

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION
104 FERC ¶ 62,061

Madison Paper Industries, Inc.

Project No. 2364-013
Maine

ORDER ISSUING NEW LICENSE (MAJOR PROJECT)
(July 25, 2003)

INTRODUCTION

1. On April 26, 2002, Madison Paper Industries, Inc. (Madison) filed with the Commission an application for a new license and an Applicant-Prepared Environmental Assessment (APEA), under Part I of the Federal Power Act (FPA)¹, to operate and maintain the existing 16.977-megawatt (MW) Abenaki Hydroelectric Project No. 2364. Madison filed an Offer of Settlement (Settlement Agreement) on January 31, 2002. The Abenaki Project is located on the Kennebec River² Somerset County, Maine. There are no federal lands associated with the project.

2. Based on my review of the agency and public comments, and evaluation of the developmental and environmental effects of the proposed project and its alternatives, I conclude that relicensing the project as proposed would be in the public interest. Therefore, this order issues a new license for the Abenaki Project.

BACKGROUND

3. The original license for the project was issued on August 3, 1964.³ On May 10, 1966, the Commission issued an order establishing a 50-year license period from May 1, 1954 to April 30, 2004, for the Abenaki Project.⁴ Therefore, the current license expires on April 30, 2004.

4. Notice of the application and APEA, which solicited motions to intervene, protests, comments, and final recommendations, terms and conditions, and prescriptions, and notification of staff's intent to prepare one multi-project Environmental Assessment (EA), was issued on May 3, 2002.⁵ The Maine State Planning Office (MSPO) and U.S. Department of the Interior (Interior) filed timely motions to intervene, neither in

¹16 U.S.C. §§791(a)-825(r).

²On May 21, 1954, the Commission made a determination that the Kennebec River is navigable. Central Maine Public Company, Docket No. E-6456 (13 FPC 1076).

³32 FPC 502 (1964).

⁴35 FPC 707 (1966).

⁵67 Fed. Reg. 31296-31298 (2002).

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opposition. A separate notice of the Settlement Agreement was also issued on May 3, 2002.⁶ No comments were received in response to this notice.

5. On July 16, 2002, Madison filed an addendum to the Settlement Agreement, signed by all parties to the original Settlement Agreement. The addendum specifies that for the Abenaki Project the timing for any actions required under the Settlement Agreement shall be measured from the effective date of a new license, May 1, 2004.⁷ The addendum further specifies that a small area of land below the Abenaki dam on the east shore of the Kennebec River, laying between the river and the railroad and included in the buffer zone of the Final Shoreland Buffer Zone Management Plan (Appendix A of the Settlement Agreement), would stay within the buffer zone, but that a separate set of conservation easement restrictions would be developed for this portion of land. Notice of the addendum was issued on July 24, 2002. No comments were received in response to this notice.

6. On September 19, 2002, the Commission staff issued, for public comment, an EA.⁸ Staff recommended in the EA that the project be licensed as proposed, consistent with the Settlement Agreement. Staff concluded that licensing the proposed project would not constitute a major federal action significantly affecting the quality of the human environment. In response to the EA, Madison filed comments (discussed in paragraphs 28-32).

7. The motions to intervene and comments received from interested agencies, non-governmental organizations, municipalities, and individuals throughout the proceeding (including the comments filed on the EA) have been fully considered and addressed in this order in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

8. The project's principal existing features consist of: (1) a 784-foot-long, 25-foot-high, concrete gravity overflow dam with a permanent crest elevation of 219.65 feet msl and equipped with 3-foot-high timber flashboards providing a normal headpond elevation of 222.65 feet msl; (2) a 32-acre reservoir with a gross storage capacity of 520 acre-feet; (3) an 830-foot-long by 160-foot-wide forebay; (4) a powerhouse containing

⁶67 Fed. Reg. 31296 (2002). The Settlement Agreement also includes the Anson Hydroelectric Project, Project No. 2365, located 0.5 miles upstream of the Abenaki Project, and owned and operated by Madison.

