

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
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BOSTON, MASSACHUSETTS 02109-3912**

**FACT SHEET AND SUPPLEMENTAL INFORMATION**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR DISCHARGES FROM HYDROELECTRIC  
GENERATING FACILITIES TO CERTAIN WATERS OF THE COMMONWEALTH  
OF MASSACHUSETTS AND THE STATE OF NEW HAMPSHIRE**

**NPDES GENERAL PERMITS: MAG360000 AND NHG360000**

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Attachment 1 – NPDES Hydroelectric Facilities General Permit (HYDROGP) List

Attachment 2 - HYDROGP Massachusetts Facilities Map

Attachment 3 - HYDROGP New Hampshire Facilities Map

## **1.0 Coverage Under This Permit**

### **1.1 Introduction**

The Director of the Office of Ecosystem Protection, EPA-New England, is issuing this draft general permit for hydroelectric generating facilities (Draft HYDROGP) located in Massachusetts and New Hampshire, which discharge non-contact cooling water (NCCW), contact cooling water, equipment and floor drain water, maintenance-related water from sump dewatering, and/or discharges from flood/high water events and equipment-related backwash strainer waters to all waters of the States of Massachusetts and New Hampshire, unless otherwise restricted. The Draft HYDROGP does not regulate the river flow through the turbines or the river flow over the dam associated with these facilities.

This Fact Sheet provides the significant factual, legal, and policy issues considered in the development of the Draft HYDROGP. The Draft HYDROGP is organized as a single permit with the effluent limitations and specific conditions for facilities in Massachusetts and New Hampshire in Part 1 and Part 2, respectively. Additional State conditions are contained in Parts 1.7 and 2.7. In addition, Appendix 6 contains the Standard Conditions common to all NPDES permits and Appendix 7 contains requirements for the Best Management Practices Plan which is applicable to all permittees. The Draft HYDROGP supersedes the permit that was issued on November 10, 2009 and that expired on December 7, 2014. Attachment 1 of this Fact Sheet provides a complete listing of all hydroelectric facilities that were authorized under the 2009 HYDROGP. Attachments 2 and 3 of this Fact Sheet provide maps of all permitted facilities in Massachusetts and New Hampshire, respectively.

### **1.2 Coverage of General Permits and Types of Discharges**

Section 301(a) of the Clean Water Act (CWA or the Act) provides that the discharge of pollutants is unlawful except in accordance with a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the Act. EPA's regulations authorize the issuance of "general permits" to one or more categories or subcategories of discharges (see 40 C.F.R. §122.28). EPA may issue a single, general permit to a category of point sources located within the same geographic area whose discharges warrant similar pollution control measures.

The Director of an NPDES permit program is authorized to issue a general permit if there are a number of point sources operating in a geographic area that are characterized by, but not limited to, the following:

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

Authorization for coverage under a general permit requires submittal by an operator of a written notice of intent (NOI) containing certain facility information that is specified in the permit and NOI

instructions. Upon receipt of all required information, the permit issuing authority may authorize the discharge or deny authorization under the general permit and require submission of an application for an individual permit. Violations of a condition of a general permit constitutes a violation of the Act and subjects the discharger to the penalties in Section 309 of the Act.

EPA is proposing to reissue this general permit because there continue to be point source discharges from hydroelectric generating facilities with similar type of operations and discharges that require the same effluent limitations and monitoring requirements. Hydroelectric generating facilities are classified by the Standard Industrial Classification (SIC) code number 4911 for the electric services industry which is comprised of establishments engaged in electric power generation, transmission, and/or distribution. Any hydroelectric facilities which are currently covered by an individual permit but meeting the criteria for coverage described in this general permit may request coverage under this general permit as described in 40 C.F.R. §122.28(b)(3)(v) or they may request coverage once their existing individual permit expires.

A hydroelectric generating facility is a facility that generates electricity using water to turn the turbines. There are many parts to a hydroelectric facility including the generating station (station), dam(s), reservoir(s), canal system or tunnel system at certain facilities, and associated equipment and structures used in the generation of hydroelectric power. A facility may not have all these components. These facilities can be either river projects or pump storage projects. River projects include the following typical operating modes: run-of-river, essentially run-of-river, storage reservoir, and daily peaking. These projects are usually located on a river where there is a natural drop in the river channel, such as found at a falls or gorge, and an acceptable supply of water. These facilities rely on a large volume of water to generate electricity.

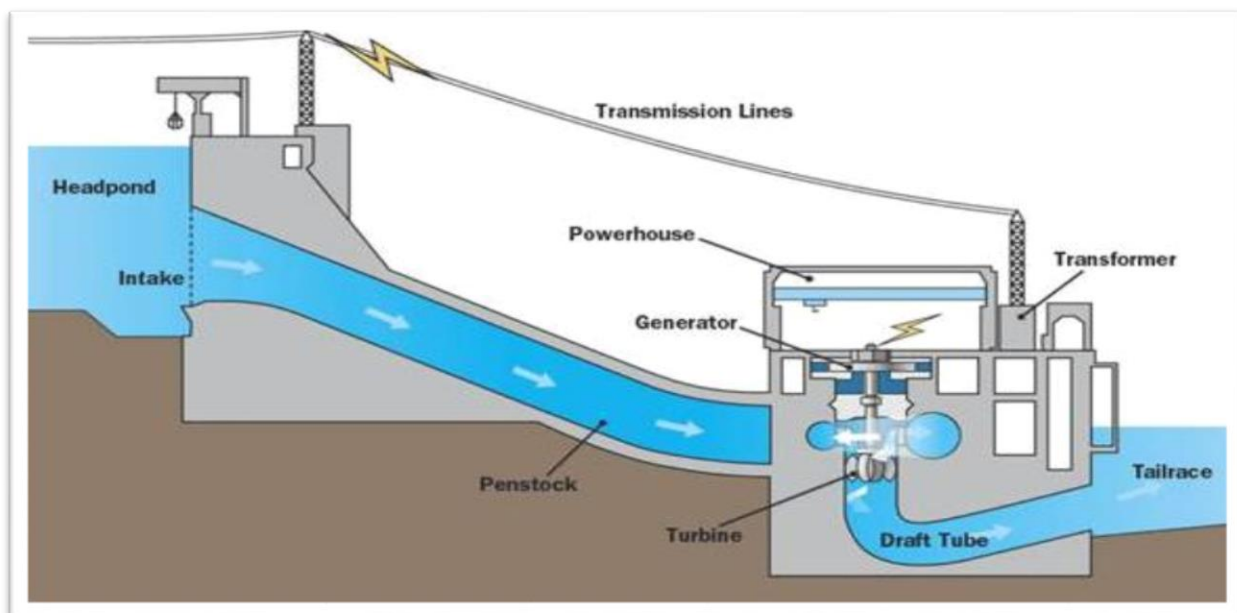


Figure 1. Layout of a typical hydroelectric generating facility.  
Source: <http://galleryhip.com/hydroelectricity-diagram.html>

A dam constructed at such a location creates an impoundment or reservoir that can supply the water into a penstock, which is a sluice or gate that controls flow into the facility, directly to the turbines located in the powerhouse. The flow of water continuously turns the waterwheel turbines which spin the generators producing electricity. At some facilities, a canal system diverts all or part of the river flow around the dam to the turbines in the powerhouse located downstream. A diagram of a typical run-of-the-river facility is shown in Figure 1.

Pump storage projects include an upper man-made reservoir located at a high elevation above the river, usually on a mountain top, a lower reservoir located along the river, a hydroelectric generating station which is sited along the river's edge, and a tunnel system connecting the reservoirs and generating station. Water released from the upper reservoir flows in tunnels to generate electricity at the station before discharging to the lower reservoir. Surplus electricity, available at night, supplies the power to pump river water from the lower reservoir to fill the upper reservoir after which the generation cycle can begin again. The pumps and their associated turbines are reversible units depending on the operating mode either to supply the reservoir or to generate electricity.

There are operations at hydroelectric generating facilities that produce similar discharges from a combination of point sources. These general permits categorize the following similar operations contributing flow as: (1) equipment-related cooling water (both contact and non-contact), (2) equipment and floor drain water, (3) maintenance-related water from sump dewatering, (4) facility maintenance-related water during flood/high water events, and (5) equipment-related backwash strainer water. While each generating facility is unique in its location, physical layout, and operational pattern, all facilities contain one or more of the discharges mentioned in the following discussion. The effluent limitations proposed by the Draft HYDROGP are organized using these categories. These discharges are characterized as follows:

**Equipment-related cooling water:** Some hydroelectric facilities draw water off the main water intake line and use it as non-contact cooling water (NCCW) and/or contact cooling water, before discharging it to the river. Non-contact cooling water is "water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product or finished product" as defined in the regulations at 40 C.F.R. § 401.11(n). The NCCW may be used for cooling turbine bearings, guide bearings, air compressor, generators, or at some stations, the power transformers. At pump storage projects, NCCW may be used to cool additional equipment including air compressors, air handlers, air conditioner, and rheostats. Direct cooling water is used to directly cool the turbine or guide bearings. A facility may direct equipment-related cooling waters to the equipment and floor drain water drainage system.

**Equipment and floor drain water:** The equipment and floor drain water primarily represents the internal station drainage from the trench drains, floor drains, and station sumps. Some facilities collect all or part of the internal station drainage in the station sumps. The equipment and floor drain water operation includes discharges from the following: floor drains, trench drains, oil/water separators, wheel pit drains or sumps, compressor blowdowns, turbine leakage, penstock housing leakage, packing boxes leakage, lower guide bearing drains and other bearing-related discharges (including bearing seal leakage, bearing water seal, and bearing lubrication water). Additional equipment waters are from various pit drains such as the gate stems, turbine access doors, and scroll case access doors. Miscellaneous drainage waters that are collected in a sump, including groundwater infiltration, surface water seepage, and tunnel

pumpage are also in this category. The station drainage system may include treatment units such as oil/water separators, oil flotation wells, or station sumps with some functioning as oil/water separators. These discharges can be intermittent and seasonal and the outfalls in certain stations can be inaccessible for sampling purposes. For purposes of this permit, if a discharge is not accessible or if it is not expected to discharge at least once during a calendar year, it must still be reported in the NOI, but not required to be sampled.

**Maintenance-related water from sump dewatering:** The equipment and facility maintenance-related water operations include river water pumped from the facility during periods of equipment, station, and facility maintenance. During equipment maintenance operations, discharges occur from the dewatering of equipment containing river water such as the turbine, penstock, and dewatering sumps. In the last permit issuance, EPA determined that dewatering of equipment such as penstocks or turbines did not require monitoring, as it essentially involves using water that would have otherwise passed through the turbines to create electricity and would not be expected to be a source of pollutants. These discharges are typically made to the tailrace and are often not accessible for sampling. However, the prior permit did require monitoring requirements for sump dewatering discharges, since these sumps often act as oil/water separators and have the potential for discharges of oil and grease. Therefore, the Draft Permit continues to require monitoring and effluent limits for these discharges. The monitoring frequency has been increased from once per year to once per quarter, as the frequency of these discharges varies among facilities. For those facilities that only discharge sump dewatering less than once per quarter, they would indicate the appropriate “no discharge” code for those reporting quarters during which they did not discharge such water.

**Facility Maintenance-Related Water during Flood/High Water Events:** During flood and high water events, the station maintenance operations result in discharges of flood/high waters from flood water pumps and high water sump pumps. During these events, there may be discharges from miscellaneous flood/high water collection devices such as floor drains, siphon hoses, and access manway areas. These maintenance-related discharges are intermittent and can occur seasonally. This facility maintenance operation is the collection of internal dam or headwall drainage and the direct discharge to the receiving water, typically without any treatment. This water would otherwise be sent through the turbines to generate electricity and similarly, is not regulated by this permit as the potential for *oil and grease or other* pollutants to be present in these discharges is believed to be insignificant.

