UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

Merimil Limited Partnership Project No. 2574-032

ORDER ISSUING NEW LICENSE

(Issued March 4, 2005)

Introduction

1. On April 29, 2002, Merimil Limited Partnership (Merimil) filed an application for a new license, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA), 16 U.S.C. §§ 797(e) and 808, respectively, for the continued operation and maintenance of the existing 6.915-megawatt (MW) Lockwood Project No. 2574, located on the Kennebec River, a navigable waterway,[1] in Kennebec County, Maine. This order is in the public interest because it provides for the continued generation of electric energy to serve growing regional demand, together with enhancements to the fish and wildlife, recreation, and cultural resources of the Kennebec River Basin.

Project Facilities and Operation

2. The Lockwood Project, located at river mile 63, is now the first dam on the mainstem of the Kennebec River.[2] The Lockwood Project includes an 81.5-acre reservoir, an 875-foot-long and 17-foot-high dam with two spillway sections and a 160-foot-long forebay headworks section, a 450-foot-long forebay canal, two powerhouses, and two transmission lines. The dam and forebay headworks span the

[1] *Central Maine Power Co.*, 13 FPC 1076 (1954). The Commission found the Kennebec River to be navigable from its mouth upstream to at least Moosehead Lake. The Lockwood Project is located within this stretch of the Kennebec River. Accordingly, the project is required to be licensed by section 23(b)(1) of the Federal Power Act. 16 U.S.C. § 817.

[2] The Edwards Project No 2389, located about 18 miles downstream, was removed in 1999. There are 19 licensed projects within the Kennebec River basin; eight are on the mainstem above the Lockwood Project.

Kennebec River immediately upstream of the U.S. Route 201 bridge along a site originally known as Ticonic Falls. The spillway sections dam the river on either side of a small island; the east spillway section begins at the east abutment of the dam and extends about 225 feet in a westerly direction to the small island. The west spillway extends about 650 feet from the small island in a southwesterly direction to the forebay canal headworks, which extend to the west bank of the river. Each spillway has 15-inch flashboards. From the headworks, the forebay canal directs water to two powerhouses located on the west bank of the Kennebec River: the original powerhouse contains six generating units having a total installed capacity of 4.800 MW, and the second powerhouse contains one generating unit having a total installed capacity of 2.115 MW. The project's tailrace returns the flow to the Kennebec River about 1,300 feet downstream from the east spillway section. The project is described in greater detail in ordering paragraph (B)(2). Upstream of the dam, the project boundary follows the contour line of 54.15 feet above mean sea level (msl), which is almost two feet above the normal reservoir level of 52.16 feet msl. Below the dam, the project boundary generally follows the normal tailwater elevation of 31.16 feet msl. The boundary deviates from the 31.16 foot contour to include the areas around the powerhouses and transmission lines.

3. Flow to the project is largely controlled by several large storage projects at the head of the basin, which are managed to provide, to the greatest extent possible, a uniform and reliable flow of 3,600 cubic feet per second (cfs) at Madison, Maine, located about 36 miles upstream of the Lockwood Project.[3] Merimil proposes and this license requires that the project continue to operate in a run-of-river mode. The minimum head pond elevation will be 51.66 feet msl (six inches below the top of the spillway flashboards) when the flashboards are in place, and 49.91 feet msl (1 foot below the spillway crest) when flashboards are being replaced.

4. There is no minimum flow requirement in the existing license. However, Merimil operates the project to provide an instantaneous minimum flow of 2,114 cfs or inflow, if less, below the powerhouse to maintain downstream aquatic habitat in the river. Flow in the approximately 1,300-foot-long bypassed reach is currently limited to leakage around and through the flashboards (estimated at 30 to 50 cfs), or as spill over the flashboards when river flow exceeds about 4,500 cfs. When the flashboards are being replaced, there are no minimum flows into the bypassed reach.

[3] Several projects located between these storage reservoirs and the Lockwood Project operate in a peaking mode, but other projects upstream of Lockwood are operated to re-regulate the flow of the Kennebec River.

Background

5. The original license for the Lockwood Project was issued to Milstar Manufacturing Company in 1969.[4] The expiration date for the license was December 31, 1993. In 1985, the license was amended to increase the authorized capacity of the project from 4,800 to 6,195 kilowatts, construct a new powerhouse,[5] and extend the expiration date of the license to April 30, 2004.[6] Also in 1985, the license was transferred from Milstar Manufacturing Company to Merimil.[7]

6. The Kennebec River in the vicinity of the Lockwood Project supports a varied fish population. The impoundment supports a warm water fish community, including naturally reproducing smallmouth bass. Migratory species in the impoundment include American shad, alewife, and American eel. The fish communities in the river below the project consist of both warm water and cold water species typical in the region, including smallmouth bass, largemouth bass, perch, black crappie and a variety of forage species. Anadromous species that could move up to the project tailwaters include striped bass, rainbow smelt, Atlantic sturgeon, shortnose sturgeon, Atlantic salmon, American shad, and alewife. Only American shad, alewife, and Atlantic salmon have historically migrated upstream of the project area. American eel have unobstructed access to the base of the dam. Large numbers of eels observed in the bypassed reach, in the impoundment, and at the Hydro-Kennebec Project (the next upstream dam) confirm that eels are successfully passing the Lockwood Project. Efforts are underway to restore American shad, alewife, Atlantic salmon, and American eel to the Kennebec River Basin.

7. In 1989, the license for the project was amended to include the terms of a January 1987 agreement (known as the Kennebec Hydro Developer Group [KHDG] agreement[8])

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[4] 42 FPC 1307.

[5] 32 FERC ¶ 62,711.

[6] 33 FERC ¶ 61,329.

[7] 33 FERC ¶ 62,434.

[8] KHDG includes Central Maine Power Company (now FPL Energy Maine Hydro, LLC), Scott Paper Company, Pittsfield Hydro Company, Benton Falls Associates, and Kennebec Hydro Resources, Inc. (Merimil Limited Partnership). The amendment application to include the terms of the 1987 agreement was filed in March 1989.

among the licensees of several projects on the Kennebec and Sebasticook Rivers[9] and state fisheries agencies to facilitate the restoration of American shad, alewife, and Atlantic salmon in the Kennebec River Basin.[10] The licensees agreed to provide funding to the state fishery agencies for interim trap and truck operations at the projects, to install and operate permanent downstream and upstream fish passage facilities according to a schedule, and to conduct studies related to the restoration efforts. Permanent upstream and downstream fish passage facilities were to be installed and operational at the Lockwood Project by May 1, 1999. This schedule was based on the assumption that fish passage would be provided at the Edwards Project by the late 1980s.

8. In April 1997, the licensees of the KHDG agreement projects requested the Commission to amend the licenses to delay installation of the permanent fishways at the projects (including Lockwood) until fish passage was available at the Edwards Project or the dam removed and restoration of salmon, shad, and alewives in the Kennebec River had proved successful. In September 1997, the Commission denied the applications to amend the licenses without prejudice.[11] In November 1997, the Commission denied the application for new license to operate the Edwards Project and ordered the Edwards Project licensee to file a plan for the removal of the project dam.[12]

9. On May 28, 1998, an offer of settlement, now known as the Lower Kennebec River Comprehensive Settlement Accord (1998 Accord), was filed by state and federal fisheries agencies, environmental groups, and the licensees of the Edwards Project and seven upstream projects.[13] The 1998 Accord modified the KHDG agreement and

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[9] The Sebasticook River joins the Kennebec River about 0.5 mile downstream of the Lockwood Project.

[10] 46 FERC ¶ 62,076.

[11] 80 FERC ¶ 61,377.

[12] 81 FERC ¶ 61,255.

[13] Signatories to 1998 Accord are: Edwards Manufacturing Company and the City of Augusta, Maine (the licensees for the now-removed Edwards Project); the U.S. Fish and Wildlife Service; the NOAA National Marine Fisheries Service; the State of Maine; Central Maine Power Company (licensee for the Fort Halifax Project No. 2552, Shawmut Project No. 2322, and Weston Project No. 2325); Merimil Limited Partnership (licensee for the Lockwood Project No. 2574); UAH-Hydro Kennebec Limited Partnership (licensee for the Hydro Kennebec Project No. 2611); Benton Falls Associates (licensee

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included provisions for removing the Edwards dam and, upon the occurrence of certain triggering events, installing fish passage at the upstream projects, including the Lockwood Project. The Lockwood license was amended in September 1998 to incorporate the terms of the 1998 Accord.[14] Merimil's relicense proposal includes these measures, which require Merimil to:

American Eels – Upstream and Downstream Passage

- Study feasibility of upstream and downstream eel passage and, if found to be feasible, develop and implement a plan for such passage.

American Shad, Atlantic Salmon, or River Herring[15] – Upstream Passage

- *Interim measures.* Install a trap, lift, and transfer facility at the project's powerhouses. These facilities are to be operational by May 1, 2006.[16]
- *Permanent measures.* Provide permanent upstream passage within two years of the earlier of: (1) 8,000 American shad are captured in any single season at the interim trap at the project; or (2) the licensee and resource agencies determine upstream passage is warranted.

American Shad, Atlantic Salmon, or River Herring – Downstream Passage

- *Interim measures.* Provide interim passage through the turbines.

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for the Benton Falls Project No. 5073); Ridgewood Maine Hydro Partners, L.P. (licensee for the Burnham Project No. 11472); and a group of intervenors, collectively called the Kennebec Coalition, comprised of American Rivers, Inc., Atlantic Salmon Federation, Kennebec Valley Chapter of Trout Unlimited, Natural Resources Council of Maine, and Trout Unlimited.

[14] 84 FERC ¶ 61,227. The fisheries measures applicable to the Lockwood Project are set out in Exhibit B, Section IV.B of the 1998 Accord and are attached to this order as Appendix B. The terms of the 1998 Accord are also included by reference as a condition of the water quality certification, which is included as Appendix A to this order. The water quality certification is discussed later.

[15] River herring refers collectively to alewives and blueback herring.

[16] Functional design drawings and an implementation schedule for an interim trap, lift, and transfer facility for the Lockwood Project were filed with the Commission on February 13, 2004, and approved by the Commission on May 27, 2004. 107 FERC ¶ 62,184.

- *Permanent measures.* Conduct studies of the effectiveness of various downstream passage techniques to determine the design of the permanent facilities, which are to be installed and operational when permanent upstream passage is operational.

10. On April 29, 2002, Merimil filed an application for new license for the Lockwood Project.[17] Public notice of the application was issued on July 3, 2002, setting September 3, 2002, as the deadline for filing motions to intervene. Timely motions to intervene were filed by UAH-Hydro Kennebec LP,[18] the Maine State Planning Office (Maine SPO), the U.S. Department of the Interior (Interior), American Rivers, the Atlantic Salmon Federation, Trout Unlimited, the Kennebec Coalition, and the Natural Resources Council of Maine. These entities support the inclusion of the terms of the 1998 Accord in a new license.

11. Friends of the Kennebec Salmon intervened in opposition to the relicensing of the project, contending that the goals of the fishery restoration programs in the Kennebec River Basin cannot be achieved using fish passage facilities at the Lockwood Project, and thus the license should be denied and the project removed.[19]

12. On October 3, 2003, the Commission issued a draft environmental assessment (EA) that analyzed the impacts of relicensing the project under the terms of the 1998 Accord (Merimil's proposal), as proposed by Merimil with additional staff-recommended measures (staff alternative), and without interim and permanent upstream fishways (no-action alternative). Typically, the analysis of the no-action alternative considers the effects of operating the project under the terms of the existing license, without any additional measures. The no-action alternative is intended to describe the environment as it exists today, and by which we judge the benefits and costs of any needed measures that would be applied under the new license. In this instance, the applicant has, in accordance

[17] The application was filed on behalf of Merimil by FPL Energy Maine Hydro, LLC (FPL Maine). FPL Maine is the owner of Kennebec Hydro Resources, Inc., a general partner of Merimil.