⁷The water quality certification also references the timing for certain actions to be measured from the "issuance of new FERC licenses". However, because such certification is not active until the effective date of the license, the actions would be measured from May 1, 2004.

⁸The EA was jointly issued for the Abenaki Project and the upstream Anson Project.

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seven turbine-generating units with a total installed capacity of 16.977 megawatts (MW); (5) a 1,950-foot-long bypass reach; (6) a 3,400-foot-long transmission line; and (7) appurtenant facilities. A more detailed project description is contained in ordering paragraph (B)(2).

APPLICANT'S PLANS AND CAPABILITIES

9. In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA,⁹ the staff has evaluated Madison's record as a licensee with respect to the following: (1) conservation efforts; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission service; (7) cost effectiveness of plans; and (8) actions affecting the public. Staff also considered the ancillary benefits of hydroelectric projects. I accept the staff's findings in each of these areas.

Conservation Efforts

10. FPA Section 10(a)(2)(C) requires the Commission to consider the extent of electric consumption efficiency programs in the case of license applicants primarily engaged in the generation or sale of electric power. Madison uses the entire project output for its own industrial purposes. Madison incorporates energy conservation and load management into its business decisions and, since 1993, has implemented several measures resulting in energy savings exceeding 22 million kilowatt-hours. Through these programs, Madison is making satisfactory efforts to conserve electricity.

Compliance History and Ability to Comply with the New License

11. Staff has reviewed Madison's compliance with the terms and conditions of the existing license. Staff finds that Madison's overall record of making timely filings and compliance with its license is satisfactory.

Safe Management, Operation, and Maintenance of the Project

12. Staff has reviewed Madison's management, operation, and maintenance of the Abenaki Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines. Staff concludes that the dam and other project works are safe, and that there is no reason to believe that Madison cannot continue to safely manage, operate, and maintain these facilities under a new license.

Ability to Provide Efficient and Reliable Service

13. Staff reviewed Madison's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Based on our

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

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review, Madison 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.

Need for Power

14. All of the power produced by the Abenaki Hydroelectric Project is used by Madison's pulp and paper mill in Madison, Maine, with the exception of energy produced during mill shutdowns. On an average annual basis the 16.977-MW Abenaki project provides 27 percent of the mill's total annual energy requirement of about 322,146 megawatt-hours (MWh). Over the past 5 years less than 1 percent of the generation was sold to utilities.

15. The Abenaki Project is located in the New England Power Pool (NEPOOL) subregion of 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 2001 through 2010, the average annual peak summer demand growth rate is 1.3 percent, while the demand for electric energy in the NPCC will grow at an average rate of 1.2 percent annually (NERC, 2001). With planned capacity additions NEPOOL is expected to meet its reliability criteria through 2005 under a high demand growth scenario, but could fall below the criteria in 2006.

16. The Abenaki Project contributes to the existing generating resources available to the NPCC region and would help the region meet its reliability criteria in the short term (through 2005) and beyond. The annual plant factor of the project operating under a gross head of 43 feet is approximately 57 percent. Average annual generation of the Abenaki Project is 85,632 MWh. This license approves a 2.94-MW capacity expansion that would increase generation by about 6 percent (5,500 MWh).

17. I conclude that present and future use of the project's power, its low cost, its displacement of non-renewable fossil-fuel-fired generation, its contribution to a diversified generation mix and the increased capacity support a finding that the power from the Abenaki Project will continue to help meet Madison's need for power and the need for power in the region in both the short and long term.

Transmission Services

18. The project includes a 3,400-foot-long primary transmission line from the powerhouse to Madison's mill. Madison proposes no changes that would affect either project or non-project transmission facilities.

Cost Effectiveness of Plans

19. This license authorizes Madison to add 2.94 MW of new capacity by installing a turbine-generator set in an unused bay of the existing powerhouse. This addition will increase the project capacity from 16.977 MW to 19.917 MW and increase average

annual generation by 5,500 MWh. The project will continue to operate run-of-river and will have a plant factor of about 50 percent. Madison estimates the new unit will cost about \$4.2 million. Based on Madison's current cost of purchasing electricity, I find this capacity addition to be a cost-effective development of the site's electricity generation potential. Madison also proposes, and this order requires, numerous plans and facilities for the protection, mitigation and enhancement of environmental resources in the Kennebec River basin. Our review of Madison's record as an existing licensee indicates that these plans are likely to be carried out in a cost-effective manner.

