124 FERC ¶ 62,153
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

FPL Energy Maine Hydro LLC Project No. 2194-020

ORDER ISSUING NEW LICENSE

(August 26, 2008)

1. On June 30, 2003, FPL Energy Maine Hydro LLC (FPL Energy) filed an application for a new license pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),[1] to continue operation and maintenance of its 4.0-megawatt (MW) Bar Mills Hydroelectric Project No. 2194 located on the Saco River in York County, Maine. The project does not occupy any federal land.[2] For the reasons discussed below, I am issuing a new license for the project.

BACKGROUND

2. The Commission issued a license for the Bar Mills Project on May 11, 1956.[3] The current license expired on June 30, 2005. The project is currently being operated pursuant to an annual license.

3. On February 24, 2004, a public notice accepting the license application was issued, setting April 26, 2004, as the deadline for filing comments and motions to intervene. Interventions were timely filed by the U.S. Department of the Interior (Interior) and Maine State Planning Office.[4] Late motions to intervene were subsequently filed by the Atlantic Salmon Federation and American Rivers on March 2, 2005 (jointly), the Saco River Salmon Club Hatchery (Saco River Salmon Club) on March 7, 2005, and the U.S. Department of Commerce's National Marine Fisheries

[1] 16 U.S.C. §§ 797(e) and 808 (2000).

[2] The project is required to be licensed pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2000), because the project is located on the Saco River, a navigable waterway of the United States. *Central Maine Power Co.*, 14 FPC 839 (1955).

[3] *Central Maine Power Co.*, 15 FPC 1402 (1956).

[4] The motions were timely and unopposed, and were therefore automatically granted by operation of 18 C.F.R. § 385.214(c)(1)(2008).

Service (NMFS) on April 1, 2005. The late motions to intervene were granted by notices (unpublished) of February 6, 2006.

4. On February 1, 2005, a public notice was issued indicating the application was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions. The filing deadline was April 4, 2005. In response, timely recommendations, terms and conditions, and preliminary prescriptions were filed by the Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Atlantic Salmon Commission (Maine ASC), Interior, NMFS, Atlantic Salmon Federation, Saco River Salmon Club, and Maine Department of Marine Resources (Maine DMR). FPL Energy filed reply comments on May 17, 2005.

5. Commission staff issued an Environmental Assessment (EA) on September 9, 2005. All motions to intervene and comments have been fully considered in determining whether, and under what conditions, to issue this license.

6. On March 27, 2007, FPL Energy filed the Saco River Fisheries Assessment Agreement (2007 Agreement) for approval, as an Offer of Settlement pursuant to 18 C.F.R. § 385.602[5] that addresses fish passage issues at seven hydroelectric projects on the main stem of the Saco River in southern Maine and an Explanatory Statement. The seven projects from downstream to upstream are: Cataract (FERC No. 2528); Skelton (FERC No. 2527); Bar Mills (FERC No. 2194); West Buxton (FERC No. 2531); Bonny Eagle (FERC No. 2529); Hiram (FERC No. 2530), and Swan Falls (FERC No. 11365). The 2007 Agreement is described below.

PROJECT DESCRIPTION AND OPERATION

A. Project Description

7. The existing Bar Mills Project consists of a 364-foot-long, 7-foot-high concrete gravity dam equipped with a 264-foot-long spillway topped with 6.75-foot-high flashboards that impounds a 263-acre, 5.3-mile-long reservoir leading to a 735-foot-long power canal connected to a downstream fishway and powerhouse. The powerhouse contains two 2.0-MW generating units that discharge water into a 200-foot-long tailrace. Project power is transmitted through a 30-foot-long, 34/2.4 kilovolt (kV) transmission line connected to the regional grid. A more detailed project description is contained in ordering paragraph (B)(2).

[5] In addition to FPL Energy, the Agreement was signed by the U.S. Fish and Wildlife Service (FWS), NMFS, Maine ASC, Maine DMR, Maine DIFW, Saco River Salmon Club, Atlantic Salmon Federation, Maine Council of the Atlantic Salmon Federation, Saco River Hydro LLC, and the New Hampshire Fish and Game Department.

B. Project Operation

8. The project currently operates in a cycling mode with a daily or twice daily 2-foot impoundment drawdown below the normal full pond elevation (with the flashboards) of 148.5 feet United States Geological Survey (USGS) datum. At flows below the minimum hydraulic capacity of the turbines (950 cfs per turbine), inflows pass through the generating units. Flows in excess of the hydraulic capacity of both turbines (3,120 cubic feet per second (cfs)) are released by lowering multiple-hinged flashboards on top of the spillway. The current license includes no minimum flow requirement for the 1,500-foot-long reach of the Saco River bypassed by the project. The project's current estimated total annual generation is 18,850 megawatthours (MWh).

C. Project Boundary and Recreation Facilities

9. The project boundary encloses: the dam; impoundment to its normal full pond elevation of 148.5 feet USGS datum; power canal; fishway; powerhouse; bypassed reach; transmission line; a canoe portage that includes an upstream take-out area, parking, portage trail, and put-in at the tailrace; and an access area within the bypassed reach which includes a gravel parking area and a foot path leading to a beach (Usher Island) located at the confluence of the bypassed reach and tailrace.

10. The revised exhibit G project boundary drawings filed on December 27, 2004, do not enclose within the project boundary the concrete foundation of the demolished Roger Fiber Mill Building, which is a water retaining structure built adjacent to the east end of Bar Mills dam. The project boundary is discussed further below.

D. Proposed Operation

11. FPL Energy proposes to release a continuous 25-cfs minimum flow in the bypassed reach. In addition, FPL Energy would provide seasonal minimum flows downstream of the project powerhouse in accordance with a 1997 Instream Flow Agreement (Flow Agreement) for hydroelectric projects on the Saco River.[6] According to the Flow Agreement, the flow requirements at Bar Mills, which are determined by flow releases made at the upstream Bonny Eagle Project are: (1) run-of-river operation from April 1 through June 30, with the impoundment maintained within 1 foot of the full pond elevation (148.5 USGS datum); (2) 400 cfs, or inflow, whichever is less, from July

[6] EA at 26. See: Instream Flow Agreement for Hydroelectric Projects on the Saco River (April 30, 1997). This document is included in Appendix D, Volume II of FPL Energy's June 30, 2003, application. The Instream Flow Agreement was signed by FPL Energy's predecessor Central Maine Power Company and 15 federal, state, and local governments and non-governmental organizations.

1 through September 30; (3) 600 cfs, or inflow, whichever is less, from October 1 through November 15; and (4) 250 cfs, or inflow, whichever is less, from November 16 through March 31.

12. Unless specified otherwise above, FPL Energy proposes to continue the current cycling mode of project operation with the 2-foot impoundment drawdown.

E. Proposed Recreation Measures

13. FPL Energy proposes to implement a recreation plan that includes: improving the existing canoe portage take-out and parking; improving the existing portage put-in at the tailrace; improving angler access to the bypassed reach; providing additional signage; and monitoring recreation use and capacity.

SETTLEMENT AGREEMENT

14. The 2007 Agreement establishes a schedule for installing upstream and downstream passage measures for anadromous fish and American eel, conducting fishway effectiveness studies, and performing other measures to enhance restoration of fish populations in the Saco River. The 2007 Agreement represents the culmination of an assessment process that was established by the Saco River Fish Passage Agreement of May 24, 1994, and Annex 1: Assessment Process and Criteria dated January 20, 1995 (collectively, the 1994 Agreement), which settled licensing issues related to anadromous fish passage at the referenced projects.

15. The 2007 Agreement includes six sections and three attachments.[7] Sections 1 and 2 provide definitions and set forth the general provisions of the Agreement. Section 3 describes measures with respect to the 1994 Agreement.[8] Section 4 describes off-license provisions of the Agreement.[9] Section 5 contains the fisheries management measures

[7] Attachment A is the Final Assessment Report, Saco River Fish Passage Assessment Plan, 2000-2005, dated December 2006; Attachment B is the Draft Final Modified Prescriptions for the Bar Mills Hydroelectric Project; and Attachment C is the Conceptual Design – Denil Fishway – Springs Island Dam.

[8] Specifically, section 3 indicates that the 2007 Agreement is consistent with recommendations set forth in the 2000 – 2005 Assessment Report and that the assessment process and assessment reports established under Annex 1 to the 1994 Agreement are concluded. Section 3 also specifies amendments to upstream and downstream fish passage requirements for the Hiram Project No. 2530.

[9] The non-license provisions provide for contributions to support fisheries

(continued)

including fish passage provisions the settling parties request be included as license conditions for each of the FPL Energy-owned projects.[10]

16. Specifically, section 5.1 contains provisions, which include design review, a shakedown period, effectiveness studies and fishway operating procedures, for all fish passage facilities addressed in the 2007 Agreement. Under paragraph a, plans and designs for each permanent fish passage facility would be reviewed in accordance with section 7 of the 1994 Agreement and the current license requirements for each applicable project. Once each new fish passage facility is constructed, the licensee would operate the facility for a one-season "shakedown" period to ensure that it is generally operating as designed and to make minor adjustment to the facility and operation (paragraph b). Under paragraph c, the licensee is to conduct effectiveness studies following the shakedown period of all newly constructed or significantly modified permanent upstream and downstream fish passage facilities or measures required under the 2007 Agreement. If the effectiveness studies demonstrate that the facilities are not effectively passing the target species, the Agreement would require the licensee to make reasonable, cost-effective adjustments to the facilities or measures with the caveat that the aggregate cost of such adjustments not exceed 5 percent of the initial cost of that fish passage facility or measure, or of the significant modification of an existing fish passage facility, as applicable. Finally, the licensee, in consultation with the FWS, NMFS, Maine DMR, and Maine ASC, would draft and maintain a standard set of written fishway operating procedures for each of its projects on the Saco River (paragraph d). The fishway operating procedures would include a general schedule for routine maintenance; procedures for routine operation; procedures for monitoring and reporting on the operation of each fish passage facility or measure; procedures for annual start-up and shut-down; and procedures for emergencies and project outages significantly affecting fishway operation.

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management and restoration activities ($10,000 per year for 10 years), to the Saco River Salmon Club for annual rearing and stocking of Atlantic salmon fry ($25,000 one time), for public education ($5,000 per year through 2016), for the enhancement of Saco River salmon until permanent upstream passage measures are provided up to the Bonny Eagle Project No. 2529 ($50,000 annually), and for reporting requirements.

[10] On July 18, 2007, the Commission issued an order approving the fish passage and fisheries management recommendations called for in the Agreement for the Cataract, Skelton, West Buxton, Bonny Eagle, and Hiram projects. 120 FERC ¶ 62,050 (2007). The Order did not address the measures related to the Bar Mills Project because the Bar Mills Project relicensing proceeding was still pending before the Commission.

17. Section 5.2 (a) and (b) provide for upstream and downstream American eel passage measures at FPL Energy's Saco River projects. For the Bar Mills Project, section 5.2 states that upstream eel passage would be operational by June 1, 2014, and downstream eel passage by September 1, 2026. However, section 5.2 states that this schedule may be delayed following consultation and agreement with FWS, NMFS, and Maine DMR that eels are not yet sufficiently abundant to require passage or provide enough data to allow for a determination of the type or location of eel passage measures.

18. Section 5.2 (a) specifies that upstream eel passage facilities would be required at only one location at each of the projects except the Cataract Project where a facility may be required at two locations; an upstream facility would be provided at either the Springs or Bradbury dams (both dams are Cataract Project facilities); and in the year before initiation of an upstream eel passage facility at a project, the licensee would conduct a study to establish where at the project the facility should be located.

19. The following downstream eel passage measures are described in section 5.2 (b). The licensee would provide engineering and/or operational plans for permanent downstream eel passage measures to the Maine DMR, FWS, and NMFS by February 28 of the year in which downstream eel passage measures are scheduled at a given project. An efficiency goal of 90 percent has been targeted at each project. The goal may be revised following consultation with and consensus by and between the licensee and the FWS, NMFS, and Maine DMR. If, in the interim period prior to implementing permanent downstream eel passage measures at the various projects, downstream eel passage measures are needed under certain circumstances at a specific project, the licensee agrees to undertake the following measures during the passage season for that year: (1) open an existing fish sluice or other gate at the project to provide an unimpeded passage route; and (2) reduce generation if necessary to reduce the approach velocity to the turbine intake(s), thereby reducing the potential for impingement or entrainment of eels. The implementation of the measures (which are detailed in section 5.2) will be initiated by the confirmed observation of more than 50 adult eel mortalities per night at a given project.