**Equipment-Related Backwash Strainer Water:** This discharge is from the backwashing of equipment on the cooling water intake line. This operation produces backwash water discharges during cleaning of river debris and silt from the strainer’s screens.

### 1.3 Eligibility

All hydroelectric generating facilities located in Massachusetts and New Hampshire, except those specifically excluded in Part 3.3 of the Draft HYDROGP, which discharge pollutants from the specified operations covered by the Draft HYDROGP are eligible for coverage. However; pump storage projects may be excluded from coverage, on a case by case basis, as explained in Section 1.4.

## 1.4 Limitations on Coverage

The following discharges are not covered by the Draft HYDROGP and such discharges will need to obtain permit coverage by applying for an individual permit.

1. Discharges from new or existing facilities, as defined in 40 C.F.R. §125.83, that withdraw cooling water from an intake with a design flow greater than two (2) million gallons per day and which use at least twenty- five (25) percent of the water withdrawn exclusively for cooling purposes.
2. Discharges to Outstanding Resource Waters in Massachusetts and New Hampshire:
  - a. as defined in Massachusetts by 314 CMR 4.06(1)(d)2, including Public Water Supplies (314 CMR 4.06(1)(d)1), unless an authorization is granted by the MassDEP, under 314 CMR 4.04(5); or,
  - b. as defined in New Hampshire under Env-Wq 1708.05(a), unless allowed by the NHDES under Env-Wq 1708.05(b).
3. Discharges to Class A waters in New Hampshire, in accordance with RSA 485-A:8, I. To determine if the proposed receiving water is a Class A waterbody, contact the NHDES at the address listed in **Appendix 4** of the Draft HYDROGP.
4. New or increased discharges to designated reaches of Wild and Scenic Rivers. See links to the National Wild and Scenic River System below:
  - for MA: <http://www.rivers.gov/massachusetts.php>
  - for NH: <http://www.rivers.gov/new-hampshire.php>
5. New or increased discharges of commercial waste (including cooling water) to Ocean Sanctuaries in Massachusetts in accordance with Massachusetts General Law 132A: The Massachusetts Ocean Sanctuary Act. The boundaries of the five ocean sanctuaries can be found in MGL 132A Section 13:  
<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter132A/Section13>).
6. Discharges of pollutants identified as the cause of an impairment to receiving water segments identified on the Commonwealth of Massachusetts or the State of New Hampshire approved 303(d) lists, unless the pollutant concentration is at or below a concentration that meets water quality standards. A discharge is eligible if segment is impaired for a pollutant that will not be present in the discharge. Permittees must include information in their NOI about impairments to receiving waterbodies. Upon review of the NOI, EPA may require the permittee to conduct additional effluent sampling to determine if any of the facility discharges are contributing to the receiving waterbody impairment.
7. Any facility whose new or increased discharge is not in compliance with the appropriate state's antidegradation policy or the New Hampshire Water Conservation Rules (Env-Wq 2101, or as amended).

8. Discharge(s) that are likely to adversely affect any species listed as threatened or endangered under the Endangered Species Act (ESA) or result in the adverse modification or destruction of critical habitat.
9. Discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places under the National Historic Preservation Act of 1966 (NHPA), 16 USC Section 470 et seq. See Appendix 3 of the general permit for additional NHPA requirements.
10. Discharges to a Publicly-Owned Treatment Works (POTW) which are permitted under § 402 of the CWA (NPDES).
11. “New Source” dischargers, as defined in 40 C.F.R. § 122.2. “New Sources” must comply with New Source Performance Standards (NSPS) and are subject to the NEPA Environmental Review Procedures in 40 C.F.R. 6.2. Consequently, EPA has determined that it would be more appropriate to address “New Sources” through the individual permit process.
12. Discharges from pump storage hydroelectric facilities, unless allowed based on a case-by-case determination.

## **1.5 Individual Permit Issuance**

The administrative aspects for general permits are provided at 40 C.F.R. §122.28(b) and include the procedure for requesting and requiring an individual permit. Any owner or operator authorized by a general permit may request to be excluded from coverage of a general permit by applying for an individual permit. This request may be made by submitting a NPDES permit application, consisting of Forms 1 and 2C, together with reasons supporting the request to the Director. The Director may also require any person authorized by a general permit to apply for and obtain an individual permit as provided by 40 C.F.R. §122.28(b)(3). Additionally, any interested person may petition the Director to take this action. However, individual permits will not be issued for sources covered by these general permits unless it can be clearly demonstrated that inclusion under the general permit is inappropriate or individual permit coverage is requested by the permittee. The issuance of individual permits may be required when:

- (1) The discharge(s) is/are a significant contributor of pollution or is/are in violation of State Water Quality Standards for the receiving water;
- (2) Receiving stream or withdrawal stream characteristics, including possible or known water quality impairment;
- (3) The location, capacity, design or construction of the cooling water intake structure may represent an adverse environmental impact to EFH or ESA species or their habitat;
- (4) The discharge from or intake into the facility, when combined with other dischargers in the watershed, that may represent a cumulative adverse environmental impact to the receiving water or surface water; or
- (5) Potential water quality impacts associated with pump storage project hydroelectric generating facilities.



- (6) The discharger is not in compliance with the conditions of this General Permit;
- (7) Effluent limitation guidelines are promulgated for point sources covered by this permit;
- (8) In the opinion of the Director, the discharge is more appropriately controlled under an individual or different general permit
- (9) The point source(s) covered by this permit no longer:
  - i. Involves the same or substantially similar types of operations;
  - ii. Discharges the same types of wastes;
  - iii. Requires the same effluent limitations or operating conditions; or
  - iv. Requires the same or similar monitoring.

The applicability of the general permit is automatically terminated on the effective date of individual permit coverage in accordance with 40 C.F.R. §122.28(b)(3)(iv).

New facilities (defined in 40 C.F.R. §125.83) and existing facilities operating a cooling water intake structure with a design intake flow greater than two (2) million gallons per day and which use at least twenty-five (25) percent of the water withdrawn exclusively for cooling purposes are not eligible for coverage under the Draft HYDROGP. These facilities are subject to cooling water intakes structure (CWIS) requirements at 40 C.F.R. § 125, Subpart I and Subpart J. *See* 66 Fed. Reg. 65255 (“Phase I Rule”) and 79 Fed. Reg. 48300 (“2014 Final Rule”). Consequently, new and existing facilities subject to these CWIS requirements will be addressed with individual permits. Requirements related to cooling water intake structures for facilities eligible for coverage under the Draft HYDROGP (*i.e.*, with design flow less than 2 MGD or which use less than 25% of water withdrawn exclusively for cooling) are explained in Section 4.0 of the Fact Sheet.

## **2.0 Permit Basis: Statutory and Regulatory Authority**

### **2.1 Statutory Requirements**

The Clean Water Act (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 and water quality-based effluent limitations and other requirements including monitoring and reporting required by the Act. This Draft HYDROGP 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, 304, and (33 U.S.C. 1331, 1314, 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 (SWQS); 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 the Draft HYDROGP, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 C.F.R. §§122, 124, 125, and 136. The standard conditions of the Draft Permit, found in Appendix 6, are

based on 40 C.F.R. §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 Section 308(a) of the CWA in accordance with 40 C.F.R. §122.41(j), §122.44(i) and §122.48.

In accordance with 40 C.F.R. §122.44(k)(4), Best Management Practices (BMPs) may be incorporated into a permit when necessary to carry out the purpose and intent of the CWA. Section 402(a)(1) allows EPA to impose non-quantitative permit requirements. Permittees that are authorized by this General Permit are required to develop a BMP Plan specific to their individual facility. The objective of the BMP Plan is to eliminate or reduce the potential for the discharge of pollutants, to waters of the United States, resulting from certain operations at each hydroelectric generating facility. This BMP plan serves as a complement to the monitoring conditions and effluent limits in the Draft HYDROGP. EPA does not believe that the discharges authorized by the Draft HYDROGP are major sources of pollutants and the wastewater flows are generally a small percentage of all the flows that are discharged through a typical hydroelectric facility's tailrace, thereby subjecting the wastewater to a considerable amount of dilution. The NHDES assessed the available dilution available to the hydroelectric facilities in New Hampshire authorized by this GP. NHDES used the closest available 7Q10 (low) flow and determined that the lowest dilution ratio was 85:1 while all others were in the range of hundreds or thousands to one. Therefore, in addition to the monitoring required for these discharges, EPA believes that a BMP plan is also appropriate to address other potential sources of pollution that could result from improper housekeeping or maintenance at these facilities.

EPA is required to consider technology and water quality-based requirements when developing permit limits. 40 C.F.R. Part 125, Subpart A sets the criteria and standards that EPA must use to determine which technology-based requirements; 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 the 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 C.F.R. §124.53 and §124.55.

## **2.2 Technology-based Effluent Limitations**

The CWA requires that all discharges, at a minimum, must meet effluent limitations based 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 C.F.R. §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-Publicly Owned Treatment Works (POTW) facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are

established and in no case later than March 31, 1989 [See 40 C.F.R. §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

This Draft HYDROGP applies to a specific industry (Hydroelectric Generating Facilities) and includes non-contact cooling water discharges and other discharges typically associated with this industry. EPA has not promulgated National Effluent Guidelines for hydroelectric generating stations. Therefore, EPA is proposing to reissue this permit using best professional judgement (BPJ) to meet the above stated criteria for BAT/BCT. EPA believes that the limits established in the Draft HYDROGP are sufficient to satisfy BAT/BCT described in section 304(b) of the CWA, as provided under Section 402(a)(1) of the CWA.

Section 316(b) of the CWA applies to point source dischargers that need an NPDES permit and which seek to withdraw water from a “waters of the United States” through a cooling water intake structure (CWIS) to use for cooling purposes. 33 § U.S.C. 1326(b). Hydroelectric facilities, such as those seeking authorization for discharges under this Draft HYDROGP, are point sources which may withdraw and discharge non-contact and contact cooling water and, as such, must comply with applicable standards in § 316(b). To satisfy § 316(b), the location, design, construction, and capacity of the facility’s CWIS(s) must reflect the “best technology available for minimizing adverse impacts” (BTA). Adverse impacts include death or injury to aquatic organisms by impingement (the process by which fish and other organisms are killed or injured when pulled against a screen through which water is being withdrawn) and entrainment (the process by which fish larvae, eggs, and other small organisms are killed or injured by being pulled into and through a facility’s cooling system when water is withdrawn).

On December 18, 2001, EPA established national technology-based performance standards under § 316(b) for new facilities that employ CWISs withdrawing more than 2 million gallons per day (MGD) from a receiving water and that use at least 25% of the water withdrawn for cooling purposes (the “Phase I” Rule). 40 C.F.R. Part 125 Subpart I. *See* 66 Fed. Reg. 66255. The Phase I Rule became effective on January 17, 2002. On August 15, 2014, EPA promulgated requirements under § 316(b) for CWISs at existing facilities that withdraw more than 2 million gallons per day (MGD) from a receiving water and use at least 25% of the water withdrawn exclusively for cooling purposes (the “2014 Final Rule”). 40 C.F.R. Part J. *See* 79 Fed. Reg. 48300. The 2014 Final Rule became effective on October 14, 2014. Only new and existing facilities with a CWIS design capacity less than 2 MGD, or which use less than 25% of the water withdrawn exclusively for cooling, are eligible for coverage under the Draft HYDROGP. For this reason, neither the Phase I Rule nor the 2014 Final Rule apply in this case. Facilities with a design intake capacity greater than 2 MGD using at least 25% of the water withdrawn exclusively for cooling must seek coverage under an individual permit and must comply with the requirements of applicable regulations, including the application requirements at 40 C.F.R. § 122.21(r). EPA has also promulgated national technology-based standards under § 316(b) for new, offshore oil and gas extraction facilities. 40 C.F.R. Part 125 Subpart N. *See* 71 Fed. Reg. 35005. These standards are not applicable to hydroelectric generating facilities.

