

**II. Suggested Format for the HYDRO General Permit Notice of Intent (NOI):**

**Request for General Permit Authorization to Discharge Wastewater Notice of Intent (NOI) to be covered by Hydroelectric Generating Facilities General Permit (HYDROGP) No. MAG360000 or NHG360000**

Indicate Applicable General Permit for Discharge(s):       MAG360000                       NHG360000

**A. Facility Information**

1. Facility Location	Name: GARVINS FALLS HYDROELECTRIC STATION	
	Street: GARVINS FALLS ROAD	
	City: BOW	State: NEW HAMPSHIRE
	Zip: 03304	SIC Code: 4911
	Latitude: N°43 09' 51.3"	Longitude: W°71 30' 27.0"
	Type of Business: ELECTRIC POWER GENERATION	
2. Facility Mailing Address (if different from Location)	Street: 670 N. COMMERCIAL ST SUITE 204	
	City: MANCHESTER	State: NEW HAMPSHIRE
	Zip: 03101	
3. Facility Owner	Name: PATRIOT HYDRO, LLC	Email: SILLER@PATRIOTHYDRO.COM
	Street: 670 N. COMMERCIAL ST SUITE 204	Telephone: (603) 540 - 8238

	City: MANCHESTER	State: NEW HAMPSHIRE
	Contact Person: SEAN ILLER	Zip: 03101
4. Facility Operator (if different from above)	Name:	Email:
	Street:	Telephone:
	City:	State:
	Zip:	
5. Current Permit Status	Has prior HYDROGP coverage been granted for the discharge(s) listed in the NOI?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Permit number (if yes): NHG360014	
	Is the facility covered under an Individual Permit?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Is there a pending NPDES application of file with EPA for the discharge(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Date of Submittal (if yes): Click or tap to enter a date.	Permit Number (if known):
	Attach a topographic map indicating the locations. of the facility and outfall(s) to the receiving water	<input checked="" type="checkbox"/> Map Attached
	Number of turbines: 4	
	Combined turbine discharge (installed capacity) at:	Maximum capacity? 6380 cfs Minimum capacity? 709 cfs
	Is this facility operated as a pump storage project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Appendix 4 – NPDES Hydroelectric Facilities General Permit

**B. Discharge Information**

1. Name of Receiving Water(s): MERRIMACK RIVER		<input checked="" type="checkbox"/> Freshwater <input type="checkbox"/> Marine
2. Waterbody classification: <input type="checkbox"/> Class A <input checked="" type="checkbox"/> Class B <input type="checkbox"/> Class SA <input type="checkbox"/> Class SB		
3. Is the receiving water is listed in the State’s Integrated List of Waters (i.e., CWA Section 303(d))?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4. If the applicant answered yes to B.2, has the applicant identified the designated uses that are impaired, any pollutants indicated, and whether a final TMDL is available for any of the indicated pollutants in a separate attachment to the NOI?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Attach a line drawing or flow schematic showing water flow through the facility including location of intake(s), operations contributing to effluent flow, treatment units, outfalls, and receiving water(s).		<input checked="" type="checkbox"/> Line Drawing Attached
6. List each outfall (numbered sequentially) discharging effluent from the following categories and provide an estimate of the average monthly flow (in gallons per day) for each discharge type. See Parts 1.1 through 1.5 (for MA) or Parts 2.1 through 2.5 (for NH) for descriptions and permit conditions for each discharge type.		
Equipment-related cooling water	Outfalls:	gpd
Equipment and floor drain water	Outfalls: 001, 002, 003	5120 gpd
Maintenance-related water	Outfalls: 004, 005, 006	900,000 gpd
Facility maintenance-related water during flood/high water events	Outfalls:	gpd
Equipment-related backwash strainer water	Outfalls:	gpd

7. For each outfall listed above, provide the following information (attach additional sheets if necessary). Outfalls may be eligible for alternative pH effluent limits. See Parts 1.8 and 2.8 of the permit for additional information. Contact MassDEP or NHDES to determine the required information and protocol to request alternative pH effluent limits.		
Outfall No. 001	Latitude: N 43° 09' 53.2"	Longitude: W 71° 30' 26.8"
	Discharge is: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal	
	Maximum Daily Flow 60 GPD	Average Monthly Flow 40 GPD
	Maximum Daily Temperature Varies °F	Average Monthly Temperature Varies °F
	Maximum Daily Oil & Grease 15 mg/L	Average Monthly Oil & Grease >0 <15 mg/L
	Maximum Monthly pH 8.0 s.u.	Minimum Monthly pH 6.50 s.u.
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No
Outfall No. 002	Latitude: N 43° 09' 52.7"	Longitude: W 71° 30' 27.8"
	Discharge is: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal	
	Maximum Daily Flow 60 GPD	Average Monthly Flow 40 GPD
	Maximum Daily Temperature Varies °F	Average Monthly Temperature Varies °F
	Maximum Daily Oil & Grease 15 mg/L	Average Monthly Oil & Grease >0 <15 mg/L
	Maximum Monthly pH 8.0 s.u.	Minimum Monthly pH 6.5 s.u.
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No

