

UNITED STATES OF AMERICA 113 FERC ¶62,181
FEDERAL ENERGY REGULATORY COMMISSION

PPL Maine, LLC

Project No. 2710-035

ORDER ON OFFER OF SETTLEMENT
AND ISSUING NEW LICENSE

(December 8, 2005)

INTRODUCTION

1. On June 25, 2004, PPL Maine, LLC (PPL Maine) filed an application for a new license, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ for the redevelopment and operation of the 2.332-megawatt (MW) Orono Hydroelectric Project No. 2710 (Orono Project).
2. The Orono Project is located on the Penobscot River and Stillwater Branch of the Penobscot River in Penobscot County, Maine. The Penobscot River and Stillwater Branch of the Penobscot River are navigable waters of the United States.² The project is currently not operating. PPL Maine estimates that the project will produce an average annual energy generation of about 16,682 megawatt-hours (MWh).
3. The project does not occupy any federal land. As discussed below, I am issuing a new license for the project.

BACKGROUND

4. The current project license, issued on November 10, 1977,³ to Bangor Hydro-Electric, became effective on July 1, 1950, and originally was to expire on December 31, 1993. By order issued September 25, 1985, the license expiration date was accelerated, and became effective on September 25, 1985.⁴ Since then, the project has been under annual license.

¹ 16 U.S.C §§ 797(e) and 808, respectively.

² See *Bangor Hydro-Electric Co.*, 33 FPC 278 (1965) and *Bangor Hydro-Electric Co.*, 1 FERC ¶ 61,104 (1977).

³ 1 FERC ¶ 61,104.

⁴ 32 FERC ¶ 62,640.

5. On July 31, 1990, Bangor Hydro-Electric Co. filed an application to construct and operate the proposed Basin Mills Project No. 10981. The Basin Mills dam would have been located on the Penobscot River just downstream of the Orono powerhouse. The reservoir created by the Basin Mills dam would have made continued operation of the Orono Project impracticable, thus Bangor Hydro-Electric proposed to decommission the Orono Project.⁵ In the April 20, 1998 order denying the application for the Basin Mills Project, the Commission directed Bangor Hydro-Electric to report on its plans for the Orono Project in light of the Basin Mills' denial.⁶ After a series of extensions of time to file the report on its plans, PPL Maine filed its plans as an application for a new license for the Orono Project.

6. In 1996, the three project wood-stave penstocks failed, which caused the project to be shut down. On April 1, 1999,⁷ the Orono Project license was transferred from Bangor Hydro-Electric Company to Penobscot Hydro, LLC. On October 31, 2000,⁸ Penobscot Hydro, LLC changed its name to PPL Maine, LLC.

7. On June 25, 2004, PPL Maine filed the Lower Penobscot River Basin Comprehensive Settlement Accord (Lower Penobscot Settlement) on behalf of the: Penobscot Indian Nation (Penobscot); U.S. Department of the Interior (Interior); Maine State Planning Office (Maine Agencies) representing the and Maine Atlantic Salmon Commission, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Marine Resources; American Rivers, Inc., Atlantic Salmon Federation, Maine Audubon Society, Natural Resources Council of Maine, and Trout Unlimited (jointly filed as the Conservation Interests); and the Penobscot River Restoration Trust (Trust). On June 29, 2004, the Commission issued a public notice of the filed Lower Penobscot Settlement and solicited comments.⁹

8. The Commission issued a public notice accepting the application and soliciting motions to intervene on February 25, 2005. The deadline to respond to this notice was April 26, 2005. The following entities filed timely motions to intervene, none of which

⁵ No one filed a competing application.

⁶ 83 FERC ¶ 61,039.

⁷ 87 FERC ¶ 62,001.

⁸ 93 FERC ¶ 62,076.

⁹ The following entities filed comments: National Oceanographic and Atmospheric Administration (NOAA Fisheries), Conservation Interests, Penobscot, Maine Agencies, and Interior.

are in opposition: NOAA Fisheries; Conservation Interests; Penobscot; Maine Agencies. Interior filed a motion to intervene out of time which was granted by notice issued December 1, 2005.

9. On February 23, 2005, the Commission issued a public notice that the application was ready for environmental analysis, soliciting comments, recommendations, terms and conditions, and prescriptions. The deadline to respond to this notice was April 24, 2005. The following entities filed comments: Interior; Conservation Interests; NOAA Fisheries; Penobscot; and Maine Agencies.

10. On August 19, 2005, the Commission staff made available for public comment an environmental assessment (EA). In letters filed on September 15, 16, and 19, 2005, Ronald Kreisman on behalf of PPL Maine, Interior, the Maine Agencies, and NOAA Fisheries commented on the EA. All comments have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

11. The rehabilitated Orono Project would consist of the following facilities: (1) an existing 1,178-foot-long by 15-foot-high dam that includes a 320-foot-long spillway topped with 2.4-foot-high flashboards; (2) an existing 2.3-mile-long reservoir, which has a surface area of 175 acres at the normal full pond elevation of 72.4 feet above mean sea level (msl); (3) three new 10-foot-diameter penstocks; (4) a 40-foot-wide, 94-foot-long and 27-foot-high surge tank located adjacent to the powerhouse; (5) a restored powerhouse containing four existing generating units with a total installed generating capacity of 2.332 MW; (6) three existing 325-foot-long transmission lines; and (7) appurtenant facilities. The dam and existing project facilities are owned by the applicant. The current project boundary encloses the dam, the reservoir up to the 73.0-foot msl elevation, the powerhouse, and the penstocks except for a short section that traverse beneath the Maine Central railroad bridge.

12. PPL Maine's project proposal includes:

- replacing the three failed wood-stave penstocks within the existing penstock right-of-way;
- rehabilitating the concrete surge tank that is adjacent to the powerhouse;
- replacing the wood-plank wheelpit floors with concrete;
- rehabilitating the four triple-runner horizontal turbines, and replacing two waterwheels;

- removing debris from the tailraces of each turbine discharge flume;
- rehabilitating the four generators and associated equipment (wicket gate pins, bushings, weak links, gate shaft bearings, push-pull arms, etc);
- replacing the generator controls and switchgear; and
- rehabilitating the powerhouse structure by replacing windows, plank decking above the wheelpits, wheelpit gates, access doors, and roofing as needed.