[18] UAH-Hydro Kennebec LP is a co-licensee for the Hydro Kennebec Project No. 2611, located just upstream of the Lockwood Project.

[19] Merimil opposed Friends of the Kennebec Salmon's motion to intervene. Because Friends of the Kennebec Salmon has an interest which may be directly affected by the outcome of this proceeding, we will grant the motion to intervene. *See*, 18 C.F.R. §385.214.

with the license, taken steps toward providing interim upstream and downstream fish passage, but fish passage has not yet been installed. Because most of the major costs to be incurred under the 1998 Accord (construction of the fishways by 2006 or later) and any benefits that would be accrued would occur within the term of any new license issued for the project, Commission staff concluded that including these measures as a part of the baseline would not reflect the environment as it exists today and would pre-judge the benefits and costs of including these measures in the new license.[20] Thus staff appropriately considered fish passage in the applicant's proposal and staff-recommended alternative, but not in the no-action alternative.

13. Comments on the draft EA were filed by Merimil, Interior, and the Kennebec Coalition. On April 22, 2004, the Commission issued a final EA. All motions to intervene and comments have been fully considered in determining whether, and under what conditions, to issue this license.

Water Quality Certification

14. Under section 401(a) of the Clean Water Act (CWA),[21] the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has issued water quality certification for the project or has waived certification. Under section 401(d) of the CWA,[22] any conditions of the certification become conditions of the license, and only a reviewing court may revise or delete those conditions.[23]

15. On April 25, 2002, Merimil applied to the Maine DEP for water quality certification. Merimil twice withdrew and refiled the application for certification (April 18, 2003, and April 16, 2004). Maine DEP issued water quality certification for the project on August 24, 2004. Ordering Paragraph (D) incorporates into the license the conditions of the certification, which is attached as Appendix A.

16. In summary, Merimil must: (1) operate in a run-of-river mode; (2) minimize impoundment level fluctuations (within six inches of full pond when all flashboards are

[20] EA at 10.

[21] 33 U.S.C. § 1341(a).

[22] 33 U.S.C. § 1341(d).

[23] *See American Rivers v. FERC*, 229 F.3d 99 (D.C. Cir. 1997).

in place and above the spillway crest when flashboard failure has occurred); (3) maintain minimum leakage flows of 30 to 50 cfs from the dam; (4) implement fish rescue measures during flashboard replacement or impoundment drawdown;[24] (5) maintain the existing shoreline angler access site in the project's tailwater; and (6) comply with the requirements of the 1998 Accord.[25]

17. For the effective administration of this license, Articles 401 and 402: (1) establish procedural schedules for both the completion of the certification's plan requirements and submission of the plans for Commission approval; (2) require documentation of completion of certain certification requirements, including the filing of reports; (3) prohibit changes to project operations or facilities prior to Commission approval of an amendment application; (4) specify the agencies with which the licensee must reach agreement to modify project operations for short periods; and (5) require Commission notification of any short-term modifications to project operations.

18. Although the conditions of the water quality certification require minimum leakage flows in the bypassed reach of 30 to 50 cfs when the reservoir is at full pond, as discussed below, we are requiring a continuous and verifiable minimum flow of 50 cfs from the dam (except when the flashboards are being replaced). Leakage through the flashboards can be variable and unreliable and will depend in part on the condition of the flashboards. Staff found that a continuous and verifiable minimum flow of 50 cfs from the dam, appropriately distributed to important pools below the dam, is necessary to maintain and protect the aquatic habitat and ensure connectivity of the pools for the fish species targeted for recovery in the basin and for the endangered shortnose sturgeon. The cost of providing a continuous flow of 50 cfs will depend on whether the licensee can find a reliable means to incorporate leakage flows into the minimum flow requirement. If the only reliable means to provide the minimum flow would be through a controlled release structure and leakage could not be channeled through the structure to meet the 50

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[24] Merimil typically draws the reservoir down 1 foot below the project spillway in late spring (May-June) to replace any failed flashboards. This can stop all flow into the bypassed reach for a short time (8 hours). Coordinating with state and federal agencies, Merimil collects any fish that may be stranded in the scour pools below the dam and returns them to the river below Ticonic Falls.

[25] Some conditions of the Accord required the licensee to take certain actions prior to issuance of this license, and those conditions do not impose any obligations under this license. (*See, e.g.* Appendix B, condition III.G.)

cfs minimum flow requirement, then up to 50 cfs of additional flow may be needed to meet the minimum flow requirement. This would result in an energy loss of up to 700 megawatt-hours (valued at $18,300) annually. We find the benefits of this measure to be worth the cost; Article 403 requires the licensee to file a plan to provide a minimum flow of 50 cfs or inflow.

Threatened and Endangered Species

19. Section 7(a) of the Endangered Species Act of 1973 (ESA), 16 U.S.C. § 1536(a), requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. When a federal agency determines that a proposed action may affect a threatened or endangered species, it must consult with the U.S. Fish and Wildlife Service (FWS) or National Oceanographic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) and if the action is likely to adversely affect the species or its critical habitat, it must obtain a biological opinion on whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat.

20. Federally listed species that occur in the project area are the threatened bald eagle and endangered shortnose sturgeon. In the final EA, staff found that relicensing the project would not be likely to adversely affect the bald eagle, but would be likely to adversely affect the shortnose sturgeon. Adverse effects on the shortnose sturgeon result from handling during the rescue of shortnose sturgeon that may become entrapped in isolated pools in the bypassed reach during flashboard repair, and during sorting and returning to the river any sturgeon caught in the fish lift that is to be constructed.[26]

21. On October 10, 2003, Commission staff requested the FWS' concurrence with its not-likely-to-adversely-effect determination for the bald eagle. A meeting was held on October 20, 2003, to discuss bald eagle protection measures. By letter filed June 9, 2004, FWS concurred with staff's determination, provided that the licensee develops a bald eagle management plan that includes provisions to: (1) identify and map potential bald eagle perch, roost, and nest trees; (2) develop management goals and recommendations for the eagle habitat; (3) encourage adjacent landowners to permanently protect eagle habitat; and (4) periodically monitor the integrity of the eagle habitat. The FWS said the plan should be developed in consultation with the City of Waterville, State of Maine, Maine Central Railroad/Guilford Transportation (collectively, the abutting landowners),

[26] EA at 59-64.

Maine Department of Inland Fisheries and Wildlife, and the FWS, and should include an implementation schedule.

22. Merimil does not believe that it should be required to develop a bald eagle management plan because, as the EA points out, most of the potential eagle nesting, roosting, and perching habitat is not within the project boundary; and continued project operation is not expected to alter or destroy this habitat.

23. Roosting and perching sites provided by the forested riparian habitats adjacent to the project are important to bald eagles foraging in the project reservoir and tailrace, particularly in the winter when project generation maintains ice-free water below the powerhouse. Article 411 requires the licensee to file a bald eagle management plan consistent with expectations provided in FWS's concurrence letter. This enhancement effort will have a nominal cost and will help conserve and protect a threatened species.[27]

24. On October 16, 2003, Commission staff requested formal consultation with NOAA Fisheries under section 7(a)(2) of the ESA on the shortnose sturgeon. NOAA Fisheries requested additional information, which was provided in the final EA along with a recommendation that Merimil prepare a sturgeon rescue plan that defines handling protocols and notification procedures. Appendix C to this license contains such a plan, which NOAA Fisheries developed in consultation with Merimil. The plan defines procedures for handling and returning shortnose sturgeon to the Kennebec River below the project during operation of the fish lift and during fish rescue efforts associated with flashboard replacement.

25. On January 14, 2005, NOAA Fisheries filed its biological opinion on relicensing the Lockwood Project, which found that relicensing the project with staff's recommended measures would not jeopardize the continued existence of the Kennebec River population of the shortnose sturgeon. NOAA Fisheries's biological opinion includes an incidental take statement with two reasonable and prudent measures to minimize take of shortnose sturgeon during fish rescue efforts and operation of the interim fish lift:
(1) NOAA Fisheries must be contacted promptly before flashboard repair or replacement commences and again upon completion of these activities; and (2) the licensee shall

[27] Staff estimates that developing and implementing the plan would have an annualized cost of $1,900. (EA at 83).

report all interactions[28] involving shortnose sturgeon at the fish lift and/or in the event of a stranding. To implement these measures, NOAA Fisheries specifies six terms and conditions that require the licensee to: (1) contact NOAA Fisheries within 24 hours of undertaking and completing flashboard replacement activities; (2) submit reports of all interactions with shortnose sturgeon by mail and fax to NOAA Fisheries; (3) review the sturgeon handling plan with NOAA Fisheries by January 1 of each license year and make any updates by April 1 of each year; (4) contact NOAA Fisheries by email or phone within 24 hours of any interactions with shortnose sturgeon; (5) photograph, measure, and preserve any dead specimens or body parts until picked up by NOAA Fisheries; and (6) photograph, measure, and retain any injured specimen, submit a reporting sheet detailing the extent of the injuries (see Appendix C), and train personnel operating the fish lift and conducting fish rescue efforts in sturgeon biology so that they can recognize the severity of the injury and understand handling protocols. Article 406 requires implementation of the shortnose sturgeon handling plan, which defines procedures for handling injured and dead sturgeon and provides for an annual review of the plan with NOAA Fisheries. Articles 407 and 408 requires Merimil to file for Commission approval a fish rescue plan and a fish lift operation plan, respectively, that includes provisions to adhere to the shortnose sturgeon handling plan and to train personnel in the handling procedures.

Recommendations of Federal and State Fish and Wildlife Agencies

26. Pursuant to section 10(j) of the FPA, 16 U.S.C. § 803(j)(1), the Commission, when issuing a license, includes conditions based on the recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, 16 U.S.C. § 661 *et seq*., for the protection and enhancement of fish and wildlife and their habitat affected by the project.

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

27. For the Lockwood Project, Interior and the Maine SPO on behalf of Maine Department of Marine Resources, Maine Department of Inland Fisheries and Wildlife, and the Maine Atlantic Salmon Commission submitted a total of 15 recommendations (some of which are duplicative) that fall within the scope of section 10(j). The license contains conditions consistent with all of these recommendations. These adopted

[28] Interactions include both lethal and non-lethal handling of shortnose sturgeon during fish rescue efforts associated with flashboard replacement and repair events and operation of the interim fish lift.

measures require the licensee to: (1) study the feasibility of installing American eel passage facilities at the project, consistent with the 1998 Accord (Article 409 and conditions 3.A and 3.B of Appendix A); (2) install interim upstream fish passage facilities at the project, consistent with the 1998 Accord (conditions 3.A and 3.C of Appendix A);[29] (3) consistent with the 1998 Accord, install permanent upstream and downstream fish passage facilities at the project when a fish population trigger is reached (conditions 3.A, 3.E and 3.F of Appendix A); (4) conduct effectiveness studies of all interim and any permanent upstream and downstream fish passage facilities at the project, consistent with the 1998 Accord (conditions 3.A and 3.H of Appendix A); (5) provide specified minimum flows in the bypassed reach (Article 403); (6) develop and implement instream flow and impoundment water level monitoring plans (Article 405 and condition 1.E of Appendix A); and (7) prevent upstream movement of non-management exotic species into the upstream passage facilities (Article 408).