20. Section 5.3 provides measures specific to Atlantic salmon, American shad, alewife, and blueback herring. Section 5.3 (a) deals specifically with passage provisions at the Hiram Project. Section 5.3 (b) includes provisions for a single permanent upstream anadromous fish passage facility at each of the licensee's projects lacking such facilities. For the Bar Mills Project, section 5.3 states that such a facility would be operational by May 1, 2016. The schedule may be delayed contingent upon the returning numbers of target species, and following consultation with and agreement by the FWS, NMFS, Maine ASC, and Maine DMR.

21. The licensee would, 18 months prior to the planned construction of the upstream passage facility, submit conceptual designs for approval by the FWS, NMFS, Maine

ASC, and Maine DMR, and would subsequently file functional design drawings with the Commission for approval. The licensee would not be required to install more than one upstream fish passage facility at the Bar Mills, West Buxton, Bonny Eagle, or Hiram projects during the term of the Agreement.

22. Paragraphs c, d, and e of section 5.3 relate to specific measures for Atlantic salmon, alewife and blueback herring, and American shad, respectively. Under paragraph c, the licensee would continue to trap adult Atlantic salmon at either the Cataract or Skelton fishway, and truck these fish to release sites in the Maine portion of the Saco River Basin until such time as permanent upstream fish passage measures are operational at each of the licensee's Saco River projects. Under paragraph d, the licensee agrees to continue to trap adult alewife and blueback herring at either the Cataract or Skelton fishways, and truck these fish to release sites in river reaches below the Hiram Project until such time as permanent upstream passage measures are operational at the Bar Mills, West Buxton, and Bonny Eagle projects. Paragraph e describes provisions to improve American shad passage at the Cataract Project and to continue to trap shad collected at either the Cataract or Skelton fishways and truck these fish to release sites below the Hiram Project until such time as permanent upstream passage measures are operational at the Bar Mills, West Buxton and Bonny Eagle projects.

23. Section 5.4 identifies studies related to the fish passage and fish management provisions of the Agreement to be conducted at selected projects on the Saco River. Paragraph a describes a 3-year study of Atlantic salmon kelts to determine downstream passage routes at select Saco River sites. Paragraphs b and c describe a 2-year semi-quantitative study of downstream passage effectiveness for clupeids at the Cataract and Skelton Projects while paragraph d describes a similar study to be conducted at the Bar Mills, West Buxton, and Bonny Eagle projects. The remainder of section 5.4 includes the compilation of results and preparation of summary reports (e), a commitment to conduct a 3-year study of downstream eel migration timing and routes at the Cataract Project (f), procedures for consulting with the agencies and filing of reports (g), and commitments to study the smallmouth and largemouth bass population in the West Buxton, Bonny Eagle, and Lake Arrowhead impoundments prior to the introduction of alewife (h-j).

24. Section 6 includes the signature pages of the settling parties.

WATER QUALITY CERTIFICATION

25. Under section 401(a)(1) of the Clean Water Act (CWA),[11] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality

[11] 33 U.S.C. § 1341(a)(1) (2000).

certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.[12]

26. On June 19, 2007, FPL Energy applied to the Maine Department of Environmental Protection (Maine DEP) for certification for the Bar Mills Project. On June 19, 2008, Maine DEP issued certification for the Bar Mills Project with conditions which are set forth in Appendix A of this order and incorporated into the license (see ordering paragraph D). The certification includes conditions limiting impoundment fluctuations, establishing minimum flow releases for the tailrace and the bypassed reach, providing upstream fish passage facilities for American eel and anadromous fish, providing downstream fish passage measures for American eel and anadromous fish, conducting effectiveness studies for upstream and downstream fish passage measures, and for implementing a recreation plan. Article 401 requires the licensee to file the plans required by the conditions for Commission approval, and documentation that measures required by the certification conditions have been completed.

COASTAL ZONE MANAGEMENT ACT

27. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[13] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification. The license application included a letter dated June 16, 2003, from the Maine State Planning Office (Maine Planning Office) noting that the Bar Mills Project is not located within Maine's designated coastal zone. The Maine Planning Office also noted that any potential effects on coastal resources, including diadromous fish species, to ensure consistency with applicable enforceable policies would be addressed through the Maine DEP water quality certification process. Therefore, no consistency certification is required.

SECTION 18 FISHWAY PRESCRIPTIONS

28. Section 18 of the FPA,[14] provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as may be

[12] 33 U.S.C. § 1341(d) (2000).

[13] 16 U.S.C. § 1456(3)(A) (2000).

[14] 16 U.S.C. § 811 (2000).

prescribed by the Secretaries of Commerce or the Interior, as appropriate. As pertinent here, section 241 of the Energy Policy Act of 2005 (EPAct)[15] amended section 18 and added a new section 33 to the FPA[16] that applies to preliminary section 18 prescriptions issued by the Departments of the Interior or Commerce (Departments) in Commission license proceedings. Under new regulations developed by the Departments to implement section 241 of EPAct, any party to a Commission licensing proceeding may: (1) request a trial-type hearing on "disputed issues of material fact;" and (2) propose alternative conditions or prescriptions that the Department must accept unless inconsistent with certain energy and environmental criteria.[17]

29. Historically, six anadromous fish species—Atlantic salmon, alewife and blueback herring (river herrings), American shad, rainbow smelt, and striped bass—used the Saco River for spawning purposes. Restoration of anadromous fishes in the Saco River has been a goal of the State of Maine for many years. The 1994 Agreement discussed above formalized a process for anadromous fish restoration in the basin. The 1994 Agreement set forth a plan for establishing fish passage measures for Atlantic salmon, American shad, and river herring at the Saco River mainstem dams including a process for determining the need for, timing, and design of interim and permanent upstream passage facilities at the Bar Mills Project. Specific goals were to provide upstream passage for Atlantic salmon above Swan Falls in the long term and provide passage for river herring and shad on the main stem to above Bonny Eagle and to tributaries below the Hiram Project. Pursuant to the 1994 Agreement, FPL Energy has constructed permanent fish passage facilities at the Cataract and Skelton Projects downstream of the Bar Mills Project. Due to the uncertain growth rate of anadromous fish populations above the Skelton Project, the need for, design, and schedule for implementing fish passage measures at the Bar Mills, West Buxton, Bonny Eagle, Hiram, and Swan Falls projects was to be determined by a periodic assessment process conducted by the signatories to the 1994 Agreement. The first assessment report for the years 1996 through 1999 was filed with the Commission on February 22, 2000. The next assessment report was to include a review of progress made during the 2000 through 2003 seasons and was to be the first report to address the need for additional passage facilities.[18]

30. On April 1, 2005, the Departments filed similar preliminary section 18 prescriptions that included provisions for upstream fish passage facilities for Atlantic

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[15] Pub. L. 109-58, 119 Stat. 595 (2005).

[16] 16 U.S.C. § 823d (2000).

[17] *See* Fed. Reg. 69,804 (November 17, 2005).

[18] This assessment report is included with the 2007 Agreement as attachment A.

salmon, American shad, river herring, and American eel.[19] The prescriptions would have required that two upstream fish passage facilities be provided at the Bar Mills Project; one at the spillway and the other at the powerhouse tailrace, with effectiveness studies for both. The prescriptions also would have required additional effectiveness studies and specified operating periods for an existing downstream passage facility.[20]

31. Regulations issued by the Departments on November 17, 2005, required any requests for a trial-type hearing or proposals for alternatives (requests) be filed by December 19, 2005, in cases where the preliminary section 18 prescriptions were filed prior to the date of the regulations. On December 12, 2005, the Departments filed modified section 18 prescriptions that included procedures to be followed in the event FPL Energy were to request a trial-type hearing and propose alternative conditions. As such, FPL Energy would have been required to file with the Departments any requests only 1 week after the due date for the Departments' modified section 18 prescriptions. Because of this proceeding's unique circumstances, the Departments' modified prescriptions required the filing of any requests to be due 30 days from the date of the modified prescription or by January 11, 2006, rather than the December 19, 2005, deadline.

32. Based on the results of the restoration efforts to date, the September 2005 EA concluded that only river herring had reached sufficient numbers to fully utilize habitats downstream of the Bar Mills dam and thus become a candidate for upstream passage above the Bar Mills Project and that upstream passage for Atlantic salmon and American shad was not justified at this time. However, if the returns of American shad increase to such levels that habitat downstream of Bar Mills approaches full utilization, the EA concluded that permanent upstream fish passage at Bar Mills should be reevaluated.[21] The EA did recommend upstream passage for American eel.

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[19] Although American eel were not addressed in the 1994 Agreement, a 2001 survey indicated that eel were present both upstream and downstream of the project area.

[20] FPL Energy installed a downstream fish passage facility consisting of a weir gate and flume located in an existing sluice gate adjacent to the powerhouse in January 2000.

[21] Because most Atlantic salmon habitat is found well upstream of the Bar Mills Project, the EA found that upstream passage at Bar Mills would offer little to no benefit to Atlantic salmon. Atlantic salmon currently captured at downstream fishways on the Saco River are trucked above several dams to suitable spawning habitat on the Ossipee River and the New Hampshire portion of the Saco River.

33. On January 11, 2006, FPL Energy filed a request for a trial-type hearing and proposed alternative section 18 conditions. FPL Energy disputed the need for permanent fish passage facilities for anadromous fishes and American eel at the Bar Mills Project. FPL Energy stated that the trap and truck facilities at the Cataract and Skelton Projects have more than adequate capacity to continue that ongoing interim program into the long-term until all of the fish populations grow large enough to justify construction of permanent passage facilities at the Bar Mills Project.

34. On March 17, 2006, the Departments filed notices with the Commission of consolidated FPL Energy's requests for hearing and referred the requests to Commerce to be heard by an Administrative Law Judge. The notices also established January 19, 2007, as the due date for the FWS and NMFS to file answers to FPL Energy's requests. Subsequently, the Departments extended the deadline for the filing of answers to February 20, 2007, at the request of the Departments' agencies who along with several other parties were attempting to finalize a settlement agreement with FPL Energy regarding the issues under consideration. The Departments extended the deadline for answers again to April 20, 2007, by notice filed on February 14, 2007.

35. By letters filed April 13, 2007, the Departments filed final modified section 18 prescriptions for the Bar Mills Project consistent with the terms of the 2007 Agreement. The Departments' prescriptions are set forth in appendix B and appendix C of this order and incorporated into the license (see ordering paragraph E).[22] Generally, the final prescriptions set a target date of May 1, 2016, for a single standard Denil-type fish ladder to be operational at the Bar Mills Project;[23] effectiveness studies for the existing downstream fish passage facility; an upstream eel passage facility to be provided by June 1, 2014; permanent downstream passage measures for American eel by September 1, 2026; and interim downstream eel passage measures beginning the tenth year after permanent upstream eel passage has been installed. The final prescriptions indicate that the schedule may be delayed contingent upon returning numbers of fish and American eel after consultation and agreement by the FWS, NMFS, Marine DMR, and the Maine ASC.

36. The Departments also requested that the Commission reserve their respective authorities to prescribe fishways during the term of the license.

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[22] On April 23, 2007, FPL Energy filed its withdrawal for trial-type hearing and proposal for alternative conditions for the Bar Mills Project.

[23] The preliminary and modified section 18 prescriptions had included requirements for up to 3 fish ladders at the Bar Mills Project.

37. The Departments state that the final section 18 prescriptions reflect the data in the 2000 to 2005 assessment and the overall goals of the 2007 Agreement and believe that a basin-wide approach to restoring fish resources in the Saco River would provide greater overall benefits than proceeding on a project by project basis.

38. While the final prescriptions, if implemented, would be less costly than the preliminary prescriptions by reducing the number of potential permanent upstream fish passage facilities and allowing for trap and haul operations to continue in the interim, they would still be more costly than the EA recommendation to continue trap and haul operations until such time that the anadromous species of interest increased to levels that could fully utilize habitats downstream of the Bar Mills Project. However, the Departments believe that implementation of the fish passage provisions required by the final section 18 prescriptions and contained in the 2007 Agreement would provide a greater likelihood of success than proceeding on a project by project basis, and the 2007 Agreement does provide for delaying passage facility installation if the number of returning fish is not sufficient. Ordering paragraph E requires implementation of Interior's and Commerce's section 18 prescriptions, respectively. Furthermore, consistent with Commission policy, Article 402 of the license reserves the Commission's authority to require fishways that may be prescribed by Commerce and Interior for the Bar Mills Project. Article 401 requires the licensee to file, for Commission approval, the plans required by the section 18 prescriptions, including notification of its intent to delay operation of an upstream fish passage facility and upstream and downstream eel passage facilities and measures.