CWISs for which there are no nationally promulgated technology-based standards, such as the facilities seeking coverage under this Draft HYDROGP, are subject to § 316(b) on a case-by-case basis based on best professional judgement. 40 C.F.R. § 125.80(c) and 125.90(b). The CWIS requirements of the Draft HYDROGP are discussed in Section 4.0 of this Fact Sheet.

## **2.3 Water Quality Based Effluent Limitations**

Water quality-based effluent limitations (WQBELs) are required in NPDES permits when EPA and the States determine that effluent limitations more stringent than TBELs are necessary to attain or maintain State or Federal WQSs. 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) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts SWQSs, found at 314 CMR 4.00 and the New Hampshire Surface Water Quality Standards (SWQSs), found 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 (WQS) and state requirements are contained in 40 C.F.R. §122.44(d).

### **2.3.1 Reasonable Potential**

The Draft HYDROGP must limit any pollutant or pollutant parameter (conventional, non-conventional, and toxic) that is or may be discharged at a level that “causes, or has the reasonable potential to cause, or contribute” to an excursion above any water quality standard [40 C.F.R. §122.44(d)]. An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining reasonable potential, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) pollutant concentration and variability in the effluent and receiving water based on available information including, but not limited to, a permittee’s NPDES application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; 3) sensitivity of the indicator species used in toxicity testing; 4) known water quality impacts of processes on wastewaters; and 5) where appropriate, dilution of the effluent in the receiving water. EPA typically follows a quantitative approach based on the guidance in *Technical Support Document for Water Quality-based Toxics Control* (TSD EPA/505/2-90-001, 1991) to determine if any pollutant or pollutant parameter (conventional, non-conventional, and toxic) is or may be discharged causes or has the reasonable potential to cause or contribute to an excursion above any water quality standard [40 C.F.R. §122.44(d)]. EPA’s quantitative approach statistically projects concentrations based on available effluent data, which are then compared to the applicable WQC.

WQBELs may be established according to numerical and narrative standards adopted under state law and/or federal law for each stream use classification. Section 401 of the CWA requires that EPA obtain State certification which ensures that the effluent limitations and other requirements contained in permits are stringent enough to assure that the discharges will not cause the receiving water to violate State Water Quality Standards. Regulations governing State certification are set forth in 40 C.F.R. §124.53 and 124.55. The effluent limits and narrative requirements established in the Draft HYDROGP assure that the WQS of the receiving waters will be protected, maintained, and/or attained.

## **2.4 Antidegradation Provisions**

Federal regulations found at 40 C.F.R. §131.12 require states to develop and adopt a statewide anti-degradation policy which maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses, and maintains the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the waterbody. The environmental regulations pertaining to the State anti-degradation provisions are found in 314 CMR 4.04 (Massachusetts) and Env-Wq 1708 (New Hampshire). These regulations apply to any new or increased discharge that would lower water quality or affect existing or designated uses, including increased loadings to a water body from an existing activity. The anti-degradation provisions focus on protecting high quality waters and maintaining water quality necessary to protect existing uses. The conditions of the Draft HYDROGP were developed to reflect the goal of the CWA and to maintain and protect existing in-stream water uses and water quality.

New discharges to Class A waters in Massachusetts, which are classified as Outstanding Resources Waters (ORWs), are not eligible for permit coverage because the Massachusetts Water Quality Standards, CMR 4.04(3)b, prohibit discharges to these waters. MassDEP's antidegradation policy could allow an existing discharger to a Class A water currently covered by an individual permit to qualify for coverage under the Draft HYDROGP if the resulting antidegradation review is favorable. The State of New Hampshire does not authorize discharges to Class A waters under the Draft HYDROGP and discharges to ORWs in New Hampshire are only authorized under very limited conditions. See Env-Wq 1708.04 and 05.

On a case-by-case basis, the Commonwealth of Massachusetts and the State of New Hampshire may conduct antidegradation reviews for facilities that submit NOIs to discharge under this General Permit into Class B or SB waters with any new or increased discharges, in accordance with appropriate State antidegradation implementation. Should the State determine that an antidegradation review is necessary, EPA will not authorize discharges under the Draft HYDROGP without a completed and favorable antidegradation review from the appropriate State.

## **2.5 Anti-backsliding**

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in a previous permit unless in compliance with the anti-backsliding requirements of the CWA. *See* §402(o) and §303(d)(4) of the CWA and 40 C.F.R. §122.44(l)(1 and 2). Effluent limits based on BPJ, water quality, and state certification requirements must also meet the anti-backsliding provisions found at §402(o) and §303(d)(4) of the CWA.

All proposed limitations in the Draft HYDROGP are at least as stringent as the limitations included in the 2009 HYDROGP.

## **2.6 Monitoring and Reporting Requirements**

EPA has the authority in accordance with several statutory and regulatory requirements established pursuant to the CWA, 33 USC § 1251 *et seq.*, the NPDES program (*see* § 402 and the implementing regulations generally found at 40 C.F.R. §§ 122, 124, 125, and 136), CWA § 308(a), 33 USC § 1318(a),

and applicable state regulations to include requirements such as monitoring and reporting in NPDES permits.

The monitoring requirements included in the Draft HYDROGP have been established to yield data representative of the discharges under the authority of §§ 308(a) and 402(a)(2) of the CWA, and consistent with 40 C.F.R. §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The monitoring requirements included in this permit specify routine sampling and analysis, which will provide ongoing, representative information on the levels of regulated constituents in the wastewater discharge streams. The monitoring program is needed to assess effluent characteristics, evaluate permit compliance, and determine if additional permit conditions are necessary to ensure compliance with technology-based and water quality-based requirements, including WQSs. 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 § 304(a)(1) of the CWA, state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 C.F.R. § 122. Therefore, the monitoring requirements in the Draft HYDROGP are included for specific regulatory use in carrying out the CWA.

NPDES permits require that the approved analytical procedures found in 40 C.F.R. § 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*.<sup>1</sup> This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 C.F.R. § 122.21(e)(3) (completeness), 40 C.F.R. § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 C.F.R. § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level<sup>2</sup> (ML) is at or below the level of the applicable water quality criterion or permit limitation 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 EPA-approved analytical methods.

The Draft HYDROGP requires the Permittee to electronically report monitoring results obtained during each calendar quarter as a Discharge Monitoring Report (DMR) to EPA and the State using NetDMR no later than the 15<sup>th</sup> day of the month following the completed calendar quarter.

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<sup>1</sup> Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014–19557.

<sup>2</sup> 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 Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014–19557.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has allowed participants to discontinue mailing in hard copy forms to EPA under 40 C.F.R. §§ 122.41 and 403.12. NetDMR is accessed from the following website: <https://netdmr.zendesk.com/hc/en-us>. Further information about NetDMR can be found on the EPA Region 1 NetDMR website.<sup>3</sup>

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

### 3.0 Explanation of Effluent Limitations and Requirements

The water quality based effluent limitations proposed for the discharges authorized by the Draft HYDROGP are for pH and oil and grease. The limits for pH apply to all discharges with the exception of the flood/high water events discharges and the oil and grease limits are applicable to the equipment and floor drain and maintenance-related dewatering discharges.

Additional water quality-based limits are not being imposed based on the finding that the discharges eligible for coverage under these permits are not believed to contain additional pollutants in amounts which would have the reasonable potential to cause or contribute to violations of the applicable state water quality standards.

If, using available information or information submitted in the NOI, it is determined by EPA or the applicable State that a particular discharge may contain additional pollutants in amounts which would have the reasonable potential to cause or contribute to violations of the applicable state WQS, the discharger may not be granted coverage under this general permit. For those discharges, EPA and the State will require that the discharger apply for an individual NPDES permit.

The Draft HYDROGP authorizes discharges to waters of the United States within Massachusetts and New Hampshire subject to limitations and requirements described in this section. Discharges are grouped into five discharge categories consistent with the operations contributing flow to the outfall. All five discharge categories may not exist at each facility. These discharge categories are as follows:

1. **Equipment Related Cooling Water:** Non-contact cooling water and contact cooling water for equipment cooling purposes. The effluent limitations are a pH range required by each State's WQS and there are monitoring requirements for flow and temperature.
2. **Equipment and floor drain water** from the trench drains, floor drains, station sumps, wheel pit drains or sumps, compressor blowdowns, turbine leakage, penstock housing leakage, packing

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<sup>3</sup> <https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information>.

boxes leakage, lower guide bearing drains and other bearing-related discharges (including bearing seal leakage, bearing water seal, and bearing lubrication water), various pit drains (gate stem, turbine access door, and scroll case access door), miscellaneous drainage waters (such as: ground water infiltration, surface water seepage, and tunnel pumpage) that are collected in a sump. The effluent limitations are continued for oil and grease and pH range and there is a monitoring requirement for flow. There is also a new monitoring requirement for Total Suspended Solids.

3. **Maintenance-related water from sump dewatering:** There are effluent limitations for oil and grease and pH range and there are monitoring requirements for flow and TSS.
4. **Facility Maintenance-Related Water during Flood/High Water Events:** During flood and high water events, the station maintenance operations result in discharges of flood/high waters from flood water pumps and high water sump pumps. During these events, there may be discharges from miscellaneous flood/high water collection devices such as floor drains, siphon hoses, and access manway areas. Due to the nature of these high flow events, there were comments submitted during the comment period associated with the 2009 HYDROGP that sampling at these times is dangerous and often not feasible due to accessibility. Therefore, the Draft HYDROGP requires that the date and approximate duration of each flood/high water discharge event is reported. In addition, such discharges must be addressed in the facility's BMP plan.
5. **Equipment-Related Backwash Strainer Water:** Discharges of equipment-related backwash water from the strainer screens occur at some facilities. Previous sampling indicated that discharges from these strainers that were utilized at six of these facilities did not detect any suspended solids. However, sampling was limited. For this reason, EPA has determined that this category of discharge needs to be better characterized to assure that the narrative WQS for solids are routinely being met. In the 2009 HYDROGP, EPA determined that a properly operating and maintained backwash strainer would lower the incoming water's TSS concentration. Therefore, in addition to monitoring requirements for flow, pH, and TSS for this type of discharge, the Draft HYDROGP continues to require that the permittee inspect the backwash strainer on a regular basis and assure that it is operating properly. This requirement is found at Part D.5 of BMP Plan, in Appendix 7.

### 3.1 pH

The pH limitations proposed in the Draft HYDROGP are identical for all the discharge categories, are based on the state water quality standards applicable to the receiving water classification, and are a state certification requirement. The effluent limits for pH in the Draft HYDROGP are established to be consistent with water quality standards in Massachusetts, namely 314 CMR 4.05(3)(a)(3), 4.05(3)(b)(3), 4.05(4)(a)(3) and 4.05(4)(b)(3), and water quality standards in New Hampshire (Env-Wq 1703.18). Therefore, the pH limitations are based on State certification requirements under section 401(d) of the CWA, 40 C.F.R. §§ 124.53 and 124.55. A review of the DMR information from 2011 through 2016 for all HYDROGP permittees shows 65 pH excursions of the pH range in NH and 37 excursions in MA. In cases where there was an excursion of the pH range for NH facilities, some of facilities provided



instream pH samples to NHDES to determine compliance with the pH requirement, as allowed by the 2009 HYDROGP.

The Draft Permit contains the following limits for the indicated waterbody classifications:

Massachusetts Class A and B: 6.5 – 8.3 standard units (S.U.)

Massachusetts Class SA and SB: 6.5 – 8.5 S.U.

New Hampshire Class B: 6.5 – 8.0 S.U.

For Massachusetts dischargers, an alternate pH range may be established if the permittee can demonstrate to MassDEP that State WQS can be attained with an alternative range. The State Condition for alternative pH limits is included at Part 1.8.a of the Draft HYDROGP. Applicants must contact MassDEP to determine what information and protocol is required to make such a determination. The protocol or procedure to request an alternate pH range must be followed for each individual outfall for which an alternate pH range is sought. In no case shall the above procedure result in pH limits outside the range of 6.0 – 9.0 S.U.