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

28. Interior and Maine SPO made other recommendations[30] we consider under the broad public-interest standard of FPA section 10(a)(1), 16 U.S.C. § 803(a)(1).[31]

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[29] Merimil filed, to implement the 1998 Accord, functional design drawings and an implementation schedule for an interim upstream passage facility for the Lockwood Project on February 13, 2004. The Commission approved the drawings and schedule on May 27, 2004. Ordering paragraph E incorporates the approved design drawings and implementation schedule into the license.

[30] Because these recommendations are not specific measures for the protection, mitigation, or enhancement of fish and wildlife, we do not consider them under section 10(j). For example, requests for studies that could have been conducted prior to relicensing the project, recommendations for recreation facilities, funding requests, or requests that an agency be consulted in the development of plans are not appropriate 10(j) recommendations. *See* 18 C.F.R. § 4.30(b)(9)(ii)(2004).

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

29. Interior and Maine SPO recommend that Merimil: (1) provide funding for studies related to diadromous fish restoration activities; (2) conduct American eel passage studies at the project; and (3) consult with the resource agencies on all functional design drawings of upstream and downstream interim and permanent fish passage facilities. These measures are included in this license as conditions of Maine DEP's water quality certification for the project.

30. Interior and Maine SPO recommend that Merimil conduct additional instream flow studies in the bypassed reach at flows higher than that of the 30- to 50-cfs flows evaluated by Merimil. The license requires the licensee to provide a minimum flow of 50 cfs or inflow, if less, to the bypassed reach (Article 403). Studies conducted to date indicate that a flow of 50 cfs would be adequate to maintain suitable water and aquatic habitat quality and zones of passage between pools below the dam. Releasing higher flows would not significantly improve habitat because the additional area wetted by higher flows consists almost entirely of bedrock, and combined with high velocities, would be of limited habitat value to fish and other aquatic biota.[32] Additionally, the upper portion of the bypassed reach that would be wetted by higher flows is only 600 feet in length and does not provide any unique or critical habitat for resident or migratory fish that might utilize the area. Therefore, no additional studies are required.

31. Interior also recommends that Merimil release flows in the river that are sufficient to maintain aquatic habitat while the reservoir is being refilled after flashboard replacement.[33] It is appropriate for Merimil to maintain adequate flows in the river during those times when the reservoir is being refilled to protect aquatic resources. We are including Article 404 in the license, which requires Merimil to maintain a minimum flow of 2,114 cfs, as measured downstream of the powerhouse, during reservoir refill.[34]

32. Interior recommends that Merimil, in consultation with Maine Department of Inland Fisheries and Wildlife (Maine IFW), Maine DEP, and Maine Department of Marine Resources, monitor recreation use of the project area to determine if the project is meeting demands of public use of fish and wildlife resources and to file a monitoring report every six years. Maine SPO (on behalf of Maine IFW) recommends that Merimil

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[32] EA at 42.

[33] Interior did not file the recommendation pursuant section 10(j) of the FPA but in response to comments on the draft EA.

[34] 2,114 cfs is the 7Q10 flow for the Kennebec River at the Lockwood Project.

monitor recreation use through the FERC Form 80 process, but the process should assess the need for recreational access improvements along the east shoreline of the Kennebec River downstream of the dam. Existing use of recreational facilities are below capacity and are expected to continue to meet demands into the future. Low levels of recreation use, the occurrence of a rare plant community, and steep topography, make additional access on the eastern shore unwarranted at this time.[35] Monitoring through the Form 80 process will indicate when recreation facilities begin to reach capacity, thus additional monitoring is not warranted. The water quality certification does however require Merimil to continue to provide public access at the tailrace for fishing.

Other Issues

33. Friends of the Kennebec Salmon argue that relicensing the project will prevent the restoration of Atlantic salmon, American shad, and alewives to the Kennebec River Basin. The group contends that fish passage inefficiencies at the Lockwood Project, and at other upstream dams, will reduce the number of fish that reach the upstream spawning habitat to the point that a self-sustaining population cannot be achieved. As a result, it argues that the application for a new license should be denied and that the project should be decommissioned and the dam removed.

34. As noted above, in 1987, Merimil, together with the other members of KHDG, entered into an agreement with fisheries resource agencies to facilitate the restoration of Atlantic salmon, American shad, and alewives to the lower Kennebec River Basin. KHDG provided funds to the agencies to help pay for acquiring and stocking fish to restore populations and studying restoration efforts. The KHDG licensees also agreed to construct and operate fish passage facilities according to a schedule that called for sequential construction of the facilities, beginning with the downstream projects and moving upstream. The licenses for the KHDG projects were amended to reflect the fish passage provisions of the agreement. In 1998, the agreement was modified (the 1998 Accord) to provide for the removal of the Edwards Dam and link the construction of fish passage facilities to biological triggers instead of to specific dates. The 1998 Accord continued the requirement for financial support by the licensees of the restoration activities.

[35] EA at 67.

35. Fishery restoration activities in the lower Kennebec River Basin have made significant progress. In 2003, the latest year for which data are available,[36] over 135,000 alewives were trapped at the Ft. Halifax project.[37] This provided enough fish for the resource agencies to meet all their stocking goals and have additional fish available for stocking outside the Kennebec River Basin. The alewife spawning run is now large enough to meet the stocking needs and support a commercial fishery; reports from 48 percent of the commercial fisherman showed a catch of over 128,000 alewives from the Sebasticook River at Ft. Halifax. Earlier estimates of the size of the alewife run were 1 to 2 million fish and biologists reported that there seemed to be more alewives in 2003 than in previous years.

36. The number of shad fry stocked above Lockwood increased from 1.75 million in 2002 to 2.54 million in 2003, and the interim downstream fish passage measures at Lockwood, Hydro Kennebec, and Shawmutt appear to be allowing juvenile shad and alewife to migrate downstream without significant injury or mortality. The existing license for the Lockwood Project requires Merimil to install and operate interim upstream fish passage facilities by May 1, 2006.

37. The Maine Atlantic Salmon Commission does not currently have an active salmon restoration program in the Kennebec River. No Atlantic salmon are stocked in the Kennebec above Lockwood and any adult salmon returning to the river are either strays from other rivers or the result of natural reproduction in the Kennebec or its tributaries below Lockwood.

38. We believe that the 1998 Accord has created an effective, comprehensive, and coordinated program for achieving the fishery restoration goals for the lower Kennebec River Basin. The Accord provides for continuing restoration activities and installation of fish passage facilities as required by the growth of the fish populations and their expansion into upstream habitat. Friends of the Kennebec Salmon argue that dam removal is needed to guarantee success of the restoration efforts. The evidence to date shows that the restoration plans are making significant progress. We believe it is too early in the restoration efforts to conclude that the plan will ultimately succeed or fail.

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[36] Normendeau Associates, *FPL Energy Maine Hydro, LLC Diadromous Fish Passage Efforts in the Lower Kennebec River Watershed During the 2003 Migration Season*, filed March 29, 2004.

[37] Ft. Halifax is located on the Sebasticook River, a tributary of the Kennebec River which joins the Kennebec just downstream of the Lockwood Project.

Therefore we do not agree that we should abandon the plan embodied in the 1998 Accord.

Coastal Zone Consistency Certification

39. Under section 307(c)(3)(A) of the Coastal Zone Management Act, 16 U.S.C. § 1456(c)(3)(A), the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

40. In a letter dated July 23, 2002, the Maine State Planning Office stated that relicensing the project may affect coastal resources. The letter stated that "the State will deem that the enforceable policies of the Maine Coastal Program have been met if and

when DEP issued water quality certification for the Project."[38] The state issued the water quality certification on August 24, 2004; and it therefore concurs with the license applicant's determination.

Section 18 Fishway Prescriptions

41. Section 18 of the FPA, 16 U.S.C. § 811, states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. The Commission's policy is to reserve such authority in a license upon the request of either designated Secretary. On October 27, 2003, Interior requested a reservation of authority to prescribe American eel passage facilities at the Lockwood Project.

42. Section III(G)(3) of the 1998 Accord provides that if agreement is not reached on either upstream passage location or downstream eel passage measures by June 30, 2002, any party shall be free to petition FERC to amend any license to insert appropriate terms and conditions. Because the timeframe contemplated by the 1998 Accord had past without agreement on eel passage measures and because the Commission's standard article 15 would permit state and federal agencies to reopen the license to address eel passage needs, staff initially recommended excluding this provision of section III(G)(3) of the 1998 Accord from any new license. During a meeting with Commission staff on

[38] Letter from Todd Burrowes, Maine State Planning Office, to Mike Hoover, FPL Energy, filed on July 26, 2002.

November 20, 2003, Interior subsequently agreed to withdraw its request for reservation of authority if staff included a specific reopener that permitted Interior to petition the Commission to require Merimil to install upstream eel passage facilities and downstream eel passage measures in accordance with the 1998 Accord. By letter dated December 9, 2003, staff proposed the inclusion of a specific reopener that satisfied Interior (Interior letter dated December 19, 2003). We deem Interior's request for reservation of authority for eel passage to be withdrawn and are including the reopener proposed by staff as Article 410 .

Cultural Resources

43. Before it may issue a new license for the project, the Commission must comply with the consultation requirements of section 106 of the National Historic Preservation Act (Act) and the implementing regulations of the Advisory Council on Historic Preservation (Advisory Council). *See* 36 C.F.R. Part 800 (2004). Consultation under section 106 usually results in the preparation of a programmatic agreement among the Commission, the State Historic Preservation Officer (SHPO), and the Advisory Council that provides for the protection of historic and cultural resources through the establishment of a Historic Resources Management Plan. Other interested entities, such as Indian tribes, may be asked to concur with the programmatic agreement.

44. Merimil conducted cultural resource surveys of the project area and concluded that there were no National Register-eligible properties within the project's area of potential effect. The Maine SHPO concurred with this finding in a letter dated May 8, 2002. Commission staff contacted the four federally recognized Indian tribes[39] within the state of Maine and none identified any properties to which they attach religious or cultural significance that would be affected by the project. If any unanticipated historic or archaeological properties are discovered during the term of the license, Article 412 requires the licensee to consult with the SHPO and prepare a cultural resources management plan to protect the properties. This consultation satisfies the Commission's responsibilities under section 106 of the Act.

[39] Aroostook Band of Micmac Indians, Houlton Band of Maliseet Indians, Penobscot Indian Nation, and Passamaquoddy Tribe.

State and Federal Comprehensive Plans

45. Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. We have identified and reviewed 14 comprehensive plans[40] that are applicable to the Lockwood Hydroelectric Project and have found no conflicts.