ESSENTIAL FISH HABITAT

39. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Act),[24] requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Act, NMFS is required to provide EFH conservation recommendations for actions that would adversely affect EFH.[25] Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on the EFH.[26]

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[24] 16 U.S.C. § 1855(b)(2) (2000).

[25] 16 U.S.C. § 1855(b)(4)(A) (2000).

[26] 16 U.S.C. § 1855(b)(4)(B) (2000).

40. EFH has been designated for Atlantic salmon in the Saco River and its tributaries. In the EA, Commission staff concluded that licensing the project, as proposed by FPL Energy and with staff's recommended measures, would not adversely affect EFH and would benefit Atlantic salmon and help promote its recovery. As such, no consultation is required with NMFS. However, in a letter filed October 11, 2005, NMFS indicated that it disagreed with the Commission staff's overall conclusions regarding potential improvements to habitat quality and availability and stated that Commission staff recommendations may have substantial adverse effects on EFH by eliminating viable habitat from use by various life stages of Atlantic salmon. NMFS indicates that its section 10(j) recommendation for minimum flows of 250 cfs and section 18 prescription for upstream and downstream fish passage measures would avoid and minimize impacts on designated EFH to the extent practical. NMFS stated that it would pursue expanded EFH consultation pursuant to 50 CFR and provide its conservation recommendations within 60 days of receipt of the Commission's EFH assessment or November 11, 2005 [50 CFR 600.920(i)(4)]. NMFS has not provided its conservation recommendations.

41. Although NMFS did not provide conservation recommendations, its final section 18 prescriptions are a requirement of this license. Furthermore, NMFS indicated at a January 31, 2006 section 10(j) meeting that it was receptive to a 100-cfs minimum flow release for the bypassed reach compared to its initial recommendation of 250 cfs.[27] As discussed below, certification condition 3.B requires a minimum flow in the bypassed reach of 100 cfs from April 1 through October 31 and 50 cfs the remainder of the year.

THREATENED AND ENDANGERED SPECIES

42. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA),[28] requires federal agencies to ensure that 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 their designated critical habitat.

43. At the time the EA was issued, the bald eagle (*Haliaeetus leucocephalus*) was a federally listed threatened species. Transient bald eagles potentially use project lands for perching and foraging, although such use has not been documented. As discussed in the EA, no land-disturbing activities are proposed that would disturb potential future eagle perching or foraging habitat at the project, and no change to project operation is proposed

[27] In its comment letter filed February 14, 2006, NMFS stated that it would provide a final decision on minimum flows in the bypassed reach at the conclusion of settlement negotiations and the EPAct process. To date, no such decision has been forthcoming.

[28] 16 U.S.C. § 1536(a) (2000).

that would adversely affect eagle use of project waters. In addition, the proposed and recommended increased minimum flows in the bypassed reach could improve eagle foraging habitat. Therefore, in the EA, staff determined that issuing a new license for the project would not be likely to adversely affect the bald eagle. In its letter filed November 16, 2005, FWS concurred with the staff determination in the EA.[29] Because no listed species are present at the project, issuing a license for the Bar Mills Project would not affect federally listed threatened or endangered species or critical habitat.

NATIONAL HISTORIC PRESERVATION ACT

44. Under section 106 of the National Historic Preservation Act (NHPA),[30] and its implementing regulations,[31] 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 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.

45. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the Maine SHPO and invited FPL Energy, the Penobscot Indian Nation, and the Passamaquoddy Tribe of Maine to concur with the stipulations of the PA. FPL Energy and the Passamaquoddy Tribe concurred.

46. A historic properties management plan (HPMP) for the Bar Mills Project was filed on December 27, 2004. The December 27, 2004, filing included a letter dated December 6, 2004, from the Maine SHPO finding the HPMP acceptable in all respects. The PA stipulates that upon license issuance for the Bar Mills Project, the licensee shall implement a HPMP. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Ordering paragraph (F) approves the HPMP, and Article 404 requires FPL Energy to implement the plan.

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[29] On July 9, 2007, the FWS delisted the bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife (50 CFR Part 17).

[30] 16 U.S.C. § 470 *et seq.* (2000).

[31] 36 C.F.R. Part 800 (2007).

RECOMMENDATIONS OF STATE AND FEDERAL FISH AND WILDLIFE AGENCIES

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

47. Section 10(j)(1) of the FPA[32] 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,[33] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

48. In response to the February 1, 2005 public notice that the project was ready for environmental analysis; Interior, NMFS, Maine DIFW, and Maine DMR collectively filed 13 different recommendations.[34] Three recommendations were determined to be outside the scope of section 10(j) and are discussed in the next section. This license includes conditions consistent with six of the remaining 10 recommendations that are within the scope of section 10(j). These include recommendations to: (1) avoid maintenance drawdowns at the project that exceed 2 feet from normal full pond elevation during the months of May and June (certification condition 1.A); (2) develop and implement a flow and water level monitoring plan (certification conditions 1.D and 3.E); (3) install flow monitoring equipment in the tailrace and bypassed reach (certification condition 3.E); (4) install upstream fish passage facilities (certification condition 6.A and section 18 prescriptions 6.D.1 and 11.D.1); (5) provide an operational plan and effectiveness testing for the existing downstream fish passage facility (certification condition 7.C and section 18 prescriptions 6.E.1 and 11.E.1); and (6) provide upstream and downstream passage for American eel (certification conditions 4.A and 5.B and section 18 prescriptions 6.C.1 and 2, and 11.C.1 and 2).

49. If the Commission believes that any such recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2) 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.[35] If the Commission still does not adopt a

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[32] 16 U.S.C. §803(j) (1) (2000).

[33] 16 U.S.C. §§ 661 *et seq*. (2000).

[34] Maine DIFW filed its recommendations on March 21, 2003; Interior and NMFS filed recommendations on April 1, 2005; and Maine DMR filed its recommendations on April 4, 2005.

[35] 16 U.S.C. §803(j)(2) (2000).

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.

50. Commission staff made an initial determination that the Interior recommendation for instantaneous run-of-river operation, the NMFS recommendation to operate within 6 inches of full pool elevation, the Interior and NMFS recommendation for a 250-cfs minimum flow in the bypassed reach, and the Maine DIFW and Maine DMR recommendation for a 100-cfs minimum flow in the bypassed reach may be inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA.[36] By letters dated September 9, 2005, Commission staff advised Interior, NMFS, Maine DIFW, and Maine DMR of its preliminary determination and attempted to resolve the apparent inconsistencies. A meeting was held on January 25, 2006, to try to resolve the inconsistencies, but resolution of all the issues was not reached.[37]

Bypassed reach flows

51. In the EA, staff recommended a year-round minimum flow in the bypassed reach of 50 cfs. A 50-cfs minimum flow would provide about 70 percent of the maximum fish habitat over the range of flows evaluated for 3 of the 4 species life stages considered (60 percent for smallmouth bass) and adequate zone-of-passage conditions would be maintained. At flows above 50 cfs, the rate of habitat improvement levels off or declines. Therefore, the EA found that increasing flows above 50 cfs to the 100-cfs to 250-cfs range as recommended by the resource agencies would not provide incremental

[36] In a letter filed October 14, 2005, Maine DIFW clarified that its recommended flows were intended for the April 1 through October 31 period and that overwinter survival and carry-over of stocked trout were anticipated to occur within the downstream Skelton Project impoundment thereby reducing the minimum flow needs during the winter months. As such, Maine DIFW deferred a recommendation for winter minimum flows to the Maine DEP.

[37] At the meeting, Interior and NMFS agreed that there was not sufficient evidence to warrant a change from the existing cycling operation to run-of-river operation with the exception of the limitation during bass spawning months provided in the 1997 Flow Agreement. Certification condition 3.A requires run-of-river operation during the bass spawning months (April 1 through June 30). Therefore, the inconsistencies between Interior and NMFS run-of-river recommendations and the FPA have been resolved.

improvements to habitat and zone-of-passage conditions worth the additional annual cost of $26,920 and $66,570 respectively in lost generation.

52. At the 10(j) meeting, Interior and NMFS stated that a year-round 100-cfs minimum flow could be justified because that flow rate represented an inflection point on the flow versus habitat curve for brown trout.[38] Interior also stated that 100 cfs would provide sufficient zone of passage conditions. Although NMFS was receptive to a 100-cfs flow at the 10(j) meeting, in a letter filed February 14, 2006, NMFS stated that it would provide a final decision on minimum flows in the bypassed reach following the conclusion of ongoing settlement negotiations among NMFS, Interior, the State of Maine resource agencies and FPL Energy or the EPAct hearing process. However, no minimum flow conditions were specified in the 2007 Agreement and NMFS has not commented on minimum flows since the filing of the 2007 Agreement.

53. In a letter filed February 2, 2006, Maine DIFW provided additional support for its 100-cfs minimum flow recommendation. Maine DIFW indicated that the Saco River is one of three large rivers in southern Maine that are the subject of a management initiative of opening-up large rivers to year-round trout fishing. Maine DIFW does not believe that FPL Energy's flow study, which examined the relationship between flow levels and habitat at three transects, reflects the substantial overall habitat gains that are available at higher flows.[39] Maine DIFW states that with adequate flows stocked legal-size brown trout would provide a season-long, put, grow, and take fishery and they expect that trout would survive and carry-over to the next season to create a multi-age class fishery. Providing a minimum flow of 100 cfs would increase the percent of maximum habitat from 69 percent at a flow of 50 cfs to 81 percent. Maine DIFW expects this enhanced fishery to generate $10,000 to $20,000 annually in economic value in the well-populated area of southern Maine.

54. FPL Energy commented that the study area is managed as a warmwater fishery by Maine DIFW and that a flow of 100 cfs during the summer months is not justified

[38] The inflection point is a point on a curve where the slope of the curve changes from being concave upwards (positive curvature) to concave downwards (negative curvature), or vice versa. In this case, the rate of habitat improvement is greatest as flows increase prior to reaching the inflection point, and beyond that point, the rate of habitat improvement is moderate with higher incremental flows.

[39] Maine DIFW cites its review of the demonstration flow video provided by FPL Energy in conjunction with the bypassed reach flow study.

because most trout would have been harvested by then and summer water temperatures would be more suitable for warmwater species.[40]

55. As noted above, the current management objective of Maine DIFW for the Bar Mills bypassed reach is to establish a year-round brown trout fishery. Limited water temperature data measured in August 2001 from the Bar Mills Project impoundment and bypassed reach indicate that project waters remained suitable for brown trout survival even during a typically warm summer period.[41] Because trout would have access to the Skelton impoundment downstream of the Bar Mills bypassed reach for overwintering, the 100-cfs flow would be most beneficial during the April 1 through October 31 period. The staff-recommended 50-cfs minimum flow would be sufficient to protect the species life stages remaining in the bypassed reach during the remainder of the year. Therefore, to enhance habitat for adult brown trout and other fish species life stages in the bypassed reach, certification condition 3.B requires seasonal minimum flows of 100 cfs from April 1 through October 31 and 50 cfs from November 1 through March 31.

56. For the above reasons, I conclude, in accordance with FPA section 10(j)(2)(A), that NMFS', Interior's, and Maine DMR's recommendations for year-round flows in the bypassed reach ranging from 100 to 250 cfs are inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, I find that the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project.

B. Recommendations Pursuant to Section 10(a)(1) of the FPA

A. Tailrace Minimum Flows

57. In the EA, staff recommended adopting the 1997 Flow Agreement provisions that established run-of-river operation from April 1 through June 30 and specific seasonal minimum flows the remainder of the year.[42] At the 10(j) meeting and in a letter dated

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[40] FPL Energy letter to Maine DEP commenting on the draft certification dated June 19, 2008.

[41] EA at p.19. *See also* Raleigh, R.F., L.D. Zuckerman, and P.C. Nelson. 1986. Habitat suitability index models and instream flow suitability curves: Brown trout, revised. U.S. Fish Wildl. Ser. Biol. Rep. 82 (10.124). 65 pp. [First printed as: FWS/OBS-82/10.71, September 1984].

[42] Certification condition 3.A requires run-of-river operation from April 1 through June 30.

February 14, 2006, NMFS recommended that a minimum tailrace flow be specified during the April 1 through June 30 time period. NMFS stated further that a flow of 250 cfs during that time would be consistent with the minimum flows established during other time periods under the 1997 Flow Agreement but that more analysis would be necessary to determine if this was the appropriate flow. However, NMFS did not provide any subsequent information. Because this license requires the licensee to operate the project run-of-river during the April 1 through June 30 time period (certification condition 3.A), it is unclear what additional benefits would accrue by establishing a minimum flow for that same period.