Actions Affecting the Public

20. The Abenaki Project generates electricity for Madison's industrial needs. The existing and proposed new capacity contribute to the regional power supply by avoiding the need for obtaining this energy from other regional generators. Environmental enhancement measures and recreational improvements included in the license will generally improve environmental quality, particularly for aquatic resources, and will have a beneficial effect on public use of project facilities for recreational purposes.

Other Factors: Ancillary Service Benefits

21. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel-based generating stations back on line following a major utility system or regional blackout.

22. Ancillary benefits are now mostly priced at rates that recover only the cost of providing the electric service at issue, which don't resemble the prices that would occur in competitive markets. In the competitive northeast market, the ability of hydropower projects to provide ancillary services to the system can increase the benefits derived from the project.

SETTLEMENT AGREEMENT

23. In 2002, Madison entered into the Settlement Agreement with the U.S. Fish and Wildlife Service, the National Park Service, the Bureau of Indian Affairs, the Maine State Planning Office (MSPO), the Maine Department of Inland Fish and Wildlife, the Maine Department of Marine Resources, the Maine Department of Conservation, the Maine Atlantic Salmon Commission, the Towns of Anson and Madison, Maine, the Maine Historic Preservation Commission (MHPC) and several non-governmental organizations.¹⁰

¹⁰The non-governmental organizations consist of the Appalachian Mountain Club,
(continued...)

24. The proposed action in the EA would implement the terms of the Settlement Agreement. Implementation of the Settlement Agreement would protect and enhance water quality, fish and wildlife resources, recreational opportunities in the Kennebec River, and protect important historic properties. The Settlement Agreement includes provisions to establish a run-of-river operation with a minimum flow below the project for occasions when the run-of-river operation is temporarily modified, establish a minimum flow regime for the Abenaki bypassed reach, establish the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund, establish an escrow account to fund Atlantic salmon stocking activities, enhance opportunities for recreation, grant permanent conservation easements for about 54.2 acres of land in the Abenaki Project area to protect the land from development, execute an Historic Properties Management Plan (HPMP),¹¹ provide for a 50-year term of license, resurface the Abenaki dam, install an inflatable flashboard system, and install additional capacity of 2.94 MW in the Abenaki powerhouse. The Settlement Agreement also provides for upstream and downstream fish passage for American eel and Atlantic salmon.

25. All measures in the Settlement Agreement are all or in part incorporated into the water quality certification (WQC) for the project. They include:

- (1) a run-of-river project operation so that at any given time, flows downstream of the project would approximate the sum of inflows to the project reservoir (WQC Cond. No. 2 and Article 401);
- (2) a continuous minimum flow of 1,540 cubic feet per second (cfs), or inflow if less, below the project when the run-of-river operation is modified (WQC Cond. No. 2 and Article 401);
- (3) continuous minimum flows in the Abenaki bypassed reach, beginning on January 1, 2007, of 100 cfs from January through April, November, and December; 200 cfs for May and October; and 300 cfs from June through September (WQC Cond. No. 2 and Article 402);
- (4) preparation and implementation of a flow and water level monitoring plan (WQC Cond. No. 2 and Article 403);

¹⁰(...continued)

Trout Unlimited, including the Kennebec Valley Chapter of Trout Unlimited, Kennebec Valley Trails, Friends of the Kennebec Salmon, Maine Council of the Atlantic Salmon Federation, and American Rivers.

¹¹This plan was formerly called the Cultural Resources Management Plan or CRMP, and is referred to in the Settlement Agreement as such.