[40](1) Department of Army, Corps of Engineers. New England Division. 1985. Hydrology of floods – Kennebec River Basin, Maine. Waltham, Massachusetts. October 1985. 14 pp. and appendices; (2) Department of Army, Corps of Engineers. New England Division. 1988. Hydrology of Floods – Kennebec River Basin, Maine, Part II. Waltham, Massachusetts. May 1988. 20 pp. and appendices; (3) Department of Army, Corps of Engineers. New England Division. 1989. Water resources study – Kennebec River Basin, Maine (reconnaissance report). Waltham, Massachusetts. March 1989. Two volumes; (4) Maine Atlantic Sea-Run Salmon Commission. 1984. Strategic plan for management of Atlantic salmon in the State of Maine. Augusta, Maine. July 1984. 52 pp. and appendices; (5) Maine Department of Conservation. 1993. Maine State Comprehensive Outdoor Recreation Plan, assessment and policy plan, volume 1. Augusta, Maine. December 1993. 193 pp.; (6) Maine Department of Conservation. 1982. Maine rivers study-final report. Augusta, Maine. May 1982. 181 pp.; (7) Maine State Planning Office. 1987. State of Maine comprehensive rivers management plan. Augusta, Maine. May 1987. Three volumes; (8) Maine State Planning Office. 1992. Maine comprehensive rivers management plan. Volume 4. Augusta, Maine. December 1992; (9) Maine State Planning Office. 1993. Kennebec River resource management plan. Augusta, Maine. February 1993. 196 pp.; (10) U.S. Fish and Wildlife Service and Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. Environment Canada. May 1986. 19 pp.; (11) U.S. Fish and Wildlife Service. 1989. Final environmental impact statement – restoration of Atlantic salmon to New England rivers. Department of Interior, Newton Corner, Massachusetts. May 1989. 88 pp. and appendices; (12) U.S. Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C. 11pp.; (13) National Marine Fisheries Service. Atlantic Salmon (*Salmo salar*) – Amendment 1 to the New England Fishery Management Council's (NEFMC) Fish Management Plan (FMP) on Atlantic salmon (March 1988). October 1998; (14) National Park Service. 1982. The nationwide rivers inventory. Department of the Interior, Washington, D.C. January 1982. 432 pp.

Applicants Plans and Capabilities

46. In accordance with sections 10(a)(2)(c)and 15(a)(2) of the FPA, we have evaluated Merimil's record as a licensee with respect to the following: (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 lines; (G) cost effectiveness of plans; and (H) actions affecting the public.

A. Conservation Efforts

47. FPA section 10(a)(2)(C) requires the Commission to consider the extent of electric consumption efficiency programs in the case of license applicants engaged primarily in the generation or sale of electric power. Although Merimil is engaged in the generation and sale of electric power, Merimil generates electricity for sale into the wholesale power market in Maine and the regional power pool. As such, it does not sell power directly to retail customers and is, therefore, not in a position to implement conservation programs by the end user. Electricity consumers in the region would likely be subject to the conservation programs of local utilities and, as such, we find Merimil's position with respect to conservation satisfactory.

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

48. FPA section 15(a)(3)(A) requires the Commission to take into consideration an existing licensee's record of compliance with the terms and conditions of the existing license. We have done so, and find that Merimil's overall record of making timely filings and compliance with its license is satisfactory.

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

49. Merimil owns and operates the Lockwood Hydroelectric Project, which is classified in accordance with Commission standards as having a low hazard potential.

50. We reviewed Merimil's record of management, operation, and maintenance of the project and conclude that the dam and other project works are safe, and that Merimil has the ability to manage, operate, and maintain the project safely for future operation. Based on the results of this review, we conclude that the Lockwood Project would pose no threat to public safety if operated according to the regulations governing hydroelectric licenses.

D. Ability to Provide Efficient and Reliable Electric Service

51. FPA section 15(a)(2)(C) requires the Commission to review Merimil's ability to operate the project in an efficient and reliable manner. Based on our review, Merimil has been operating the project in an efficient manner within the constraints of the existing license, and is likely to continue to do so under a new license.

E. Need for Power

52. FPA section 15(a)(2)(D) requires the Commission to consider the license applicant's short-term and long-term need for the project power. The project is located in the Northeast Power Coordinating Council (NPCC) region of the North American Electric Reliability Council (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report on annual supply and demand projections indicates that, for the period 2003-2012, the New England system summer peak demand for electric energy will grow from 25,120 MW to 28,710 MW, an annual growth rate of about 1.4 percent.

53. If a new license is issued to Merimil, continued operation of the project would provide about 48,082 megawatt-hours of energy annually. This generation would continue to help meet New England's expanding power demand projections. In the short and long term, the capacity supplied by relicensing the project would help to maintain sufficient capacity to meet regional demand, while contributing to resource diversification and displacing nonrenewable fossil fuel generation. The project will also continue to avoid emissions from fossil-fueled power generation.

F. Transmission Lines

54. FPA section 15(a)(1)(3)(A) requires the Commission to consider existing and planned transmission services of the applicant. The project's transmission facilities that are required to be licensed include a 4,160-volt transmission line that runs about 225 feet from the original powerhouse to the local utility tie-in, and a 1,000-foot-long, 12,400-volt transmission line that extends from the second powerhouse to a local utility tie-in. Merimil proposes no changes that would affect transmission facilities.

G. Cost Effectiveness of Plans

55. Merimil is not proposing, nor does this order approve any change in the installed capacity at the Lockwood Project. Due to the hydraulic limitation resulting from the U.S. Route 201 bridge abutment at the project canal intake and the bedrock outcrops in the forebay area, the project's generating units currently have a greater hydraulic capacity

than can be utilized under normal operating conditions. Prior studies undertaken by Merimil indicate that any future upgrades are contingent upon eliminating the hydraulic limitation at the intake. Potential solutions for the limitation, however, were determined to be cost prohibitive.[41] Merimil proposes and this license requires measures for the protection, mitigation, and enhancement of environmental resources in the Kennebec River Basin. Merimil's past record as a licensee indicates it is likely to carry out these measures in a cost-effective manner.

H. Actions Affecting the Public

56. The Lockwood Project generates electricity used to serve the regional power pool. The project provides employment opportunities and access to project lands for public recreation use. Merimil has been involved in the restoration of anadromous fish species since 1986 when it became a signatory to the KHDG Agreement, the precursor to the 1998 Accord. Merimil cites in its license application that as a participant in the fish restoration program, its involvement has included, but is not limited to, donating personnel and equipment and participating in various studies.

Economic Benefits of Project Power

57. 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 the economic benefits of project power. Under its approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*, 72 FERC ¶ 61,027 (1995), the Commission employs an analysis that uses current costs to compare the costs of the project and the likely alternative power, with no forecasts concerning 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 costs of a project, and 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. In making its decision, the Commission considers the project power benefits under (1) the no-action alternative, (2) as proposed by the applicant, and (3) with the Commission's modifications and additions to the applicant's proposal.

[41] License application at A-17 to A-18 and B-9 to B-10.

58. To determine whether an alternative is currently economically beneficial, we subtract the cost of project power from the power value, which is computed as the cost of the most likely alternative source of power.[42] Under the no-action alternative, the project generates an average of 42,687 MWh annually at a cost of about $1,650,100 (about $39/MWh), or $211,200 less than the $1,861,300 current value of this amount of power. As proposed by Merimil, the project would generate about 41,782 MWh annually at a cost of about $1,991,800 (about $48/MWh), or $154,200 more than the $1,837,600 current value of this amount of power. With the conditions adopted herein, the project will produce about 41,082 MWh of energy annually at a cost of about $1,985,100 (about $48/MWh), or $165,800 more than the $1,819,300 current value of this amount of power.

59. Although staff's analysis shows that the project as licensed herein would cost more to operate than our estimated cost of alternative power, it is the applicant who must decide whether to accept this license and any financial risk that entails. Also, although staff does not explicitly account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

Comprehensive Development

60. Sections 4(e) and 10(a)(1) of the FPA[43] require the Commission, in acting on license applications, to give equal consideration to the developmental and environmental uses of the waterway on which a project is located. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

[42] For the amount of energy and capacity provided by the Lockwood project, the power value power would be about $44/MWh based on replacing the project power using combined cycle combustion turbine technology with (1) an energy value of $26.21/MWh taken from the Energy Information Administration's *Annual Energy Outlook 2003,* and (2) a capacity value of $99.00/kW-year applied to Lockwood's dependable project capacity of 7.5 MW. (FEA, pp. 68-69.)

[43] 16 U.S.C. §§ 797(e) and 803(a)(1).

61. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). Although the Lockwood Project does not have any appreciable storage, which is required for some ancillary service purposes, it will retain under this license any ancillary capabilities it currently provides to Merimil's power system.

62. The EA for the Lockwood 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. Based on our independent review and evaluation of the Lockwood Project, recommendations from resource agencies and other entities, and the no-action alternative as documented in the final EA, we conclude that operation of the Lockwood Hydroelectric Project as proposed, with additional enhancements recommended by staff, will be best adapted to a comprehensive plan for the use, conservation, and development of Kennebec River for beneficial public purposes. Operation of the project in the manner required by this license will further the goals of restoring anadromous and catadromous (American eels) species in the basin, maintain water quality, further the recovery of the bald eagle and possibly the shortnose sturgeon, protect and enhance fish and wildlife resources, protect any undiscovered cultural resources, and maintain public use of recreation facilities and resources within the area affected by project operation, while continuing to provide a dependable source of electrical energy. The electricity generated from the Lockwood Hydroelectric Project will be beneficial, because it will continue to reduce the use of fossil-fueled, electric generating plants, thereby conserving nonrenewable energy resources and reducing atmospheric pollution.

License Term

63. Section 15(e) of the FPA[44] provides that relicense terms shall not be less than 30 years nor more than 50 years from the date on which the license is issued. Our general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, or new 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.[45] Also, it is the Commission's policy to coordinate to a

[44] 16 U.S.C. § 808(e).

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

reasonable extent the license expiration dates of projects in a river basin, in order that subsequent relicense proceedings can also be coordinated.[46]

64. The five remaining projects[47] included in the 1998 Accord, and the license expiration dates are: (1) Shawmut Project No. 2322, expiring January 21, 2021; (2) Weston Project No. 2325, expiring October 31, 2036; (3) Benton Falls Project No. 5073, expiring February 28, 2034; (4) Hydro-Kennebec Project No. 2611, expiring September 30, 2036; and (5) Burnham Project No. 11472, expiring October 31, 2036.

65. Four of the five project licenses expire within two years of each other, between February 2034 and October 2036. To closely align the license expiration dates of the projects included in the 1998 Accord, this license will expire on October 31, 2036, a term of 31 years and 8 months.

The Commission orders:

(A) This license is issued to Merimil Limited Partnership (licensee) to operate and maintain the Lockwood Project, for a period of 31 years and 8 months, effective the first day of the month in which this order is issued. The license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

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[46] In issuing new and subsequent licenses, the Commission will coordinate the expiration dates of licenses to the maximum extent possible, to maximize future consideration of cumulative impacts at the same time in contemporaneous proceedings at relicensing. *See* 18 C.F.R. § 2.23 (2004).

[47] This excludes the Fort Halifax Project No. 2552. The license for the Fort Halifax Project has been surrendered.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interest in those lands, enclosed by the project boundary shown by Exhibit G, filed April 29, 2002:

Exhibit G Drawing	FERC No. 2574-	Showing
Sheet 1 of 4	1006	General Map Project Area
Sheet 2 of 4	1007	General Map Powerhouse Area
Sheet 3 of 4	1008	General Map Reservoir
Sheet 4 of 4	1009	General Map Reservoir

(2) Project works consisting of: (1) 875-foot-long concrete gravity dam with two spillway sections equipped with 1.25-foot-high pinned flashboards; (2) a 160-foot-long forebay headgate structure; (3) a 450-foot-long forebay canal; (4) an approximately 1,300-foot-long bypassed reach; (5) two reinforced concrete powerhouses with a total installed capacity of 6.915 MW and a hydraulic capacity of 5,660 cfs; (6) six turbine-generator units with a total nameplate capacity of 4.800 MW located in the original powerhouse, and one turbine-generator unit with a nameplate capacity of 2.115 MW located in the second powerhouse; (7) a project impoundment with a length of approximately 1.2 miles and a surface area of 81.5 acres at the normal high water elevation of 52.16-feet mean sea level; (8) a 4,160-volt transmission line that runs about 225 feet from the original powerhouse to the local utility intertie, and a 1,000-foot-long, 12,400-volt transmission line that extends from the second powerhouse to a local utility tie-in; and (9) 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-18 filed on April 29, 2002.