For New Hampshire dischargers, an alternate pH range may be established if a permittee can demonstrate to NHDES-WD that State WQS can be attained with an alternative range. The State Condition for alternative pH limits is included at Part 2.8.a of the Draft HYDROGP. The scope of any demonstration project must receive prior approval from NHDES-WD. The protocol or procedure to request an alternate pH range must be followed for each individual outfall for which an alternate pH range is sought. In no case shall the above procedure result in pH limits outside the range of 6.0 – 9.0 S.U.

Either state may approve an alternate pH range for a particular Permittee prior to it being established in the Permit. If the state approval is submitted with the NOI, EPA may establish the alternate range in the authorization letter which would take effect upon the effective date of permit coverage. If the State approval is granted during the permit term, then the Permittee submit a Notice of Change (NOC) containing information found in Appendix 8 of the Draft HYDROGP to request this change. Also see Part 8.1 of the Draft GP. If EPA agrees with this change, it will inform the Permittee and the state in writing and change the limited range in the Permit.

### **3.2 Oil and Grease**

The Draft HYDROGP proposes a water quality-based effluent limit for oil and grease because this parameter has been shown to be present from certain hydroelectric facility discharges. At some facilities, gravity oil/water separators (OWSs) are used for treatment for some of the equipment, sump, and floor drain related discharges. OWSs use the force of gravity to separate the lower density oils as a layer on top of the oil/water interface and the heavier particulate matter (sludge) as a layer on the bottom of the oil/water separator. The design of oil/water separators is based on the following parameters: water flow rate, density of oil to be separated, desired oil removal capacity, and operating temperature range.

Effluent limitations guidelines (ELGs) for the Steam Electric Generating Category for low volume wastes include an average monthly limit for oil and grease of 15 mg/L. Facilities employing OWSs under the HYDROGP are not steam electric generating point sources, and therefore, this ELG is not

directly applicable. Still, discharges from equipment and floor drain water and station maintenance-related water operations at these facilities are similar to low volume wastes and a similar numeric, technology-based effluent limit could be applied on a case-by-case basis based on best professional judgement. Monitoring for oil and grease is required in the pertinent outfalls in addition to development and implementation of the Best Management Practices Plan contained in Appendix 7 of the Draft Permit, with specific requirements for the operation and maintenance of oil/water separators detailed in Part D.3. of this section. The continued monitoring with effluent limits is expected to provide representative data on the variability of this pollutant in the effluent and to also demonstrate whether the BMP Plan is being implemented effectively.

Oil and grease limits may be derived from the narrative water quality criteria in the state water quality standards. See 314 CMR 4.05(3) and (4) in Massachusetts, and Env-Wq 1703.03(c)(1)b and 1703.09 in New Hampshire. For discharges to Class B and SB waters in Massachusetts, the narrative WQS require that “These waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.” For discharges to Class B waters in New Hampshire, the narrative WQS require that these waters are free from floating visible substances and contain no oil or grease in concentrations that impair any existing or designated uses.

The Region interprets the States’ narrative criteria for Class B waters (in MA and NH) and SB waters (in MA) as prohibiting a discharge that would cause an oil sheen. The Region believes that this limit is a reasonable standard and has previously established a numeric, water quality-based oil and grease limit of 15 mg/l in NPDES permits, including under the 2009 HYDROGP and at facilities (such as oil terminals) that have a reasonable potential for discharging oil and grease. Under the 2009 HYDROGP, most facilities were able to comply with the oil and grease limit; however, a review of the DMR information from 2011 through 2016 for all HYDROGP permittees shows that the oil and grease limits were violated 6 times for NH facilities and one time for a MA facility. Based on its review, EPA has determined that there is a reasonable potential to cause or contribute to an excursion from the narrative water quality standards for Class B and SB waters in Massachusetts and New Hampshire. Therefore, EPA has maintained the average monthly oil and grease limitation of 15 mg/l for the Draft Permit, which is based on the Region’s longstanding use of the 15 mg/l standard for Class B and SB waters to represent the concentration at which a visible oil sheen is likely to occur. This limit will ensure the narrative WQSs for oil and grease for both States are protected.

In Massachusetts, the narrative water quality criteria for discharges to Class A and SA waters require that these waters are free from oil and grease. EPA interprets this narrative standard to represent the absence of oil and grease in the receiving waters. The Draft HYDROGP establishes a water quality-based effluent limit for oil and grease at non-detect (ND) to reflect the absence of oil and grease in Class A and SA waters in Massachusetts. The Technical Support Document for Water Quality-based Toxics Control, March 1991, EPA/505/2-90-001, pages 111-112 recommends “... that the compliance level be defined in the draft permit as the minimum level (ML).” The minimum level (ML) for detection of oil and grease in the specified test method 1664 is 5.0 mg/L. Therefore, the ML at which compliance/noncompliance determinations will be based on for oil and grease is 5.0 mg/L.

### **3.3 Temperature**

Typically, for hydroelectric facilities that conduct equipment-related cooling, the pressure on the water side of the heat exchanger is greater than the oil-side pressure, by design. If an equipment failure occurs, water will contaminate the oil instead of oil being discharged to the receiving water. Therefore, the only pollutant associated with cooling water discharges from hydroelectric facilities is heat (thermal energy). Moreover, the amount of heat added from cooling equipment at the facility is typically small relative to the overall water flow through the turbines and into the tailrace, where the discharge typically occurs.

The Massachusetts SWQS stipulate that the temperature for Class B and SB waters warm water fisheries shall not exceed 83°F and that the temperature for Class A and SA waters shall not exceed 85°F. In addition, the rise in temperature due to a discharge shall not exceed 1.5°F for Class A, SA, and SB waters and shall not exceed 3°F for Class B waters classified as cold water fisheries and 5°F for Class B waters classified as warm water fisheries. The New Hampshire WQS at Env-Wq 1703.13(a) stipulate that temperature in Class B waters shall be as specified in RSA 485-A:8, II which states “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.”

Facilities seeking coverage under the HYDROGP are not expected to measurably increase the temperature of the receiving water from discharge of cooling water because the cooling water experiences rapid and complete dilution quickly upon combining with the tailrace. At a typical low flow condition, such as the 7Q10 flow or other minimum managed flow over the dam, the water withdrawn for cooling at these facilities is a very small fraction (often less than 1%) of the total flow in the tailrace, which includes the flow through the turbines. The downstream temperature, including the combined effluent and penstock flows, is expected to be similar to the ambient, upstream temperature. For facilities covered under the 2009 HYDROGP, the majority of temperature data from the DMRs between 2011 through 2016 report temperatures lower than 83°F, with the exception of 8 readings ranging from 84 – 95°F for one facility in NH and two readings at 2 different MA facilities of 83.5 and 87°F. The DMR data indicates that, with few exceptions, the temperature of the effluent at the outfall meets the WQS prior to dilution. Moreover, the volume of the effluent typically receives dilution on the order of, or greater than, 1:100 in the tailrace, which will ensure that the in-stream WQS will be met. EPA has determined, based on available data and considering dilution, that temperature limits are not required in the Draft HYDROGP as there is not a reasonable potential that WQS will be violated. Temperature monitoring requirements will verify that the effluent discharge does not exceed water quality standards for those facilities that discharge equipment-related cooling water.

### **3.4 Effluent Flow**

A limitation on effluent flow is within EPA’s authority to condition a permit in order to carry out the objectives of the CWA. See CWA §§ Sections 402(a)(2) and 301(b)(1)(C); 40 C.F.R. §§ 122.43 and 122.44(d). A condition on the discharge designed to protect EPA’s WQBEL and reasonable potential calculations is encompassed by the references to “condition” and “limitations” in CWA Sections 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including anti-degradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is consistent with the overall structure and purposes of the CWA.

A review of the DMR data for the period of 2011 through 2016 show generally low and variable flow volumes, typically in the hundreds or thousands of gallons per day per outfall, which as noted earlier, is a small fraction of all of the water passing through the turbines and discharged out the tailrace. As noted in Section 2.1 above, discharges from facilities in New Hampshire had a minimum dilution available of 85:1 at 7Q10 flow, with all other facilities having dilution ratios in the hundreds or thousands to one. Although there has not been a flow limit established for these permits due to the variability or intermittent nature of these discharges, there continues to be a requirement to measure or estimate the flows from all of these outfalls. The Draft HYDROGP requires the permittees to calculate the average monthly flow for each of the three months of the monitoring period by dividing total gallons discharged each month by number of days of discharge in that month. The permittees must report the highest recorded or estimated monthly average flow of the three-month period on the quarterly DMR.

### **3.5 Total Suspended Solids**

Solids are considered a conventional pollutant. Suspended materials in water can cause turbidity, discoloration, interruption of light passage for aquatic growth, coating of fish gills, and sedimentation on stream bottoms interfering with egg laying and feeding. Therefore, the release of these compounds into the environment can be reduced by regulating the amount of suspended solids discharged. Solids may also accumulate in settled deposits causing long-term impacts on the water column through cycles of re-suspension.

Massachusetts' WQS for solids at 314 CMR 4.05, which apply to all classes of waters, state that: "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." New Hampshire WQS and Env-Wq 1703.12(b) states that Class B waters "shall contain no slicks, odors, or surface floating solids that would impair any existing or designated use, unless naturally occurring."

At hydroelectric facilities, solids can settle out in sump pumps and in floor drains, can be present in oil/water separators, and can be concentrated and discharged when backwashing the strainer. Solids from any of these sources may be discharged to the receiving water. Equipment cooling water discharges, however, are often non-contact cooling water, which means the effluent does not come into contact with any equipment, or, in other cases, is intake (river) water into which no solids are expected to be introduced into these wastewaters during their transit through the facility.

In order to assure that the levels of solids discharged from hydroelectric facilities comply with the narrative WQSs for solids, the Draft HYDROGP establishes quarterly monitoring requirements for TSS for all discharges, with the exception of equipment cooling water. In addition, a narrative condition prohibiting the discharge of floating or settleable solids is included in Part 1.7(e) and (f) of the Draft HYDROGP. The Draft HYDROGP allows Permittees subject to TSS monitoring requirements to request a reduction or elimination of these requirements. The procedure for requesting this change is explained in Parts 1.7(k) and 2.7(k) of the Draft HYDROGP and may be initiated by submitting a Notice of Change (NOC) with the information found in Appendix 8.

In order to be granted a reduction or elimination in TSS monitoring, the Permittee must document at least four (4) consecutive effluent TSS values for any particular outfall which are all below a threshold level of 30 mg/l. In developing effluent limits for the Steam Electric Power Point Source Category, EPA identified TSS as a potential pollutant due to the drainage associated with equipment containing fuel oil and/or the leakage associated with the storage of oil.<sup>4</sup> EPA set corresponding technology-based TSS limits representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available of 30 mg/l for a monthly average and 100 mg/l for a daily maximum. See 40 C.F.R. § 423.12(b)(3). In assessing the appropriateness of a benchmark value for TSS for this Permit, EPA determined that operations at hydroelectric facilities are similar to those at Steam Electric facilities subject to the technology guidelines at 40 C.F.R. § 423, where water collects in sumps, drain pits, or oil/water separators and may contain solids. Therefore, the benchmark value of 30 mg/l was chosen for this Permit. A monitoring frequency reduction request may be made for each outfall that is subject to a TSS monitoring requirement. A Permittee must continue to monitor TSS at the frequency specified in this General Permit until EPA provides a determination in writing that such frequency may be reduced or the monitoring for TSS is eliminated for a specific outfall.

### 3.6 Toxics

The States of Massachusetts and New Hampshire have narrative criteria in their water quality standards (see Massachusetts 314 CMR 4.05(5)(e); and New Hampshire Env-Wq 1703.21) that prohibit toxic discharges in toxic amounts. The 2009 HYDROGP prohibited the addition of any chemical for any purpose with the exception of non-toxic neutralization chemicals. For example, additives used to control biological growth in cooling systems are prohibited due to their inherent toxicity to aquatic life.