B. Recreation Monitoring, Access, and Shoreline Management

58. Interior, Maine DIFW, and Maine DEP made three recommendations that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. The recommendations include: (1) monitor recreation use; (2) develop boat access and angler trails; and (3) develop a shoreline management plan (SMP). Consequently, I do not consider these recommendations under section 10(j) of the FPA. Instead, I consider these recommendations under the broad public-interest standard of FPA section 10(a)(1).[43]

59. I have adopted Interior's recommendation to monitor recreation use,[44] and Maine DIFW's recommendation to develop boat access and angler trails. These recommendations are consistent with FPL's proposed recreation plan, discussed below.

60. FPL Energy filed a recreation enhancement plan for the Bar Mills Project on December 27, 2004. The filing included comment letters from the Maine DIFW, Maine DEP, Maine Department of Conservation, and the Maine ASC, all dated December 2004. All comments supported the recreational enhancements proposed in the plan.

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[43] 16 U.S.C. § 803(a)(1) (2000). Section 10(a)(1) requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

[44] Section 8.11 of the Commission's regulations require the licensee to complete and file FERC Form 80 by April 1 of every sixth year for data compiled during the previous calendar year. The completed Form 80 must describe the project's recreation facilities and the public use of these facilities.

61. Under the plan FPL Energy would: (1) enhance the existing canoe portage take-out by grading and improving the slope and providing parking-related signage; (2) enhance angler access to the bypassed reach by clearing vegetation, designating a trail on Usher Island adjacent to the existing bypass reach access site, and adding signage; (3) enhance the existing canoe portage put-in by constructing granite or concrete steps and a landing, adding signage, and stabilizing minor bank erosion occurring near the portage; (4) install additional directional signage along State Route 4A; and (5) operate and maintain all project recreation sites. FPL Energy included conceptual drawings for all the proposed measures, and provided an estimated initial cost of $24,000 for these improvements, with annual operation and maintenance estimated at $4,700. The plan specifies that the recreational enhancements will be constructed during the first full construction season following license issuance. FPL also notes in its December 27, 2008, filing that monitoring would be conducted via the Form 80.

62. The EA found that the proposed recreation plan would improve canoe passage around the project, access for fishing, swimming and informal recreational activities, and that the measures proposed in the plan would be worth the estimated cost. Staff therefore recommended approving and implementing the proposed recreation plan,[45] and monitoring recreational use through the Commission's Form 80 report which is filed every six years. Article 403 requires filing documentation that the recreation facilities have been completed.

63. I am not adopting Interior's recommendation to develop a SMP for the project. In the EA, staff noted that there are only 3 acres of land within the project boundary, primarily located near the dam and bypassed reach, and that this land would be used primarily for recreation access and activities under the proposed recreation plan. The EA also noted that there appears to be little interest in development along the reservoir shoreline and concluded that a SMP would not provide a significant benefit beyond what would be provided through the recreation plan. Therefore, the license does not require development of a SMP.

OTHER ISSUES

A. Limits on Expenditures

64. If the effectiveness studies under section 5.1 of the Agreement demonstrate that the required fish passage facilities are not effectively passing the target species, the Agreement would require the licensee to make reasonable, cost-effective adjustments to the facilities or measures with the caveat that the aggregate cost of such adjustments not

[45] Maine DEP certification condition 8.B requires the submittal of plans and a schedule for implementing the recreation plan for approval (Article 401).

exceed 5 percent of the initial cost of that fish passage facility or measure, or of the significant modification of an existing fish passage facility, as applicable. The Commission has stated that the licensee's obligation to be to complete the measures required by license articles, in the absence of authorization from the Commission to the contrary, and that dollar figures agreed to by the parties are not absolute limitations. *See Virginia Electric Power Co.*, 110 FERC ¶ 61,241 at P 10 and p. 61,935. Therefore, this license includes Article 405 which reserves the Commission's authority to require the licensee to fulfill the requirements of this license notwithstanding the limitations on expenditures included in this license.

B. Delay of Implementation of Fish Passage Facilities

65. Sections 5.2 and 5.3 of the Agreement providing for the operation of fish passage facilities for American eel and anadromous fish species, respectively, include provisions stating that the schedule to develop and implement the passage facilities may be delayed contingent upon the returning numbers of target species, and following consultation with and agreement by the FWS, NMFS, Maine ASC, and Maine DMR. This license requires operation of fish passage facilities by the due dates specified in sections 5.2 and 5.3 of the Agreement and required by Maine DEP's certification and Interior's and Commerce's section 18 prescriptions (certification conditions 4.A, 5.B and 6.A, and section 18 prescriptions 11.C.1 and 11.C.2 and 6.C.1 and 6.C.2, respectively). Because these dates are approved and made part of the license, only the Commission can delay the requirement for fish passage. Therefore, FPL Energy would be required to petition the Commission for any delay beyond the dates specified and include in its request the concurrence of the agencies pursuant to the 2007 Agreement.

C. Transmission Line

66. In the current license, the project is described as including a short, 38 kV transmission line. In its application for a new license (page A-14), FPL Energy notes that the line that transmits project energy to the local utility is not part of the licensed project; on page A-20, this line is described as a 34 kV non-project transmission line. In a February 24, 2004 letter, staff requested additional information, including a one-line diagram and a written description, of the project's electrical system. In its response filed December 27, 2004, FPL Energy notes that a high-side disconnect switch[46] located near the transformer bank is the termination of project facilities, included the same one-line diagram from the application, and reiterated that power from the project is transmitted to

[46] The high side disconnect switch is the demarcation point between FPL Energy facilities and Central Maine facilities that includes the 4-foot-long, 34-kV transmission line.

the local utility system via a 34-kV three-phase non-project transmission line. Responding to a second staff request for clarification, on July 17, 2008, FPL Energy submitted the same one-line diagram but added notes identifying an existing 12-foot-long, 2.4-kV transmission line adjacent to the powerhouse, that connects to an existing 14-foot-long, 34-kV transmission line that connects to a 4-foot-long, 34-kV transmission line that connects to Central Maine Power Company's (Central Maine) regional distribution transmission line.[47]

67. The Commission's test for a primary line is that the line is used solely to transmit power from the licensed project to a load center, and that without the line there would be no way to transmit all the project power to market. Under this test, the line leading from a project ceases to be a primary line at the point it is no longer used solely to transmit power from the project to the interconnected grid.[48] The entire 30-foot-long, 34/2.4 kV transmission line leading from the powerhouse to Central Maine's regional transmission line is the only line transmitting project power to the regional grid. Therefore, the entire 30-foot-long, 34/2.4 kV transmission line, including the 4-foot-long, 34-kV transmission line owned by Central Maine, is a primary line, and I am including it as a project feature in this license. Standard license Article 5 requires FPL Energy to obtain sufficient rights in the line to operate and maintain it in accordance with the license.

ADMINISTRATIVE CONDITIONS

A. Annual Charges

68. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA and use and occupancy of U.S. lands, where appropriate.

B. Amortization Reserves

69. The Commission requires that, for new major licenses, licensees set up and maintain an amortization reserve account upon license issuance. Article 202 requires the account.

C. Exhibit F Drawings

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[47] See e-mail from Harold Kamara to Tom Dean dated July 16, 2008, and the attached one-line diagram noting that the 4-foot-long, 34-kV transmission line is owned by Central Maine.

[48] *See, e.g., Vermont Electric Generation & Transmission Cooperative, Inc. and North Hartland, LLC*, 104 FERC ¶ 61,151 at P 8 (2003) and the orders cited there.

70. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. In a letter dated February 24, 2004 to FPL Energy, staff requested additional information, including exhibit F drawings in electronic format. In its response filed December 27, 2004, FPL Energy refiled in electronic format, exhibit F sheets 1 through 4. Neither exhibit F drawing sheet 3 or exhibit F sheet 4 (showing the powerhouse general plan and sections) show or label the 30-foot-long, 34/2.4 kV primary transmission line. Therefore, exhibit F drawings sheets 3 and 4 must be revised to show and label the 30-foot-long, 34/2.4 kV primary transmission line. Ordering paragraph C approves exhibit F sheet 1 and 2 and Article 203 requires filing of these drawings on microfilm.

D. Exhibit G Drawings

71. The exhibit G project boundary drawing filed on December 27, 2004, encloses all of the project works including the existing transmission line and recreation facilities, except for the concrete foundation of the demolished Roger Fiber Mill Building which is a water retaining structure built adjacent to the east end of Bar Mills dam. Further, the exhibit G drawings are not stamped by a Registered Land Surveyor. Article 205 requires FPL Energy to file revised exhibit G drawings enclosing the concrete foundation of the demolished Roger Fiber Mill Building within the project boundary. The exhibit G drawings, therefore, filed on December 27, 2004, are not approved and are not made part of the license [see ordering paragraph (C)].

E. Headwater Benefits

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

F. Review of Final Plans and Specifications

73. This license authorizes several construction-related actions, including construction of upstream fish passage facilities for American eel and anadromous fish. Article 301 requires the licensee to provide the Commission's Division of Dam Safety and Inspection New York Regional Office (D2SI-NYRO) with cofferdam construction drawings at least 30 days prior to starting construction of the cofferdams. Article 302 requires the licensee to provide D2SI-NYRO, for approval, final contract drawings and specifications, together with a supporting design report consistent with the Commission's regulations, a Quality Control and Inspection Program, and a Soil Erosion and Sediment Control Plan. Article 303 requires the licensee to provide the D2SI-NYRO with a temporary construction emergency action plan. Article 304 requires the licensee to file for Commission approval, within 90 days of completing construction, revised exhibits describing and showing the facilities as built.

G. Use and Occupancy of Project Lands and Waters

74. Requiring a licensee to obtain prior Commission approval for every use or occupancy of the project would be unduly burdensome. Therefore, Article 406 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

H. Consultation for Resource Plans

75. Appendices A, B, and C contain certain certification conditions and fishway prescriptions that require the development of plans, including: plans for monitoring impoundment levels and minimum flows; a plan to determine the location of an upstream American eel passage facility; final design and operational plans for upstream passage facilities for American eel and anadromous fish and downstream American eel passage measures; plans to study the effectiveness of upstream passage facilities for American eel and anadromous fish, downstream eel passage measures, and existing downstream passage facilities for anadromous fish; and a plan to study the downstream passage of salmon kelts at Bar Mills if applicable. These conditions and prescriptions require the licensee to obtain approval from various agencies but do not provide for consultation with other agencies during plan development. Therefore, Article 401 requires the licensee to consult with the pertinent agencies during plan development and to file the plans with the Commission for approval.

STATE AND FEDERAL COMPREHENSIVE PLANS

76. Section l0(a)(2)(A) of the FPA[49] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[50] Under section 10(a)(2)(A), staff identified and reviewed 11 comprehensive plans that are relevant to this project.[51] No conflicts were found.

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[49] 16 U.S.C. § 803(a)(2)(A) (2000).

[50] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2007).

[51] The list of applicable plans can be found in section IX of the EA.

APPLICANT'S PLAN AND CAPABILITIES

77. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,[52] Commission staff evaluated FPL Energy's record as a licensee in the following areas: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. I accept staff's findings, discussed below, for each of these areas.

A. Conservation Efforts

78. Section 10(a)(2)(C) of the FPA[53] requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. FPL Energy sells the project's energy to customers served by the Independent System Operator – New England (ISO New England) power pool, and not to end-users. ISO New England promotes conservation of electricity use by its customers by supporting publicly funded energy efficiency programs sponsored by various program organizations operating within New England.[54] Staff conclude that, given the limits of its ability to influence users of the electricity generated by the project, FPL Energy complies with section 10(a)(2)(C) of the FPA.

B. Compliance History and Ability to Comply with the New License

79. Based on a review of FPL Energy's compliance with the terms and conditions of the existing license, staff finds that FPL Energy's overall record of making timely filings and compliance with its license is satisfactory. Therefore, staff believes that FPL Energy can satisfy the conditions of a new license.

C. Safe Management, Operation, and Maintenance of the Project

80. Staff reviewed FPL Energy's management, operation, and maintenance of the Bar Mills Project pursuant to the requirements of 18 C.F.R. Part 12 of the Commission's Regulations and the Commission's Engineering Guidelines. Staff concludes that the dam

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[52] 16 U.S.C. § § 803(a)(2)(C) and 808(a) (2000).

[53] 16 U.S.C. § 803(a)(2)(c) (2000).

