin whales, along with North Atlantic right whale designated critical habitat, may overlap with coastal facilities’ action areas¹¹ These protected species life stages are likely influenced by the discharge from a subset of these 37 facilities.

Because these species may be affected by the discharges authorized by the proposed permit, EPA has evaluated the potential impacts of the permit action on these anadromous and marine species. On the basis of the evaluation, EPA’s preliminary determination is that this action may affect, but is not likely to adversely affect, the relevant life stages of the NOAA Fisheries listed species above that are expected to inhabit the river systems and immediate coast near the facilities’ action areas of the discharges. Therefore, EPA has judged that a formal consultation pursuant to Section 7 of the ESA is not required. EPA is seeking concurrence from NOAA Fisheries regarding this determination through the information in the Draft Permit and this Fact Sheet, as well as a biological assessment that will be sent to NOAA Fisheries Protected Resources Division under separate cover. EPA will not issue the Final Permit until ESA section 7 consultation with NOAA Fisheries has been completed.

Based on the ESA analysis and expected ESA section 7 consultation concurrence, the 37 facilities expected to seek coverage under the NCCW GP will not need to take further consultation action to meet the requirements of the Endangered Species Act.

The ESA analysis and consultation actions described above fully apply to the 37 facilities that were granted coverage under the 2014 NCCW GP and are expected to apply for coverage under the proposed General Permit. Other facility operators not listed among the 37 facilities (“New Applicants”) that apply for coverage under the proposed NCCW GP must follow the protocol specified in Appendix 2 of the General Permit. Appendix 2 details how applicants not listed among the 37 previously covered facilities may determine the listed species or critical habitat located near their proposed NCCW discharge and which ESA consultation criteria apply to them.

Portions of EPA’s ESA analysis noted above do apply to New Applicants as well. For example, the 17 federally protected species listed in Table 4 will not need to be evaluated by the New Applicants for potential ESA consultation. In addition, the northern long-eared bat “No Effects”

¹⁰ USFWS New Hampshire Project code: 2022-0065502, March 30, 2023.

USFWS Massachusetts Project code: 2022-0065493, March 30, 2023.

¹¹ NOAA Fisheries ESA Mapper at:

<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a>

designation also applies to New Applicants. However, the dwarf wedgemussel, under the jurisdiction of USFWS, and the eight marine/anadromous species (sturgeon, sea turtles and whales) listed under NOAA Fisheries must be fully evaluated by New Applicants¹². They must determine whether their facility's discharge may affect listed species or critical habitat. New Applicants may need to contact the Services to determine whether or not additional consultation is needed. In order to be eligible for coverage under the NCCW GP, these New Applicants must certify that they meet one of three USFWS/NOAA Fisheries Eligibility Criteria (A, B, and C) identified in Appendix 2 related to listed species and critical habitat under the jurisdiction of the USFWS or NOAA Fisheries.

For New Applicant facilities that must meet USFWS and NOAA Fisheries Eligibility Criteria B in Appendix 2 (i.e., they cannot meet Criteria A or C); or for New Applicant facilities that cannot meet any of the FWS ESA Eligibility Criteria in Appendix 2, coverage under the General Permit is available **only if the New Applicant contacts USFWS and NOAA Fisheries** under § 7 of the Endangered Species Act, and it is confirmed that the New Applicant's discharges may affect, but are not likely to adversely affect listed species, or the communication results in a written concurrence by the Service(s) on a finding that the New Applicant's discharge(s) are not likely to adversely affect listed species.

This optional type of informal consultation involves the designation of a non-Federal representative (NFR) to determine whether a federal action is likely to have an adverse impact on listed species or critical habitat. The ESA regulations provide for permit applicants (in this case New Applicants only), where designated, to carry out informal consultations as an NFR, which enables them to work directly with the Services. 50 CFR § 402.08. EPA is hereby designating new applicants for this general discharge permit as NFRs for the purposes of carrying out informal consultation. Therefore, EPA expects that the New Applicants will contact the Services to determine whether additional consultation is needed, as determined in Appendix 2.