13. Prior to the June 1996 penstock failure and project shutdown, PPL Maine operated the project in a run-of-river mode, with a normal reservoir surface elevation of 72.4 feet msl. At 72.4 feet msl, the reservoir has a gross storage capacity of 1,300 acre-feet. When the project is operating, the project bypasses a 1,000-foot-long and up to 500-foot-wide reach of the Stillwater River. Flows through the bypassed reach during past operation consisted of leakage and unplanned spillage. PPL Maine proposes to operate in a run-of-river mode and maintain a 200-cfs minimum flow in the bypassed reach.

LOWER PENOBSCOT SETTLEMENT

14. The Lower Penobscot Settlement affects nine projects in the Penobscot River Basin and one project just outside the basin,¹⁰ and calls for phased implementation. Under phase 1, the parties requested that the Commission: approve amendment applications for the Milford (FERC No. 2534), Veazie, Stillwater (FERC No. 2712), Medway (FERC No. 2666), and West Enfield (FERC No. 2600) projects;¹¹ issue a new 40-year license for the Orono Project (FERC No. 2710), suspend processing of the relicensing applications for the Howland and Great Works projects;¹² and extend certain requirements of the licenses for the Veazie and Milford projects. The remaining three phases include: the withdrawal of pending requests for rehearing from the parties in the Basin Mills, Milford, Stillwater, and Veazie licensing proceedings and withdrawal of

¹⁰ The Ellsworth Project (FERC No. 2727) is located on the Union River in the Union River Basin, east of the Penobscot River.

¹¹ By Orders Modifying and Approving Amendment of License 111 FERC ¶ 62,061, 111 FERC ¶ 62,062, 111 FERC ¶ 62,063, 111 FERC ¶ 62,064, 111 FERC ¶ 62,065, the Commission approved the amendment requests for increased headpond levels, decreased minimum flows, and modified fishway prescriptions.

¹² See letter issued October 20, 2004, suspending the licensing process until June 2009.

Interior's section 4(e) and 10(e) requests for the Milford Project (Phase 2); the transfer and surrender of three licenses if the Option is exercised (Phase 3),¹³ and the potential for increased generating capacity at several projects (Phase 4).¹⁴

15. The Lower Penobscot Settlement contains provisions for the redevelopment of the Orono Project and includes two attachments: Attachment A containing specific fish passage provisions, and Attachment B pertaining to a Contingent Mitigation Fund (Fund). The Lower Penobscot Settlement also includes two additional agreements, the Lower Penobscot River Option Agreement (Option),¹⁵ and the Comprehensive Settlement Agreement between the Penobscot, PPL Maine, and the Bureau of Indian Affairs.

WATER QUALITY CERTIFICATION

16. Under Section 401(a)(1) of the Clean Water Act (CWA),¹⁶ the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency either has issued water quality 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 on any federal license or permit that is issued.¹⁷

17. On June 14, 2004, PPL Maine applied to the Maine Department of Environmental Protection (Maine DEP) for water quality certification for the project. On December 15, 2004, Maine DEP issued a certification for the Orono Project that includes conditions for water levels and flows (conditions 1.A-E), upstream and downstream fish passage (conditions 2.A-D, F and G), a contingent mitigation fund (condition 2.E), recreation facilities (condition 3), limits of approval (condition 4), and compliance with all

¹³ The Veazie and Great Works projects would be decommissioned and their dams removed; the Howland Project would be decommissioned and studied for potential dam removal.

¹⁴ The final phase of the Settlement calls for additional generation at Milford, Orono, Stillwater, Medway, and Ellsworth.

¹⁵ A key element of the Settlement involves PPL Maine providing the Trust with a 5-year option (Option) to acquire the Veazie (FERC No. 2403), Howland (FERC No. 2721), and Great Works (FERC No. 2312) projects from PPL Maine.

¹⁶ 33 U.S.C. § 1341(a)(1).

¹⁷ 33 U.S.C. § 1341(d).

applicable laws (condition 5). These conditions are set forth in Appendix A of this order and incorporated into the license (see ordering paragraph D).

COASTAL ZONE MANAGEMENT

18. The Coastal Zone Management Act (CZMA) of 1972, as amended, requires review of the project's consistency with the state's Coastal Management Program. In Maine, the State Planning Office is responsible for reviewing hydroelectric projects for consistency with the state's Coastal Zone Management Program (CZMP). In a letter dated March 17, 2004, the Maine State Planning Office states that the Orono project is not located in Maine's designated coastal zone, and that any issues regarding coastal resources or uses will be addressed through other pertinent state license and permitting processes.

FISHWAY PRESCRIPTIONS

19. Section 18 of the FPA, 16 U.S.C. § 811, provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce (Commerce), as appropriate.

20. Interior and NOAA Fisheries, on behalf of Commerce, filed preliminary fishway prescriptions on July 2, 2004, and April 20, 2005, respectively. Interior and Commerce also requested reservation of their respective authorities to prescribe the construction, operation, and maintenance of fishways, to be consistent with the Lower Penobscot Settlement.¹⁸

21. The preliminary prescriptions are similar and include provisions for downstream passage of all fish species, upstream passage for American eel, and upstream passage for species other than American eel. Upstream passage to species other than American eel is contingent on actions taken under the Lower Penobscot Settlement and on effectiveness monitoring.

22. The prescription for downstream facilities specifies the installation of trash racks with 1-inch clear spacing at the powerhouse turbine intake, and a gated surface as well as a bottom bypass discharging up to 70 cfs during the downstream migration period.¹⁹ The

¹⁸ Interior's and Commerce's reservations include the authority to prescribe a fish trap, as specified in the Lower Penobscot Settlement, upon acquisition by the Trust of the Veazie, Great Works, and Howland projects.

¹⁹ If shown to be necessary by studies of the effectiveness of these measures, but (continued)

prescription specifies operating periods and protocols, and would require maintenance and operation plans, detailed design drawings and schedules. For upstream passage of American eel, the licensee is to assess the appropriate location for the siting of a new upstream eel fishway, and upon approval of its proposed location by the FWS, Marine Resources, and the Penobscot, complete installation and initial testing, and have the fishway operational prior to the beginning of the third upstream eel migration season (approximately May 1) following the effective date²⁰ of the Lower Penobscot Settlement. The prescription defines the upstream migration period for subsequent years as April 1 to November 30. As with the downstream passage facilities, the prescription specifies operating periods and protocols, and requires maintenance and operational plans, detailed design drawings and schedules.