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- (5) a reservation of authority for Interior to prescribe fish passage facilities in the future (Article 404);¹²
- (6) installation of interim downstream passage facilities for American eel within 2 years of the effective date of the license (WQC Cond. No. 3 and Article 405);
- (7) installation of permanent downstream passage facilities for American eel by July 1, 2020 (WQC Cond. No. 3 and Article 405);
- (8) installation of interim downstream passage facilities for Atlantic salmon with installation tied to an agency schedule for sustained annual stocking of Atlantic salmon upstream of the project (WQC Cond. No. 4 and Article 405);
- (9) installation of permanent downstream passage facilities for Atlantic salmon with installation tied to a target number of returning Atlantic salmon, but not required before the year 2020 (WQC Cond. No. 4 and Article 405);
- (10) installation of upstream passage facilities for American eel within 2 years of the effective date of the license (WQC Cond. No. 3 and Article 405);
- (11) installation of permanent upstream passage facilities for Atlantic salmon with installation tied to a target number of returning Atlantic salmon, but not required before May 1, 2020 (WQC Cond. No. 3 and Article 405);
- (12) post-construction effectiveness testing of interim and permanent downstream fish passage facilities and upstream fish passage facilities, in consultation with state and federal agencies. Efficiency targets are 80 percent passage for interim facilities and 90 percent passage for permanent facilities. Interim facilities that achieve a 90 percent efficiency will serve as permanent facilities (WQC Cond. Nos. 3 and 4 and Article 406);
- (13) annual consultation meetings convened by the licensee with the state and federal agencies to review the status of the Settlement Agreement activities that relate to fish passage at the project (Article 407);
- (14) establishment of an escrow account entitled the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund by the licensee with automatic deposits of \$135,000 by July 31, 2006, and \$150,000 by July 31, 2010, to support interim passage of Atlantic salmon, habitat restoration, and smolt rearing for stocking of Atlantic salmon (WQC Cond. No. 5 and Article 408);

¹²Although Interior's request for a reservation of authority is not part of what the stakeholders have asked the Commission to approve, it is in a relevant part of the Settlement Agreement.

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(15) establishment of an interest-bearing escrow account with a deposit by the licensee of \$50,000 within 3 months of the effective date of the license, and within 2 years of the effective date of the license deposit \$5,000 per year and continuing for 12 years, to fund Atlantic salmon stocking activities. If Atlantic salmon hatching facilities are not substantially under construction by 2010, the deposits and any accrued interest will be transferred from this account to the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund (WQC Cond. No. 6 and Article 409);

(16) evaluation of resident riverine fish species' capability to pass into and out of the Abenaki bypassed reach (Article 410);

(15) implementation of the Final Shoreland Buffer Zone Management Plan within 18 months of the effective date of the license (discussed in paragraph 43) (WQC Cond. No. 8 and Article 411);

(16) implementation of the Final Recreation Plan within 42 months of the effective date of the license (WQC Cond. No. 9 and Article 412)¹³

(17) development and implementation of an HPMP (Article 413);

(18) donation of about 25 acres of land supporting a regionally significant archeological site to the Archeological Conservancy, subject to a conservation easement with the MHPC. Madison proposes to provide a one-time endowment payment to support enforcement of the easement (Article 414).

(19) issuance of a 50-year license [ordering paragraph (A)].

COMMENTS ON THE ENVIRONMENTAL ASSESSMENT

26. Comments on the EA were received from Madison. Madison commented that the EA contained abbreviated treatment of the cumulative effects analysis and the dam removal alternative compared to the treatment in the APEA. For the cumulative effects analysis, Commission staff limited its analysis to those resources that would be affected by the project and at least one other developmental resource, thereby ensuring the project was represented as an element in the cumulative nature of any effects. Staff did not present a dam removal alternative in the EA because no one has proposed or recommended that the Abenaki dam be removed.

27. In its comments on the EA, Madison clarified that when the MSPO intervenes, it does so for all state agencies, although the EA listed only the MSPO as an intervenor.

¹³The Settlement Agreement allows 3 years to implement the Final Recreation Plan, but also allows up to 42 months to complete specific projects.

The MSPO's intervention states that it represents the state agency interests and the public interests of the citizens of Maine.¹⁴

28. Madison's comments noted several editorial errors in staff's EA and requested that the language of the Settlement Agreement be incorporated into the license. In the ordering paragraphs of this license, we incorporate the requested settlement conditions by inclusion of the water quality certification and license articles that cover remaining portions of the requested settlement conditions. The relevant water quality certification conditions and license articles are identified in the description of the Settlement Agreement above.