7. For each outfall listed above, provide the following information (attach additional sheets if necessary). Outfalls may be eligible for alternative pH effluent limits. See Parts 1.8 and 2.8 of the permit for additional information. Contact MassDEP or NHDES to determine the required information and protocol to request alternative pH effluent limits.	
Outfall No. 003	Latitude: N 43° 09' 51.8" Longitude: W 71° 30' 28.3"
	Discharge is: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal
	Maximum Daily Flow 5040 GPD Average Monthly Flow <5040 GPD
	Maximum Daily Temperature Varies °F Average Monthly Temperature Varies °F
	Maximum Daily Oil & Grease 15 mg/L Average Monthly Oil & Grease >0 <15 mg/L
	Maximum Monthly pH 8.0 s.u. Minimum Monthly pH 6.5 s.u.
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No
Outfall No. 004	Latitude: N 43° 09' 51.1" Longitude: W 71° 30' 28.5"
	Discharge is: <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal
	Maximum Daily Flow 1.728 MGD Average Monthly Flow .864 MGD
	Maximum Daily Temperature Varies °F Average Monthly Temperature Varies °F
	Maximum Daily Oil & Grease 15 mg/L Average Monthly Oil & Grease >0 <15 mg/L
	Maximum Monthly pH 8.0 s.u. Minimum Monthly pH 6.5 s.u.
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No

**Appendix 4 – NPDES Hydroelectric Facilities General**

7. For each outfall listed above, provide the following information (attach additional sheets if necessary). Outfalls may be eligible for alternative pH effluent limits. See Parts 1.8 and 2.8 of the permit for additional information. Contact MassDEP or NHDES to determine the required information and protocol to request alternative pH effluent limits.				
Outfall No. 005	Latitude: N 43° 09' 53.0"		Longitude: W 71° 30' 26.8"	
	Discharge is: <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal			
	Maximum Daily Flow	28000 GPD	Average Monthly Flow 18000 GPD	
	Maximum Daily Temperature	Varies °F	Average Monthly Temperature Varies °F	
	Maximum Daily Oil & Grease	15 mg/L	Average Monthly Oil & Grease >0 <15 mg/L	
	Maximum Monthly pH s.u.	8.0	Minimum Monthly pH s.u.	6.5
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Outfall No. 006	Latitude: N 43° 09' 53.0"		Longitude: W 71° 30' 26.8"	
	Discharge is: <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal			
	Maximum Daily Flow	28000 GPD	Average Monthly Flow 18000 GPD	
	Maximum Daily Temperature	Varies °F	Average Monthly Temperature Varies °F	
	Maximum Daily Oil & Grease	15 mg/L	Average Monthly Oil & Grease >0 <15 mg/L	
	Maximum Monthly pH s.u.	8.0	Minimum Monthly pH s.u.	6.5
	Alternative pH limits requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	

**Appendix 4 – NPDES Hydroelectric Facilities General**

Outfall No.	Latitude:	Longitude:
	Discharge is: <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal	
	Maximum Daily Flow MGD	Average Monthly Flow MGD
	Maximum Daily Temperature                      °F	Average Monthly Temperature                      °F
	Maximum Daily Oil & Grease mg/L	Average Monthly Oil & Grease mg/L
	Maximum Monthly pH s.u.	Minimum Monthly pH s.u.
	Alternative pH limits requested? <input type="checkbox"/> Yes <input type="checkbox"/> No	State approval attached? <input type="checkbox"/> Yes <input type="checkbox"/> No

**C. Best Technology Available for Cooling Water Intake Structures**

Facilities that checked “equipment-related cooling” as one of the discharges in Part B. of this NOI are subject to the following requirements. Facilities that intake more than 2 MGD for use in the facility (i.e., not used in the turbines to generate power) and which use at least 25% of the intake volume exclusively for cooling are not eligible for permit coverage and must submit an individual permit application. See Part 3.3 of the HYDROGP.