Two hydroelectric facilities (both owned and operated by Public Service of New Hampshire(PSNH)) that had applied for coverage in HYDROGP 2010 were deemed ineligible based on the 2009 Permit's prohibition on all chemical additives with the limited exception of non-toxic neutralization chemicals. These two facilities obtained coverage for their discharges under individual NPDES permits as a result of the use of an anti-freeze chemical with the trade name TannerGas® during the winter season.

At both of PSNH's facilities, the purpose of using this chemical is to prevent freezing in the compressed air blower system used to aerate the water within the river impoundment in the immediate vicinity of the dam and waste gate. The chemical may also be used in the surge tank to prevent water in the tank from freezing. In its individual permit application that was submitted in 2016 for one of its facilities, the permittee says that the TannerGas® that it adds to the air delivery system or surge tank evaporates in the system and is absorbed by free moisture that is present. During the winter, the daily usage of this chemical ranges from 0-2 gallons per day and it is significantly dispersed and diluted by the 360,000 cubic feet per day of air used in the aeration system and is predominately emitted to the atmosphere via evaporation. However, since the main ingredient, methanol, is miscible in water, it is likely that a small quantity of methanol is dispersed in the large quantities of water that flow through the waste gate and penstock. The permittee has stated that TannerGas® is not used in conjunction with any of the flows that discharge through its outfalls authorized by its NPDES permit.

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<sup>4</sup> See *Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category*. EPA-440-1-82-029. Washington, DC. (November, 1982).

For the Draft HYDROGP, EPA re-assessed the use of TannerGas®, or similar anti-freeze compounds. The main ingredient of TannerGas® is methanol. TannerGas® has a relatively low toxicity potential, is used at these two facilities sparingly in the winter, does not come into contact with any equipment inside the facility, and the relatively small concentration in the effluent mixes in with the considerable flows going through the tailrace. Based on these attributes and the relatively infrequent use of these chemicals at hydroelectric facilities, EPA and the States have determined that TannerGas® can be used under limited circumstances under the Draft HYDROGP.

The Draft Permit has been changed to conditionally allow use of anti-freeze chemicals, such as TannerGas®, in addition to non-toxic neutralization chemicals. The discharge of chemicals may not exhibit any toxic effect on the receiving waters. Any facility that applies for coverage under the Draft HYDROGP, including the two NH facilities that were issued individual permits, must state if they plan to use any chemicals for neutralization or anti-freeze applications at their facility in the NOI. The Material Safety Data Sheet (MSDS) or similar information for any proposed anti-freeze chemical shall be included as an attachment to the NOI. On a case-by-case basis, EPA and the respective State will determine if the applicant's discharges may be authorized by the HYDROGP. Each identified chemical will be reviewed by EPA and the appropriate State to determine its acceptability and its use will be established in the authorization letter. As a condition of such authorization, there may be specific conditions that are required of the permittee to track where, how often and in what amounts such chemicals are used. For example, there may be a prohibition on the use of anti-freeze chemicals during other times of the year and in amounts greater than are necessary to prevent freezing of certain components of the facility.

In order to use new or substitute chemical(s) and/or additive(s), a Permittee must submit a NOC Form found in Appendix 8 of the Draft HYDROGP. EPA will review this request and notify the Permittee in writing if such new or substitute chemical or additive is approved for use. The Permittee shall not use such new chemical or additive until informed in writing by EPA of this change.

### **3.7 Best Management Practices Plan**

The development and implementation (or continued implementation) of a Best Management Practices (BMP) Plan is a requirement in the Draft HYDROGP. The goal of the BMP Plan is to eliminate or reduce the potential for a discharge of pollutants to waters of the United States and to assure compliance with the terms and conditions of the Draft HYDROGP. The BMP Plan requirements direct the permittee to review the physical equipment, the operational procedures, and the operator training at the facility. The objective of this review is to protect waters of the United States by eliminating or minimizing the potential discharge of any pollutants.

The various discharges from these facilities have been described previously. Operations at a facility may include material storage, site runoff, in-facility transfer, process and material handling, loading and unloading operations, and accidental spillage. Since some facilities employ sumps to collect equipment and floor drain water which may function as oil/water separators, the proper operation and maintenance of such oil/water separator(s) is required by the BMP Plan.

An integral part of the BMP plan is a scheduled inspection requirement. Frequent maintenance inspections and preventative maintenance plans are effective techniques to identify and eliminate

internal drainage system problems before a problematic discharge to the receiving waters(s) occurs. The inspection component of this Plan supplements the effluent monitoring requirements and provides a visual monitoring component for those occasions when the outfall is inaccessible for sampling at certain facilities. Monitoring data collected for these outfalls will provide data to assure compliance with the effluent limitations and to allow the permittee to measure the actual performance of the BMPs, and to determine adjustments for the BMPs, if necessary.

The requirement to develop and implement the BMP Plan is provided in Part 5.a of the Draft HYDROGP and a description of the required components of the BMP Plan is found in Appendix 7. This requirement is also noted in Parts 1.7.b and 2.7.b of the Draft HYDROGP. Existing permittees, which should have an existing, implemented BMP plan in place, shall revise such plan as necessary within ninety (90) days after the permit authorization date to reflect any changes at the facility and address any new requirements of the HYDROGP. New permittees shall develop and implement a BMP plan no later than 180 days after the permit authorization date. The BMP Plan is as enforceable as any effluent limit or other requirement in this draft permit. The Draft HYDROGP contains specific deadlines for BMP Plan preparation and compliance, signature and Plan review conditions, and an annual reporting requirement.

### **3.8 Disposal of Collected Trash and Debris**

Man-made and natural debris accumulate on the trash racks at the water intakes located at the hydroelectric facility's dam or the intake canal. As part of routine maintenance, this debris is removed by the permittee to ensure adequate water flow for its turbines. The Draft HYDROGP requires that when solid, man-made materials are removed from the trash racks or intake screens, that they are disposed of in accordance with the procedures developed in Part D.4 of Appendix 7. Since some facilities may sluice (redirect) river debris, the draft permit provides flexibility regarding trash removal.

## **4.0 Cooling Water Intake Structures (CWIS)**

### **4.1 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. CWA § 316(b) applies to hydroelectric facilities that operate an intake structure withdrawing water from a river for cooling purposes, including for cooling bearings or other equipment. EPA has determined that regulations at CWA § 316(b) are applicable to some of the facilities that will seek coverage under the HYDROGP and has established requirements for CWIS in the Draft HYDROGP.

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 (Aug. 15, 2014) ("Final 316(b) Rule for Existing Facilities" or "Final Rule"). The Final Rule, which became effective on October 14, 2014,<sup>5</sup> applies to all existing power generating facilities and existing manufacturing and industrial facilities that have the design capacity to withdraw more than 2 MGD of water from waters of the United States and use at least 25 percent of the water they withdraw exclusively for cooling purposes. Although many of the current facilities covered by the 2009 HYDROGP have cooling water intakes, the majority of those facilities are well under a design flow of 2 MGD. For this reason, the majority of existing hydroelectric facilities that will seek coverage under this General Permit are not expected to be subject to the Final Rule based on the design flow of their CWISs.

A new facility, including a new hydroelectric facility, that withdraws water for cooling purposes is subject to national technology-based performance requirements under the 2001 "Phase I Rule" codified at 40 C.F.R. Part 125, Subpart I. *See* 66 Fed. Reg. 65255 (December 18, 2001). The Phase I Rule, which 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. EPA does not expect any new hydroelectric facilities (*i.e.*, newly constructed facilities, not those that were operating but not covered under the 2009 HYDROGP) to seek coverage under this General Permit. Moreover, new hydroelectric facilities seeking coverage in Massachusetts and New Hampshire are likely to have a design flow less than 2 MGD and would not be subject to the Phase I Rule.

The Phase I Rule and the 2014 Final Rule have a number of specific permit application requirements and technology-based performance standards which are best addressed through individual permits. Part 3.3 of the Draft HYDROGP proposes to limit eligibility only to those facilities with design flows less than 2 MGD or which use less than 25% of the water withdrawn for cooling purposes. For the purposes of this general permit, the percentage of water used for cooling is calculated as a percentage of the total volume withdrawn for use in the facility, not as a percentage of the volume of water that passes through the penstock and turbines. In other words, facilities that would be subject to either the Phase I Rule or the 2014 Final Rule are not eligible for coverage under the HYDROGP. New and existing facilities that are not eligible for coverage based on the design flow and/or the volume of water used for cooling must seek authorization to discharge under an individual permit. As few hydroelectric facilities are projected

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<sup>5</sup> EPA notes that following its promulgation, multiple petitions challenging the Final 316(b) Rule for Existing Facilities have been filed in federal court. Nonetheless, the rule is in effect as of this writing.



to have a design intake greater than 2 MGD, EPA does not expect that many facilities will be ineligible on the basis of its cooling water intake structures.

New and existing hydroelectric facilities that operate CWISs with intake design flows less than 2 MGD or which use less than 25% of the water withdrawn exclusively for cooling are eligible for coverage under the Draft HYDROGP. These facilities are not subject to either the Phase I Rule or 2014 Final Rule but are required to comply with CWA § 316(b). EPA determines requirements for these facilities based on a case-by-case, best professional judgement (BPJ) determination under 40 C.F.R. § 125.90(b). For such facilities, EPA is required to develop permit conditions which will represent the best technology available (BTA) for minimizing the adverse environmental impacts associated with impingement mortality and entrainment with the operation of CWIS.

## **4.2 Cooling Water Intake Structure Requirements**

Section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. These requirements are specific to the withdrawal of cooling water either directly from the source water body or from the penstock (*i.e.*, downstream of the intake to the turbines). The CWIS requirements are required to minimize the adverse environmental impacts from the intake of water used, at least in part, for cooling equipment at the facility. Only hydroelectric facilities which withdraw any volume of water through an intake for cooling purposes are subject to requirements associated with the cooling water intake structure. If a facility does not use cooling water, it is not subject to CWA § 316(b).

EPA is providing flexibility in complying with the BTA on a case-by-case basis based on best professional judgement consistent with 40 C.F.R. § 125.90(b). Facilities covered by the HYDROGP operate in a variety of environments and under diverse operational constraints. Part 4 of the Draft HYDROGP includes general BTA requirements and requires additional information necessary to make a site-specific determination for BTA for hydroelectric facilities that use any portion of their intake water for cooling purposes.

### **4.2.1 General BTA Requirements**

Many of the hydroelectric facilities seeking authorization to discharge under the HYDROGP are subject to operating requirements by the Federal Energy Regulatory Commission (FERC). FERC may establish requirements for operational flows and fish passage, often through consultation with the United States Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS). These requirements may also serve to minimize the potential for impingement and entrainment of aquatic life in the CWIS.

As an example, the Turner Falls Hydroelectric Project, licensed by FERC (Project No. 1889), uses water from the Connecticut River to generate power at two facilities: Station No. 1 and Cabot Station. The FERC license includes requirements to operate both upstream and downstream fish passage facilities. The downstream passage at Cabot Station uses intake racks to prevent entrainment in the penstock and a weir and log sluice to provide passage over the dam. At the Northfield Mountain Pumped Storage Project (FERC No. 2485), a guide net reduces entrainment of emigrating salmon smolts in the penstock intake. Some facilities may have received exemptions from FERC licensing; for example, the Penacook

Lower Falls project on the Contoocook River received an Exemption from Licensing of a Small Hydroelectric Project of 5 Megawatts or Less (FERC 3342-001). These facilities are still typically subject to site-specific fish passage requirements. The Penacook Lower Falls project maintains downstream fish passage in compliance with the USFWS's requirements for bypass flow.