29. In its comments, Madison also requested 18 months from the date a license is issued to execute an HPMP so that the results of ongoing archeological studies can be considered in the HPMP. The Settlement Agreement and Article 413 of the license provide the licensee with 12 months from the effective date of the license to prepare and file an HPMP based on the Programmatic Agreement (PA), executed September 24, 2002, and signed by Madison, the SHPO, the Archeological Conservancy, and the Commission. If necessary, however, the licensee can request an extension of time to file the HPMP. The request should show evidence that all parties to the PA are in agreement with requesting the extension of time.

30. In its comments, Madison also recognized that staff uses levelized annual costs in assessing project economics in the EA, but believes that levelized costs should not be used for individual enhancement measures. The Commission's practice of converting the capital and annual costs of individual environmental measures to levelized annual values over the Commission's standard, 30-year period of analysis, provides an easy-to-compare economic metric to help decide whether to include a measure in a hydropower license.

WATER QUALITY CERTIFICATION

31. Under Section 401(a)(1) of the Clean Water Act (CWA),¹⁵ the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency either has issued a water quality certification for the project or has waived certification.¹⁶

¹⁴Specific Maine state agencies referenced in the MSPO's Motion to Intervene are the Department of Environmental Protection, the Land Use Regulation Commission, the Department of Marine Resources, the Department of Inland Fish and Wildlife, the Atlantic Sea-Run Salmon Authority, and the Department of Conservation.

¹⁵33 U.S.C. § 1341(a)(1).

¹⁶Section 401(a)(1) requires an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters to obtain from the state in which the discharge originates certification that any such discharge would comply

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32. The Maine Department of Environmental Protection issued a water quality certification for the project on February 21, 2003. The certification provides for run-of-river operation, fish passage facilities, licensee funding for habitat restoration for Atlantic salmon and Atlantic salmon stocking, a shoreline buffer zone plan, and recreational access and use facilities. The water quality certification includes conditions which are set forth in Appendix A of this order, and incorporated in the license [see ordering paragraph (D)].¹⁷

SECTION 18 FISHWAY PRESCRIPTIONS

33. Section 18 of the FPA, provides that the Commission shall require a licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior (Interior) or the Secretary of Commerce, as appropriate.¹⁸ By letter dated February 8, 2002, Interior requested that a reservation of authority to prescribe fish passage facilities be included in the license. Article 404 reserves the Commission's authority to require fishways that Interior may in the future prescribe.

ENDANGERED SPECIES ACT

34. Section 7(a)(2) of the Endangered Species Act of 1973¹⁹ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their critical habitat.

35. In the project area, the bald eagle is federally listed as threatened. An active bald eagle nest site occurs downstream of the Abenaki Project, and bald eagles use the Anson Project impoundment for foraging. By letter dated May 23, 2002, the U.S. Fish and Wildlife Service found that no further consultation is needed for federally listed species at the Abenaki Project because the nest is downstream of the project and the impoundment and surrounding waterways provide ample area for foraging.

¹⁶(...continued)
with applicable water quality standards.

¹⁷The water quality certification was issued jointly for the Abenaki Project and the upstream Anson Hydroelectric Project, Project No. 2365, also owned and operated by Madison.

¹⁸16 U.S.C. § 811.

¹⁹16 U.S.C. § 1536(a).

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND 10 (j) PROCESS

36. Section 10(j) of the FPA²⁰ requires the Commission, when issuing a license, to include license conditions based upon recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,²¹ to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife affected by the project. If the Commission believes that any such recommendation may be inconsistent with the purpose and requirements of Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA²² requires the Commission and the agencies to attempt to resolve such inconsistencies, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

37. By letter filed with the Commission on June 26, 2002, Interior identified that their Section 10(j) conditions to protect fish, wildlife, and botanical resources are incorporated into the Settlement Agreement. The license includes conditions consistent with the Settlement Agreement.