1. Does the facility intake water for cooling purposes subject to the BTA Requirements at Part 4 of the HYDROGP?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, skip to Part D of this NOI.
2. If yes, indicate which technology employed to comply with the general BTA requirements at Part 4.1 of the HYDROGP:	
<input type="checkbox"/> A physical or behavioral barrier located at the first intake encountered by fish on the upstream side of the dam that directs fish towards a downstream passage which safely conveys fish over the dam without being exposed to the CWIS. Has the applicant attached a narrative description of the barrier and provided data 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? <input type="checkbox"/> Yes <input type="checkbox"/> No	



### D. Chemical Additives

1.	Does the facility use or plan to use non-toxic chemicals for pH adjustment?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2.	Does the facility use or plan to use chemicals for anti-freeze purposes?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
3.	If the answer to D.2 is yes, provide the following for <b>EACH</b> chemical additive used for anti-freeze:		
Chemical Name and Manufacturer:			
Maximum Dosage Concentration Used:		Average Dosage Concentration Used:	
Maximum Concentration in Discharge: mg/L		Average Concentration in Discharge: mg/L	
Material Safety Data Sheet (MSDS) or other toxicity documentation for each chemical attached? <input type="checkbox"/> Yes <input type="checkbox"/> No			

### E. Endangered Species Act Certification

Appendix 2 to the HYDROGP explains the certification requirements related to threatened and endangered species and designated critical habitat. Indicate under which criteria the discharge is eligible for coverage under the HYDROGP:	
1. ESA eligibility for species under jurisdiction of USFWS	<p><b>Criterion A:</b> No endangered or threatened species or critical habitat are in proximity to discharges or related activities or come in contact with the “action area.” See Appendix 2, Part B for documentation requirements. Documentation attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
	<p><input checked="" type="checkbox"/> <b>Criterion B:</b> Formal or informal consultation with the USFWS under Section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the discharges and related activities are “not likely to adversely affect” listed species or critical habitat. Has the operator completed consultation with USFWS and attached documentation?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, is consultation underway? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>

	<input type="checkbox"/> <b>Criterion C:</b> Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and designated critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have “no effect” on any federally threatened or endangered species or designated critical habitat under the jurisdiction of the USFWS. Has the applicant attached documentation of the “no effect” finding? <input type="checkbox"/> Yes <input type="checkbox"/> No
2. ESA eligibility for species under jurisdiction of NMFS	<p>Is the facility located on: the Connecticut River between the Massachusetts/Connecticut state line and Turners Falls, MA; the Taunton River; the Merrimack River between Lawrence, MA and the Atlantic Ocean; the Piscataqua River including the Salmon Falls and Cocheco Rivers; or a marine water?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, was the applicant authorized to discharge from the facility under the 2009 HYDROGP? <input type="checkbox"/> Yes <input type="checkbox"/> No
	If the discharge is to one of the named rivers above or to a marine water <i>and</i> the facility was not previously covered under the 2009 HYDROGP, has there been any previous formal or informal consultation with NMFS? <input type="checkbox"/> Yes <input type="checkbox"/> No Documentation of consultation attached? <input type="checkbox"/> Yes <input type="checkbox"/> No

**F. National Historic Properties Act Eligibility**

1. Indicate under which criterion the discharge(s) is eligible for covered under the HYDROGP:
<input type="checkbox"/> <b>Criterion A:</b> No historic properties are present.
<input checked="" type="checkbox"/> <b>Criterion B:</b> Historic properties are present. The discharges and related activities do not have the potential to impact historic properties.
<input type="checkbox"/> <b>Criterion C:</b> Historic properties are present. The discharges and related activities have the potential to impact or adversely impact historic properties.

2.	Has the applicant attached supporting documentation for NHPA eligibility described in Appendix 3, Part C of the HYDROGP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.	Does supporting documentation include a written agreement from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or other tribal representative that outlines measures the operation will carry out to mitigate or prevent any adverse effects on historic properties? <input type="checkbox"/> Yes <input type="checkbox"/> No

**G. Supplemental Information**

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any certifications required by the HYDROGP. Supplemental information attached? <input type="checkbox"/> Yes <input type="checkbox"/> No
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**H. Signature Requirements**

1.	The NOI must be signed by the operator in accordance with the signatory requirements of 40 C.F.R. § 122.22, including the following certification:	
	<i>I certify under penalty of law that no chemical additives are used in the discharges to be authorized under this General Permit except for those used for pH adjustment or anti-freeze purposes and that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
2.	Notification provided to the appropriate State, including a copy of this NOI, if required?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Signature: 	Date: Click or tap to enter a date. <i>04-25-2023</i>
	Print Name and Title: <i>Sean J. Iller , EHS Manager</i>	