New Applicants with discharges that would occur along or into the waterways subject to ESA requirements may be required to initiate contact with the Services as a NFR in accordance with Appendix 2 and must notify EPA Region 1 of the determination in writing. The new applicant must indicate under which criterion the new applicant will certify eligibility with regards to endangered species in the space provided on the NOI. If the New Applicant has communications with the Services, the New Applicant must submit a copy of any communication from the Services with the NOI as directed. New applicants who cannot certify compliance with the ESA requirements on the NOI form must contact EPA to determine if eligibility for an individual NPDES permit is possible or to discuss other possible options for the proposed discharge.

Services Contact Information

US Fish and Wildlife Service
New England Field Office
70 Commercial Street, Suite 300

Concord, NH 03301-5087
Phone: (603) 223-2541

¹² USFWS species are evaluated under the IPaC Website at: <https://ipac.ecosphere.fws.gov/>.
NOAA Fisheries species are evaluated under the ESA Mapper Website at:
<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a>

NOAA Fisheries Greater Atlantic
Regional Fisheries Office (GARFO)
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930-2298
Phone: (978) 281-9300 x650

Re-initiation of consultation will take place: (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) if 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 consultation; or (c) if a new species is listed or critical habitat is designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, initiation of consultation would be required.

F. Historic Preservation

Facilities which adversely affect properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act of 1966 (NHPA), 16 USC §§ 470 et seq., are **not** authorized to discharge under this permit. Applicants must determine whether the discharge, and any related activities (including the use of any CWIS), authorized under this General Permit, has the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places. The applicant must certify the criterion used to determine permit eligibility and indicate it on the NOI. Electronic listings of National and State Registers of Historic Places are maintained by the National Park Service (www.cr.nps.gov/nr), the Massachusetts Historical Commission (<http://www.sec.state.ma.us/mhc/mhcnat/natidx.htm>) and the New Hampshire Historical Commission (http://www.nh.gov/nhdhr/programs/national_register.html). For additional information regarding the requirements pertaining to historic places, see Appendix 3 of the General Permit.

Applicants also must comply with applicable State, Tribal, and local laws concerning the protection of historic properties and places and applicants are required to coordinate with the State Historic Preservation Officer (SHPO) and others regarding effects of any discharges covered by this permit on historic properties.

MA SHPO address:

MA State Historic Preservation Officer
MA Historical Commission
220 Morrissey Blvd.
Boston, MA 02125
Tel No. (617) 727-8470
Fax No. (617) 727-5128

NH SHPO address:

State Historic Preservation Officer
NH Division of Historic Resources
19 Pillsbury Street, 2nd Floor
Concord, NH 03301-3570
Tel. No. (603) 271-3483
Fax No. (603) 271-3433

G. Requiring Coverage under an Individual Permit or Other General Permit

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

EPA may require any operator authorized by or requesting coverage under this general permit to apply for and obtain an individual NPDES permit. 40 CFR § 122.28(b)(3). Any interested party may petition EPA to take such an action. *Id.* In addition, as noted elsewhere in this Fact Sheet, EPA may determine that some applicants are not eligible for coverage under the NCCW GP (based, for instance, on available dilution, effluent temperature, metals, the presence of endangered species, or other factors) and will require such applicants to seek individual permit coverage. The issuance of an individual permit would be in accordance with 40 CFR part 124, including the opportunity for public comment and appeal of any final permit decision.

If the Director requires an individual permit, the permittee will be notified in writing that an individual permit is required and will be given a brief explanation of the reasons for this decision. When an individual NPDES permit is issued to an operator otherwise subject to the NCCW GP, the applicability of the General Permit to that owner or operator is automatically terminated on the effective date of the individual permit. 40 CFR §122.28(b)(3)(iv).

2. When an Individual NPDES Permit may be Requested

Any owner or operator of a facility covered by this General Permit may request to be excluded from coverage under the General Permit by applying for an individual permit. This request may be made by submitting a NPDES permit application along with the reasons for requesting coverage under an individual permit to EPA and the appropriate state agency. 40 CFR § 122.28(b)(iii).

As provided in 314 CMR 3.06(8), in lieu of requiring a discharger covered under a general permit to obtain an individual permit, MassDEP may direct such discharger to undertake additional control measures, best management practices (BMPs), or other actions to ensure compliance with the General Permit, water quality standards, and/or to protect public health and the environment. MassDEP may exercise its authority to require the discharger to take these actions by imposing a condition in the General Permit to that effect, or by taking an enforcement action against the discharger, or by other means.