OTHER ISSUES

A. Administrative Conditions

38. The Commission collects annual charges from licensees for the administration of the FPA, and to reimburse the United States for the occupancy and use of any federal lands. Article 201 provides for the collection of such funds.

39. Section 10(d) of the Federal Power Act requires licensees to establish and maintain project amortization reserves. Article 202 provides for amortization reserves.

40. The Commission requires licensees to file sets of approved project drawings on microfilm. Article 203 provides for the filing of these drawings.

41. Some projects directly benefitted from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

²⁰16 U.S.C. § 803(j)(1).

²¹16 U.S.C. § § 661 *et seq.*

²²16 U.S.C. § 803(j)(2).

42. In the license application, the licensee proposed resurfacing the Abenaki dam, installing an inflatable flashboard system, and installing a 2.94 MW turbine/generator unit in an existing unused bay of the powerhouse. Also, in accordance with the Settlement Agreement, the licensee will construct downstream and upstream passage facilities for American eel and Atlantic salmon. The licensee plans to begin installation of the inflatable flashboard system within two years of the effective date of the new license. The licensee plans to install the new 2.94 MW turbine/generator unit between 2008 and 2016 or at an earlier date to be determined by the licensee based on financial conditions. Articles 301 through 305, and ordering paragraphs(B)(2)(i) through (B)(2)(k) establish the procedures and requirements for Commission approval of construction plans for these improvements.

B. Shoreland Buffer Management Zone

43. The licensee's proposed Shoreland Buffer Zone Management Plan (Article 411) incorporates resource enhancements and changes to the project boundary. The 54.2 acres of land to be added to the project boundary include the new or enhanced recreation facilities identified in paragraph 45. The 54.2 acres of land, in addition to lands currently in the project boundary, will create a 330-foot buffer zone at the project, except where other land interests interfere. The 54.2 acres of land are necessary for project purposes. The licensee proposes to grant permanent conservation easements on Madison-owned shorelands to an appropriate conservation organization. These easements will be concentrated in functionally valuable and/or sensitive habitats such as floodplains and wetlands that include areas of unique habitats with scenic value.

44. Madison also proposes to remove from the project boundary a 25-acre parcel of land representing the Madison-owned portion of the Pines area.²³ Madison will donate the 25 acres of land to the Archeological Conservancy (Conservancy), subject to a conservation easement from the MHPC to the Conservancy. This parcel does not affect project operations and is not necessary for project purposes.

C. Recreational Resources

45. Madison's proposed Recreation Plan (Article 412) contains three new facilities and two related site improvements, including (1) a canoe/kayak car-top put-in located at the upstream end of the whitewater stretch below the Abenaki dam; (2) a small trailered boat put-in, with a parking area, located slightly downstream of the canoe/kayak car-top put-in; (3) a small trailered boat take-out approximately one-half mile further downstream near the end of the whitewater stretch; (4) an access road sufficient for automobiles with small trailers to connect the three boat access sites listed above; and (5)

²³The Pines site (also known as the Old Point Mission Site and the Father Rasle/Pines site) is listed on the National Register of Historic Places, and is considered to be one of the most regionally significant European contact period sites.

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installation of fencing along the road necessary to limit access from the road to the land leased by the Rod and Gun Club.

D Historic Properties

46. The Maine State Historic Preservation Officer (SHPO) states the Pines site and a site on the west shore below the Abenaki dam in the vicinity of the Rod and Gun Club are eligible for inclusion in the National Register of Historic Places. Article 411 requires Madison to implement a Programmatic Agreement (PA) that contains guidelines for managing and protecting eligible sites, including sites that are discovered during the future operation and maintenance of the project. The PA provides for the donation of the Father Rasle/Pines site to the Archeological Conservancy.

E. Use and Occupancy of Project Lands and Waters

47. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 415 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purpose of protecting and enhancing the scenic, recreational, and environmental values of the project.

STATE AND FEDERAL COMPREHENSIVE PLANS

48. Section 10(a)(2) of the FPA²⁴ 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.²⁵ Of the 34 comprehensive plans filed with the Commission, staff identified and reviewed 16 plans relevant to the project.²⁶ No inconsistencies were found.