[54] See http://www.iso-ne.com.

and other project works are safe, and finds that there is no reason to believe that FPL Energy cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

81. Staff reviewed FPL Energy's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Staff review indicates that FPL Energy regularly inspects the project turbine generator units to ensure they continue to perform in an optimal manner, and schedules maintenance to minimize effects on energy production in an effort to reliably operate the project into the future. Staff concludes that FPL Energy is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

82. To assess the need for power, staff looked at the needs in the operating region in which the project is located which is the Northeast Power Coordinating Council (NPCC) region of the North American Electric Reliability Council. The peak demand for the NPCC area is projected to grow at an average annual compound rate of 1.2 percent over the 10-year planning period from 2007 through 2016. Staff concludes that the project's power, low cost, displacement of nonrenewable fossil-fired generation, and contribution to the region's diversified generation mix will help meet the need for power in this region.

F. Transmission Services

83. The Bar Mills Project has a 30-foot-long, 34/2.4 kV primary transmission line connecting to Central Maine's regional transmission line. FPL Energy proposes no changes that would affect the capability of the project to transmit electric power to the regional distribution system.

G. Cost Effectiveness of Plans

84. The license requires improving recreational facilities, implementing a historic properties management plan, and constructing and operating eel and fish passage facilities to enhance environmental resources affected by the project. Based on FPL Energy's record as an existing licensee, staff concludes that these measures are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

85. FPL Energy provided opportunity for public involvement in the development of its application for a new license for the Bar Mills Project. During the previous license

period, FPL Energy provided employment opportunities and the project attracted those interested in various forms of recreation. FPL Energy's use of the project to help meet regional power needs and the taxes it pays also benefit the public.

PROJECT ECONOMICS

86. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,[55] the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.[56]

87. In applying this analysis to the Bar Mills Project, staff considered two licensing options: FPL Energy's proposal, which is in accordance with the 2007 Agreement, 1997 Flow Agreement, and consistent with the fishway prescriptions; and the project as licensed herein including the 2007 Agreement, 1997 Flow Agreement, fishway prescriptions, and certification conditions. As proposed by FPL Energy, the annual cost of operating the Bar Mills Project would be $856,470 or $45.70/MWh. The proposed project would generate an estimated average of 18,740 MWh of energy annually. When we multiply our estimate of average annual generation by the alternative power cost of $69.09/MWh,[57] we get a total value of the project's power of $1,294,750 in 2008 dollars. To determine whether the proposed project is currently economically beneficial, we subtract the project's cost from the value of the project's power.[58] Therefore, in the first

[55] 72 FERC ¶ 61,027 (1995).

[56] In a letter filed October 11, 2005, NMFS noted that the analysis of project economics in the EA does not consider the economic value of restoring fisheries resources, the benefits of improved habitat quality, or the health of public trust resources. While the analysis may not place a dollar value on these resources, it does consider the relative benefits and costs of the proposed and recommended environmental measures in order to allow the Commission to make an informed licensing decision.

[57] The alternative power cost of $69.09 per MWh is based on information posted on the ISO New England web site at http://www.iso-ne.com.

[58] The economic analysis for the project as licensed herein and for various alternatives are included in the EA issued September 9, 2005, and updated to 2008$.

year of operation, the project would cost $438,280, or $23.39/MWh, less than the likely alternative cost of power.

88. As licensed herein with the mandatory fishway prescriptions, certification conditions, and staff recommended measures,[59] the levelized annual cost of operating the project would be about $861,730 or $47.84/MWh. Based on the same alternative power cost and estimated average annual generation of 18,013 MWh, project power would cost $382,790 or $21.25/MWh less than the likely cost of alternative power. In considering public interest factors, the Commission takes into account that hydroelectric projects, like the Bar Mills Project, offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include their capability to provide an almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

COMPREHENSIVE DEVELOPMENT

89. Sections 4(e) and 10(a)(1) of the FPA[60] require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

90. The EA for the project contains background information, analysis of effects, and support for related license articles. I conclude, based on the record of this proceeding, including the EA and the comments thereon, that licensing the Bar Mills Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

91. Based on my independent review and evaluation of the Bar Mills Project, recommendations from the resource agencies and other stakeholders, certification conditions, section 18 prescriptions, and the no-action alternative, as documented in the

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[59] The additional staff-recommended measures include filing documentation that recreation facility improvements have been completed, and implementing the PA.

[60] 16 U.S.C. §§ 797(e) and 803(a)(1) (2000).

EA, I have selected the proposed Bar Mills Project, with the certification conditions, section 18 prescriptions, and the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Saco River waterway.

92. I selected this alternative because: (1) issuing a new license will serve to maintain a beneficial, dependable, and an inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 4.0 MW of electric energy generated from a renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving non-renewable resources and reducing atmospheric pollution.

LICENSE TERM

93. Section 15(e) of the FPA,[61] provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.[62]

94. In a letter filed October 12, 2005, FPL Energy notes that permanent fish passage facilities will have a substantial effect on project economics, and requests a 50-year license term in order to allow adequate time to recover these costs.

95. This license requires new construction of an upstream eel passage facility including plans and effectiveness studies, an upstream fish passage facility including plans and effectiveness studies, and recreation improvements and cultural resource protection measures. Because of the moderate amount of new construction and mitigation and enhancement measures, a 40-year license for the Bar Mills Project is appropriate.

The Director orders:

(A) This license is issued to FPL Energy Maine Hydro LLC (licensee) to operate and maintain the Bar Mills Hydroelectric Project, for a period of 40 years, effective the first day of the month in which this order is issued. The license is subject to the terms

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[61] 16 U.S.C. § 808(e) (2000).

[62] *See Consumers Power Company*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in these lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 460-foot-long, 7-foot-high concrete gravity dam equipped with a 264-foot-long spillway topped with 6.75-foot-high flashboards; (2) the concrete foundation of the demolished Roger Fiber Mill Building; (3) a 263-acre, 5.3-mile-long impoundment with a normal full pond water surface elevation of 148.5 feet USGS datum; (4) a 94-foot-long headworks structure fitted with stoplogs; (5) a 735-foot-long, 75-foot-wide to 180-foot-wide power canal; (6) a 7-foot-wide gate and downstream fishway flume; (7) a powerhouse containing two generating units with a total installed capacity of 4.0-MW; (8) a 200-foot-long tailrace; (9) a 30-foot-long, 34/2.4 kV transmission line; and (10) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of exhibits A and F shown below:

Exhibit A: Pages A-1 through A-20 of exhibit A filed on June 30, 2003.

Exhibit F: The following sections of exhibit F sheets 1 and 2 refiled on December 27, 2004:

Exhibit F Drawings	FERC No. 2194-	Description
Sheet 1	1001	General Site Plan Dam-Powerhouse
Sheet 2	1002	Dam and Canal Plan and Typical Sections

(C) The exhibits A and F described above are approved and made part of this license. The exhibit F drawings sheets 3 and 4 do not show or label the 30-foot-long, 34/2.4 kV transmission line, and therefore, are not approved. The exhibit G drawings do not enclose the concrete foundation of the demolished Roger Fiber Mill Building within the project boundary and are not stamped by a Registered Land Surveyor. Therefore, the exhibit G drawings are not approved.

(D) This license incorporates and is subject to the conditions submitted by the Maine Department of Environmental Protection under section 401(a)(1) of the Clean Water Act as those conditions are set forth in Appendix A to this order.

(E) This license incorporates and is subject to the conditions submitted by the U.S. Departments of Commerce and the Interior under section 18 of the FPA as those prescriptions are set forth in appendices B and C to this order.

(F) The historic properties management plan filed on December 27, 2004, is approved and made part of this license. Article 404 requires implementation of the plan.

(G) This license is subject to articles set forth in Form L-3 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters (*see* 54 FPC 1799 *et seq*.)," and the following additional articles.

Article 201. *Administrative Annual Charges*. The licensee shall pay annual charges to the United States, effective the first day of the month in which this license is issued, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 4.0 megawatts.

Article 202. *Amortization Reserve*. Pursuant to section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant

maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. *Exhibit F Drawings*. Within 45 days of license issuance, the licensee shall file the approved exhibit F drawing sheets 1 and 2 on aperture cards.

Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-2194-1001 through P-2194-1002) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c).

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office.

Article 204. *Exhibit F Drawings*. Within 45 days of license issuance, the licensee shall file, for Commission approval, revised exhibit F drawing sheets 3 and 4 showing and labeling the 30-foot-long, 34/2.4 kV primary transmission line. The exhibit F drawings shall comply with sections 4.39 and 4.41 of the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41 (2006).

Article 205. *Exhibit G Drawings*. Within 45 days of license issuance, the licensee shall file, for Commission approval, revised exhibit G drawings enclosing within the project boundary all project works necessary for operation and maintenance of the project, including the concrete foundation of the demolished Roger Fiber Mill Building which is a water retaining structure built adjacent to the east end of Bar Mills dam. The exhibit G drawings shall comply with sections 4.39 and 4.41 of the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41 (2006).

Article 206. *Headwater Benefits*. If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Cofferdam Construction Drawings*. Before starting any construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's New York Regional Engineer and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 302. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications (and a supporting design document for an unconstructed dam) to the Commission's New York Regional Engineer, and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The submittal to the Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the Regional Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied.

Article 303. *Temporary Construction Emergency Action Plan*. At least 60 days before starting any construction, the licensee shall submit one copy to the Division of Dam Safety and Inspections, New York Regional Engineer and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Temporary Construction Emergency Action Plan (TCEAP) for the Commission's review and approval. The TCEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structure, or any other water retaining structure could endanger construction workers or the public. The TCEAP shall include a notification list of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 304. *As-built Drawings*. Within 90 days of license issuance, the licensee shall file as-built drawings of the existing Roger Fiber Mill Building foundation built adjacent to the east end of Bar Mills dam. At the same time, the licensee shall file for Commission approval, revised exhibits A and F, as applicable, to describe and show this facility as built. A courtesy copy shall be filed with the Commission's New York Regional Engineer, the Director, Division of Dam Safety and Inspections, and the Director, DHAC.

Article 401. *Commission Approval, Reporting, and Filing of Amendments.*

(A) Requirements to File Plans for Commission Approval.

Various conditions of this license found in the Maine Department of Environmental Protection (Maine DEP) water quality certification conditions (appendix A), and the U.S. Departments of Commerce [via National Marine Fisheries Service (NMFS)] and Interior (Interior) section 18 prescriptions (appendices B and C, respectively) require the licensee to prepare plans in consultation with other entities for approval by NMFS and Interior for submittal to the Commission and implement specific measures without prior Commission approval. Each plan shall be submitted to the Commission for approval.

Certain conditions have known due dates and other conditions have due dates that are contingent upon the completion of other measures (i.e. the upstream eel passage effectiveness study plan is contingent on the results of an eel passage operation shakedown period). Therefore, the tables below require certain measures consistent with the known dates, or require a schedule if the dates are contingent upon completion of other measures. A schedule showing the expected implementation and completion dates for each of the conditions would benefit the federal and state agencies that would be consulted in terms of planning purposes. Therefore, within 6 months of issuance of this license, the licensee, after consultation with the appropriate agencies, shall file with the Commission a schedule for submitting each of these plans for Commission approval, and notification of the completion of reports and study results listed below.

Maine DEP Condition No.	NMFS Prescription No.	Interior Prescription No.	Plan Name	Due Date
4.B	6.B.1	11.B.1	Upstream Eel Passage Facility Plan	File a Schedule
4.D and 5.E	6.B.3	11.B.3	Upstream and Downstream Eel Passage Effectiveness Study Plans	File a Schedule
	6.C.1	11.C.1	Upstream Eel Passage Location Study Plan	File a Schedule

Maine DEP Condition No.	NMFS Prescription No.	Interior Prescription No.	Plan Name	Due Date
5.C	6.C.2	11.C.2	Downstream Eel Passage Measures Plan	File a Schedule
6.B	6.D.2	11.D.2	Upstream Fish Passage Facility Plan	File a Schedule
6.D	6.B.3	11.B.3	Upstream Fish Passage Effectiveness Study Plan	File a Schedule
7.C	6.E.1	11.E.1	Downstream Fish Passage Effectiveness Study Plan	File a Schedule
7.C	6.E.2	11.E.2	Downstream Salmon Kelt Passage Effectiveness Study Plan	File a Schedule
1.D			Impoundment Water Level Monitoring Plan	Within 6 months of license issuance
3.E			Minimum Flow Monitoring Plan	Within 6 months of license issuance
8.A and 8.B			Recreation Plan and Schedule	Within 1 year of license issuance

The licensee shall submit to the Commission documentation of its consultation with NMFS, Interior, Maine Department of Marine Resources (Maine DMR), Maine Atlantic Salmon Commission (Maine ASC), and the Maine DEP copies of comments and recommendations made in connection with the plans and measures identified above, and a description of how the plans and measures accommodate the comments and recommendations. The licensee shall file letters from NMFS, Interior, Maine DMR, Maine ASC, and Maine DEP, as appropriate, approving the plans. If the licensee does

not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to make changes to any plan submitted. The plans shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(B) Requirements to File Documentation of Completion or Notification.