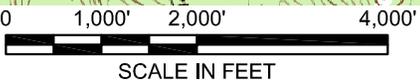
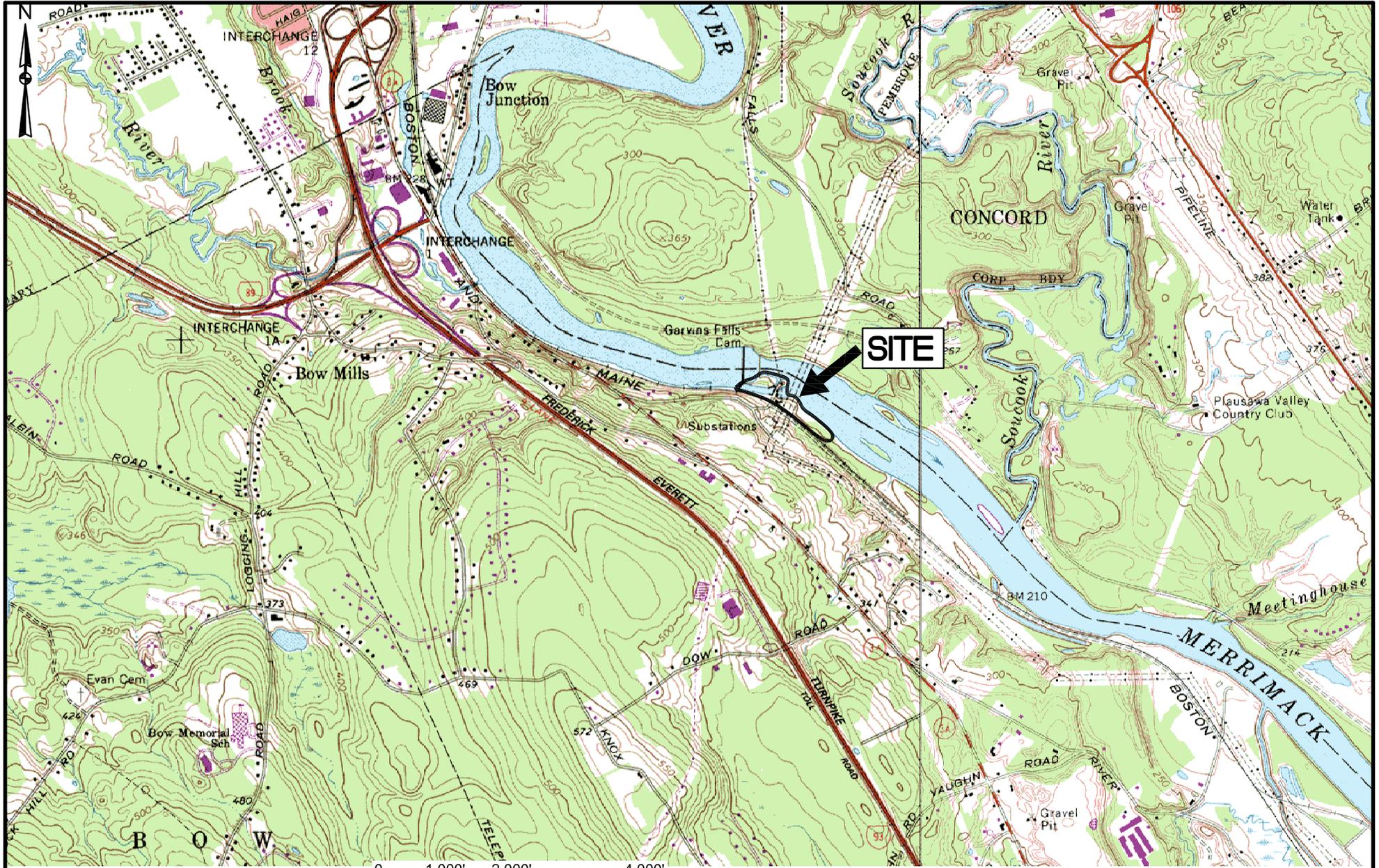
**Public Service Company of New Hampshire  
Garvins Hydro Station**