²⁴16 U.S.C. § 1536(a).

²⁵16 U.S.C. § 803(a)(2)(A).

²⁶ Maine Department of Conservation, Maine State Comprehensive Outdoor Recreation Plan: Assessment and Policy Plan, V.1., December 1993; Maine Atlantic Sea-Run Salmon Commission, 1984, Strategic Plan for Management of Atlantic Salmon in the State of Maine, Augusta, Maine, July 1984, with appendices; Maine Department of Conservation, 1982. Maine Rivers Study-Final Report, Augusta, Maine, May 1982; Maine State Planning Office, 1987, State of Maine Comprehensive Rivers Management Plan, V. 1-3, Augusta, Maine, May 1987; Maine State Planning Office, 1992, Maine Comprehensive Rivers Management Plan, V.4, Augusta, Maine, December 1992; Maine State Planning Office, 1993, Kennebec River Resource Management Plan, Augusta, Maine, February 1993; New England Division of Army Corps of Engineers, 1985, Hydrology of Floods - Kennebec River Basin, Maine, Department of the Army,

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COMPREHENSIVE DEVELOPMENT

49. Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. 797(e) and 803(a)(1), respectively, require the Commission, in acting on license applications, to give equal consideration to the power and development purposes and environmental uses of the waterway on which the project is located, and to license projects that 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.

50. To determine whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation,²⁷ the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and 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

²⁶(...continued)

Waltham, Massachusetts, October 1985, with appendices New England Division of Army Corps of Engineers, 1988, Hydrology of Floods - Kennebec River Basin, Maine, Part II, Department of the Army, Waltham, Massachusetts, May 1988, with appendices; New England Division of Army Corps of Engineers, 1989, Water resources study - Kennebec River Basin, Maine reconnaissance report), Department of the Army, Waltham, Massachusetts, March 1989, Two volumes; U.S. Fish and Wildlife Service, Canadian Wildlife Service, 1986, North American Waterfowl Management Plan, Department of the Interior, May 1986; U.S. Fish and Wildlife Service, 1989, Final Environmental Impact Statement - Atlantic Salmon Restoration in New England, 1989 - 2021, Department of the Interior, Newton Corner, Massachusetts, May 1989, with appendices; U.S. Fish and Wildlife Service, Undated, Fisheries USA: The Recreational Fisheries Policy of the U.S. Fish and Wildlife Service, Washington, DC; 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; National Marine Fisheries Service, 1998; Final Amendment #11 to the Northeast Multi-species Fishery Management Plan and Amendment #1 to the Atlantic Salmon FMP, October 7, 1998; National Marine Fisheries Service, 2000, Fishery Management Report No. 36 of the Atlantic States Marine Fisheries Commission: Interstate FMP for American Eel (*Anguilla rostrata*), Prepared by the American Eel Plan Development Team, April 2000; National Park Service, 1982, The Nationwide Rivers Inventory. Department of Interior, Washington, DC, January 1982.

²⁷72 FERC ¶ 61,207 (1995).

making its decision, the Commission considers the project power benefits both with the applicant's proposed protection and enhancement measures and with the Commission's modifications and additions to the applicant's proposal. In this case there are no Commission modifications or additions to the applicant's proposal.

51. To determine whether the proposed project is currently economically beneficial, the project's cost is subtracted from the value of the project's power. Madison's proposal would produce about 91,132 MWh of energy annually at a cost of about \$53 per MWh, or about \$4,837,000 per year. The staff determined the annual value of project power would be \$7,290,000 or \$80 per MWh.²⁸ Thus, Madison's power would cost about \$2,453,000 or \$27 per MWh less than the likely alternative cost of power.

52. Based on an independent review and evaluation of the Abenaki Project as proposed by Madison (including all items listed in paragraph 25) and the no-action alternative, as documented in the EA, I have selected the Abenaki Project as proposed by Madison as preferred alternative. Paragraph 25 identifies the water quality conditions and license articles that incorporate conditions for the project as proposed, consistent with the Settlement Agreement.