H. EPA Determination of Coverage

Any applicant may request coverage under the General Permit but the final authority for determination of coverage rests with the EPA. Coverage under the NCCW GP will not be effective until EPA and the appropriate State have reviewed the NOI, made a determination that coverage under the NCCW GP is warranted, and provided the operator with written notification of authorization. The effective date of coverage will be the date of signature on EPA's authorization letter. Any applicant that is denied coverage or that fails to submit to EPA and the appropriate State an NOI and/or fails to receive written notification of permit coverage from EPA is not authorized to discharge to receiving waters under the NCCW GP.

VI. Monitoring and Reporting Requirements

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

The Draft Permit includes new provisions related to DMR submittal through NetDMR. The Draft Permit requires that on the date of the permittee's EPA authorization to discharge under the permit, the permittee shall submit all monitoring data required by the permit to EPA using NetDMR. Once permittees begin submitting reports using NetDMR, they are no longer required to submit hard copies of DMRs or other reports to EPA and the State agencies. The exception to the NetDMR reporting requirement is that permittees must send hard copies of toxicity reports to MassDEP and NHDES.

Any reports or submittals required by the General permit (including copies of all toxicity tests and other notifications required by the NCCW GP) shall be submitted to EPA as NetDMR attachments rather than as hard copies. DMRs shall have an original signature and date.

Monitoring results obtained during the previous month must be summarized for each month and reported on separate DMRs, postmarked no later than the 15th day of the month following the completed reporting period. Facilities that discharge intermittently and do not discharge during a calendar month must submit a DMR form indicating no discharge for that month. See Part 6.1 section 6.2 of the General Permit for details.

VII. Administrative Requirements

A. Termination of Coverage

Permittees shall notify EPA and the appropriate State agency in writing of the termination of the discharge(s) authorized under this General Permit. The Notice of Termination (NOT) may be completed using either the suggested format provided by EPA (found in Appendix 6 of the NCCW GP), or any other form of official written correspondence that incorporates all of the information required in Appendix 4. NOT information and attachments must be submitted to EPA and the appropriate State agency at the addresses listed in Appendix 8. The NOT must include:

- 1) The name of the facility and street address of the facility for which the notification is submitted;
- 2) The name, address, and telephone number of the operator addressed by the NOT;
- 3) The assigned NPDES permit number;
- 4) The basis for submission of the NOT, including: an indication that the discharge has been permanently terminated and the reason for the termination; and
- 5) A certification statement signed and dated by an authorized representative according to 40 CFR § 122.22.

The NOT must be completed and submitted within 30 days of the permanent cessation of the discharge(s) authorized under the NCCW GP.

B. Continuation of the Expired General Permit

If the NCCW GP is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act (5 U.S.C. § 558(c)) and 40 CFR § 122.6 and remain in force and effect for discharges that were covered prior to expiration. After the expiration date of the General Permit, EPA cannot provide written authorization of coverage for any facilities that submit an NOI to EPA until a replacement permit is issued. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earliest of:

- a. Authorization for coverage under a reissued permit or a replacement of this permit following the timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and compliance with the requirements of the new permit; or
- b. Submittal of a Notice of Termination; or
- c. Issuance or denial of an individual permit for the facility's discharges; or
- d. A formal permit decision by EPA not to reissue this General Permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease at the end of this time period.

VIII. Other Legal Requirements

A. Section 401 Certifications

Section 401 of the CWA provides that no federal license or permit, including a NPDES permit, to conduct any activity that may result in any discharge into navigable waters shall be granted until the state in which the discharge originates certifies that the discharge will comply with the applicable provisions of §§ 301, 302, 303, 306, and 307. *See also* 40 CFR § 124.53. If the state fails or refuses to act on a request for certification, within a reasonable period of time after receipt of such request, the certification requirement of § 401 is deemed waived. 33 U.S.C. § 1341(a); 40 CFR § 124.53. EPA has requested § 401 certification from Massachusetts and New Hampshire and expects both states will certify this General Permit.