23. The prescriptions for upstream fish passage for species other than American eel depend on the disposition of the Veazie, Great Works, and Howland projects in accordance with the Lower Penobscot Settlement. If the above projects are acquired by the Trust and removed, PPL Maine would file an amendment for installation and operation of a fish trapping facility at the Orono Project spillway. Trapped fish would be transported a short distance to the tailwater of the Orono Project at the confluence of the main stem Penobscot River and Stillwater Branch. If the above projects are not acquired, the licensee would implement the fishway prescriptions for upstream facilities previously filed by Interior and Commerce on May 20, 1997, and February 16, 1995, respectively, no later than June 25, 2010.

24. Lastly, the preliminary prescriptions require plans to monitor the effectiveness of the downstream and upstream facilities.

25. Interior and Commerce's prescriptions, which are consistent with the water quality certification, are attached to this order as Appendices B and C, and incorporated into the license (see ordering paragraph E). Consistent with Commission policy, Article 402 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior and Commerce for the Orono project.

in no case before the expiration of the safe harbor period delimited in Attachment A, section II(c) of the Settlement, PPL Maine would institute nightly shutdowns for downstream eel passage for a 2-week period during the downstream eel migration season.

²⁰ The effective date is the date the last party signs the Settlement, in this case, June 22, 2004, signed by the Trust.

ESSENTIAL FISH HABITAT

26. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act²¹ 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)²² of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH Conservation Recommendations for actions that would adversely affect EFH. Under section 305(b)(4)(B) of the Act,²³ an agency must, within 30 days after receiving recommended conservation measures from NOAA Fisheries 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.²⁴

27. EFH has been designated for Atlantic salmon in the Penobscot River and its tributaries. In the EA, Commission staff concluded that licensing the project, as proposed by PPL Maine, in accordance with the Lower Penobscot Settlement, would not adversely affect EFH. As such, no consultation is required with NOAA Fisheries. However, in a letter filed September 19, 2005, NOAA Fisheries indicated that it could not agree with staff's conclusions because staff did not recommend inclusion of the Lower Penobscot Settlement's provision for a Contingent Mitigation Fund in any license issued. Therefore, NOAA Fisheries recommended pursuant to section 305(b)(4)(A) that the Commission include the Contingent Mitigation Fund as a license condition for the Orono Project.

28. Because the Contingent Mitigation Fund is included as condition 2.E of the water quality certification, it is a requirement of this license.

²¹ 16 U.S.C. § 1855(b)(2).

²² 16 U.S.C. § 1855 (b)(4)(A).

²³ 16 U.S.C. § 1855(b)(4)(B).

²⁴ The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

THREATENED AND ENDANGERED SPECIES

29. Section 7(a)(2) of the Endangered Species Act of 1973²⁵ requires federal agencies to ensure their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

30. No federally listed threatened or endangered fish species occur in the Orono Project area including the Penobscot River main stem above the Veazie dam. However, two endangered fish species are found in areas further downstream. The federally endangered Cove Brook Atlantic salmon are included in the Gulf of Maine Distinct Population Segment (DPS) and occur downstream of the former site of the Bangor dam located about 9 miles downstream. The federally endangered Shortnose sturgeon is believed to occupy habitat in the lower Penobscot River drainage most likely downstream of Veazie Dam located about 6 miles downstream. Because the project would be operated run-of-river, the project would not affect habitat conditions in the lower Penobscot drainage below Veazie Dam. The EA, therefore, concluded that redeveloping and operating the project, as proposed by PPL Maine, and in accordance with the Lower Penobscot Settlement, would not affect the Gulf of Maine DPS of Atlantic salmon or Shortnose sturgeon. In its letter filed September 19, 2005, NOAA Fisheries agreed with this no effect finding. Therefore, section 7 consultation for listed Atlantic salmon and shortnose sturgeon is not necessary.

31. Bald eagle reportedly forage in the Orono project area year-round and are the only other federally listed species known to occur in the project area. The EA found that project rehabilitation, because it would be of short duration with limited ground disturbance, much of which would be within the project powerhouse, would not have a significant adverse effect on bald eagles that forage in the project area. Regarding project operation, the EA found that the proposed 200-cfs flow release through the bypassed reach should protect habitat for fish that eagles may use for food. To protect bald eagle habitat at the project, the EA recommended maintaining existing riparian forest at the project.

32. Based on the anticipated minimal effects of rehabilitating and operating the project, the EA found that redevelopment of the Orono Project would not be likely to adversely affect the bald eagle. In a letter dated September 8, 2005, the FWS concurred with this determination. Article 403 requires that the licensee maintain riparian forest at the project.

²⁵ 16 U.S.C. § 1536(a).

CULTURAL RESOURCES

33. The Maine Historical Preservation Commission (State Historic Preservation Officer - SHPO), in its letter dated March 14, 2004, reported that there are no properties in the Orono Project area of prehistoric, historic, architectural or archaeological significance that would be adversely affected by project licensing. PPL Maine also consulted with the Penobscot Tribal Historic Preservation Officer (THPO) regarding the project licensing to confirm that there are no cultural, historic or archaeological issues at this time. If, however, PPL Maine undertakes land-disturbing maintenance or repair at the project in the future, and if archaeological or historic sites are discovered, consultation with the SHPO and THPO and mitigation measures would help protect the discovered sites. Article 405 requires PPL Maine to consult with the SHPO and THPO if any archaeological or cultural sites are discovered during ground-disturbing or land-clearing activities.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

34. Section 10(j)(1) of the FPA,²⁶ 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,²⁷ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

35. In a letter filed April 20, 2005, NOAA Fisheries submitted four recommendations, all of which fall within the scope of section 10(j).²⁸ This license includes conditions consistent with all four recommendations and require the licensee to: (a) maintain a continuous, year-round minimum flow of 200 cfs in the bypassed reach (water quality certification condition 1.B; Appendix A); (b) develop a minimum flow operation and monitoring plan (water quality certification condition 1.E; Appendix A); (c) operate the

²⁶ 16 U.S.C. § 803(j)(1).