The licensee shall also file with the Commission documentation of completion or notification of the following activities.

Maine DEP Condition No.	NMFS Prescription No.	Interior Prescription No.	License Requirement	Due Date
4.E, 5.F, 6.E, 7.D	6.B.7	11.B.7	Fishway Designs and Effectiveness Study Reports	File a Schedule
4.A	6.C.1	11.C.1	Upstream Eel Passage Operational Notification	June 1, 2014
4.A	6.C.1	11.C.1	Delay of Upstream Eel Passage Notification	Within 10 days of receiving agreement with agencies
	6.C.1	11.C.1	Upstream Eel Passage Location Study Results	File a Schedule
5.B	6.C.2	11.C.2	Downstream Eel Passage Measures Notification	September 1, 2026
5.B	6.C.2	11.C.2	Delay of Downstream Eel Passage Measures Notification	Within 10 days of receiving agreement with agencies
5.D	6.C.3	11.C.3	Downstream Eel Mortality Monitoring Results	File a Schedule

Maine DEP Condition No.	NMFS Prescription No.	Interior Prescription No.	License Requirement	Due Date
5.A	6.C.3	11.C.3	Interim Downstream Eel Passage Measures Notification	File a Schedule
	6.B.4	11.B.4	Fishway Operating Procedures and Annual Report	File a Schedule
6.A	6.D.1	11.D.1	Upstream Fish Passage Operational Notification	May 1, 2016
6.A	6.D.1	11.D.1	Delay of Upstream Fish Passage Facilities Notification	Within 10 days of receiving agreement with agencies
7.D	6.E.1	11.E.1	Downstream Clupeid Passage Effectiveness Study Results	File a Schedule
7.D	6.E.2	11.E.2	Downstream Salmon Kelt Passage Effectiveness Study Results, if Implemented at Bar Mills	File a Schedule
1.A			Temporary modified reservoir level notification	Within 10 days of each incident
2			Temporary modified drawdown for maintenance notification	Within 10 days of each incident
3.A and 3.B			Temporary modified minimum flow notification	Within 10 days of each incident

(C) Requirement to File Amendment Applications.

Certain conditions in the section 18 prescriptions contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. The conditions are listed below.

Maine DEP Condition No.	NMFS Prescription No.	Interior Prescription No.	Project Modification	Due Date
4.F, 5.G, 6.F, and 7.E	6.B.3	11.B.3	Adjustments to Facilities or Measures, if needed	File a Schedule

Article 402. *Reservation of Authority to Prescribe Fishways*. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretaries of Commerce and the Interior pursuant to section 18 of the Federal Power Act.

Article 403. *Documentation of Recreation Facility Completion.* Within 18 months of license issuance, the licensee shall file documentation with the Commission that the recreation facility improvements required under water quality certification condition 8.A and B have been completed. The documentation of plan completion shall include as-built drawings of all project recreation facilities.

Article 404. *Programmatic Agreement and Historic Properties Management Plan*. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Maine Historic Preservation Officer (Maine SHPO) for Managing Historic Properties that May be Affected by a License Issuing to FPL Energy Maine Hydro, LLC, for the Bar Mills Hydroelectric Project in York County, Maine (FERC No. 2194-020)," executed on September 19, 2005, and including but not limited to the approved Historic Properties Management Plan (HPMP) for the project (see ordering paragraph (F)). In the event the Programmatic Agreement (PA) is terminated, the licensee shall continue to implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated, the licensee shall obtain approvals from or make modifications required by the Commission and the Maine SHPO where the HPMP calls upon the licensee to do so.

Article 405. *Limits on Expenditures*. Notwithstanding the limitation on expenditures included in this license, the Commission reserves the right to require the licensee to undertake such measures as may be appropriate and reasonable to implement approved plans.

Article 406. *Use and Occupancy*. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the

permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(H) The licensee shall serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(I) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

J. Mark Robinson
Director
Office of Energy Projects

Form L-3
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING NAVIGABLE WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the

region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall

make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission any direct in the

interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail

to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable

modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of

passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION WATER QUALITY CERTIFICATION CONDITIONS ISSUED JUNE 19, 2008

1. WATER LEVELS

A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, (4) flashboard failure or maintenance, or (5) agreement between the applicant, the Department, and appropriate state and/or federal agencies, daily impoundment fluctuations during cycling operation shall be limited to 2 feet below normal full pond elevation.

B. "Extreme Hydrologic Conditions" means the occurrence of events beyond the applicant's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.

C. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

D. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans for providing and monitoring the impoundment water levels required by Part A of this condition. These plans shall be reviewed by and must receive approval of the Department.

2. IMPOUNDMENT DRAWDOWNS FOR MAINTENANCE

Unless necessary to address emergency situations or to address dam safety and/or public safety concerns, or except as temporarily modified by agreement between the applicant, the Department, and appropriate state and/or federal agencies, the applicant shall avoid maintenance drawdowns of the project impoundment during the months of May and June.

A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system

conditions, as defined below, (4) flashboard failure or maintenance, or (5) agreement between the applicant, the Department, and appropriate state and/or federal agencies, and in accordance with the 1997 Instream Flow Agreement for Hydroelectric Projects on the Saco River, the following minimum flows shall be released from the project:

- From April 1 through June 30 annually, outflow approximately equal to inflow (run-of-river operations);
- From July 1 through September 30 annually, an instantaneous minimum flow of 400 cfs or inflow, whichever is less;
- From October 1 through November 15 annually, or for such alternative six week period as may be mutually agreed to by FPL Energy and state and federal fisheries agencies, an instantaneous minimum flow of 600 cfs or inflow, whichever is less; and
- From November 16 through March 31 annually, an instantaneous minimum flow of 250 cfs or inflow, whichever is less.

B. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, (4) flashboard failure or maintenance, or (5) agreement between the applicant, the Department, and appropriate state and/or federal agencies, instantaneous minimum flows of 100 cfs from April 1 to October 31 and 50 cfs from November 1 to March 31 shall be released to the bypassed river reach below the project dam. This bypassed river reach flow shall be counted as part of the overall project minimum flow releases specified in Part A of this condition.

C. "Extreme Hydrologic Conditions" means the occurrence of events beyond the applicant's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.

D. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

E. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as may be established by FERC, submit plans for providing and monitoring the minimum flow releases required by Parts A and B of this condition. These plans shall be reviewed by and must receive approval of the Department.

4. UPSTREAM EEL PASSAGE

A. In accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement, a single permanent upstream eel passage facility shall be installed and operational at the project by June 1, 2014. With the concurrence of the Department, this schedule may be delayed following consultation with and agreement by the U.S. Fish and Wildlife Service, NOAA Fisheries, and the Department of Marine Resources that eels are not yet sufficiently abundant to require passage or to provide enough data to allow for a determination of the type or location of the upstream eel passage facility.

B. The applicant shall, at least 60 days prior to construction, or upon such other schedule as may be established by FERC, submit final design and operational plans for the upstream eel passage facility required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to construction.

C. The applicant shall, in consultation with the Department of Marine Resources, conduct a study or studies to determine the effectiveness of the upstream eel passage facility required by Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

D. The applicant shall, concurrent with the commencement of operation of the required upstream eel passage facility, or upon such other schedule as may be established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream eel passage facility required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to implementation of the study or studies.

E. The applicant shall, in accordance with the schedule set forth in the approved study plan or plans, or upon such other schedule as may be established by FERC, submit the results of the upstream eel passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of the upstream eel passage facility installed pursuant to Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

F. The applicant shall be responsible for taking such actions as are needed to

effectively pass eels upstream through the project. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require reasonable changes in the design and/or operation of the upstream eel passage facility installed pursuant to Part A of this condition as may be deemed necessary to effectively pass eels upstream through the project.

5. DOWNSTREAM EEL PASSAGE

A. In accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement, prior to the implementation of permanent downstream eel passage measures at the project pursuant to Part B of this condition, interim downstream eel passage measures shall be provided at the project as needed to reduce significant adult eel mortality from downstream turbine passage.

B. In accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement, permanent downstream eel passage measures shall be operational at the project by September 1, 2026. With the concurrence of the Department, this schedule may be delayed following consultation with and agreement by the U.S. Fish and Wildlife Service, NOAA Fisheries, and the Department of Marine Resources that eels are not yet sufficiently abundant to require passage or to provide enough data to allow for a determination of the type or location of downstream eel passage measures.

C. The applicant shall, at least 60 days prior to construction, or upon such other schedule as may be established by FERC, submit final plans for the permanent downstream eel passage measures required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to construction.

D. The applicant shall, in consultation with the Department of Marine Resources, conduct a study or studies to determine the effectiveness of the permanent downstream eel passage measures required by Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

E. The applicant shall, concurrent with the commencement of operation of the required downstream eel passage measures, or upon such other schedule as may be established by FERC, submit plans for a study or studies to determine the effectiveness of the permanent downstream eel passage measures required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to implementation of the study or studies.

F. The applicant shall, in accordance with the schedule set forth in the approved study plan or plans, or upon such other schedule as may be established by FERC, submit the results of the permanent downstream eel passage effectiveness study or studies, along with any recommendations for changes in the downstream eel passage measures implemented pursuant to Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

G. The applicant shall be responsible for taking such actions as are needed to effectively pass eels downstream through the project. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require reasonable changes in the permanent downstream eel passage measures implemented pursuant to Part A of this condition as may be deemed necessary to effectively pass eels downstream through the project.

6. UPSTREAM ANADROMOUS FISH PASSAGE

A. In accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement, a single permanent upstream anadromous fish passage facility shall be installed and operational at the project by May 1, 2016. With the concurrence of the Department, this schedule may be delayed contingent upon the returning numbers of the target species, and following consultation with and agreement by the U.S. Fish and Wildlife Service, NOAA Fisheries, and Department of Marine Resources.

B. The applicant shall, at least 60 days prior to construction, or upon such other schedule as may be established by FERC, submit final design and operational plans for the upstream anadromous fish passage facility required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to construction.

C. The applicant shall, in consultation with the Department of Marine Resources, conduct a study or studies to determine the effectiveness of the upstream anadromous fish passage facility required by Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

D. The applicant shall, concurrent with the commencement of operation of the required upstream anadromous fish passage facility, or upon such other schedule as may be established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream anadromous fish passage facility required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to implementation of the study or studies.

E. The applicant shall, in accordance with the schedule set forth in the approved study plan or plans, or upon such other schedule as may be established by FERC, submit the results of the upstream anadromous fish passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of the upstream anadromous fish passage facility installed pursuant to Part A of this condition, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

F. The applicant shall be responsible for taking such actions as are needed to effectively pass anadromous fish upstream through the project. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require reasonable changes in the design and/or operation of the upstream anadromous fish passage facility installed pursuant to Part A of this condition as may be deemed necessary to effectively pass anadromous fish upstream through the project.

7. DOWNSTREAM ANADROMOUS FISH PASSAGE

A. In accordance with the provisions of the 2004 Saco River Fish Passage Agreement, the applicant shall continue to operate and maintain the permanent downstream anadromous fish passage facilities currently installed at the project.

B. Upon notification from the Department of Marine Resources, the applicant shall, in consultation with DMR, conduct a study or studies to determine the effectiveness of the existing downstream anadromous fish passage facilities in passing Atlantic salmon kelts and juvenile and adult American shad and alewives, in accordance with the provisions of the 2007 Saco River Fisheries Assessment Agreement.

C. The applicant shall, within 6 months following notification from the Department of Marine Resources pursuant to Part B of this condition, or upon such other schedule as may be established by FERC, submit plans for a study or studies to determine the effectiveness of the existing downstream anadromous fish passage facilities in passing Atlantic salmon kelts and juvenile and adult American shad and alewives, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of the Department prior to implementation of the study or studies.

D. The applicant shall, in accordance with the schedule set forth in the approved study plan or plans, or upon such other schedule as may be established by FERC, submit the results of the downstream anadromous fish passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of the downstream anadromous fish passage facilities currently installed at the project, in accordance with the provisions of the 2007 Saco River Fisheries

Assessment Agreement.