B. The Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), 16 U.S.C. 1451 et seq., and its implementing regulations (15 CFR Part 930) require a determination that any federally licensed activity affecting the coastal zone with an approved Coastal Zone Management Program (CZMP) is consistent with the CZMA. In the case of general permits, EPA has the responsibility for making the consistency certification and submitting it to the state for concurrence. EPA will request that both the Executive Office of Environmental Affairs, MA CZM, Project Review Coordinator, 251 Causeway Street, Suite 800, Boston, MA 02114; and the Federal Consistency Officer, New Hampshire Coastal Program, 222 International Drive, Suite 175, Portsmouth, NH 03801, provide a consistency concurrence that the proposed General Permit is consistent with the MA and NH Coastal Zone Management Programs, respectively.

For facilities located in New Hampshire covered under this permit, the following is a listing of NH Coastal Zone Management Enforceable Policies. EPA has addressed policies identified as applicable by NH CZM to the issuance of this permit. Policies that were not applicable to EPA's action (reissuance of this permit) are noted with "NA".

Protection of Coastal Resources:

1. *Protect and preserve and, where appropriate, restore the water and related land resources of the coastal and estuarine environments. The resources of primary concern are coastal and estuarine waters, tidal and freshwater, wetlands, beaches, sand dunes, and rocky shores.*

The NCCW General Permit is consistent to the maximum extent practicable with this enforceable policy by prohibiting any discharge that EPA determines will cause, have the reasonable potential to cause or contribute to a violation of water quality standards. Discharges under the permit are limited to non-contact cooling water. Effluent limitations for temperature, pH and for certain sources of NCCW, total residual chlorine, have been

established. Discharge limits and monitoring requirements for the State of New Hampshire may be found in Part 3 of the General Permit.

2. *Protect, manage, conserve and, where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources and related uses, including but not limited to commercial and recreational fishing, of the state.*

The NCCW General Permit is consistent to the maximum extent practicable with this policy by prohibiting any discharge that EPA determines will cause, have the reasonable potential to cause, or contribute to a violation of water quality standards and associated uses of receiving waters. The Draft Permit requires permittees to meet water quality–based effluent limitations for New Hampshire in Part 3 of the General Permit. For facilities that draw surface water for non-contact cooling, section 4.2 of the General Permit contains Best Technology Available (BTA) requirements for cooling water intake structures (CWIS). These requirements, when properly implemented, are designed to maintain and conserve fish and wildlife resources by minimizing the entrainment and impingement of aquatic organisms on or within the CWIS.

Regarding a discussion of effects on aquatic species and endangered species, see Sections V.D and V.E of the Fact Sheet. In Section V.D, EPA determined that the permit conditions and limitations adequately protect the essential fish habitat of the managed species listed on Table 1 and that further mitigation is not warranted.

In Section V.E. of this Fact Sheet, EPA evaluated the endangered species that are under the jurisdiction of NOAA and FWS. EPA evaluated the potential impacts of the permit action on anadromous and marine species under the jurisdiction of NOAA. On the basis of that evaluation, EPA’s preliminary determination is that this permit action may affect, but is not likely to adversely affect, the relevant life stages of the NOAA Fisheries listed species that are expected to inhabit the river systems and immediate coast near the facilities’ action areas of the discharges. Therefore, EPA has judged that a formal consultation pursuant to Section 7 of the ESA is not required.

3. *Regulate the mining of sand and gravel resources in offshore and onshore locations so as to ensure protection of submerged lands, and marine and estuarine life, and existing uses. Ensure adherence to minimum standards for restoring natural resources impacted from onshore sand and gravel mining operations. - NA*
4. *Undertake oil spill prevention measures, safe oil handling procedures and when necessary, expedite the cleanup of oil spillage that will contaminate public waters. Institute legal action to collect damages from liable parties in accordance with state law. – NA*
5. *Encourage investigations of the distribution, habitat needs, and limiting factors of rare and endangered animal species and undertake conservation programs to ensure their continued perpetuation. -NA*

See Section V.E. of this Fact Sheet, which evaluates the effects of these discharges on rare and endangered animal species.

6. *Identify, designate, and preserve unique and rare plant and animal species and geologic formations which constitute the natural heritage of the state. Encourage measures, including acquisition strategies, to ensure their protection.*

See Section V.E. of this Fact Sheet, which evaluates the effects of these discharges on rare plant and animal species.