²⁷ 16 U.S.C. § 661 *et seq.*

²⁸ In its April 25, 2005, filing, the Maine State Planning Office, submitting comments on behalf of Maine Departments of Conservation, Inland Fisheries and Wildlife, Marine Resources, and the Atlantic Salmon Commission recommended as licensing conditions the terms and conditions submitted by NOAA Fisheries pursuant to section 10(j) of the FPA.

project in a run-of-river mode (water quality certification condition 1.A; Appendix A); and (d) coordinate head pond drawdowns with the resource agencies (Article 401).

COMMENTS ON THE EA

A. Contingent Mitigation Fund

36. The signatories to the Lower Penobscot Settlement disagree with Commission staff's recommendation in the EA to exclude from the Orono Project license an article requiring PPL Maine to contribute to the Contingent Mitigation Fund (Fund). NOAA Fisheries indicates that the Fund is needed to offset impacts associated with the Orono Project in the event that upstream fish passage is not installed. The signatories request that the Commission include the Fund in a license article for the Orono Project.

37. Under the Lower Penobscot Settlement, PPL Maine would establish the Fund to provide mitigation for habitat effects of certain PPL Maine activities if the Veazie and Great Works projects are not acquired by the Trust and their respective dams not subsequently removed.²⁹ In the EA, staff concluded that its recommended measures including operating the project in a run-of-river mode with an impoundment fluctuation of one foot or less, maintaining a minimum flow of 200 cfs in the bypassed reach and providing downstream fish passage and upstream eel passage facilities would protect and enhance aquatic resources in the Stillwater Branch and main stem of the Penobscot River. The EA did not identify additional effects of the project that were not being addressed by the above recommended measures. However, condition 2.E of the water quality certification requires the establishment of and payments to the Fund in accordance with the Lower Penobscot Settlement and, therefore, the Fund will be incorporated into this license by ordering paragraph D.

B. Upstream Fish Passage

38. The signatories also disagreed with staff's treatment of the Lower Penobscot Settlement's provisions for upstream fish passage. The signatories state that inclusion of an upstream fish passage article in the Orono license in a manner consistent with the Lower Penobscot Settlement is an essential component of the Settlement.

39. Because the nature of upstream fish passage requirements under section 18 of the FPA at the Orono Project for species other than American eel was contingent on whether certain projects in the Penobscot River Basin would be acquired by the Trust and ultimately removed, the EA concluded that the appropriate time to consider upstream fish

²⁹ If Veazie and Great Works are acquired by the Trust but the dams are not removed, the Trust would replace PPL Maine as the payor to the Fund.

passage would be once the future action had been identified; essentially, a reservation of the Commission's authority to require fishways that Interior or Commerce may prescribe in the future. However, since fish passage requirements submitted by Interior and Commerce under Section 18 are mandatory, they have been included in the license under ordering paragraph E. Furthermore, because upstream fish passage provisions in accordance with the Lower Penobscot Settlement are also included in the water quality certification (conditions 2.A, 2.D, 2.F, and 2.G), the upstream fish passage provisions of the Lower Penobscot Settlement will be incorporated into this license by ordering paragraph D.

OTHER ISSUES

A. Soil erosion and sedimentation control

40. The EA found that PPL Maine's proposal to replace previously demolished penstocks with new penstocks within the existing penstock right-of-way could cause some short-term erosion and sedimentation effects in the Stillwater Branch of the Penobscot River. To help ensure that aquatic resources in the Stillwater Branch are protected during rehabilitation activities, Article 302 requires a soil erosion and sediment control plan prior to the start of any construction including installing new penstocks.

B. Recreation

41. In a recreation plan filed with the application, PPL Maine proposes to maintain an existing portage trail, signage, and parking area at the powerhouse. Condition 3 of the section 401 WQC requires PPL Maine to maintain a portage trail around the project. The plan is approved in ordering paragraph F. Article 404 requires implementation of the recreation plan.

C. Aesthetics

42. The three new 10-foot-diameter penstocks would extend 800-900 feet from the dam to the powerhouse and would run along a section of the river below the project dam. The EA recommended that the new penstocks be painted a color that blends with the surrounding environment in order to minimize the visual effects of installing new penstocks. Article 406 requires the penstocks to be a color that blends with the surrounding environment to protect project aesthetics.

ADMINISTRATIVE CONDITIONS

A. Annual Charges

43. 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.

B. Exhibit F and G Drawings

44. The Exhibit F drawings filed with the license application are approved and made part of the license (see ordering paragraph (C)). The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of these drawings.

45. The Exhibit G drawings that were filed with the license application and response to additional information do not meet the current Commission requirements for project boundary maps, because the project boundary map does not enclose all principal project works necessary for operation and maintenance of the project within the project boundary line. Specifically, the project boundary must enclose the entire length of the penstock from the dam to the powerhouse, the primary transmission lines, and the canoe portage. Article 203 requires the licensee to file revised Exhibit G drawings meeting the above requirements pursuant to 18 CFR sections 4.39 and 4.41.

C. Amortization Reserve

46. The Commission requires that for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 204 requires the establishment of the account.

D. Headwater Benefits

47. Some projects directly benefit from headwater improvements that were constructed by other licensees, by the United States, or by permittees. Article 205 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

E. Construction Activities

48. This license requires PPL Maine to replace or rehabilitate the penstocks, surge tank, wheelpit floors, and powerhouse. Articles 301, 302, 303, 304, and 305 require cofferdam construction drawings, contract plans and specifications, a quality control and inspection plan, a temporary emergency action plan, and as-built drawings, respectively.

F. Use and Occupancy of Project Lands and Waters

49. Requiring a licensee to obtain prior Commission approval for every use or occupancy of the project would be unduly burdensome. Therefore, Article 407 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.

STATE AND FEDERAL COMPREHENSIVE PLANS

50. Section 10(a)(2)(A) of the FPA, 16 U.S.C. § 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, and conserving a waterway or waterways affected by the project.³⁰ Under Section 10(a)(2)(A), federal and state agencies filed 11 comprehensive plans that address various resources in Maine. Staff identified and reviewed the 11 comprehensive plans, all of which are relevant to this project.³¹ No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

51. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,³² Commission staff evaluated PPL Maine's record as a licensee for these 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 the staff's findings in each of the following areas.

A. Conservation Efforts

52. Section 10(a)(2)(C) of the FPA 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, taking into account the published policies, restrictions, and requirements of state regulatory authorities. PPL Maine sells all the power generated by the project on a wholesale basis to customers within the Independent System Operator - New England (ISO-NE) system, and does not serve any retail customers. Staff concludes that, given the limits of its

³⁰ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19.