E. The applicant shall be responsible for taking such actions as are needed to effectively pass anadromous downstream through the project. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require reasonable changes in the design and/or operation of the downstream anadromous fish passage facilities currently installed at the project as may be deemed necessary to effectively pass anadromous fish downstream through the project.

8. RECREATIONAL ACCESS AND USE FACILITIES

A. The applicant shall implement a recreation plan to protect and enhance public recreational access and use facilities. This recreational plan shall include: improving the existing canoe portage take-out and parking area to accommodate trailered boats; providing and designating an angler access trail to the upper bypassed reach; providing steps and a landing at the existing canoe put-in site to enhance access to the tailrace area; stabilizing minor bank erosion near the canoe put-in site; and improving signage for all recreational facilities.

B. The applicant shall, within one year of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans and a schedule for implementing the recreation plan required by Part A of this condition. These plans and schedule shall be reviewed by and must receive approval of the Department.

9. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variations from the plans and proposals contained in said documents are subject to the review and approval of the Department prior to implementation.

10. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project, in accordance with the terms of this certification.

11. EFFECTIVE DATE

This water quality certification shall be effective concurrent with the effective date of the new license issued for the project by the Federal Energy

Regulatory Commission.

12. SEVERABILITY

In the event that any provision, or part thereof, of this certification is declared to be unlawful by a reviewing court, the remainder of the certification shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

APPENDIX B

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SECTION 18 FISHWAY PRESCRIPTIONS FILED APRIL 13, 2007

6.A. Fishways and/or fish passage measures shall be implemented, constructed, operated, and/or maintained by the Licensee, or provided for by the Licensee, to provide safe, timely and effective passage for Atlantic salmon, American shad, blueback herring, alewife, and American eels as summarized below and as detailed in the 2007 Agreement.

6.B. General Provisions for New Fish Passage Facilities or Measures

1. Design Review

Plans and designs for each permanent fish passage facility shall be reviewed by NOAA Fisheries and USFWS in accordance with Section 7 of the 1994 Agreement and Section 5.1.a of the 2007 Agreement.

2. Shakedown Period

Once each new fish passage facility is constructed, the Licensee will operate each fish passage facility for a one-season "shakedown" period to ensure that it is generally operating as designed and to make minor adjustments to the facilities and operation. At the end of the shakedown period, the Licensee shall have a licensed engineer certify that the facility is constructed and operating as designed in all material respects. The Licensee will provide NOAA Fisheries, USFWS, MDMR, and MA as appropriate with a copy of the as-built fishway drawings as submitted to FERC, along with the licensed engineer's letter of certification.[63]

3. Effectiveness Studies

The Licensee shall conduct effectiveness studies of all newly constructed or significantly modified permanent upstream and downstream fish passage facilities or measures. In the event that these facilities or measures as initially implemented are not effectively passing the target species,[64] the Licensee shall make, in consultation with the NOAA Fisheries, USFWS, MDMR, and MASC as appropriate, reasonable cost-effective adjustments to the

[63] See the 2007 Agreement for further details.

[64] Atlantic salmon, American shad, blueback herring, alewife, and American eel.

facilities or measures in an effort to improve fish pa age effectiveness.[65] Studies shall be initiated during the passage season following the facility shakedown period, and carried out for up to three years for each species. Initiation of studies for each species will depend in large part o the availability of suitable numbers and types of fish. Details on the design of upstream passage effectiveness studies shall be determined after consultation between the Licensee and the above agencies as appropriate.

4. Fishway Operating Procedures

The Licensee shall, consistent with safe working practices, keep the fishways in proper working order and shall maintain fishway areas clear of trash, logs, and material that would hinder passage. Routine maintenance shall be preformed sufficiently before a migratory period such that fishways can be tested and inspected, and will be operational during the migratory periods.

In consultation with the NOAA Fisheries, USFWS, MDMR, and MASC, the Licensee shall draft and maintain written Fishway Operating Procedures (FOPs) for the Bar Mills Project. These FOPs will include general schedules of routine maintenance, procedures for routine operation, procedures for monitoring and reporting on the operation of each fish passage facility or measure, and schedules for procedures for annual start-up and shut-down, and procedures for emergencies and Project outages significantly affecting fishway operations. Copies of these Fishway Operating Procedures, and any revisions made during the term of the license, will be sent to the NOAA Fisheries, USFWS, MDMR, and MASC.

The Licensee shall meet with NOAA Fisheries, USFWS, MDMR, and MASC in March annually to review fish passage operational data from t previous year, draft an annual report, and develop an operational plan for the upcoming year. The fish passage operational data should include the number of fish passed daily (by species), daily water and air temperature data, and other related fishway operational information.

5. Timing of Seasonal Fishway Operations:

Once installed, permanent fishways shall be maintained and operated by the Licensee to maintain fish passage during the upstream and downstream migration periods for Atlantic salmon, American shad, blueback herring, alewife, and American eel (Table 1).[66]

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[65] See the 2007 Agreement for further details.

[66] The specified migration dates are based on known information regarding run timing on the Saco and other Maine rivers. Any of the operating schedules during these migration periods may be modified during the term of the license based on migration

(continued)

6. Project Access

The Licensee shall, upon prior written notice by the NOAA Fisheries and USFWS provide authorized personnel of the NOAA Fisheries, USFWS, and other agency-designated representatives, reasonable access to the project site and pertinent project records for the purpose of inspecting the fishways.

7. Filing Consultation

The Licensee shall include with filings to the Commission associated with fishway designs and effectiveness study plans and reports, the following documentation of consultation: (1) copies of agency comments and recommendations on the completed plan or report after it has been prepared and provided to the agencies, and (2) specific descriptions of how these comments and recommendation are accommodated by the plan or report. The Licensee shall allow a minimum of 30 days for the NOAA Fisheries, USFWS, MDMR, and MASC as appropriate, to comment and to make recommendations before filing the plan or report with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons for not accepting the recommendation as well as including any available supporting information.

6.C. American Eel Passage Measures

1. Permanent Upstream Eel Passage Measures

The Licensee shall provide an upstream eel passage facility in one location at the Bar Mills Project by June 1, 2014.[67] Prior to initiation of an upstream eel passage facility at Bar Mills, the Licensee shall conduct a study to establish where at the Project the eel

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data, new information, and in consultation with the NOAA Fisheries, USFWS, MDMR, MASC, and the Licensee. Upon request of Licensee, the actual dates of operation may be varied somewhat in any given year in response to river conditions, maintenance requirements, or annual variability in fish migration patterns, with the approval of NOAA Fisheries, USFWS, MDMR, and MASC as appropriate.

[67] Recent surveys have documented the presence of eel above and below the Bar Mills dam in low numbers. As part of the 2007 Agreement, the Licensee will install and operate eelways at downstream dams beginning in 2008. Implementing upstream passage at Bar Mills in 2014 will allow time for the eel stock to increase, thereby increasing the potential utilization of the eelway once installed.

fishway should be located.[68] The Licensee shall present the results of the study to NOAA Fisheries, the USFWS, and MDMR and obtain their concurrence with the choice of location. Development and implementation of upstream eel passage measures may be delayed following consultation with and agreement by NOAA Fisheries, the USFWS, and MDMR that eels are not yet sufficiently abundant to require passage or to provide enough data to allow for a determination of the type and location of upstream eel passage measures.

2. Permanent Downstream Eel Passage Measures

The Licensee shall provide permanent downstream passage measures for American eel by September 1, 2026.[69] The Licensee shall provide engineering and/or operational plans for permanent downstream eel passage measures to the NOAA Fisheries, USFWS, and MDMR for consultation by February 28, 2026. Development and implementation of downstream eel passage measures may be delayed follow g consultation with and agreement by NOAA Fisheries, USFWS, and MDMR that eels are not yet sufficiently abundant to require passage or to provide enough data to allow for a determination of the type and location of downstream eel passage measures.

3. Interim Downstream Eel Passage Measures

Beginning the tenth year after permanent upstream eel passage has been installed at Bar Mills, the Licensee shall monitor for eel mortality below the dam weekly from September 15 through November 15 as explained in the 2007 Agreement.[70] If a confirmed

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[68] Juvenile eels migrating upstream could be concentrated in any number of locations within the project area below the dam. Conducting a study to determine the area of heaviest concentration wi11 allow placement of the eel fishway in a location that maximizes its utilization.

[69] The timing for implementing permanent downstream eel passage measures at Bar Mills is appropriate based on the following factors: (1) few eels were observed in the river upstream of Bar Mills at present, (2) upstream passage will be operational by 2014, increasing recruitment of juvenile eels upstream of the dam, and (3) initiating permanent downstream passage 12 years after upstream eel passage becomes operational should coincide with the expected start of maturation and out migration of those eels first recruited in 2014.

[70] Interim downstream passage monitoring is necessary because (1) eels were collected in the Saco River at sites above the Project and (2) there is variability in maturation age of eels. Therefore, monitoring for eel mortality below the Bar Mills dam and instituting interim measures if necessary would reduce mortality of those eels

(continued)

observation of greater than 50 eel mortalities per night occurs at the Project, then the Licensee shall initiate the interim downstream eel passage protocol provided in Section 5.2.b.3. of the 2007 Agreement.[71]

6.D. Permanent Upstream Anadromous Fish Passage Facilities

1. Design Criteria

The license shall provide a single[72] permanent upstream anadromous fish passage facility at the Bar Mills Dam to be operational by May 1, 2016.[73] This schedule may be delayed contingent upon the returning numbers of the target species, and following consultation with and agreement by NOAA Fisheries, USFWS, MDMR, and MASC. The permanent upstream fishway at Bar Mills shall be designed to be as effective at passing sufficient escapement numbers of the target species as a single standard (4-ft. wide) Denil-type fishway designed to be operational at river flows up to 9,000 cfs.

2. Design Review

The Licensee shall, 18 months prior to the planned construction of the upstream fish passage facility, submit conceptual designs for approval by the NOAA Fisheries, USFWS, MASC, and MDMR, and shall subsequently file functional design drawings with the Commission for approval.

6.E. Downstream Anadromous Fish Passage Facilities

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migrating downstream prior to 2026.

[71] This measure is part of a watershed-wide approach to address interim downstream passage of American eels. As such, monitoring for eel mortalities prior to implementation of permanent passage measures will be used to implement interim protective measures at Bar Mills and elsewhere if necessary.

[72] Given site configuration, the Department of the Interior originally prescribed a tailrace fishway and a spillway fishway. However, attraction of salmon, shad and herring to the tailrace is most likely and would likely provide more consistent attraction to fish.

[73] See Sections 8 and 9 of the 2000-2005 Assessment Report for monitoring data and a discussion supporting the timing for installing and operating a permanent upstream fish passage facility for anadromous species.

1. The Licensee shall evaluate the effectiveness of the existing downstream passage facility for passing American shad and river herring.[74] The Licensee shall conduct a two-year semi-quantitative study of downstream passage effectiveness for clupeids (using, for example, standardized observations, video cameras, and rotary screw traps, or similar methods) beginning the year after 6 (six) adult clupeids per acre of impoundment (approximately 1,580 fish)[75] are passed or stocked upstream of the Bar Mills Project. If the NOAA Fisheries, USFWS, and MDMR determine that the numbers of clupeids returning to the lower Saco River (Cataract and Skelton impoundments) during the planned study year are insufficient to stock those lower impoundments, then the studies may be postponed upon mutual agreement between the Licensee and the NOAA Fisheries, USFWS, and MDMR.

The Licensee shall develop the effectiveness study plans in consultation with the NOAA Fisheries, USFWS, and MDMR. Results will be submitted to the NOAA Fisheries, USFWS, and MDMR for review and comment, and the Licensee shall include any comments received with the results filed with the Commission.

2. The licensee shall conduct a kelt study at Bar Mills if Phase I of the study stipulated under Section 5.4(a) of the 2007 Agreement determines that the Bar Mills Project has a high potential to delay/affect kelt passage. If Bar Mills is identified as one of the two selected projects, the Licensee shall conduct a three-year study to examine downstream passage routes of salmon kelts. If Bar Mills is chosen a study site, the Licensee shall submit a draft study plan to the NOAA Fisheries, USFWS, and MASC by April 2009, and begin the study by spring of 2010.

[74] To date, effectiveness studies of the existing downstream passage facility at the Bar Mills Project have been conducted for salmon smolts only. See the Downstream Passage data and discussion in Sections 8 and 9 of the 2000-2005 Assessment Report.