**Equipment and Floor Drains**

Outfall	Description	Location	Contributing Operations	Average Flow	Total Average Flow	Occasional or Consistent Discharge	Discharging Water	Sample Location or Representative Outfall	Possible Annual Sampling
001	Wheel Pit Drain Generator 4	N 43° 09' 53.2" W 71° 30' 26.8"	Gate stem leakage	10-20 GPD	20-60 GPD	Consistent	Merrimack River	Lift top plate and grab sample from wheel pit	Yes
			Guide bearing seal (in failure)	10-20 GPD					
			Top plate leakage	0-20 GPD					
002	Wheel Pit Drain Generator 3	N 43° 09' 52.7" W 71° 30' 27.8"	Gate stem leakage	10-20 GPD	20-60 GPD	Consistent	Merrimack River	Representative Outfall 001	Yes
			Guide bearing seal (in failure)	10-20 GPD					
			Top plate leakage	0-20 GPD					
003	Turbine Room Sump (Generator 1 and Generator 2)	N 43° 09' 51.8" W 71° 30' 28.3"	Bearing leakage	3 GPM	3.5 GPM	Consistent	Merrimack River	Install sampling port to collect water from sump	Yes
			Floor drains	0.5 GPM					

**Maintenance - Related Water**

004	Dewatering Draft Tubes (Generator 1 and Generator 2)	N 43° 09' 51.1" W 71° 30' 28.5"	Draft tube dewatering pump	1200 GPM	0-1200 GPM	Intermittent	Merrimack River	Grab sample from draft tube prior to discharge	Yes
				(pump rate)					
005	Scroll Case Drain for Gen. # 3	N 43° 09' 53.0" W 71° 30' 26.8"	Scroll case drain	5-20 GPM	5-20 GPM	Intermittent	Merrimack River	Install sampling port to collect water from scroll case	Yes
006	Scroll Case Drain for Gen. # 4	N 43° 09' 53.0" W 71° 30' 26.8"	Scroll case drain	5-20 GPM	5-20 GPM	Intermittent	Merrimack River	Representative Outfall 005	Yes



PREPARED BY: **GZA GeoEnvironmental, Inc.**  
 Engineers and Scientists  
 380 HARVEY ROAD  
 MANCHESTER, NEW HAMPSHIRE 03103  
 (603) 623-3600

PREPARED FOR:  
 PUBLIC SERVICE OF NEW HAMPSHIRE

**NPDES HYDROELECTRIC GENERATING  
 FACILITIES GENERAL PERMIT  
 GARVINS FALLS STATION**

PUBLIC SERVICE OF NEW HAMPSHIRE  
 5 GARVINS FALLS ROAD, BOW NEW HAMPSHIRE 03301

LOCUS PLAN

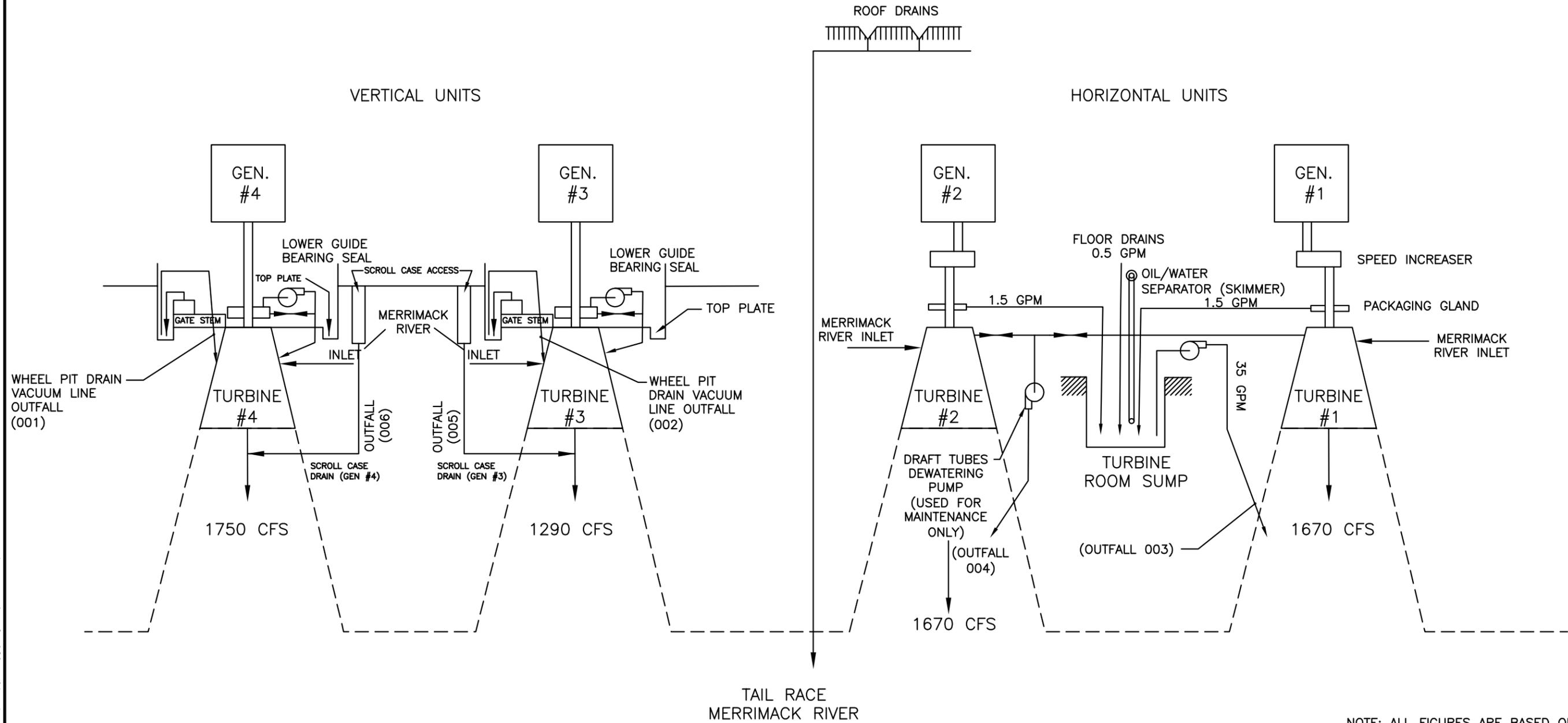
PROJ MGR:	KDB	DATE	FEB 2010
DESIGNED BY:	DSJ	PROJECT NO.	04.0024931.00
REVIEWED BY:	RAB	REVISION NO.	
DRAWN BY:	MA		
CHECKED BY:	KDB		
SCALE:	AS SHOWN		