The Draft HYDROGP establishes limitations and conditions for the intake of cooling water at hydroelectric facilities throughout Massachusetts and New Hampshire. As explained above, hydroelectric facilities often operate downstream fish passage technology that is unique to its location and are typically established in consultation with the USFWS and/or NMFS. Many hydroelectric facilities in Massachusetts and New Hampshire, including those covered by the 2009 HYDROGP, have received certification from the Low Impact Hydropower Institute<sup>6</sup>, which requires upstream and downstream fish passage and protection measures as one of the criteria in its certification process. Rather than prescribe a single technology as the BTA for CWISs in the Draft HYDROGP, EPA is establishing several methods of compliance to provide flexibility in meeting requirements on a site-specific basis. A facility seeking coverage under the HYDROGP and which withdraws water from the source water body used, at least in part, for cooling must comply with one of the following requirements:

- a. A physical or behavioral barrier located at the first intake encountered by fish on the upstream side of the dam. The barrier shall direct fish towards a downstream passage which safely conveys fish over the dam without being exposed to the CWIS. The permittee must provide a description of the barrier in the NOI and sufficient information to demonstrate that the downstream fish passage effectively transports live fish in a manner that minimizes the likelihood of becoming impinged or entrained at the cooling water intake.
- b. If cooling water is withdrawn directly from the penstock, the velocity at the cooling water intake shall not exceed 0.5 fps. The NOI must include a demonstration of compliance with this intake velocity through monitoring or calculation. Monitoring or calculation must be based on the maximum intake volume and minimum bypass flow.
- c. If cooling water intake is withdrawn directly from the source waterbody (*i.e.*, not within the penstock), the cooling water intake must be equipped with a physical screen of sufficient mesh size to minimize the potential for adult and juvenile fish to become entrained. The through-screen velocity at the cooling water intake shall not exceed 0.5 fps. The NOI must include a demonstration of compliance with this intake velocity through monitoring or calculation. Monitoring or calculation must be based on the maximum intake volume and source water annual summer low flow.

The range of options explained above allows each facility flexibility in complying with the requirements of § 316(b) using two of the most common technologies for reducing adverse impacts of CWISs: (1) a physical barrier that prevents fish from becoming entrained in the intake and safely transports fish back to the source waterbody; and (2) an intake velocity sufficiently low to enable most juvenile and adult fish from becoming entrained. *See, e.g.*, 66 Fed. Reg. 65274 and 79 Fed. Reg. 48325-26, 48336-7. In

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<sup>6</sup> The Low Impact Hydropower Institute is a non-profit organization that oversees a voluntary certification program designed to identify and certify hydropower projects that have reduced or avoided environmental impacts as defined by certain criteria identified in its Low Impact Hydropower Certification Handbook. <https://lowimpacthydro.org/>

addition, the general requirements allow facilities to comply with the technology-based limitations of the Draft HYDROGP by leveraging requirements already imposed on the facility by another state or federal agency for minimizing impacts of the dam on aquatic life.

#### **4.2.2 Additional Site-specific BTA Requirements**

In addition to meeting at least one of the general requirements above, each facility must submit site-specific information about its CWIS. Certain aspects of the location, design, capacity, and operation of the CWIS may be included as components of a facility-specific BTA. Information about the capacity of the intake (calculated as the total volume of water withdrawn for industrial use in the facility), particularly as it relates to the source water and the volume of water in the penstock, is necessary because capacity is one of the most effective means of reducing entrainment. Limiting the volume of water withdrawn from a waterbody typically reduces the number of aquatic organisms in that waterbody that otherwise would be entrained. See 66 Fed. Reg. 65273, 79 Fed. Reg. 48331. In addition, the timing of biologically important periods can be a factor if, for instance, the presence of early life stages peaks at the same time as flows through the penstock, resulting in a lower overall percentage of the water withdrawn from the source waterbody and, therefore, potentially fewer organisms exposed to entrainment. The behavior of resident fish may also affect the risk of entrainment and impingement. Existing hydroelectric facilities in Massachusetts and New Hampshire are typically located on fast-moving, freshwater rivers. Resident species common to rivers in New England often exhibit traits that minimize potential for entrainment. For example, yellow perch and sturgeon lay demersal, adhesive eggs, and centrarchids (sunfish) build nests, which males guard until the eggs hatch. Anadromous fish, such as juvenile river herring and American shad, typically migrate downstream during high flow events in the fall when the percentage of water withdrawn for cooling relative to the penstock volume would be at a minimum, which may minimize the potential impacts from the CWISs.

Each facility must provide the following information in the NOI:

- The maximum daily intake volume during the previous five years, in gallons per day (GPD);
- The date on which maximum daily intake occurred;
- The maximum monthly average intake volume during the previous five years (GPD);
- The month and year in which the maximum monthly average intake flow occurred;
- The maximum daily and average monthly volume of water withdrawn and used exclusively for cooling (GPD);
- The volume if any, of withdrawn water (GPD) that is used for cooling that is then reused at the facility prior to discharge, and if so how it was reused;
- The volume of water withdrawn for use in the facility as a percentage of: (i) installed capacity of the turbines; (ii) average daily flow through penstock; and (iii) minimum flow through penstock.
- The source water's annual mean flow and the 7-day mean stream low flow with 10-year recurrence interval (7Q10) flow if the intake is located on a freshwater river or stream, in cubic feet per second (cfs) as available from USGS or other source with indication of whether river flow is managed and the parameters associated with such an arrangement;
- A characterization of the habitat upstream of the dam, including descriptions of resident and migratory fish species, life history attributes, stocking information. As an example, the applicant may include any biological characterization of the habitat upstream of the dam completed during FERC licensing or otherwise with the assistance of state or federal agencies.

The information listed above is required in the NOI in order to characterize the impacts of the CWIS and evaluate the current operation's ability to minimize impingement and entrainment. In particular, EPA may consider the intake velocity, volume of water withdrawn for cooling compared to the source water flow, and seasonal or life history patterns that affect the abundance of fish and early life stages of fish, in evaluating the BTA for a particular facility. Each facility may have attributes related to the location, capacity, and operation of the dam which further minimize adverse environmental impacts and which are best evaluated on a site-specific basis.

### **4.3 Summary**

The specific technology or system of technologies that best minimizes adverse environmental impacts at a CWIS is often dependent on site-specific factors. The general BTA requirement selected by the applicant, in combination with any site-specific additional requirements included in the authorization letter based on EPA's review of the additional information, represents the BTA for minimizing adverse impacts from the intake of cooling water at hydroelectric dams. This approach, put forth in Part 4 of the Draft HYDROGP, provides significant flexibility for facilities to comply with the requirements of CWA § 316(b) based on a range of cooling water intakes characteristics and methods.

## **5.0 Notice of Intent Requirements and Other Regulatory Provisions**

### **5.1 Notice of Intent (NOI)-Information**

To obtain coverage under the HYDROGP, operators of facilities whose discharge or discharges are identified in Part 3.1 of the Draft HYDROGP are required to submit a Notice of Intent (NOI) to EPA and the appropriate State at the addresses listed in Appendix 4 of the Draft HYDROGP. For purposes of the HYDROGP, the NOI consists of either the recommended NOI format in Appendix 4 (also available to download as a fillable pdf) or another format of official correspondence containing all of the information required in the NOI instructions in Appendix 4, which includes:

- a. General facility information;
- b. Discharge information;
- c. Cooling Water Intake Structures (CWISs) information;
- d. Information on chemical additives;
- e. Determination of Endangered Species Act Eligibility;
- f. Documentation of National Historic Preservation Act Requirements;
- g. Supplemental Information; and,
- h. Signature Requirements.

## **5.2 NOI Submittal Timeframes**

### **5.2.1 Proposed New Discharges:**

New discharges that were not permitted under the 2009 HYDROGP, which expired on December 7, 2014, that are seeking coverage under this HYDROGP, must submit an NOI to EPA and the respective State, at least thirty (30) days prior to the commencement of discharge.

### **5.2.2 Existing Permitted Discharges:**

Existing facilities, including but not limited to those which were authorized to discharge under the 2009 HYDROGP and which expired on December 7, 2014, that wish to seek coverage under this HYDROGP, must file a new NOI to EPA and the respective State for coverage within sixty (60) days of the effective date of this permit reissuance. For enforcement purposes, permittees which fail to submit a NOI within 60 days of the effective date of the reissued HYDROGP for an existing permitted discharge will be considered to be discharging without a permit. A NOI is not required if the permittee submits a Notice of Termination (see Appendix 5) of discharge before the 60-day time frame expires.

## **5.3 Requiring Coverage under an Individual Permit or other General Permit**

The Draft HYDROGP provides that, for any applicant, EPA may require an individual permit or recommend coverage under a separate general permit according to 40 C.F.R. §122.28(b)(3). These regulations also provide that any interested party may petition EPA to take such an action. The issuance of the individual permit or other general permit would be in accordance with 40 C.F.R. § 124 and would provide for public comment and appeal of any final permit decision. Circumstances under which the Director may require an individual permit are described in 40 C.F.R. §122.28(b)(3)(i)(A-G).

The Director may require any person authorized by this HYDROGP to apply for and obtain an individual NPDES permit. Instances where an individual permit may be required and based on a determination under 40 C.F.R. § 122.28(b)(3), include the following:

1. The discharge(s) is a significant contributor of pollution or is in violation of State Water Quality Standards for the receiving water;
2. The discharger is not in compliance with the conditions of this permit;
3. A change has occurred in the availability of the demonstrated technology of practices for the control or abatement of pollutants applicable to the point source(s);
4. Effluent limitation guidelines are promulgated for the point source(s) covered by this permit;
5. A Water Quality Management Plan or Total Maximum Daily Load containing requirements applicable to such point source(s) is approved and inconsistent with this permit;

6. The point source(s) covered by this permit no longer:
  - i. Involves the same or substantially similar types of operations;
  - ii. Discharges the same types of wastes;
  - iii. Requires the same effluent limitations or operating conditions;
  - iv. Requires the same or similar monitoring; and/or,
  - v. In the opinion of the Director, is more appropriately controlled under an individual or alternate general permit.

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 this HYDROGP, the applicability of this HYDROGP to that owner or operator is automatically terminated on the effective date of the individual permit (see 40 C.F.R. § 122.28(b)(3)(iv)).

#### **5.4 EPA Determination of Coverage**

Any applicant may request to have its discharges authorized under this HYDROGP but the final authority for coverage rests with the EPA. Coverage under the HYDROGP will not be effective until EPA and the respective State have reviewed the NOI, made a determination that coverage under the HYDROGP is warranted, and EPA has notified the operator in writing of its determination. The effective date of coverage will be established in the authorization letter that is provided by the EPA.

Failure to submit to EPA a NOI to be covered and/or failure to receive from EPA written notification of permit coverage means that the facility is not authorized to discharge under the HYDROGP. Sites that are denied permit coverage by EPA are not authorized under the HYDROGP to discharge from those facilities to any receiving waters and must apply for an individual or other general permit.

#### **5.5 Effects on Small Business/Small Entities**

EPA analyzed the potential impact of the Draft HYDROGP on small entities and concludes that the reissuance of the HYDROGP will not have a significant impact on a substantial number of small entities. To determine whether or not these facilities are considered small entities, EPA looked to 13 C.F.R. § 121.201, which lists size standards for businesses that the U.S. Small Business Administration (SBA) has identified based upon North American Industry Classification System (NAICS) codes. The size standards themselves are expressed in the number of employees and/or annual receipts in millions of dollars, unless otherwise specified. The number of employees or annual receipts indicates the maximum allowed for an entity and its affiliates to be considered “small”. For the hydroelectric generation industry, NAICS code 221111, there is no revenue figure provided, but the employee count of 500 or less would constitute a small entity.

The 2009 HYDROGP authorized discharges from 60 facilities, most of which had multiple facilities owned and operated by a single corporate entity. There are about 10 corporate entities which account for all of the facilities authorized by the 2009 HYDROGP. Although it is not known how many other hydroelectric or other facilities these entities operate, there may be some that fall below the threshold of 500 employees that would classify them as small entities for the purposes of this Draft HYDROGP.