³¹ The list of applicable plans can be found in section IX of the environmental assessment for the project.

³² 16 U.S.C. § 803(a)(2)(C) and § 808(a).

ability to influence users of the electricity generated by the project, PPL Maine complies with Section 10(a)(2)(C) of the FPA.

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

53. Commission staff reviewed PPL Maine's compliance with the terms and conditions of the existing license. PPL Maine's overall record of making timely filings and compliance with its license is satisfactory. Staff concludes that PPL Maine has or can acquire the resources and expertise necessary to carry out its plans and comply with all articles and terms and conditions of a new license.

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

54. Commission staff reviewed PPL Maine's proposed operation and maintenance of the Orono Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. The staff concludes that the dam and project works at the Orono Project are safe, and has no reason to believe that PPL Maine cannot continue to safely manage, operate, and maintain the project facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

55. Commission staff reviewed PPL Maine's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. PPL Maine has been operating the project in an efficient manner within the constraints of the existing license. Staff concludes that PPL Maine is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

56. To assess the need for power, Commission staff looked at the needs in the operating region in which the project is located. The project is located in the Northeast Power Coordinating Council region of the North American Electric Reliability Council (NERC). NERC annually forecasts electric supply and demand in the nation and the region for a ten-year period. NERC's recent report on annual supply and demand projections indicate that, for the period 2004 – 2013, average growth in electrical demand will increase 1.3 percent annually. 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 a need for power in the region.

F. Transmission Services

57. The Orono Project has three, 325-foot-long, 2.4-kilovolt primary transmission lines that carry electric power generated from the project to the regional grid. No changes are recommended or proposed that would affect the capability of the project to connect to the regional grid to serve delivery to the region.

G. Cost Effectiveness of Plans

58. PPL Maine proposes a number of facility and operational changes to enhance water quality, fishery, and recreation resources. Based on PPL Maine's record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

59. PPL Maine pays taxes annually to local and state governments, and the project provides employment opportunities and attracts those interested in various forms of available recreation. Staff concludes that the various environmental and recreational enhancement measures approved in this license would benefit the public.

PROJECT ECONOMICS

60. In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefit of the project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corp.,³³ 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.

61. As proposed by PPL Maine, consistent with the Lower Penobscot Settlement, and with the mandatory water quality certification conditions and section 18 prescriptions, the annual cost of the project would be about \$507,310 (30.41 mills/kWh). The annual power value, for the estimated annual generation of 16,682 MWh, would be \$902,230

³³ 72 FERC ¶ 61,027 (1995).

(54.08 mills/kWh).³⁴ To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the power the project produces. Therefore, in the first year of operation, the project would cost \$394,920 (23.67 mills/kWh) less than the likely alternative cost of power.

62. If licensed with staff-recommended measures,³⁵ without upstream fish passage facilities, the fish trapping facility, and the Fund, the Orono Project would produce an average of 16,682 MWh of energy annually at a cost of about \$487,910 or 29.25 mills/kWh. The annual value of the project's power would be about \$902,230 or 54.08 mills/kWh. Therefore, in the first year of operation, the project would cost \$414,320, or 24.83 mills/kWh less than currently available alternative power.

63. If licensed as proposed by PPL Maine, consistent with the Lower Penobscot Settlement, with the mandatory water quality certification conditions and section 18 prescriptions, and with the staff-recommended measures, the Orono Project would produce an average of 16,682 MWh of energy annually at a cost of about \$508,220 or 30.46 mills/kWh. The annual value of the project's power would be about \$902,230 or 54.08 mills/kWh. Therefore, in the first year of operation, the project would cost \$394,010, or 23.62 mills/kWh less than currently available alternative power.

64. In considering public interest factors, the Commission takes into account that hydroelectric projects 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

65. Sections 4(e) and 10(a) of the FPA,³⁶ require the Commission, in acting on license applications, to give equal consideration to the developmental and environmental uses of

³⁴ The annual value of alternative power is based on information in Energy Information Administration, Annual Energy Outlook 2005.

³⁵ Staff recommendations include protecting existing forested riparian areas and historic properties, blending the new penstocks with the surrounding environment, and plans for soil erosion control and operation compliance monitoring.

³⁶ 16 U.S.C. § 797(e) and 803§ (a)(1).

the waterway on which a project is located. Any license issued shall be such as in the Commission's judgment would 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.

66. The EA for the Orono Project contains background information, analysis of effects, support for related license articles, and the basis for a finding that the project will not result in any major, long-term adverse environmental effects. The project would be safe if operated and maintained in accordance with the requirements of this license.

67. Based on my independent review and evaluation of the Orono Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I have selected the staff-recommended alternative for the Orono Project, including the WQC conditions and section 18 prescriptions from the agencies because they are mandatory, and find that it is best adapted to a comprehensive plan for improving or developing the Stillwater Branch of the Penobscot River.

68. I selected this alternative because: (1) issuance of a new license would serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures would protect and enhance fish and wildlife resources, water quality, recreational resources and historic properties; and (3) the 2.332 MW of electric energy generated from a renewable resource would offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

LICENSE TERM

69. Section 15(e) of the FPA³⁷ 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.

70. Section I.d.1 of Attachment A to the Lower Penobscot Settlement contains a provision requesting the issuance of a 40 year license. This license authorizes a moderate

³⁷ 16 U.S.C. § 808(e).

amount of construction and environmental measures. Therefore, this license is being issued for a term of 40 years.

The Director orders:

(A) This license is issued to PPL Maine, LLC (licensee), for a period of 40 years, effective the first day of the month in which this order is issued, to construct, operate and maintain the Orono Hydroelectric Project. This license is subject to the terms and conditions of the 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 those lands, enclosed by the project boundary shown by Exhibit G filed on January 24, 2005:

<u>Exhibit G Drawing</u>	<u>FERC No. 2710</u>	<u>Description</u>
Sheet 1 of 1	1001	Detail Map Reservoir

(2) Project works consisting of: (1) an existing 1,178-foot-long by 15-foot-high dam including a 320-foot-long spillway topped with 2.4-foot-high flashboards; (2) an existing 2.3-mile-long reservoir, which has a surface area of 175 acres at the normal full pond elevation of 72.4 feet above mean sea level (msl); (3) three new 800- to 900-foot-long, 10-foot-diameter penstocks; (4) a restored powerhouse containing four existing generating units with a total installed generating capacity of 2.332 MW; (5) three existing 325-foot-long, 2.4-kilovolt transmission lines; and (6) 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-10 filed on June 25, 2004, and pages A#1-1 through A#1-3 filed on January 24, 2005.