Recreation and Public Access:

7. *Provide a wide range of outdoor recreational opportunities including public access in the seacoast through the maintenance and improvement of the existing public facilities and the acquisition and development of new recreational areas and public access. - NA*

Managing Coastal Development:

8. *Preserve the rural character and scenic beauty of the Great Bay estuary by limiting public investment in infrastructure within the coastal zone in order to limit development to a mixture of low and moderate density. - NA*
9. *Reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances. – NA*
10. *Maintain the air resources in the coastal area by ensuring that the ambient air pollution level, established by the New Hampshire State Implementation Plan pursuant to the Clean Air Act, as amended, is not exceeded. - NA*
11. *Protect and preserve the chemical, physical, and biological integrity of coastal water resources, both surface and groundwater.*

The NCCW General Permit is consistent to the maximum extent practicable with this policy by prohibiting any discharge that EPA determines will cause, has the reasonable potential to cause or contribute to a violation of applicable water quality standards and by setting discharge limits on temperature, pH, and total residual chlorine (where applicable, see Part 3 of the permit). These requirements are designed to protect the waters of the coastal and estuarine environment. The permit does not authorize discharges other than non-contact cooling water to surface waters. Discharges covered under the NCCW General Permit are limited to 1 MGD, but may be allowed up to 2 MGD on a case-by-case basis. Facilities currently covered under the permit that use groundwater for non-contact cooling discharge relatively small amounts of non-contact cooling water.

Therefore, EPA does not expect the intake of groundwater from facilities covered under this permit to adversely affect groundwater resources.

12. *Ensure that the siting of any proposed energy facility in the coast will consider the national interest and will not unduly interfere with the orderly development of the region and will not have an unreasonable adverse impact on aesthetics, historic sites, coastal and estuarine waters, air and water quality, the natural environment and the public health and safety, and existing uses. - NA*

Coastal Dependent Uses:

13. *Allow only water dependent uses and structures on state properties in Portsmouth-Little Harbor, Rye Harbor, and Hampton-Seabrook Harbor, at state port and fish pier facilities and state beaches (except those uses or structures which directly support the public recreation purpose). For new development, allow only water dependent uses and structures over waters and wetlands of the state. Allow repair of existing overwater structures within guidelines. Encourage the siting of water dependent uses adjacent to public waters. - NA*
14. *Preserve and protect coastal and tidal waters and fish and wildlife resources from adverse effects of dredging and dredge disposal, while ensuring the availability of navigable waters to coastal-dependent uses. Encourage beach renourishment and wildlife habitat restoration as a means of dredge disposal whenever compatible. - NA*

Preservation of Historic and Cultural Resources:

15. *Support the preservation, management, and interpretation of historic and culturally significant structures, sites and districts along the Atlantic coast and in the Great Bay area.*

The NCCW General Permit is consistent to the maximum extent practicable with this enforceable policy by requiring that prior to submitting a Notice of Intent and obtaining permit coverage, the permittee must certify eligibility with regard to protection of historic properties listed or eligible for listing in the National Registry of Historic Places (see Part 1.4.2 and Appendix 3 of the permit).

Marine and Estuarine Research and Education:

16. *Promote and support marine and estuarine research and education that will directly benefit coastal resource management. - NA*

IX. 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:

George Papadopoulos
EPA Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1579
Email: papadopoulos.george@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 General 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 General Permit, EPA will respond to all significant comments in a Response to Comments document attached to the Final General Permit and make these responses available to the public at EPA's Boston office and on the NCCW GP website at <https://www.epa.gov/npdes-permits/noncontact-cooling-water-general-permit-nccw-gp-massachusetts-new-hampshire>.

Following the close of the comment period, and after any public hearings, if such hearings are held, EPA will issue a Final General Permit decision, forward a copy of the final decision to existing Permittees, and provide a copy or notice of availability of the final decision to each person who submitted written comments or requested notice. General permits may not be appealed to the Environmental Appeals Board. Procedures governing actions by persons affected by a general NPDES permit, including petitions and applications for individual permits, as well as judicial appeals, are set forth in 40 CFR § 124.19(o) and 40 CFR § 122.28.

X. Administrative Record

The administrative record on which this Draft General Permit is based may be accessed by contacting George Papadopoulos at 617-918-1579 or via email to papadopoulos.george@epa.gov.

Date

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