Exhibit F: The following Exhibit F of the license application filed on April 29, 2002:

Exhibit F-	FERC Drawing No. 2574-	Showing
1	1001	Plan of Dam and Forebay Canal Powerhouse
2	1002	Downstream Elevation and Sections of Dam
3	1003	Plan of Original and Unit No. 7 Powerhouses
4	1004	Section Thru Original and Unit No. 7 Powerhouses
5	1005	Powerhouse Elevations

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, 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) Exhibit A, F, and G, as designated in ordering paragraph (B) above, are approved and made a part of this license. Exhibits F and G shall be refiled in the Commission's electronic file format as specified in Article 301.

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

(E) The licensee's functional design drawings and implementation schedule for an interim trap, lift, and transfer facility for the Lockwood Project, filed with the Commission on February 13, 2004, and approved by the Commission on May 27, 2004, are made a part of this license.

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

Article 201. *Administrative Annual Charges*. The licensee shall pay the United States the following annual charges, effective as of the first day of the month in which this license is issued:

For the purposes of reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 6,915 kilowatts.

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

cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. *Headwater Benefits*. If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Exhibit drawings.* Within 45 days of the date of issuance of the license, the licensee shall file exhibit drawings F and G described in ordering paragraph (C) in aperture card and electronic 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 Drawing Number (e.g., P-1234-1001 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 (e.g., F-1, G-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 along with form FERC-587 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 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). Exhibit G drawings should be submitted as non-internet public (NIP) information in accordance with 18 CFR §388.112. 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 [e.g., P-1234-####, G-1, Project Boundary, 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

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points, arranged in a triangular format. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown and identified on the drawing. In addition, each project drawing must be stamped by a registered land surveyor.

(c) The licensee shall file three separate sets of the project boundary data in a geo-referenced vector electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format) with the Secretary of the Commission, ATTN: OEP/DHAC. The file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-1234, boundary vector data, MM-DD-YYYY. SHP]. The geo-referenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. A single electronic boundary data file is preferred and must contain all reference points shown on the individual project boundary drawings. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown. The data must be accompanied by a separate text file describing the map projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-1234, project boundary metadata, MM-DD-YYYY.TXT].

Article 302. *Contract Plans and Specifications.* At least 60 days before starting construction of the upstream fish passage facilities required by Conditions 3.C and 3.E, and the downstream fish passage facilities required by Condition 3.F of Appendix A, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections - New York Regional Engineer (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), of the final contract plans and specifications. The Commission may require changes to the plans and specifications to ensure the work is completed in a safe and environmentally sound manner. Construction may not commence until authorized by the Regional Engineer.

Article 303. *Quality Control and Inspection Program.* At least 60 days before starting construction of the upstream fish passage facilities required by Conditions 3.C and 3.E, and downstream fish passage facilities required by Condition 3.F of Appendix A, the licensee shall submit one copy to the Division of Dam Safety and Inspections – New York Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections) of the Quality Control and Inspection Program (QCIP) for the Commission's review and approval. The QCIP shall include a sediment and erosion control plan for construction activities.

Article 304. *Cofferdam Construction Drawings.* Before starting construction of the upstream fish passage facilities required by Conditions 3.C and 3.E and the downstream fish passage facilities required by Condition 3.F of Appendix A, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations. At least 30 days before starting construction of the cofferdams, the licensee shall submit one copy to the Division of Dam Safety and Inspections – New York Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 305. *Temporary Emergency Action Plan.* At least 60 days before starting construction of the upstream fish passage facilities and downstream fish passage facilities, the licensee shall submit one copy to the Division of Dam Safety and Inspections – New York Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections) of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structure, or any other water retaining structure that could 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 306. *As-Built Drawings.* Within 90 days of completion of construction of the facilities authorized by any article of this license, the licensee shall file, for Commission approval, eight copies of the revised Exhibits A, F, and G, as applicable, to describe and show the project as built. The licensee shall file six copies with the Commission, one copy to the Division of Dam Safety and Inspections – New York Regional Engineer, and one copy to the Director, Division of Hydropower Administration and Compliance, Office of Energy Projects.

Article 401. *Scheduling and Reporting Requirements and Amendment Applications*.

(a) Schedule for Filing Plans for Commission Approval

Conditions 3.G and 3.H of Appendix A require the licensee to (i) prepare plans in consultation with various federal and state fish and wildlife agencies and (ii) file the plans with the Commission in accordance with a schedule to be established by the Commission. The plans shall be filed according to the following schedule:

Condition No.	Plan	Due Date
3.G and 3.H	Interim Downstream Fish Passage Effectiveness Evaluation	Within 6 months of license issuance
3.G and 3.H	Permanent Upstream and Downstream Fish Passage Design and Operation, and Effectiveness Evaluation	At least 90 days before starting construction of the permanent facilities
3.H	Interim Fish Lift Effectiveness Evaluation	February 1, 2006

Each of the plans shall contain an implementation schedule. Effectiveness evaluation plans shall also include a schedule for filing the results of the evaluations with the Commission.

The licensee shall prepare each of the plans after consultation with the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NOAA Fisheries), Maine Department of Inland Fisheries and Wildlife, Maine Atlantic Salmon Commission, Maine Department of Marine Resources, and Maine Department of Environmental Protection. The licensee shall include with the plans documentation of consultation,

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

The Commission reserves the right to require changes to the plans. Implementation of the plans shall not begin until the licensee is notified by the Commission that the plans are approved. Upon Commission approval, the licensee shall implement the plans, including any changes required by the Commission.

If the results of the interim or permanent fishway effectiveness evalutions indicate that changes in project structures or operations are necessary to provide safe and effective upstream or downstream fish passage, the Commission may direct the licensee to modify project structures or operations. No such changes shall be implemented without prior approval from the Commission.

(b) Requirement to File Reports or Documentation of Completion

Condition 3.A of Appendix A requires the licensee to comply with the duties and obligations as set forth in the "Agreement Between Members of the Kennebec Hydro Developers Group, the Kennebec Coalition, the National Marine Fisheries Service, the State of Maine, and the U.S. Fish and Wildlife Service," (1998 Accord) dated May 26, 1998. The licensee shall file with the Commission the following reports or documentation of completion of the following activities specified in the 1998 Accord.

Appendix B Reference No.	Activity or Report	Due Date
III.H	Annual Progress Report	By no later than March 31, 2005, and by March 31 of every license year thereafter

(c) Requirement to File Amendment Applications

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

Condition No.	Modification
3.B.5	Unspecified eel passage measures
3.E	Alternative Trigger Date for Permanent Upstream Fish Passage

Article 402. *Temporary Operational Modifications*. Condition 1.A of Appendix A specifies that temporary modification of run-or-river operation may occur upon agreement between the licensee and "appropriate" state and federal agencies. "Appropriate" agencies for this purpose shall include the National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Environmental Protection. Temporary modifications for this purpose shall be for short periods. If run-of-river operation is temporarily modified for any of the reasons specified in Condition 1.A of Appendix A, the licensee shall notify the Commission as soon as possible, but not later than 10 days after each such incident.

Article 403. *Minimum Bypassed Reach Flows*. Within six months of license issuance, the licensee shall file for Commission approval, a plan to release from the project dam when the flashboards are in place, a minimum flow of 50 cubic feet per second (cfs), or inflow to the project reservoir if less, into the bypassed reach of the Kennebec River as measured immediately downstream of the project dam. The purpose of the minimum flow is to protect aquatic resources, including federally listed endangered shortnose sturgeon utilizing scour pools located in the bypassed reach immediately downstream of the east and west spillways of the project dam.

The plan shall include, at a minimum:

(a) a description of how the minimum flow will be released;

(b) the proposed location(s) of the minimum flow release(s) and scour pools targeted to receive the minimum flow;

(c) if additional project structures or modifications to project facilities are proposed to release the minimum flow, then: (i) detailed design drawings of the structures and modifications; (ii) interim measures for providing the minimum flow release; and (iii) a schedule for constructing the structures or making the modifications;

(d) a provision to allow temporary modifications of the minimum flow release if required by operating emergencies beyond the control of the licensee, and for short periods upon agreement among the licensee and the National Marine Fisheries Service (NOAA Fisheries), Maine Department of Inland Fisheries and Wildlife (Maine DIFW), and Maine Department of Environmental Protection (Maine DEP);

(e) a provision to notify the Commission of any temporary modifications of the minimum flow release as soon as possible, but not later than 10 days after each such incident; and

(f) an implementation schedule.

The licensee may use all or part of the leakage flows specified by Condition 1.B of Appendix A as needed to meet the 50-cfs minimum flow requirement specified by this article.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service (FWS), NOAA Fisheries, Maine DIFW, Maine Atlantic Salmon Commission, Maine Department of Marine Resources, and Maine DEP. 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 agencies, and specific descriptions of how their comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and other 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 project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin 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 404. *Minimum Downstream Flows*. The licensee shall, during flashboard replacement and subsequent refilling of the project reservoir, release a minimum flow of 2,114 cubic feet per second, or inflow to the project if less, into the Kennebec River as measured downstream of the project powerhouse for the protection of aquatic resources.

This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon agreement among the licensee and the National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, and Maine Department of Environmental Protection. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but not later than 10 days after each such incident.

Article 405. *Minimum Flow and Reservoir Water Level Gaging Plans*. In addition to the provisions specified in Condition 1.E of Appendix A, the minimum flow and reservoir water level gaging plans shall include, at a minimum:

(a) a description of the exact location of each gaging device, the method of calibration for each gaging device, the frequency of recording for each gaging device, and a monitoring schedule;

(b) a provision for maintaining a log of project operation and generation;

(c) a provision for filing the annual independent inspection/flow gaging report as specified in Condition 1.B of Appendix B with the Commission by July 15 of each license year; and

(d) an implementation schedule.

The licensee shall prepare the plans after consultation with the U.S. Geological Survey, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, Maine Atlantic Salmon Commission, Maine Department of Marine Resources, and Maine Department of Environmental Protection. The licensee shall include with the plans documentation of consultation, copies of comments and recommendations on the completed plans after the plans have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and other entities to comment and to make recommendations before filing the plans with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plans. Implementation of the plans shall not begin until the licensee is notified by the Commission that the plans are approved. Upon Commission approval, the licensee shall implement the plans, including any changes required by the Commission.

Article 406. *Shortnose Sturgeon Handling Plan*. Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service (NOAA Fisheries) on January 14, 2005, the licensee shall implement the "Shortnose Sturgeon Handling Plan for Lockwood Project" (handling plan) contained in Appendix C of this license. Within 24 hours of any interactions with shortnose sturgeon (lethal and non-lethal), the licensee shall notify NOAA Fisheries by email or phone, complete the *Shortnose Sturgeon Reporting Sheet for the Lockwood Project*, and mail and fax the completed form to the attention of the NOAA Fisheries Endangered Species Coordinator.

By January 1 of each license year, the licensee shall discuss with NOAA Fisheries whether updates to the handling plan are necessary, file the updated handling plan with the Commission, and implement any needed updates by no later than April 1 of each

license year. The Commission reserves the right to require changes to the handling plan. Any updates to the sturgeon handling plan that would result in long-term changes to project operations or facilities may not be implemented without prior Commission authorization granted after the filing of an application to amend this license.