Exhibit F: The following Exhibit F drawings filed on June 25, 2004:

<u>Exhibit F Drawings</u>	<u>FERC No. 2710-</u>	<u>Description</u>
Sheet 1	1001	General Plan and Dam Sections
Sheet 2	1002	Main Floor Plan
Sheet 3	1003	Power House Sections

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A and F described above are approved and made part of the license. The Exhibit G drawing filed January 24, 2005, in response to Commission staff's additional information request supplementing the license application, does not conform to Commission regulations and is not approved. Article 203 requires the licensee to file revised Exhibit G drawings.

(D) This license is subject to the conditions submitted by the Maine Department of Environmental Protection under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1431(a)(1), as those conditions are set forth in Appendix A to this order.

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

(F) The recreation plan, filed with the application on January 24, 2005, is approved and made part of this license.

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

Article 201. Administrative Annual Charges. The licensee shall pay the United States the following annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purpose 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 2,332 kilowatts.

Article 202. Exhibit Drawings. Within 45 days of license issuance, the licensee shall file the approved exhibit F drawings in aperture card and electronic file formats.

a) 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-1234-#### through P-1234-####) 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.

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.

b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office. Exhibit F drawings must be identified as critical energy infrastructure information (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-1234-####, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
RESOLUTION – 300 dpi desired, (200 dpi min)
DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)
FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of license issuance, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including the entire length of the penstock from the dam to the powerhouse, the primary transmission lines, and the existing canoe portage located on the right shoreline, northeast of the powerhouse. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 204. 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 205. 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.

Article 301. Cofferdam Construction Drawings. Before starting 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 these copies shall be a courtesy copy to the Commission's 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 these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). 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. The submittal to the Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

Article 303. Quality Control and Inspection Program (QCIP). At least 60 days before starting and license-related construction activities, 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 a Quality Control and Inspection Program (QCIP) for the Commission's review and approval. The QCIP shall include a sediment and erosion control plan.

Article 304. Temporary Emergency Action Plan (TEAP). At least 60 days before starting construction, 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 a Temporary Emergency Action Plan (TEAP) for Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structures or any other water retaining structure that would endanger construction workers or the public. The TEAP 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 305. As-built Drawings. Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's New York Regional Engineer, the Director, D2SI, and the Director, DHAC.

Article 401. Operation and flow compliance monitoring plan. Within six months of license issuance, the licensee shall file for Commission approval, a plan for providing and monitoring run-of-river operation, water levels, and minimum flows required by condition 1 of the section 401 water quality certification including additional measures identified below.

The plan shall include, at a minimum:

- (1) a description of the means for maintaining the 200-cfs minimum flow in the Orono bypassed reach;
- (2) a schedule for installing all necessary gaging devices;
- (3) the proposed locations of the gaging devices;
- (4) the method of flow and impoundment level data collection;
- (5) a provision for coordinating the timing of maintenance drawdowns with the consulted agencies and Penobscot Indian Nation; and
- (6) a provision for providing the data to the agencies and Penobscot Indian Nation in a timely manner.

The plan shall be prepared in consultation with the U.S. Fish and Wildlife Service, Maine Department of Environmental Protection, Maine Department of Inland Fisheries and Wildlife, Maine Atlantic Salmon Commission, Maine Department of Marine Resources, and the Penobscot Indian Nation (entities).

The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 402. Reservation of Authority to Prescribe Fishways. Authority is reserved by 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 the Interior and/or Commerce pursuant to section 18 of the Federal Power Act.

Article 403. Riparian Habitat Protection. To protect bald eagle habitat at the project, the licensee shall, to the extent feasible, maintain existing forested riparian areas at the project. If, during the license term, modification or disturbance of such habitat is proposed, the licensee shall consult with the Maine Department of Inland Fisheries and Wildlife and the U.S. Fish and Wildlife Service, and file a request with the Commission for approval. The licensee's request must include comments on the proposal from the consulted agencies.

Article 404. Recreation Plan. Within three months of license issuance, the licensee shall implement its recreation plan and file documentation with the Commission that the plan has been implemented.

Article 405. Cultural Resources. The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in this license, including recreation developments at the project, shall consult with the Maine State Historic Preservation Officer (SHPO) and the Penobscot Tribal Historic Preservation Officer (THPO).

If the licensee discovers previously unidentified archeological or historic resources during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the resources and consult with the SHPO and THPO.

In either instance, the licensee shall file for Commission approval an historic properties management plan (plan) prepared by a qualified cultural resource specialist after having consulted with the SHPO and THPO. The plan shall include the following items:

- (1) a description of each identified or discovered resource indicating whether it is listed on or eligible to be listed on the National Register of Historic Places (NRHP);
- (2) an evaluation of each identified or discovered resource not listed on the HRHP with respect to its eligibility for such listing (historic property);
- (3) a description of the potential effects on any historic properties;
- (4) proposed measures for avoiding or mitigating any adverse effects on historic properties;
- (5) documentation of the nature and extent of consultation; and
- (6) a schedule for implementing any proposed mitigation measures and conducting additional studies.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a resource discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled. The Commission reserves the right to require changes to the plan.

Article 406. Aesthetics. The licensee shall paint the proposed new project penstocks a color, or construct the penstocks with a material, that visually blends the penstocks with the surrounding landscape. The licensee shall provide photographic documentation of compliance with this article with the as-built drawings required in Article 305.

Article 407. 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 watercraft 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 impoundment 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 impoundment. 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 watercraft 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 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 report on recreational resources of an Exhibit E; or, if the project does not have an 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

APPENDIX A

Maine Department of Environmental Protection
Certification under section 401 of the
Federal Clean Water Act

1. WATER LEVELS AND FLOWS

A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, or (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant, appropriate state and/or federal agencies, and the Penobscot Indian Nation, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 1 .E. below, or upon such other schedule as established by FERC, the Orono Project shall be operated in a run-of-river mode, with outflow approximately equal to inflow on an instantaneous basis except for flashboard failure or replacement, and impoundment levels maintained within one foot of full pond (elevation 72.4 feet msl). During times of flashboard failure, the applicant will maintain water levels at or above the spillway crest. During those times when flashboards are being replaced, the applicant will maintain water levels within one foot of the spillway crest.

B. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, or (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant and appropriate state and/or federal agencies, a minimum flow of 200 cfs to the bypass reach shall be maintained.

C. "Extreme Hydrologic Conditions" means the occurrence of events beyond the Licensee'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 Licensee'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 abnormal temporary operating condition, 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 established by FERC, submit plans for providing and monitoring the water levels and flows required by this condition. These plans shall be developed in consultation with U.S. Fish and Wildlife Service (USFWS), Maine

Department of Inland Fisheries and Wildlife (MDIFW), Maine Atlantic Salmon Commission (MASC), Maine Department of Marine Resources (MDMR), Penobscot Indian Nation (PIN), and DEP. These plans shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

2. FISH PASSAGE

A. UPSTREAM EEL PASSAGE

The applicant shall install and operate an upstream fishway for eels at the Orono Project, in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004.

B. DOWNSTREAM FISH PASSAGE

Permanent downstream fish passage facilities shall be installed and operational at the Orono Project in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004. These fish passage facilities shall be as prescribed by the May 20, 1997, DOI Fishway Prescription and shall be operational concurrent with the commencement of project operation.

C. DOWNSTREAM EEL PASSAGE

If shown to be necessary by effectiveness studies conducted in accordance with condition 2G. below, the applicant shall implement 2-week shutdowns at night for downstream eel migration. This shutdown shall not be required earlier than the expiration of the Safe Harbor period described in the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004.

D. UPSTREAM FISH PASSAGE

(1) Upon Acquisition of Designated Projects by the Trust. In the event the option to purchase the Veazie, Great Works, and Howland projects is exercised and those projects are acquired by the Trust, the applicant shall install a fish trapping facility at the Orono project spillway in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004.

(2) If Designated Projects are Not Acquired by the Trust. In the event the Veazie, Great Works, and Howland projects are not acquired by the Trust, the applicant shall install upstream fish passage facilities in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004. These fish passage facilities shall be as prescribed by the May 20, 1997 DOI Fishway Prescription.

E. CONTINGENT MITIGATION FUND

In the event that the option to purchase the Veazie and Great Works projects is not exercised or is terminated, or if, subsequent to the exercise of the option, the Veazie and Great Works projects are not acquired and removed, the applicant shall participate in the establishment of and shall provide funds to a Contingent Mitigation Fund, in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004.

F. FISH PASSAGE FACILITIES PLANS

The applicant shall, in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004, or upon such other schedule(s) as established by FERC, submit final design and operational plans for all upstream and downstream fish passage facilities and/or operational measures required by this approval, prepared in consultation with state and federal fisheries agencies and the Penobscot Indian Nation. These plans shall include a schedule for facilities construction and operation. These plans shall be reviewed by and must receive approval of the DEP prior to construction.

G. FISH PASSAGE EFFECTIVENESS STUDIES AND RESULTS

(1) Studies. The applicant shall, in consultation with state and federal fisheries agencies and the Penobscot Indian Nation, conduct a study or studies to determine the effectiveness of all interim and permanent upstream and downstream fish passage facilities and/or operational measures required by this approval.

(2) Study plans. The applicant shall, in accordance with the schedule(s) established by FERC, submit plans for a study or studies to determine the effectiveness of all interim and permanent upstream and downstream fish passage facilities and/or operational measures required by this approval, prepared in consultation with state and federal fisheries agencies and the Penobscot Indian Nation. These plans shall be reviewed by and must receive approval of the DEP prior to implementation.

(3) Results of studies. The applicant shall, in accordance with the terms of the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004, or the schedule(s) established by FERC, submit the results of any fish passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of any interim or permanent upstream or downstream fish passage facilities constructed and/or operated pursuant to this approval. The Department reserves the right, after notice and opportunity for hearing, to require reasonable changes in the design and/or operation of these fish passage facilities as may be deemed necessary to adequately pass

anadromous fish through the project site. Any such changes must be approved by FERC prior to implementation.

3. RECREATIONAL FACILITIES

The applicant shall maintain a portage trail around the project.

4. 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. All variances from the plans and proposals contained in said documents are subject to review and approval of the DEP prior to implementation.

5. 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 a

APPENDIX B

U.S. Department of the Interior Section 18 Prescriptions

The Department included specific requirements for fishways at the Orono Project in its May 20, 1997 prescription in the Basin Mills Project proceeding (Project no. 10891). The Commission has yet to issue a subsequent long-term license for the Orono Project. In response to PPL Maine's application for a new license for the Orono Project, the Secretary of the Interior, exercising her authority under § 18 of the FPA, hereby provides a preliminary prescription providing for upstream and downstream passage that comply with the specific provisions in the Agreement.

1. The licensee shall provide safe and effective upstream eel passage at the Orono project. The licensee shall assess the appropriate location for the siting of the new upstream eel fishway, and upon approval of its proposed location by the USFWS, MDNR, and PIN, shall complete installation and initial testing, and have the fishway fully operational prior to the beginning of the third upstream eel migration season (approximately May 1) following the effective date of the Agreement.
2. The licensee shall provide downstream fish passage as previously prescribed by the Department in its prescription dated May 20, 1997, within 3 years after the license is issued. If shown to be necessary by studies of the effectiveness of these measures, but in no case before the expiration of the safe harbor period delimited in Attachment A, Section II(c) of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall institute nightly shut-downs for downstream eel passage for a two-week period during the downstream eel migration period.
3. The Department hereby reserves its authority under § 18 of the FPA to prescribe such fishways as may be necessary and not inconsistent with the Agreement during the term of the license. This specifically includes authority to prescribe a fish trap, as specified in Attachment A to the Agreement, upon acquisition of the Veazie, Great Works, and Howland Projects.

APPENDIX C

National Oceanographic and Atmospheric Administration
Section 18 Prescriptions

(A) The following are prescriptive measures to provide for the safe and effective downstream passage of diadromous fish species.