The Draft HYDROGP contains essentially the same requirements as in the 2009 HYDROGP with two exceptions affecting a limited number of facilities. The Draft HYDROGP proposes to include additional monitoring for Total Suspended Solids (TSS) for some permittees and an additional sampling requirement for another type of discharge, backwash strainer water, which is expected to be required for less than 10 previously authorized facilities. The 2009 HYDROGP regulated this type of discharge with BMPs designed to minimize the amounts of solids that would be discharged. For the Draft HYDROGP, Region 1 determined that quarterly monitoring for TSS was warranted in order to better characterize this discharge and the effectiveness of BMPs. Dischargers of backwash strainer water must report the results of quarterly monitoring for flow, pH, and TSS. EPA expects that facility personnel possess the ability to conduct this quarterly sampling and analyze flow and pH on-site, which minimizes any additional time or cost burden associated with such sampling. Facilities may not be equipped to analyze TSS on-site. However, Permittees may request a reduction or elimination of TSS sampling and analysis after the results of at least four (4) consecutive sampling events are less than a threshold value of 30 mg/L. Permittees must complete a Notice of Change (NOC) found in Appendix 8 and meet the eligibility requirements to be granted a reduction or elimination of this requirement.

In addition, this reissued HYDROGP requires information pertaining to water intake structures for those facilities that use any of their intake water for cooling purposes. The general information on these intake structures should be readily available and should not require extensive effort to assimilate. Facilities subject to CWIS requirements must implement measures which reflect the Best Technology Available (BTA) for minimizing the impacts of impingement and entrainment of aquatic life. There may a subset of these facilities that need to assess and implement certain measures to meet this BTA requirement. At this point, it is unclear how many of these facilities would be impacted and, of those, which ones would incur significant expense to devise and implement such measures.

All proposed changes in the Draft HYDROGP from the 2009 HYDROGP are expected to result in negligible incremental cost and negligible operational and/or economic burden. In addition, although some of these permittees may be considered small entities, EPA acknowledges that corporate entities own and operate many hydroelectric facilities and would not be considered small entities themselves. EPA has concluded that the Draft HYDROGP will not have a significant impact on a substantial number of small entities. The economic impacts from the additional required sampling and analysis for TSS, as well as additional time to complete the NOI to include new information regarding intake structures, is expected to be minimal, on the order of a few hundred dollars per year.

## **6.0 Other Regulatory Provisions**

### **6.1 Essential Fish Habitat**

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 *et seq.* (1998)), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA's actions or proposed actions that it funds, permits or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" (EFH) as "waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." 16 U.S.C. Section 1802(10). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910(a). Adverse effects may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey, reduction in species' fecundity),

site-specific, or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plan 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. In a letter to EPA Region 1 dated October 10, 2000, NMFS agreed that for NPDES permit actions, EFH notification for purposes of consultation can be accomplished in the EFH section of the permit's Fact Sheet or Federal Register Notice.

EPA is reissuing the National Pollutant Discharge Elimination System (NPDES) General Permit for hydroelectric generating facilities (HYDROGP). The HYDROGP provides coverage to facilities located in Massachusetts and New Hampshire whose discharge consists of non-contact cooling water (NCCW) and contact cooling water, equipment and floor drain water, maintenance-related water from sump dewatering, discharges from flood/high water events and equipment-related backwash strainer waters. Please refer to Part 1.2 of this Fact Sheet for an explanation of hydroelectric facilities and their discharges.

Section 1.4 of this Fact Sheet lists the specific discharges excluded from coverage, including discharges to ocean sanctuaries, territorial seas, and wild and scenic rivers. The HYDROGP may include facilities that discharge into tidal waters; however, hydroelectric facilities are typically sited along large, freshwater rivers which can provide sufficient volumetric flow to operate multiple turbines on a continuous basis. EPA is not currently aware of any facilities that will seek coverage under the HYDROGP to discharge to coastal waters, however, a facility that discharges to coastal waters would not automatically be ineligible for coverage under the HYDROGP. Appendix 1 to the Draft HYDROGP includes guidance and links to determining if there is designated EFH based on location of the facility. While the EFH assessment generally considers potential impacts to all federally managed species with designated EFH in the coastal and inland waters of Massachusetts and New Hampshire, Atlantic salmon (*Salmo salar*) is the only managed species that *currently* occurs in the area of known hydroelectric facilities. For this reason, the EFH assessment focuses on Atlantic salmon. The EFH designation for Atlantic salmon includes the Connecticut, Merrimack, and Piscataqua Rivers, including their tributaries.<sup>7</sup> The designation includes rivers where Atlantic salmon are currently present but does not include rivers from which this species has been extirpated on the presumption that it would be extremely unlikely that these rivers will again support Atlantic salmon without artificial supplementation or stocking.

*Analysis of Effects:* As described above, the HYDROGP covers a variety of potential discharges which could occur anywhere in Massachusetts and New Hampshire, except into those waters excluded in Section 1.4. Discharges authorized by the HYDROGP do not come into contact with any raw material, intermediate product, waste product, or finished product and should not contain pollutants in toxic amounts. With the exception of non-toxic chemicals used for pH neutralization or limited, seasonal use of chemicals for anti-freeze purposes, the Draft HYDROGP prohibits the addition of toxic materials or

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<sup>7</sup> NOAA. Essential Fish Habitat Description Atlantic salmon (*Salmo salar*) available at: <https://www.greateratlantic.fisheries.noaa.gov/hcd/salmon.pdf> and Summary of Essential Fish Habitat (EFH) and General Habitat Parameters for Federally Managed Species available at: <https://www.greateratlantic.fisheries.noaa.gov/hcd/efhtables.pdf>.



chemicals to the discharges and prohibits the discharge of pollutants in amounts that would be toxic to aquatic life. It also prohibits any discharges that violate State or Federal water quality standards.

EPA's Opinion of Potential Impacts: EPA believes that the discharges authorized under the Draft HYDROGP will not adversely affect EFH, including EFH designated for Atlantic salmon, for the following reasons:

- This permit action is a re-issuance of an existing HYDROGP and includes limitations and conditions as stringent or more stringent than the 2009 HYDROGP;
- There are no current or proposed hydroelectric facilities that discharge to coastal waters in Massachusetts or New Hampshire;
- Discharges authorized under the HYDROGP do not come in contact with any raw material, intermediate product, waste product or finished product;
- The HYDROGP prohibits the addition of materials or chemicals in amounts that would be toxic to aquatic life;
- Effluent discharges from hydroelectric facilities are typically diluted by a factor of 1:100 or more in the tailrace from the dam;
- The Draft HYDROGP establishes new requirements for permittees that discharge cooling water to minimize the environmental impacts associated with their Cooling Water Intake Structure (CWIS);
- The effluent limitations established in the Draft HYDROGP ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat; and,
- The proposed limits in the Draft HYDROGP are sufficiently stringent to assure that state and federal water quality standards will be met.

EPA concludes that the effluent limitations, conditions, and monitoring requirements contained in the Draft HYDROGP minimize adverse effects to aquatic organisms, including those with designated EFH in the receiving waters, and that additional mitigation is not warranted under Section 305(b)(2) of the Magnuson-Stevens Act. A copy of the Draft HYDROGP and Fact Sheet have been provided to NMFS during the public comment period. If 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, NMFS will be contacted and an EFH consultation will be initiated.

## **6.2 Endangered Species**

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and habitat of such species that has been designated as critical (a "critical habitat"). Section 7(a)(2) of the ESA requires every Federal agency, in consultation with and with the assurance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine and anadromous species.

The Federal action being considered in this case is the proposed issuance of a general permit for hydroelectric generating facilities (HYDROGP) in Massachusetts and New Hampshire, which authorizes discharges related to operation of hydroelectric facilities, including cooling water, equipment and floor drain water, maintenance-related water from sump dewatering, discharges from flood/high water events and equipment-related backwash strainer waters. Part I of this Fact Sheet includes a detailed explanation these discharges. The Draft HYDROGP is intended to replace the 2009 HYDROGP. As the federal agency charged with authorizing the discharge from this Facility, EPA determines potential impacts to federally listed species, and initiates consultation, when required under § 7(a)(2) of the ESA.

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

### **6.2.1 Endangered Species Section 7 Consultations**

Section 7 of the ESA provides for formal and informal consultation with the Services. EPA routinely submits draft NPDES Permits and Fact Sheets to the Services for informal consultation prior to issuance for NPDES permits issued in Massachusetts and New Hampshire, where EPA is the permit issuing agency. EPA has initiated coordination with the Services by sharing the Draft HYDROGP and Fact Sheet with the Services during the public comment period. Based on 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 the Draft HYDROGP to ensure adequate protection under the ESA.

The discharges authorized under this General Permit are described in Section 1.2 of this Fact Sheet. The HYDROGP specifically excludes coverage to facilities whose discharge(s) are determined to be likely to jeopardize the continued existence of listed threatened or endangered species or the critical habitat of such species. If the facility cannot comply with the requirements to protect and preserve threatened and endangered species and designated critical habitat, the facility is not eligible for coverage under this General Permit and must seek coverage under an individual permit. The proposed Draft HYDROGP limits and conditions are sufficiently stringent to assure that water quality standards protect both aquatic life and human health. The effluent limitations and other permit conditions will ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat. The effluent limitations and permit conditions established in the Draft HYDROGP, including the requirements for cooling water intakes and best management practices, ensure protection of aquatic life and habitat. Therefore, EPA finds that the HYDROGP may impact, but is not likely to adversely impact any threatened or endangered species or its critical habitat.

The following are federally listed threatened and endangered species in Massachusetts and New Hampshire:

## Massachusetts (16)

Dwarf wedgemussel (*Alasmidonta heterodon*)  
Northeastern bulrush (*Scirpus ancistrochaetus*)  
Sandplain gerardia (*Agalinis acuta*)  
Small whorled Pogonia (*Isotria medeoloides*)  
Northern long-eared bat (*Myotis septentrionalis*)  
Piping plover (*Charadrius melodus*)  
Red knot (*Calidris canutus rufa*)  
Roseate tern (*Sterna dougallii dougallii*)  
Plymouth redbelly turtle (*Pseudemys rubriventris bangsi*)  
Bog turtle (*Clemmys muhlenbergii*)  
American burying beetle (*Nicrophorus americanus*)  
Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*)  
Puritan tiger beetle (*Cicindela puritana*)  
Rusty patched bumble bee (*Bombus affinis*)  
Atlantic sturgeon (*Acipenser oxyrinchus*)\*  
Shortnose sturgeon (*Acipenser brevirostrum*)\*

## New Hampshire (12)

Dwarf wedgemussel (*Alasmidonta heterodon*)  
Canada lynx (*Lynx Canadensis*)  
Northern long-eared bat (*Myotis septentrionalis*)  
Piping plover (*Charadrius melodus*)  
Red knot (*Calidris canutus rufa*)  
Roseate tern (*Sterna dougallii dougallii*)  
Karner blue butterfly (*Lycaeides Melissa samuelis*)  
Northeastern bulrush (*Scirpus ancistrochaetus*)  
Small whorled pogonia (*Isotria medeoloides*)  
Jesup's milk-vetch (*Astragalus robbinsii* var. *jesupii*)  
Atlantic sturgeon (*Acipenser oxyrinchus*)\*  
Shortnose sturgeon (*Acipenser brevirostrum*)\*

\*These species are listed under the jurisdiction of NMFS, all others are listed under the jurisdiction of USFWS.

In addition, the following are 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 NMFS:

## Marine Reptiles (5)

Loggerhead Sea Turtle (*Caretta caretta*)  
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)  
Leatherback Sea Turtle (*Dermochelys coriacea*)  
Green Sea Turtle (*Chelonia mydas*)  
Hawksbill Sea Turtle (*Eretmochelys imbricata*)\*\*

## Marine Mammals (2)

North Atlantic Right Whale (*Eubalaena glacialis*)  
Fin Whale (*Balaenoptera physalus*)

Finally, NMFS has designated critical habitat for Atlantic sturgeon and North Atlantic right whale.