Article 407. *Fish Rescue Plan*. Within six months of license issuance, the licensee shall file for Commission approval, a fish rescue plan. In addition to the provisions specified in Condition 2 of Appendix A, the Fish Rescue Plan shall include, at a minimum:

(a) a provision to notify the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NOAA Fisheries), Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Atlantic Salmon Commission (Maine ASC), Maine Department of Marine Resources (Maine DMR), and Maine Department of Environmental Protection (Maine DEP) at least 24 hours before drawdown of the impoundment to 1 foot below the dam crest for flashboard repair or replacement commences and within 24 hours of the completion of the repair or replacement activity;

(b) a provision to implement the shortnose sturgeon handling procedures and reporting requirements specified in Article 406 during fish rescue efforts;

(c) a provision to educate all handlers of shortnose sturgeon in the handling procedures specified in Article 406 and in sturgeon biology for the purpose of recognizing any injuries to rescued shortnose sturgeon; and

(d) an implementation schedule.

The licensee shall prepare the plan after consultation with the FWS, NOAA Fisheries, Maine DIFW, Maine ASC, Maine DMR, and Maine DEP. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after the plan has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and other 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 project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin 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 408. *Fish Lift Operation Plan.* By no later than February 1, 2006, the licensee shall file for Commission approval an Interim Fish Lift Operation Plan for the purposes of protecting shortnose sturgeon and sorting exotic species caught in the fish lift.

The plan shall include, at a minimum:

(a) a description of how and when the fish lift would be operated, including daily lift cycles; routine maintenance procedures, sorting protocols for exotic species, and periods of operation;

(b) a provision to educate all fish lift personnel in the handling procedures specified in Article 406 and in sturgeon biology for the purpose of recognizing any injuries to captured shortnose sturgeon; and

(c) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, Maine Atlantic Salmon Commission, Maine Department of Marine Resources, and Maine Department of Environmental Protection. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after the plan has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and other 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 project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin 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 409. *American Eel Passage Plan.* Within six months of license issuance, the licensee shall file for Commission approval a plan for completing American eel upstream and downstream passage studies specified by Conditions 3.A and 3.B of Appendix A.

The plan shall include, at a minimum:

(a) documentation of already completed American eel upstream and downstream passage studies that fulfill the requirements of Conditions 3.A and 3.B of Appendix A;

(b) copies of any results of studies identified in item (a) that have not been previously filed with the Commission;

(c) a description of the study methodology for collecting all outstanding study data, including, but not necessarily limited to, study dates, study locations, sampling gears, and data recordation procedures;

(d) if there are any outstanding studies, a provision and schedule for filing for Commission approval a report that includes: (i) results of all outstanding studies, (ii) any proposals for the placement of upstream fish passage for American eel at the project dam, and downstream fish passage measures for American eel at the project; (iii) comments or recommendations on the report from the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NOAA Fisheries), Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Atlantic Salmon Commission (Maine ASC), Maine Department of Marine Resources (Maine DMR), and Maine Department of Environmental Protection (Maine DEP) after the agencies have been allowed a minimum of 30 days to provide comments or recommendations (include documentation of consultation); (iv) specific descriptions of how the agencies' comments are accommodated by the report; and (v) if the licensee does not adopt a recommendation, the licensee's reasons based on project-specific information; and

(e) if there are no outstanding studies, then a description of any proposals for the placement of upstream fish passage for American eel at the project dam and downstream fish passage measures for American eel at the project; and

(f) an implementation schedule.

The licensee shall prepare the plan after consultation with the FWS, NOAA Fisheries, Maine DIFW, Maine ASC, Maine DMR, and Maine DEP. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after the plan has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the 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.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin 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.

If the results of the American eel passage studies indicate that changes in project structures or operations are necessary to protect American eel, the Commission may direct the licensee to modify project structures or operations.

Article 410. *American Eel Passage.* Consistent with the 1998 Lower Kennebec River Comprehensive Settlement Accord, Exhibit B, section III.G.3, the licensee shall provide an upstream eel passage facility and downstream eel passage measures as may be ordered by the Commission upon its own motion or upon recommendations by Kennebec Hydro Developers Group, the Kennebec Coalition, the National Marine Fisheries Service, the State of Maine, or U.S. Fish and Wildlife Service for a specific location to provide an upstream eel passage facility or specific downstream eel passage measures, after notice and opportunity for hearing.

Article 411. *Bald Eagle Management Plan*. Within one year of license issuance, the licensee shall file for Commission approval a bald eagle management plan consistent with the conditions specified in the U.S. Fish and Wildlife Service's concurrence letter filed on June 3, 2004:

The plan shall be developed in consultation with U.S. Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, and abutting land owners (the City of Waterville, the State of Maine Department of Transportation, and Maine Central Railroad/Guild for Transportation) to the extent they wish to be involved.

The licensee shall include, with the plan, documentation of consultation, copies of comments and recommendations on the completed plan after it was prepared and provided to the consulted parties, and specific descriptions of how the consulted parties' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted parties 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 conditions.

The Commission reserves the right to require changes to the bald eagle management plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 412. *Cultural Resources Management Plan.* The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, , including recreation developments at the project, shall consult with the State Historic Preservation Officer (SHPO). Construction of the interim fishways is excluded from this requirement because they have been considered in this license.

If the licensee discovers previously unidentified archeological or historic properties 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 properties and consult with the SHPO.

In either instance, the licensee shall file for Commission approval a cultural resource management plan (plan) prepared by a qualified cultural resource specialist after having consulted with the SHPO. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

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 property, discovered during construction, until informed that the requirements of this article have been fulfilled.

Article 413. *Use and Occupancy of Project Lands and Waters*. (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 waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

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

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

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

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

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

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

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

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

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

(H) The motion to intervene filed by Friends of the Kennebec Salmon in this proceeding is granted.

(I) This order is final unless a request for rehearing is filed within 30 days of the date of its issuance, as provided in section 313 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.

By the Commission.

(S E A L)

Linda Mitry,
Deputy Secretary.

APPENDIX A
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER QUALITY CERTIFICATION CONDITIONS FOR THE LOCKWOOD PROJECT

THEREFORE, the Department APPROVES the application of MERIMIL LIMITED PARTNERSHIP and GRANTS CERTIFICATION that there is a reasonable assurance that the continued operation of the LOCKWOOD PROJECT, as described above, will not violate applicable water quality standards, SUBJECT TO THE FOLLOWING CONDITIONS:

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 and appropriate State and/or federal agencies, 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 Lockwood 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 level fluctuations minimized. During normal run-of-river operation when all flashboards are in place, the headpond level will be maintained within six inches of full pond elevation 52.16 feet msl (top of flashboards). During times of flashboard failure applicant will maintain water levels 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, full pond minimum leakage flows of 30 to 50 cfs to the bypass reach shall be maintained. The applicant shall conduct an annual independent engineering inspection/flow gaging to ensure a minimum leakage flow of 30 to 50 cfs, for both six inches below the top of the flashboards and at full pond, and submit a report to DEP by July 15, on the results of the inspection. If flows are calculated to be less than 50 cfs at full pond, applicant shall state the actions that have been taken to restore 50 cfs at full pond and the results achieved.

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) and DEP. These plans shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

2. FISH RESCUE PLAN

A. The applicant shall continue fish rescue efforts in the spillway during flashboard replacement and impoundment drawdown, with identification, enumeration, and return of all fish to pools at the base of Ticonic Falls. The applicant shall notify fisheries agencies prior to drawdown of the impoundment to 1 foot below the dam crest for flashboard replacement.

B. Prior to the initiation of impoundment drawdowns for flashboard maintenance, the applicant shall, in consultation with the 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) and DEP develop a plan to continue fish rescue operations in accordance with Part A of this condition. This plan shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality prior to impoundment drawdown.

3. FISH PASSAGE

A. FISHERIES RESTORATION SUPPORT

The applicant shall provide funding, conduct studies, engage in consultation, install fish passage facilities, report on annual restoration activities, and comply with all additional duties and obligations as set forth in the Agreement Between Members of the Kennebec Hydro Developers Group, the Kennebec Coalition, the National Marine Fisheries Service, the State of Maine, and the US Fish and Wildlife Service ("KHDG Settlement Agreement"), dated May 26, 1998.

B. EEL PASSAGE

(1) Study. The applicant shall, in consultation with the National Marine Fisheries Service and the US Fish and Wildlife Service, join other KHDG members and the Department of Marine Resources in undertaking a three-year research project to determine (a) the appropriate placement of upstream fish passage for American eel at each of the seven KHDG member-owned dams, and (b) appropriate downstream fish passage measures for American eel at each KHDG member-owned project.

(2) Consultation. Based on the results of the eel passage study and beginning no later than January 1, 2002 and ending no later than June 30, 2002, the applicant shall join other KHDG members in consulting with NMFS, USFWS, and DMR to attempt to reach agreement on the appropriate location of upstream-eel-passage at each KHDG member-owned dam, and the appropriate downstream eel passage measures to apply to each KHDG member-owned project.

(3) Upstream Passage. If agreement is reached by all consulting parties on the location of upstream eel passage at each project, the applicant shall install such passage facilities at the Lockwood Project during 2002.

(4) Downstream Passage. If agreement is reached by all consulting parties on appropriate downstream eel passage measures, the applicant shall join the other parties in requesting that FERC approve the agreed-to passage measures.

(5) Lack of Consensus. If no consensus is reached on eel passage issues by June 30, 2002, the applicant or any of the consulting parties shall be free to petition DEP or FERC to approve appropriate conditions relating to eel passage at the project.

(6) Lack of Funding. In the event that DMR does not receive the necessary appropriation or legislative spending authorization required to fund the eel passage study discussed above, all provisions of this condition regarding eel passage shall be null and void.

C. INTERIM UPSTREAM FISH PASSAGE

The applicant shall install an interim trap, lift, and transfer facility for American shad, river herring (alewife and blueback herring), and Atlantic salmon at the Lockwood Project powerhouse, to be operational by May 1, 2006. This interim passage facility shall include video monitoring or other mechanisms to allow assessment of the effectiveness of the facility in trapping all species that seek passage, and shall be designed to empty into a trap and truck collection facility with adequate holding capacity.

D. INTERIM DOWNSTREAM FISH PASSAGE

The applicant shall continue and where needed improve existing interim operational measures to diminish entrainment, allow downstream passage, and eliminate significant injury or mortality to out-migrating anadromous fish, in accordance with the terms of the KHDG Settlement Agreement.

E. PERMANENT UPSTREAM FISH PASSAGE

(1) Installation and operation. Permanent upstream fish passage facilities shall be installed and operational at the project no later than 2 years following (a) the passage of at least 8,000 American shad in a single season through the interim trap, lift, and transfer facility at the Lockwood powerhouse or (b) development of an alternate trigger for fishway installation based on the biological assessment process for Atlantic salmon, alewife and blueback herring described below, whichever comes first, provided, however, that in no event shall permanent upstream fish passage facilities be required to be operational at the project before May 1, 2010.

(2) Biological assessment process. State and federal fisheries agencies will continue to assess the status and growth of the populations of shad and other anadromous fish in the Kennebec River drainage. Should the growth of Atlantic salmon, alewife or blueback herring spawning runs make it necessary to adopt an alternative approach for triggering fishway installation to the shad trigger used above, the agencies will meet with the applicant to attempt to reach consensus on the need for and timing and design of permanent upstream fish passage facilities at the project. Any disputes on the need for an alternate trigger for fishway installation will be handled through the FERC process.