**FIGURE**  
**1**

SHEET NO.

VERTICAL UNITS

HORIZONTAL UNITS



NOTE: ALL FIGURES ARE BASED ON MAXIMUM CAPACITY.

DRAFT

SCHMATIC OF WATER FLOW  
PUBLIC SERVICE OF NEW HAMPSHIRE  
5 GARVINS FALLS ROAD, BOW NEW HAMPSHIRE

INTERIOR DRAINAGE PLAN

<b>PREPARED BY:</b> <b>GZA GeoEnvironmental, Inc. Engineers and Scientists</b> 380 HARVEY ROAD MANCHESTER, NEW HAMPSHIRE (603) 623-3600		<b>PREPARED FOR:</b> PUBLIC SERVICE OF NEW HAMPSHIRE 780 NORTH COMMERCIAL STREET MANCHESTER, NEW HAMPSHIRE	
<b>PROJ MGR:</b> KDB <b>DESIGNED BY:</b> DSJ <b>DATE:</b> FEB 2010	<b>REVIEWED BY:</b> RAB <b>DRAWN BY:</b> MA <b>PROJECT NO.:</b> 04.0024931.00	<b>CHECKED BY:</b> KDB <b>SCALE:</b> NOT TO SCALE <b>REVISION NO.:</b>	<b>FIGURE</b> 2 <b>SHEET NO.</b>

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

studies, and we agree with Commission staff that these studies should be delayed until the number of naturally-occurring fish in the river increases. Nevertheless, because of the mandatory nature of section 18 prescriptions, Ordering Paragraph (E) requires implementation of Interior's section 18 prescriptions. Article 406 of the license reserves the Commission's authority to require fishways, as may be prescribed by Interior in the future.

### **Threatened And Endangered Species**

38. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA),<sup>24</sup> requires federal agencies to ensure their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat.

39. The federally threatened bald eagle is present at the project and uses project lands and waters for perching, foraging, and winter roosting.<sup>25</sup> No known nesting areas have been documented within the project boundary.<sup>26</sup> The EA concluded that relicensing the project with the staff-recommended measures, which include protecting identified bald eagle habitat on PSNH-owned lands within 200 feet of the

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<sup>24</sup> 16 U.S.C. § 1536(a)(2) (2000).

<sup>25</sup> In addition to the bald eagle, FWS noted that the New England cottontail and American eel are under review for listing as threatened or endangered species under the ESA and encouraged the Commission to require measures to protect and enhance New England cottontail habitat and to avoid impacts to the American eel. Subsequently, in September 2006 and February 2007 notices, FWS concluded that listing of the New England cottontail and the American eel is not warranted. *See Endangered and Threatened Wildlife and Plants--Proposed Critical Habitat Designations*, 70 Fed. Reg. 53,755 (Sept. 12, 2006); and *Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the American Eel as Threatened or Endangered*, 72 Fed. Reg. 4,967 (Feb. 2, 2007).