[75] Due to their small size, and vulnerability to handling, juvenile clupeids are more difficult to quantitatively assess than salmon smolts. Using six clupeids per acre of impoundment as a trigger to initiate studies should endure adequate production to make it practical to provide an acceptable number of fish for evaluation for purposes of this type of study.

Table 1. Upstream and downstream migration periods for species covered in this Final Modified Prescription for Fishways.

Species	Upstream Migration Period	Downstream Migration Period
Atlantic salmon	May 1 - October 31	April 1 - June 30 (smolts and kelts) October 15 - December 31 (kelts)
American shad	May 15 -July 31	July 15 - November 15 (juv.) June 1 - July 31 (adult)
Alewife and Blueback herring	May 1 -July 1	July 15 - November 15 (juv.) June 1 - July 31 (adult)
American eel	May 15 - September 15	September 15 - November 15 (at night)

APPENDIX C

U.S. DEPARTMENT OF THE INTERIOR
SECTION 18 FISHWAY PRESCRIPTIONS
FILED APRIL 13, 2007

11.A. Fishways and/or fish passage measures shall be implemented, constructed, operated, and/or maintained by the Licensee, or provided for by the Licensee, to provide safe, timely and effective passage for Atlantic salmon, American shad, blueback herring, alewife and American eels as summarized below and as detailed in the 2007 Agreement.

11.B. General Provisions for New Fish Passage Facilities or Measures

1. Design Review

Plans and designs for each permanent fish passage facility shall be reviewed by the Service in accordance with Section 7 of the 1994 Agreement and Section 5.l.a of the 2007 Agreement.

2. Shakedown Period

Once each new fish passage facility is constructed, the Licensee will operate each fish passage facility for a one-season "shakedown" period to ensure that it is generally operating as designed and to make minor adjustments to the facilities and operation. At the end of the shakedown period, the Licensee shall have a licensed engineer certify that the facility is constructed and operating as designed in all material respects. The Licensee will provide the Service, NOAA Fisheries, MDMR, and MASC as appropriate with a copy of the as-built fishway drawings as submitted to FERC, along with the licensed engineer's letter of certification.[76]

3. Effectiveness Studies

The Licensee shall conduct effectiveness studies of all newly-constructed or significantly modified permanent upstream and downstream fish passage facilities or measures. In the event that these facilities or measures as initially implemented are not effectively passing the target species,[77] the License shall make, in consultation with the Service,

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[76] See the 2007 Agreement for further details.

[77] Atlantic salmon, American shad, blueback herring, alewife, and American eel.

NOAA Fisheries, MDMR and MASCI as appropriate, reasonable, cost-effective adjustments to the facilities or measures in an effort to improve fish passage effectiveness.[78] Studies shall be initiated during the passage season following the facility shakedown period, and carried out for up to three years for each species. Initiation of studies for each species will depend in large part on the availability of suitable numbers and types of fish. Details on the design of upstream passage effectiveness studies shall be determined after consultation between the Licensee and the above agencies as appropriate.

4. Fishway Operating Procedures

The Licensee shall, consistent with safe working practices, keep the fishways in proper working order and shall maintain fishway areas clear of trash, logs, and material that would hinder passage. Routine maintenance shall be performed sufficiently before a migratory period such that fishways can be tested and inspected, and will be operational during the migratory periods.

In consultation with the Service, NOAA Fisheries, MDMR and MASC, the Licensee shall draft and maintain written Fishway Operating Procedures (FOPs) for the Bar Mills Project. These FOPs will include general schedules of routine maintenance, procedures for routine operation, procedures for monitoring and reporting on the operation of each fish passage facility or measure, and schedules for procedures for annual start-up and shut-down, and procedures for emergencies and Project outages significantly affecting fishway operations. Copies of these FOPs, and any revisions made during the term of the license, will be sent to the Service, NOAA Fisheries, MDMR and MASC.

The Licensee shall meet with the Service, NOAA Fisheries, MDMR and MASC in March annually to review fish passage operational date from the previous year, draft an annual report, and develop an operational plan for the upcoming year. The fish passage operational data should include the number of fish passed daily (by species), daily water and air temperature data, and other related fishway operational information.

5. Timing of Seasonal Fishway Operations

Once installed, permanent fishways shall be maintained and operated by the Licensee to maintain fish passage during the upstream and downstream migration periods for Atlantic salmon, American shad, blueback herring, alewife, and American eel (Table 2).[79]

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[78] See the 2007 Agreement foe further details.

[79] The specified migration dates are based on known information regarding run

(continued)

Table 2. Upstream and downstream migration periods for species covered in this Prescription for Fishways.

Species	Upstream Migration Period	Downstream Migration Period
Atlantic salmon	May 1 - October 31	April l – June 30 (smolts and kelts) October 15 – December 31 (kelts)
American shad	May 15 – July 31	July 15 – November 15 (juv.) June 1 – July 31 (adults)
Alewife and Blueback herring	May 1 – July 1	July 15 – November 15 (juv.) June 1 – July 31 (adult)
American eel	May 15 - September 15	September 15 – November 15 (at night)

6. Project Access

The Licensee shall, upon prior written notice by the Service, provide authorized personnel of the Service and other agency-designated representatives, reasonable access to the Project site and pertinent Project records for the purpose of inspecting the fishways.

7. Filing Consultation

The Licensee shall include with filings to the Commission associated with fishway designs and effectiveness study plans and reports, the following documentation of consultation: (1) copies of agency comments and recommendations on the completed plan or report after it has been prepared and provided to the agencies, and (2) specific descriptions of how these comments and recommendations are accommodated by the plan or report. The Licensee shall allow a minimum of 30 days for the Service, NOAA Fisheries, MDMR and MASC as appropriate, too comment and to make recommendations before filing the plan or report with he Commission. If the Licensee

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timing on the Saco and other Maine rivers. Any of the operating schedules during these migration periods may be modified during the term of the license based on migration data, new information, and in consultation with the Service, NOAA Fisheries, MDMR, MASC and the Licensee. Upon request of Licensee, the actual dates of operation may be varied somewhat in any given year in response to river conditions, maintenance requirements, or annual variability in fish migration patterns, with the approval of the Service, NOAA Fisheries, MDMR and MASC as appropriate.

does not adopt a recommendation, the filing shall include the Licensee's reasons for not accepting the recommendation, as well as any available supporting information.

11.C. American Eel Passage Measures

1. Permanent Upstream Eel Passage Measures

The Licensee shall provide an upstream eel passage facility in one location at the Bar Mills Project by June 1, 2014.[80] Prior to initiation of all upstream eel passage facility at Bar Mills, the Licensee shall conduct a study to establish where at the Project the eel fishway should he located. The Licensee shall present the results of the study to the Service, NOAA Fisheries and MDMR and obtain their concurrence with the choice of location.[81] Development and implementation of upstream eel passage measures may be delayed following consultation with and agreement by the Service, NOAA Fisheries, and MDMR that eels are not yet sufficiently abundant to require passage or to provide enough data to allow for a determination of the type and location of upstream eel passage measures.

2. Permanent Downstream Eel Passage Measures

The Licensee shall provide permanent downstream passage measures for American eel by September 1, 2026.[82] The Licensee shall provide engineering and/or operational plans for permanent downstream eel passage measures to the Service, NOAA Fisheries, and

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[80] Recent surveys have documented the presence of eel above and below the Bar Mills dam in low numbers. As part of the 2007 Agreement, the Licensee will install and operate eelways at downstream dams beginning in 2008. Implementing upstream passage at Bar Mills in 2014 will allow time for the eel stock to increase, thereby increasing the potential utilization of the eelway once installed.

[81] Juvenile eels migrating upstream could be concentrated in any number of locations within the project area below the dam. Conducting a study to determine the area of heaviest concentration will allow placement of the eel fishway in a location that maximizes its utilization.

[82] The timing for implementing permanent downstream eel passage measures at Bar Mills is appropriate based on the following factors: (1) few eels were observed in the river upstream of Bar Mills at present, (2) upstream passage will be operational by 2014, increasing recruitment of juvenile eels upstream of the dam, and (3) initiating permanent downstream passage 12 years after upstream eel passage becomes operational should coincide with the expected start of maturation and out-migration of those eels first recruited in 2014.

MDMR for consultation by February 28, 2026. Development and implementation of downstream eel passage measures may be delayed following consultation with, and agreement by, the Service, NOAA Fisheries, and MDMR that: eels are not yet sufficiently abundant to require passage; or data is insufficient to allow for a determination of the type and location of downstream eel passage measures.

3. Interim Downstream Eel Passage Measures

Beginning the tenth year after permanent upstream eel passage has been installed at Bar Mills, the Licensee shall monitor for eel mortality below the dam weekly from September 15 through November 15 as explained in the 2007 Agreement.[83] If a confirmed observation of greater than 50 eel mortalities per night occurs at the Project, the Licensee shall initiate the interim downstream eel passage protocol provided in Section 5.2.b.3. of the 2007 Agreement.[84]

11.D. Permanent Upstream Anadromous Fish Passage Facilities

1. Design Criteria

The license shall provide a single[85] permanent upstream anadromous fish passage facility at the Bar Mills dam to be operational by May l, 2016.[86] This schedule may be delayed

[83] Interim downstream passage monitoring is necessary because (1) eels were collected in the Saco River at sites above the Project and (2) there is variability in maturation age of eels. Therefore, monitoring for eel mortality below the Bar Mills dam and instituting interim measures if necessary would reduce mortality of those eels migrating downstream prior to 2026.

[84] This measure is part of a watershed-wide approach to address interim downstream passage of American eels. As such, monitoring for eel mortalities prior to implementation of permanent passage measures will be used to implement interim protective measures at Bar Mills and elsewhere if necessary.

[85] Given site configuration, the Department of Commerce and the Department of the Interior originally prescribed a tailrace fishway and a spillway fishway. However, attraction of salmon, shad and herring to the tailrace is most likely and would likely provide more consistent attraction to fish.

[86] See Sections 8 and 9 of the 2005 Assessment Report for monitoring data and a discussion supporting the timing for installing and operating a permanent upstream fish passage facility for anadromous species.

contingent upon the returning numbers of the target species, and following consultation with and agreement by the Service, NOAA Fisheries, MDMR and MASC. The permanent upstream fishway at Bar Mills shall be designed to be as effective at passing sufficient escapement numbers of the target species as a single standard (4-ft.-wide) Denil-type fishway designed to be operational at river flows up to 9,000 cfs.

2. Design Review

The Licensee shall, 18 months prior to the planned construction of the upstream fish passage facility, submit conceptual designs for approval by the Service, NOAA Fisheries, MASC and MDMR, and shall subsequently file functional design drawings with the Commission for approval.

11.E. Downstream Anadromous Fish Passage Facilities

1. The Licensee shall evaluate the effectiveness of the existing downstream passage facility for passing American shad and river herring.[87] The Licensee shall conduct a two-year semi-quantitative study of downstream passage effectiveness for clupeids (using, for example, standardized observations, video cameras, and rotary screw traps, or similar methods) beginning the year after 6 (six) adult clupeids per acre of impoundment (approximately 1,580 fish)[88] are passed or stocked upstream of the Bar Mills Project. If the Service, NOAA Fisheries, and MDMR determine that the numbers of clupeids returning to the lower Saco River (Cataract and Skelton impoundments) during the planned study year are insufficient to stock those lower impoundments, the studies may be postponed upon mutual agreement between the Licensee and the Service, NOAA Fisheries and MDMR.

The Licensee shall develop the effectiveness study plans in consultation with the Service, NOAA Fisheries and MDMR. Results will be submitted to the Service, NOAA Fisheries

[87] To date, effectiveness studies of the existing downstream facility at the Bar Mills Project have been conducted for salmon smolts only. See the Downstream Passage data and discussion in Sections 8 and 9 of the 2005 Assessment Report.

[88] Due to their small size and vulnerability to handling, juvenile clupeids are more difficult to quantitatively assess than salmon smolts. Using six clupeids per acre of impoundment as a trigger to initiate studies should ensure adequate production to make it practical to provide an acceptable number of fish for evaluation for purposes of this type of study.

and MDMR for review and comment, and the Licensee shall include any comments received with the results filed with the Commission.

2. The Licensee shall conduct a kelt study at Bar Mills if Phase I of the study stipulated under Section 5.4(a) of the 2007 Agreement determines that the Bar Mills Project has a high potential to delay/affect kelt passage. If Bar Mills is identified as one of the two selected projects, the Licensee shall conduct a three-year study to examine downstream passage routes of salmon kelts. If Bar Mills is chosen as a study site, the Licensee shall submit a draft study plan to the Service, NOAA Fisheries, and MASC by April 2009, and begin the study by the spring of 2010.

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