F. PERMANENT DOWNSTREAM FISH PASSAGE

Permanent downstream fish passage facilities shall be installed and operational at the project no later than the date on which permanent upstream fish passage facilities are operational at the project as required by this approval.

G. FISH PASSAGE FACILITIES PLANS

The applicant shall, in accordance with the schedule(s) established by FERC, submit final design and operational plans for 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. These plans shall be reviewed by and must receive approval of the fisheries agencies, the DEP, and FERC prior to construction.

H. FISH PASSAGE EFFECTIVENESS STUDIES AND RESULTS

(1) Studies. The applicant shall, in consultation with state and federal fisheries agencies, 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, in accordance with the terms of the KHDG Settlement Agreement.

(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. These plans shall be reviewed by and must receive approval of the fisheries agencies, the DEP, and FERC prior to implementation.

(3) Results of studies. The applicant shall, in accordance with 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.

4. RECREATIONAL FACILITIES

The applicant shall maintain the existing shoreline angler access site in the project's lower tailwater area.

5. 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.

6. COMPLIANCE WITH ALL APPLICABLE LAWS

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

7. EFFECTIVE DATE

This water quality certification shall be effective concurrent with the effective date of the New License issued for the project by the Federal Energy Regulatory Commission.

APPENDIX B

EXHIBIT B

AGREEMENT BETWEEN MEMBERS OF THE KENNEBEC HYDRO DEVELOPMENT GROUP, THE KENNEBEC COALITION, THE NATIONAL MARINE FISHERIES SERVICE, THE STATE OF MAINE AND THE U.S. FISH AND WILDLIFE SERVICE (1998 Accord)

TERMS AND CONDITIONS PERTAINING TO THE LOCKWOOD PROJECT

The following terms and conditions exerpted from the 1998 Accord signed on May 26, 1998 pertain to the Lockwood Project and are included in this license for reference purposes.

II. Purposes.

This Agreement is intended to accomplish the following purposes: to achieve a comprehensive settlement governing fisheries restoration, for numerous anadromous and catandromous species, that will rapidly assist in the restoration of these species in the Kennebec River after the termination on December 31, 1998 of the existing agreement between the State of Maine and the Kennebec Hydro Developers Group; to avoid extensive litigation over fish passage methodologies, timetables and funding; to assist in achieving the removal of the Edwards dam; and to fund the next phase of a restoration program for these species on the Kennebec River.

III. Elements that apply to all parts of this agreement:

D. Term of Agreement

If by December 2014 the biological triggers for permanent upstream passage facilities discussed herein have not been met at one or more of the dams covered by this agreement, the parties will meet to assess the progress in restoring species covered by this agreement (alewife, American shad, blueback herring, Atlantic salmon, and American eel), and will attempt to reach consensus on future fish passage measures. Any disputes will be handled through the FERC process.

E. Consultation Process

The functional and final design of any interim or permanent upstream or downstream fish passage or collection facility discussed herein must be approved in writing by the resource agencies prior to filing that design with

the Federal Energy Regulatory Commission and Maine Department of Environmental Protection. Any disputes will be handled through the FERC process.

F. Effectiveness studies

KHDG dam owners will conduct effectiveness studies of all newly constructed interim and permanent upstream and downstream fish passage facilities at project sites. Study plans for these effectiveness studies will be filed with FERC and Maine DEP no later than the date on which passage at a particular project becomes operational, and will be subject to a consultation process with, and written approval from the resource agencies. In the event that effectiveness studies show that passage at individual projects is less than the targeted passage efficiency goals, KHDG dam owners will make a good faith effort to achieve these goals through modification of facilities and/or operations, following consultation with the resource agencies. In the event that studies show that, subsequent to said modifications, passage at individual projects continues to be less than the targeted efficiency goals, resource agencies may seek continued funding for trap and truck or other programs, or other mitigation from KHDG dam owners. Any disputes will be handled through the FERC process.

G. For American eel at all projects:

1. KHDG dam owners and DMR, in consultation with NMFS and USFWS, and subject to approval by FERC, shall undertake a three-year research project designed to determine: (a) the appropriate placement of upstream passage for American eel at each of the seven KHDG facilities based upon field observations of were eel are passing or attempting to pass upstream at each facility; and (b) appropriate permanent downstream fish passage measures, based upon radio telemetry and other tracking mechanisms, and field observation. Consultation between KHDG and the resource agencies to design and coordinate the research project shall begin no later than June 1, 1998. Performance of the studies shall begin during the 1998 migration season if possible, but in no case later than the 1999 migration season. The studies shall be in effect for three complete migration seasons, and shall be completed, including data compilation and analysis, by December 31, 2001.

2. The studies shall be supervised by DMR, based upon objectives and methods agreed to by KHDG and the resource agencies and subject to approval by FERC. The studies shall cost no more than $427,000, and shall be paid for by DMR.

3. Based on the results of these studies and beginning no later than January 1, 2002, and ending no later than June 30, 2002, KHDG dam owners and the resource agencies shall engage in consultation to attempt to reach agreement on the appropriate location of upstream eel passage at each facility, and the appropriate permanent downstream passage measure to apply to each facility.

   a. Upstream passage. KHDG dam owners agree that, if agreement is reached on the location of upstream eel passage at each facility, KHDG dam owners will install said passage at each facility during 2002. The cost to KHDG dam owners of materials for each upstream eel passage facility shall not exceed $10,000 and the total cost of materials to KHDG dam owners per dam shall not exceed $20,000, in the event that construction of more than one upstream passage facility is required per dam. The parties shall jointly request FERC to amend licenses and insert the agreed-upon terms and conditions for upstream eel passage.

   b. Downstream passage. If agreement is reached at consultation on the appropriate downstream passage measures, the parties shall jointly request FERC to amend licenses and insert the agreed-upon terms and condition for downstream eel passage.

   If consensus is not reached on either upstream passage location or downstream passage measures by June 30, 2002, any party shall be free to petition FERC to amend any license to insert appropriate terms and conditions.

4. In the event that, during the course of the eel tracking studies, it is revealed that certain interim downstream measures are needed to avoid significant downstream turbine injury and/or mortality (immediate or delayed) at a particular site, KHDG dam owners will consult with the resource agencies and agree to undertake cost-effective measures designed to minimize mortality at that site.

5. In the event that DMR does not receive the necessary appropriation or legislative spending authorization required to fund the studies discussed in paragraph III.G.1. & 2. above, the provisions in this Agreement governing American eel, found in paragraphs III.G.1 through III.G.4, are null and void, but all other provisions of this Agreement remain in full force and effect. In the event that paragraphs III.G.1 through III.G.4 become null and void, any party may petition FERC to amend any license regarding upstream and downstream passage of eel.

H. Reporting

Continuous progress assessments will be undertaken through annual reports which will be filed with FERC by KHDG dam owners, consistent with current practice by KHDG dam owners.

I. Successors, Assignees or Purchasers; notification

KHDG dam owners agree that the terms and conditions contained in this Agreement shall bind and insure to the benefit of all entities that might become successors, assignees or purchasers of any Licensee. Each KHDG dam owner agrees to provide notice of the existence of this Agreement, and a copy thereof, to any prospective buyer of its hydropower facility.

IV. Terms and conditions for specific projects:

A. BIOLOGICAL ASSESSMENT PROCESS FOR LOCKWOOD, UAH-HYDRO KENNEBEC, SHAWMUT AND WESTON

The schedule described herein for installing permanent upstream fishways at Lockwood, UAH-Hydro Kennebec, Shawmut and Weston projects is based primarily on the anticipated growth in the population of American shad in the Kennebec River. However, the State of Maine's goal is to restore anadromous species (with the exception of lamprey) to their historic range. This means restoring other anadromous species above Lockwood, UAH-Hydro Kennebec, Shawmut and Weston including Atlantic salmon, alewife, and blueback herring. The resource agencies will continue to assess the status and growth of the population of shad and other anadromous fish populations in the Kennebec River, as is being done of the Saco River and elsewhere in Maine. Should the growth of salmon or river herring runs make it necessary to adopt an alternative approach for triggering fishway installation (i.e., one not based on the project

specific, biologically-based trigger number for shad), the resource agencies will meet with the Licensee(s) to attempt to reach consensus on the need, timing and design of permanent upstream fish passage facilities at the Lockwood, Hydro-Kennebec, Shawmut and Weston projects. Disputes will be handled through the FERC process.

B. LOCKWOOD AND UAH-HYDRO KENNEBEC

1. Interim upstream fish lift.

At the Lockwood facility, Licensee shall install an interim trap, lift, and transfer facility for American shad, river herring, and Atlantic salmon at the powerhouse, to be operational by May 1, 2006. Licensee recognizes and acknowledges that the success of the resource agencies' and Kennebec coalition's efforts to restore shad, and to begin the restoration of Atlantic salmon to the Kennebec River Basin and achieve established fisheries management goals is dependent upon: (a) the State's ability to collect sufficient quantities of healthy shad brood stock from the Sebasticook River at the Fort Halifax dam, and from the Kennebec River at the Lockwood dam to use in DMR's Waldoboro hatchery and for stocking in upstream waters: and (b) the resource agencies' and other interested organizations' ability to collect available brook stock of Atlantic salmon from the Sebasticook River at the Fort Halifax dam, and from the Kennebec River at the Lockwood dam, to initiate a Kennebec River salmon hatchery operation. Licensee further recognizes and acknowledges that, assuming the prior removal of the Edwards dam, installation of an interim fish lift at the Lockwood dam in 2006 is needed, and Licensee will not seek to eliminate or defer this installation requirement before FERC or other regulatory bodies.

A part of the interim passage design and construction would include mechanisms (e.g., video monitoring) to allow operators and resource agencies to assess the effectiveness of the interim facility in trapping all species that seek passage. The interim lift shall be designed to empty into a trap and truck collection facility with adequate capacity for "holding" large quantities of fish, and not designed to discharge into the canal area.

In the event that the Edwards Dam has not been removed by May 1, 2006, any party to this Agreement retains the right to petition FERC to establish a new date for installation of an interim trap, lift, and

transfer facility at Lockwood for American shad, Atlantic salmon and river herring. It is understood that this ability to petition for a new date in the event that Edwards has not been removed applies only to the installation of interim fish passage at Lockwood, and permanent fish passage at Fort Halifax, as specified at paragraph IV.E.1.d.2. herein.

2. Permanent upstream passage.

Permanent upstream passage at Lockwood and UAH-Hydro Kennebec shall be operational 2 years following the earlier to occur of either of the following biological triggers. In no event shall permanent upstream fish passage be required to be operational before May 1, 2010.

a. 8000 American shad in any single season captured at the interim trap, lift, and sort facility at Lockwood; or

b. a biological assessment trigger initiated for Atlantic salmon, alewife or blueback herring, as described in IV-A above.

3. Downstream passage at Lockwood.

a. Interim passage beginning upon the effective date of this Agreement:

(1) Generally. Licensee will continue and where needed improve existing interim operational measures (e.g. controlled spills, temporary turbine shutdowns, sluiceways), to diminish entrainment, allow downstream passage of out-migrating alewife, Atlantic salmon, blueback herring and American shad, and eliminate significant injury or mortality (immediate or delayed) to out-migrating species. Licensee agrees to consult with state and federal agencies to develop an approved plan for interim downstream passage facilities and/or operational measures to minimize impacts on downstream migrating fish, with evaluation based on qualitative observations.