Any facility seeking coverage under the HYDROGP may need to consult with the Services. EPA may designate the applicants as non-Federal representatives for the purpose of carrying out formal or informal consultation with the Services to determine whether a Federal action (*i.e.*, the HYDROGP) is likely to have an adverse impact on listed species and/or critical habitat. See 50 C.F.R. § 402.08 and § 402.13. By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultations with the USFWS. EPA will, however, coordinate with NMFS regarding the marine species under its jurisdiction, including Atlantic and shortnose sturgeon and critical habitat for Atlantic sturgeon, to determine that the terms of the permit adequately prevent adverse effects or the take of listed species and adverse effects on critical habitat due to authorized discharges.

Discharges that are located in areas in which listed species or designated critical habitat are present are not automatically covered under the HYDROGP. Appendix 2 of the HYDROGP details how to comply with the ESA requirements. Applicants must determine if listed species or critical habitat are located near the discharge. Applicants whose discharges may affect listed species or critical habitat may need to contact the Services to determine if additional consultation is needed. In order to be eligible for coverage under the HYDROGP, applicants must certify that they meet one of USFWS Eligibility Criteria listed in Part B of Appendix 2 and submit this certification in the NOI, along with documentation for the eligibility and copies of any communication with the Services. Consultation or communication between the applicant and USFWS for licensing by the Federal Energy Regulatory Commission (FERC) may be sufficient to document eligibility under Part B of Appendix 2.

For listed species and designated critical habitat under the jurisdiction of NMFS, EPA has initiated informal consultation with NMFS for facilities that were covered under the 2009 HYDROGP and are located in areas in which there are listed species or designated critical habitat during the public comment period for the Draft HYDROGP. EPA has made a preliminary determination that the effects of the withdrawal of cooling water and the discharges under this Draft HYDROGP from known facilities on Atlantic sturgeon, shortnose sturgeon, and Atlantic sturgeon critical habitat will be insignificant or discountable. EPA is seeking concurrence from NMFS on this preliminary finding.

For facilities not covered under the 2009 HYDROGP, EPA will initiate consultation with NMFS as necessary to ensure that listed species under its jurisdiction are not adversely affected by the proposed withdrawals and discharges. Newly permitted facilities (*i.e.*, new facilities or existing facilities not covered under the 2009 HYDROGP) must submit sufficient information in the NOI to enable EPA to make a preliminary finding on the potential adverse effects of the discharges on listed species and critical habitat under the jurisdiction of the NMFS. In particular, facilities must identify discharges to the Connecticut River, Taunton River, Merrimack River (to the Essex Dam), and Piscataqua River (including the Cocheco and Salmon Falls Rivers). See Part C of Appendix 2 to the Draft HYDROGP. Applicants must complete all responses in Part C of the NOI. Authorization under the HYDROGP is only available if the consultation with NMFS results in either a no jeopardy opinion or a finding that the dischargers are not likely to adversely affect (NLAA) the shortnose sturgeon (SNS) or Atlantic sturgeon or their critical habitat, as well as the other listed marine mammals and reptiles.

For the 2009 HYDROGP, EPA recognized that the shortnose sturgeon (*Acipenser brevirostrum*) was an endangered species inhabiting certain reaches of the Merrimack and Connecticut Rivers in Massachusetts. The SNS are only known to occur below the Essex Dam on the Merrimack River because this dam, which is located in Lawrence, Massachusetts, forms an upstream passage barrier for the SNS. At that time, the Atlantic Sturgeon was being considered for listing and has since been listed.

### **6.3 National Historic Preservation Act**

Facilities which may adversely affect properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act of 1966, 16 USC Sections 470 et seq. are not authorized to discharge under this draft permit. Applicants must determine whether their discharge(s) have the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

Electronic listings of National and State Registers of Historic Places are maintained by the National Park Service (<http://www.nps.gov/>), the Massachusetts Historical Commission (<http://mhc-macris.net/macrisdisclaimer.htm>) and the New Hampshire Historical Commission ([www.nh.gov/nhdhr/](http://www.nh.gov/nhdhr/)). For additional information regarding the requirements pertaining to historic places, see Appendix 3 of the General Permit.

#### **6.4 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 request 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.

There were no discharges authorized by the 2009 HYDROGP that discharged to a coastal zone, nor is EPA currently aware of any existing or proposed facility located in the coastal zone. The hydroelectric facilities authorized under the HYDROGP are typically run-of-river projects, which are not situated in coastal zones. However, in the event that a new facility may be cited in coastal zone, this consistency review determination will assure that discharges from such a facility are consistent with MA and NH CZM policies.

Facilities located in Massachusetts must conduct proposed activities (*i.e.*, discharges) in a manner consistent with the applicable Massachusetts Coastal Zone Management (MACZM) policies as outlined below.

**WATER QUALITY POLICY #1** - Ensure that point-source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.

**HABITAT POLICY #1** - Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and freshwater wetlands for their important role as natural habitats.

All HYDROGP permittees must control discharges as necessary to meet applicable numeric and narrative state water quality standards for any discharges so authorized. The Draft HYDROGP also requires the implementation of a Best Management Practices (BMP) Plan. The goal of the BMP Plan is to eliminate or reduce the potential for a discharge of pollutants to waters of the United States and to assure compliance with the terms and conditions of this draft permit.

EPA Region 1 has requested that the MACZM Office review the Region's determination and confirm that the Draft HYDROGP is consistent with the state's coastal zone management program.

Facilities located in New Hampshire must conduct proposed activities (*i.e.*, discharges) in a manner consistent with applicable NH Coastal Zone Management Enforceable Policies listed below. EPA has addressed policies identified as applicable by NH CZM to the issuance of the Draft HYDROGP. Policies that were not applicable to the federal 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 Draft HYDROGP 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 draft permit are miscellaneous flows associated with hydroelectric generating facility operations, mainly non-contact cooling water and equipment and floor drain water. The draft permit requires facilities to meet discharge limits for oil and grease and pH based on water quality standards, as well as to monitor temperature for cooling water discharges. Discharge limits for the state of New Hampshire may be found in Part 2 of the Draft HYDROGP.

2. Manage, conserve and where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources of the state.

The Draft HYDROGP 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. The draft permit requires permittees to meet water quality-based effluent limitations for New Hampshire in Part 2 of the draft General Permit. For facilities that withdraw 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.

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. Ensure adherence to minimum standards for restoring natural resources impacted from onshore sand and gravel 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.

The Draft HYDROGP is consistent to the maximum extent practicable with this enforceable policy by allowing coverage under this draft permit only if the authorized discharges are not likely to adversely affect any species that are federally listed as endangered or threatened under the ESA or result in the adverse modification or destruction of habitat that is federally designated as critical under ESA. Facilities must determine eligibility prior to submission of a Notice of Intent for coverage and must maintain eligibility throughout the entire term of the permit. The Draft HYDROGP provides eligibility criteria (see Appendix 2).

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 answer to 5, above.

#### 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 Draft HYDROGP is consistent 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 applicable water quality standards and by setting discharge limits on oil & grease and pH, and monitoring requirements for temperature, TSS, and flow (where applicable, see Part 2 of the draft permit). These requirements are designed to protect the waters of the coastal and estuarine environment.

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. - **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 re-nourishment 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 Draft HYDROGP 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 3.4 and Appendix 3 of the Draft HYDROGP).

#### Marine and Estuarine Research and Education:

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

## **7.0 Administrative Requirements**

### **7.1 Notice of Change (NOC)**

The Draft HYDROGP has a new Notice of Change (NOC) in Appendix 8 which allows Permittees to request certain changes during the permit term. The four (4) types of changes that may be requested by a NOC are (1) a reduction in monitoring requirements for the parameter Total Suspended Solids (TSS), (2) a change to an alternate pH range, (3) the use of a new or substitute chemical(s) and/or additive(s), and (4) a change to certain administrative information, such as a change in ownership.

Written approval by EPA is required for all changes to be effective, with the exception of those changes involving administrative information. Prior to receiving written approval for all changes with the exception of those involving administrative information, the Permittee must continue to comply with the associated HYDROGP condition. For example, a Permittee must continue to monitor TSS at the frequency specified in the HYDROGP until EPA provides a determination in writing that such frequency may be reduced or the monitoring for TSS is eliminated for a specific outfall.



## **7.2 Termination of Coverage**

### **7.2.1 Requirement to Notify**

Permittees must submit a completed Notice of Termination (NOT) that is signed and certified when one or more of the following conditions have been met:

- 1) All discharges covered by the HYDROGP have been terminated;
- 2) Coverage under an individual NPDES permit has been obtained; or
- 3) Another operator has assumed control over all discharges.

### **7.2.2 Notice of Termination (NOT) and Information**

NOTs must be completed using either the suggested format provided by EPA (found in Appendix 5 of the Draft HYDROGP), or another official correspondence that incorporates all of the information required in Appendix 5. NOT and attachments must be submitted to EPA and the appropriate State agency at the addresses listed in Appendix 5. NOTs provide EPA with a useful mechanism to track the status of projects which are actively covered by the HYDROGP. The NOT must include:

- 1) The name of the facility and street address of the facility or site 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 (i.e., termination of discharge or transfer of facility to a new owner); and
- 5) A certification statement signed and dated by an authorized representative pursuant to 40 C.F.R. §122.22 (see Appendix 5, NOT instructions).

The NOT must be completed and submitted within thirty (30) days of the permanent cessation of the discharge(s) authorized by the HYDROGP, or within thirty (30) days after another operator assumes operation and ownership of the facility. Any new operator must submit an NOI for coverage consistent with the requirements of the HYDROGP.

## **7.3 Continuation of the Expired General Permit**

If this permit is not reissued prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and in effect as to any particular permittee. Any facility seeking first time coverage under the HYDROGP after the expiration date of this permit would not be eligible for coverage until the HYDROGP is reissued. Any permittee granted coverage prior to the permit's expiration date will automatically remain covered by the continued permit until the earliest of:

1. Reissuance of the HYDROGP, at which time the permittee must comply with the NOI conditions of the new permit to maintain authorization to discharge;
2. The permittee terminating coverage by submitting a Notice of Termination;

3. Issuance of an individual permit for the permittee's discharges; or
4. A formal decision by EPA not to reissue the HYDROGP, at which time the permittee must seek coverage under an alternative general permit or an individual permit.

## **8.0 Standard Permit Conditions**

Permittees must meet the standard permit requirements of 40 C.F.R. §122.41 and 122.42, as applicable to their discharge activities. Specific language concerning these requirements is provided in Appendix 6 of the Draft HYDROGP and are also referred to as the “Standard Conditions.”

## **9.0 Section 401 Certifications**

Section 401 of the CWA provides that no federal license or permit, including NPDES permits, 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 or it is deemed that certification is waived. The § 401 certification process is being implemented in Massachusetts and New Hampshire. EPA expects both states to certify this Draft HYDROGP. In addition, EPA and the Commonwealth of Massachusetts jointly issue the final permit.

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

All persons who believe any condition of the Draft HYDROGP 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  
U.S. Environmental Protection Agency  
Water Permits Branch - Office of Ecosystem Protection  
5 Post Office Square- Mailcode OEP 06-1  
Boston, Massachusetts 02109

Any person, prior to such date, may submit a written request to EPA Region 1 for a public hearing to consider the Draft HYDROGP. Such requests shall state the nature of the issue proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days following the public notice or whenever the Regional Administrator finds that response to this notice indicates significant public interest.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will respond to all significant comments made on the Draft HYDROGP and will make the response to comments available to the public at EPA's Boston Office and also at:  
**<http://www.epa.gov/region1/npdes/hydrogp.html>.**

**July 10, 2018**

**Date**

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