1. The licensee shall provide downstream fish passage for all species within 3 years after the license is issued. The licensee shall install trashracks with 1-inch clear opening at the powerhouse turbine intake, and a gated surface and bottom bypass discharging up to 70 cfs during the downstream migration period. If shown to be necessary by studies of the effectiveness of these measures, but in no case before the expiration of the safe harbor period delimited in Attachment A, Section II(c) of the MPA, the licensee shall institute nightly shut-downs for downstream eel passage for a two week period during the downstream eel migration season.
2. The downstream migration period is defined as April 1 to June 30 and November 1 to December 15 for Atlantic salmon, July 1 to December 31 for American shad and alewife, August to December 31 for blueback herring, and August 15 to November 15 (or other time periods determined when adequate information is available, and during any spring run that may occur) for American eel. Downstream facilities are to operate whenever generation occurs during the downstream migration period.
3. Fishways shall be maintained and operated to maximize fish passage effectiveness throughout fish migration period(s) defined above. The licensee shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and material that would hinder passage. Anticipated maintenance shall be performed in sufficient time before a migratory period such that fishways can be tested and inspected, and will operate effectively prior to and during the migratory periods.
4. Fishway maintenance and operational plans (including schedules) for all downstream fish passage facilities shall be developed by the licensee in consultation and cooperation with NMFS, the USFWS, the Penobscot Indian Nation (PIN), and other fishery agencies, including the Maine Department of Inland Fisheries and Wildlife (IFW), Maine Department of Marine Resources (DMR), and Maine Atlantic Salmon Commission (MASC). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with NOAA Fisheries, USFWS, PIN, and other fishery agencies.
5. Within six months of the order issuing a new license for Orono, the licensee shall file, for Commission approval, detailed design drawings for the surface and bottom bypasses. This filing shall include but not be limited to: (1) the location and design specifications

of the bypasses; (2) a schedule for installing the facilities within 18 months of a Commission order approving the design drawings; and (3) procedures for operating and maintaining the facilities.

6. The licensee shall include with the filings required by the consultations for fishway maintenance and operation plans and design drawings, copies of agency and PIN comments and recommendations on the plans, schedules, and drawings after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' and PIN's comments and recommendations are accommodated by the licensee's facilities. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the drawings, plans, and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

(B) The following are prescriptive measures to provide for the safe and effective upstream passage of diadromous fish species.

1. The licensee shall provide safe and effective upstream eel passage at the Orono project. The licensee shall assess the appropriate location for the siting of the new upstream eel fishway, and upon approval of its proposed location by NMFS, the USFWS, MDMR and PIN, file, for Commission approval, a plan for the fishway. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities and completing initial testing prior to the third upstream eel migration season following the effective date of the Lower Penobscot River Multiparty Settlement Agreement (approximately May 1, 2007); and (3) procedures for operating and maintaining the facilities.

2. The upstream migration period shall be defined as April 1 to November 30 for American eel.

3. Fishways shall be maintained and operated to maximize fish passage effectiveness throughout fish migration period. The licensee shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and material that would hinder passage. Anticipated maintenance shall be performed in sufficient time before a migratory period such that fishways can be tested and inspected, and will operate effectively prior to and during the migratory periods.

4. Upstream fish passage for species other than American eel is contingent on actions taken under the Settlement Accord.

(a) If Veazie (P-2403), Great Works (P-2312), and Howland (P-2721) Projects are acquired and removed,³⁸ the licensee shall file an amendment to authorize installation and operation of a fish trapping facility at the Orono project's spillway, as outlined in Attachment A of the MPA. The licensee shall consult with and receive approval from the resource agencies and PIN on the design plans prior to filing with the Commission. Trapped fish will be transferred a short distance (i.e., tailwater below the Orono Dam, main stem Penobscot River at the confluence of the Stillwater Branch).

(b) If Veazie, Great Works, and Howland are not acquired, the licensee will implement the existing NMFS (1995) and DOI (1997) prescription for upstream passage by filing the appropriate license amendments. No later than June 25, 2010, as outlined in Attachment A of the MPA, the licensee shall file for approval by the Commission drawings of permanent upstream fish passage. As part of the filing, the licensee shall include plans to have the facility fully operational within 18 months of the Commission's approval of the design drawings.

5. Fishway design, maintenance, and operational plans (including schedules) for all upstream fish passage facilities shall be developed by the licensee in consultation and cooperation with NMFS, USFWS, PIN, and other fishery agencies (IFW, DMR, and MASCC). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with NMFS, USFWS, PIN, and other fishery agencies.

6. The licensee shall include with all fishway plans and schedules, documentation of consultation, copies of agency and PIN comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' and PIN's comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

(C) The following are requirements for monitoring the effectiveness of the fish passage facilities at Orono:

1. Within 12 months of the deadline established for filing design drawings or a plan for a fish passage device, the licensee shall file with the Commission, for approval, a plan to monitor the effectiveness of all the facilities and flows provided pursuant to the above license conditions that will enable the efficient and safe passage of diadromous fish migrating upstream and downstream. The licensee shall prepare the monitoring plan

³⁸ The Howland Project may be partially removed or a fish bypass constructed under the Settlement Accord.

after consultation with NMFS, USFWS, Maine Fisheries Agencies (IFW, DMR, MASC), the Maine Department of Environmental Protection, and PIN. The results of these monitoring studies shall be submitted to the listed agencies and shall provide a basis for recommending future structural or operational changes at the project.

2. The monitoring plan shall include a schedule for: (1) implementation of the plan; (2) consultation with the appropriate federal, state, and tribal agencies concerning the results of the monitoring; and (3) filing the results, agency comments, and licensee's response to agency comments with the Commission.
3. The licensee shall include with the plan documentation of agency consultation, copies of agency and PIN comments and recommendations on the plan after it has been prepared and provided to them, and specific descriptions of how the agencies' and PIN's comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.
4. If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the licensee shall first consult with the agencies to develop recommended measures for amelioration and then file its proposal with the Commission for approval. Any such changes will be subject to provisions of Attachment A to the MPA.

(D) Last, the Department hereby reserves its authority under Section 18 of the FPA to prescribe such fishways as may be necessary and consistent with Attachment A of the Lower Penobscot River Multiparty Settlement Agreement during the term of the license. This specifically includes authority to prescribe a fish trap, as specified in Attachment A to the MPA upon acquisition of the Veazie, Great Works, and Howland 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 non-power 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.