(2) Passage through turbines. Licensee and the resource agencies agree that fish passage by means of sluiceways and/or controlled spills are the first and preferred approach to interim downstream fish passage at Lockwood. In the event that fish passage using these methods is not successful[48], and to the extent that Licensee desires to achieve or continue interim downstream passage of out-migrating alewife, and/or juvenile Atlantic salmon or shad by means of passage through turbine(s), Licensee must demonstrate, through site-specific qualitative studies designed and conducted in consultation with the resource agencies, that passage through turbine(s) will not result in significant injury and/or mortality (immediate or delayed). If, after three years of such studies, the resource agencies, based on good cause shown, do not believe that the qualitative studies conclusively demonstrate that turbine passage is not resulting in significant injury and/or mortality, and Licensee desires to achieve interim downstream passage of these species through turbine(s), Licensee must demonstrate through site-specific quantitative studies that turbine passage will not result in significant injury and/or mortality (immediate or delayed). The quantitative studies shall be designed and conducted in consultation with the resource agencies.

In the event that adult shad and/or adult Atlantic salmon begin to inhabit the impoundment above the Lockwood Project, and to the extent that Licensee desires to achieve interim downstream passage of out-migrating adult Atlantic salmon

[48] Construction of new diversionary structures to achieve success is not required by this Agreement.

and/or adult shad by means of passage through turbine(s), Licensee must first demonstrate, through site-specific quantitative studies designed and conducted in consultation with the resource agencies, that passage through turbine(s) will not result in significant injury and/or mortality (immediate or delayed). In no event shall Licensee be required to make this quantitative demonstration for adult shad and adult Atlantic salmon before May 1, 2006.

Licensee shall conduct studies (designed in consultation with the resource agencies) prior to the date by which permanent downstream passage facilities are to be operational to determine the effectiveness of various downstream passage techniques in preparation for the design and installation of permanent downstream facilities.

b. Permanent passage: Permanent downstream facilities will be operational on the date that permanent upstream passage is operational. Licensee will be permitted to install permanent downstream passage at an earlier date if it so chooses.

Appendix C
Shortnose Sturgeon Handling Plan for the Lockwood Project
This plan may be updated annually as appropriate

The Lockwood Project (Project) is a run-of-river facility located on the Kennebec River at river mile 63 in Waterville and Winslow, Maine. The Project is licensed by the Federal Energy Regulatory Commission to Merimil Limited Partnership. FPL Energy Maine Hydro LLC (FPLE Maine) is the general partner for Merimil Limited Partnership and is responsible for operating the Project.

This plan addresses how shortnose sturgeon found at the Lockwood Project dam will be handled and how this handling will be documented. Shortnose sturgeon may be encountered by personnel during fish lift operations, and in the event of stranding during flashboard replacement or other operations causing no-spill or no-leakage conditions. Procedures for handling fish and documenting these interactions are outlined below. All contact information and the appropriate reporting form follow these procedures. All personnel counting fish at the fish lift counting windows and louver bypass fish sampler will be trained to properly handle shortnose sturgeon by NOAA Fisheries or a NOAA Fisheries designated representative.

Fish Lift Operations

Due to concerns regarding the safety of downstream passage for shortnose sturgeon and the fact that Ticonic Falls represents that historic limit of upstream migration for shortnose sturgeon, shortnose sturgeon are not to be allowed to pass above the dam. Should any shortnose sturgeon be found in the fish lift, the licensee shall implement the procedures and reporting requirements outlined below.

1. For each shortnose sturgeon detected, the licensee shall record the weight, length, and condition of the fish. River flow, bypass reach minimum flow, and water temperature will be recorded. All relevant information will be recorded on the reporting sheet (*shortnose sturgeon REPORTING SHEET FOR THE LOCKWOOD PROJECT*, a copy of which is attached hereto).

2. The licensee shall follow the contact procedure outlined below to obtain a contact with the appropriate ESA permit/approval for handling shortnose sturgeon.

3. If alive and uninjured, the shortnose sturgeon will be immediately returned downstream. A long-handled net will be used to place the shortnose sturgeon back into the river downstream of the dam.

4. If any injured shortnose sturgeon are found, the licensee shall report immediately to NOAA Fisheries (see contact information below). Injured fish must be photographed and measured and the reporting sheet must be submitted to NOAA Fisheries within 24 hours. If the fish is badly injured, the fish should be retained by the licensee, if possible, until obtained by a NOAA Fisheries recommended facility for potential rehabilitation.

5. If any dead shortnose sturgeon are found, the licensee must report immediately to NOAA Fisheries (see contact information below). Any dead specimens or body parts should be photographed, measured and preserved (i.e., refrigerated) by the licensee until they can be obtained by NOAA Fisheries for analysis.

Shortnose Sturgeon Stranding

The potential exists for shortnose sturgeon to be stranded in pools below the Dam whenever the flashboards are replaced or other operations cause no-spill or no-leakage conditions. If this situation occurs, these pools need to be checked as soon as possible for the presence of shortnose sturgeon and the following protocol shall be followed:

1. Designated FPLE Maine employees and fish lift operation staff must monitor the pools below the Dam while the flashboards are replaced.

2. The licensee shall follow the contact procedure outlined below to obtain a contact with the appropriate ESA permit/approval for handling shortnose sturgeon.

3. For each fish removed from the pool, the licensee shall record the weight, length, and condition. River flow, bypass reach minimum flow, and water temperature will be recorded. All relevant information will be recorded on the reporting sheet (*shortnose sturgeon REPORTING SHEET FOR THE LOCKWOOD PROJECT*, see attached).

4. If stranded but alive and uninjured, the shortnose sturgeon will be moved to the river below the Ticonic Falls that will provide egress out of the area.

5. If any injured shortnose sturgeon are found, the licensee shall report immediately to NOAA Fisheries (see contact information below). Injured fish must be photographed and measured, if possible, and the reporting sheet must be submitted to NOAA Fisheries within 24 hours. If the fish is badly injured, the fish should be retained by the licensee, if possible, until obtained by a NOAA Fisheries recommended facility for potential rehabilitation.

6. The licensee shall report any dead fish immediately to NOAA Fisheries (see contact information below). Any dead specimens or body parts should be photographed, measured and preserved by the licensee until they can be obtained by NOAA Fisheries for analysis.

7. Contact Mike Hoover (FPLE Maine 207-623-8415 Kirk Toth (FPLE Maine 207-474-3921 x11); Bob Richter (FPLE Maine 207-795-1342 x243).

Contact information:

- If any shortnose sturgeon are detected – Mike Hoover (FPLE Maine 207-623-8415); Kirk Toth (FPLE Maine 207-474-3921 x11) Bob Richter (FPLE Maine 207-795-1342 x243).

- If unavailable, contact - Tom Squires (Maine Department of Marine Resources (207) 624-6348

- Within 24 hours of any stranding event, contact with an injured or dead shortnose sturgeon, or detection of a shortnose sturgeon in the fish lift: contact NOAA Fisheries Northeast Regional Office –Julie Crocker (978-281-9328 x6530) or Pat Scida, (978-281-9208) and fax any reporting sheets to 978-281-9394. Messages should be left on voice mail or email (Julie.Crocker@noaa.gov) if unable to access by phone.

Reports at end of passage seasons

- At the end of the upstream and downstream passage seasons, copies of all reporting sheets will be sent to:

Endangered Species Coordinator
Protected Resource Division
NOAA Fisheries
One Blackburn Drive
Gloucester, MA 01930-2298

Bob Richter
FPL Energy Maine Hydro, LLC
150 Main Street
Lewiston, ME 04240

SHORTNOSE STURGEON REPORTING SHEET FOR THE LOCKWOOD PROJECT

Date:_____ Time:_____

Physical conditions
Is spill being released over the dam? YES NO
What is the approximate gaged river flow?_____ _____ (Ex. 45,000 cfs)
What is the approximate gaged minimum flow in the bypass reach?_____
Water temperature (^{o}C): _____

Is the fishway operating (circle) YES NO

Is project generating? YES NO

If yes, what units are currently being operating?

Location from where species was recovered (circle): FISHWAY / LIFT / BYPASS POOLS
OTHER _____

If fish lift, estimate condition of lift: EMPTY / FEW FISH / MODERATE FULL / VERY FULL

Species information:
Total Length_____ Fork length:_____
Weight:_____
Condition of fish:
_____

Does the sturgeon have visible injuries or abrasions: YES NO
If Yes, circle and code area of abrasions on sturgeon diagram on back side of sheet.

Comments/other:
_____
_____
_____
_____
_____
_____
_____
_____

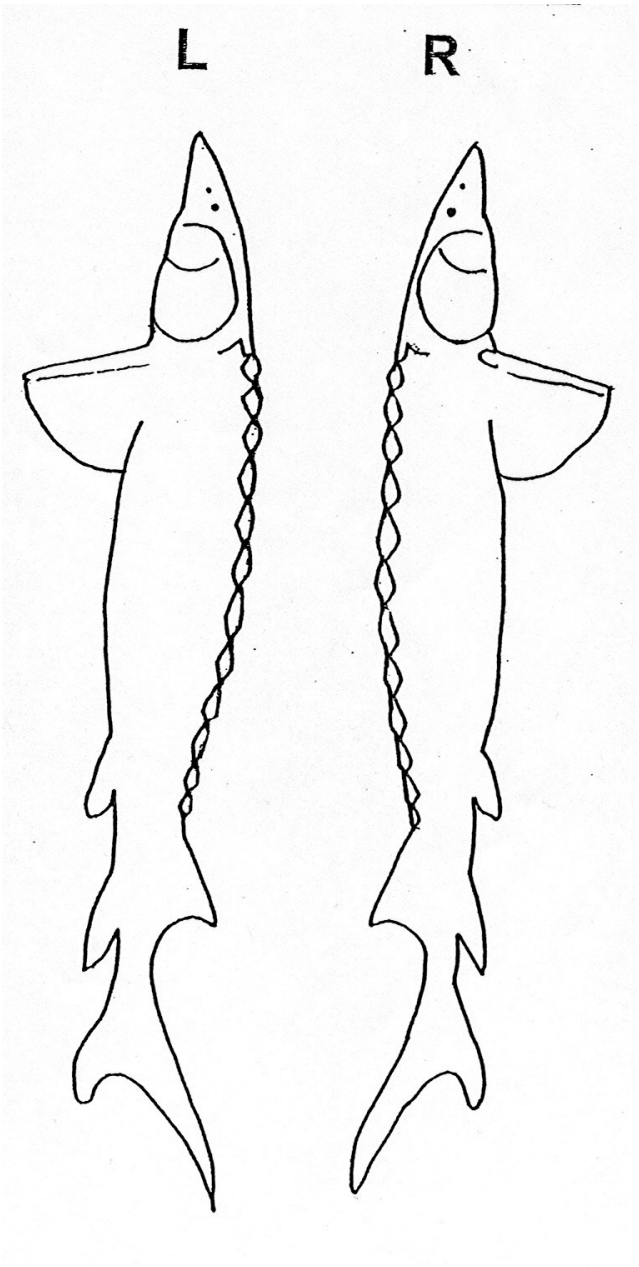
Name of watch observer:_____

Observer's Signature:_____

Abrasion Codes

None

Light	Whitening or smoothed scutes, Early sign of skin abrasion
Moderate	Early sign of redness on skin, scutes or fins, Erosion of skin over bony structures, Loss of skin pigment
Heavy	Large portion of skin red; scutes excessively worn, damaged, or missing; patches of skin missing; Boney structures exposed; flaccid musculature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