<sup>26</sup> Types of bald eagle habitat identified at the project include: large blocks of undeveloped land along the river that include potential eagle perch sites, known perching and foraging, known and potential night roosting, and potential nesting. One-third to one-half of the project's shoreline contains known or potential perching and foraging; roosting and potential nesting habitat are less common along this reach.

project shoreline would not be likely to adversely affect the bald eagle.<sup>27</sup> As discussed below in this order, we are requiring that five areas of bald eagle habitat, in addition to PSNH's proposed area at the Garvins Falls development, be included in the project and protected under the licensee's proposed shoreline management plan. The Garvins Falls area would be a 200-foot-wide buffer extending along about 2.9 miles of shoreline. The other areas are of varying sizes, but they also would include lands extending up to 200 feet from the shoreline.

40. By letter dated January 24, 2006, staff requested concurrence from the FWS with its "not likely to adversely affect" finding. In its response filed February 23, 2006, FWS declined to concur and noted that it typically considers riparian buffers less than 100 meters (328 feet) wide to be inadequate to protect important eagle foraging areas and recommended that PSNH establish a 100-meter-wide buffer for the Garvins Falls parcel instead of the proposed 200-foot-wide buffer.

41. In a clarification letter to FWS on April 21, 2006, staff stated that it was unclear from the FWS filing why a 200-foot-wide buffer was insufficient, and reiterated that, when compared to existing conditions, staff's recommended habitat protection measures, including the bald eagle habitat areas to be brought into the project, run-of-river operation, and minimum flows in the project's bypassed reaches, would benefit bald eagles.

42. In its letter filed May 31, 2006, FWS concurred with staff's determination that issuing a new license for the Merrimack Project under the Commission's recommended alternative is not likely to adversely affect the bald eagle. FWS, however, reemphasized that a 100-meter buffer at Garvins Falls would be the minimum width for adequate long-term protection of bald eagle habitat, and cited

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<sup>27</sup> A project boundary encloses only those lands that are necessary for project purposes. Generally, boundaries should be no more than 200 feet (measured horizontally) from the reservoir's shoreline, except where, among other things, additional lands are necessary for project purposes, such as public recreation, shoreline control, or protection of environmental resources. 18 C.F.R. § 4.41(g)(2)(i)(B) (2006).

five references to provide evidence of the desirability of a larger buffer zone for the protection of eagles.<sup>28</sup>

43. The literature cited by FWS indicates that buffer zone recommendations for protection of bald eagle habitat from human disturbance specify widths of from 100 to 1320 meters (328 to 4330 feet), depending on the type of habitat to be protected. It also recognizes that buffer zones determinations are site-specific, based on the type of eagle use in the area and the sensitivity of the eagles to human activity.<sup>29</sup> FWS has not, however, demonstrated that the facts in this case warrant a buffer zone at the Garvins Falls tract that is more than 200 feet wide.<sup>30</sup>

44. While we acknowledge that eagles may be disturbed by human activity, only a small portion of the habitat at Garvins Falls has been identified as specific perching and foraging habitat,<sup>31</sup> which is fairly common at the project. Thus, any disturbed perching or foraging bald eagles would be able to relocate to comparable foraging areas at the project. We also note that eagles prefer perch trees less than 50

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<sup>28</sup> David A. Buehler, Timothy J. Mersmann, James D. Fraser, Janis K. D. Seegar, *Effects of Human Activity on Bald Eagle Distribution on the Northern Chesapeake Bay*, 55 J. Wildlife Mgmt. No. 2, at 282-290 (1991); (2) Teryl G. Grubb and Rudy M. King, *Assessing Human Disturbance of Breeding Bald Eagles with Classification Tree Models*, 55 J. Wildlife Mgmt. No. 3, at 500-511 (1991); (3) Mark V. Stalmaster and James R. Newman, *Behavioral Responses of Wintering Bald Eagles to Human Activity*, 42 J. Wildlife Mgmt. No. 3, at 506-513 (1978); (4) Endangered Species Office, FWS (Twin Cities, MN), *Northern States Bald Eagle Recovery Plan* (1983); and (5) Washington Department of Fish and Wildlife, *Priority Habitat and Species Management Recommendations*, Volume IV at pp. (9-1)-(9-15) (2004).

<sup>29</sup> See Stalmaster and Newman article; Washington Department of Fish and Wildlife literature, *supra* n. 28.

<sup>30</sup> See *FPL Energy Maine Hydro LLC*, 88 FERC ¶ 61,116 at 61,273-74 (1999).

<sup>31</sup> The Garvins Falls area contains approximately 53 acres of an “undeveloped habitat block of potential importance,” approximately 13 acres of known perching and foraging, and approximately 4 acres that are not identified as eagle habitat.

meters from the shoreline,<sup>32</sup> and although a 100-meter-wide buffer would offer additional protection from outside development, the 200-foot-wide buffer required in this license will protect valuable perch trees and offer some protection from the effects of human activity on perching and foraging eagles. The licensee will manage eagle habitat pursuant to the shoreline management plan (SMP) required by Article 407 of the license. If eagle use dictates in the future that additional protection is needed, the monitoring provision of the SMP allows for increasing the buffer width.

### **Recommendations Of Federal And State Fish And Wildlife Agencies**

#### **A. Recommendations Pursuant to Section 10(j) of the FPA**

45. Section 10(j)(1) of the FPA<sup>33</sup> requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,<sup>34</sup> to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

46. If the Commission believes that a section 10(j) recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2)<sup>35</sup> requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law, and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

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<sup>32</sup> See Washington Department of Fish and Wildlife literature, *supra* n. 28

<sup>33</sup> 16 U.S.C. § 803(j)(1) (2000).

<sup>34</sup> 16 U.S.C. § 661, *et seq.* (2000).

<sup>35</sup> 16 U.S.C. §803(j)(2) (2000).

91. Mountain Club *et al.* assert that the cumulative impacts analysis in the EA is deficient because it failed to consider the possibility that PSNH may install a rubber dam flashboard system at some time in the future.<sup>64</sup> We disagree. The National Environmental Policy Act (NEPA)<sup>65</sup> requires that federal agencies give appropriate consideration to cumulative effects on environmental resources. A cumulative impact is the impact on the environment that results from an incremental impact of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency or person undertakes such actions.<sup>66</sup>

92. The EA analyzed cumulative impacts to water quality, anadromous fish, and American eel within the Merrimack River Basin. The rubber dam was not mentioned in the cumulative effects analysis for eel because it was not a reasonably foreseeable future action. At the scoping meeting held on June 24, 2004, PSNH indicated that it had looked at the feasibility of installing a rubber dam at Amoskeag and determined that installation of an inflatable dam was not economically feasible. Should PSNH decide to do so in the future, it will have to file an application to amend its license and include any necessary environmental analysis of the proposed action.

### **National Historic Preservation Act**

93. Under section 106 of the National Historic Preservation Act (NHPA),<sup>67</sup> and its implementing regulations,<sup>68</sup> federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

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<sup>64</sup> Replacement of the wooden flashboards could change the degree of leakage in the bypass reach and potentially impact eel passage.

<sup>65</sup> 42 U.S.C. § 4321, *et seq.* (2000).

<sup>66</sup> 40 C.F.R. § 1508.7 (2006).

<sup>67</sup> 16 U.S.C. § 470 *et seq.* (2000).

<sup>68</sup> 36 C.F.R. Part 800 (2006).

94. To satisfy these responsibilities, on May 16, 2006, the Commission executed a Programmatic Agreement (PA) with the New Hampshire State Historic Preservation Officer (SHPO) and invited PSNH to concur with the stipulations of the PA. PSNH concurred. The PA requires the licensee to prepare and implement a Historic Properties Management Plan (HPMP). Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 409 requires PSNH to implement the PA and to file its HPMP with the Commission within one year of license issuance.

### **Administrative Conditions**

#### **A. Annual Charges**

95. The Commission collects annual charges from licensees for administration of the FPA and for recompensing the United States for the use, occupancy, and enjoyment of its lands. Article 201 provides for the collection of funds for administration of the FPA.

#### **B. Amortization Reserve**

96. The Commission requires that, for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 205 requires the establishment of the account.

#### **C. Exhibit F and G Drawings**

97. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the licensee to file approved exhibit F drawings. Because the shoreline management plan required by Article 407 will result in changes to the project boundary, Article 203 requires PSNH to file revised exhibit G drawings for Commission approval. In addition, because we have included the three substations, transmission lines, and a training wall in the license, Article 204 requires PSNH to file Exhibit F drawings for these project facilities.

#### **D. Headwater Benefits**

98. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 206 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.