53. I select this alternative because: (1) issuance of a new license would provide a beneficial, dependable, and inexpensive source of electric energy; (2) the 19.917 MW of electric power from a renewable resource would offset the use of fossil-fueled, steam-electric generating plants, thereby conserving non-renewable resources and reducing atmospheric pollution; and (3) the proposed environmental measures would protect or enhance water quality, fishery resources, terrestrial resources, and land uses; improve public use of recreation facilities and access; and protect historic properties within the area affected by project operations.

54. For the reasons discussed in the EA and in this order, the Abenaki Project, as licensed herein, will be best adapted to the comprehensive development of the Kennebec River for beneficial public uses.

LICENSE TERM

55. Pursuant to Section 15(e) of the FPA,²⁹ relicense terms shall not be less than 30 years nor more than 50 years from the date on which the license is issued. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental protection, mitigation,

²⁸Staff used Madison's current cost of \$80 per MWh to purchase electric power as the value for the energy generated by the project (Madison Paper Industries, Application for New License for Major Waterpower Project Existing Dam, Abenaki Project, April 2002.)

²⁹16 U.S.C. § 808(e).

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and enhancement measures; 40-year terms for projects with a moderate amount thereof; and 50-year terms for projects with an extensive amount thereof.³⁰

56. Section 2.6 of the Settlement Agreement recommends a 50-year license term. This represents the stakeholders' recognition of extensive measures incorporated in the Settlement Agreement. Because the new license for this project requires an extensive amount of environmental measures, we will issue the new license for a 50-year term. A 50-year term would also facilitate the Commission's coordinated treatment, in any subsequent relicensing proceedings, of the Abenaki and the upstream Anson Projects on the Kennebec River. Therefore, this license will expire on April 30, 2054.

SUMMARY OF FINDINGS

57. The EA for the Abenaki Project contains background information, analysis of effects, support for related license articles, and the basis for a finding that licensing the project would not constitute a major federal action significantly affecting the human environment. The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license.

58. Based on the review and evaluation of the project, as proposed by the applicant, I conclude that the continued operation and maintenance of the project in the manner required by the license, would protect and enhance fish and wildlife, water quality, recreational, and aesthetic resources and protect historic properties. The electricity generated from this renewable water power resource would be beneficial because it would continue to offset the use of fossil-fueled generating stations, thereby conserving non-renewable resources and reducing atmospheric pollution.

The Director Orders:

(A) This license is issued to Madison Paper Industries, Inc. (licensee) to operate and maintain the Abenaki Hydroelectric Project, for a period of 50 years, effective May 1, 2004. 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.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G included in the application for new license, filed on April 26, 2002.

³⁰See *Consumers Power Company*, 68 FERC ¶ 61,077 at pp. 61,383-84 (1994).

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Exhibit G-	FERC Drawing No. 2364-	Showing
2	1010	Proposed Project Boundary Map

(2) Project works consisting of:

(a) a 784-foot-long, 25-foot-high, concrete gravity overflow dam with a permanent crest elevation of 219.65 feet msl and equipped with 3-foot-high timber flashboards providing a normal headpond elevation of 222.65 feet; (b) a 32-acre reservoir with a gross storage capacity of about 520-acre-feet; (c) a 200-foot-long, concrete gravity headgate structure equipped with 16 timber slide gates; (d) an 830-foot-long by 160-foot-wide forebay with a trashrack-equipped intake; (e) a powerhouse located in a 190-foot by 125-foot portion of a non-project pulp mill building, and containing six double American and one GSA turbine-generators having a total nameplate rating of 16.977 MW and a total maximum hydraulic capacity of 4,980 cfs; (f) a 1,950-foot-long bypassed reach of the Kennebec River; (g) a 3,400-foot-long, 13.8-kilovolt (kV) transmission line; (h) appurtenant facilities; and the following modifications and additions:

(i) recapping the existing dam with concrete; (j) replacing the existing wooden flashboards with an inflatable crest control system; (k) adding a new 2.94-MW turbine-generator to be located in a currently unused turbine bay of the existing powerhouse; and (l) appurtenant facilities.

The following parts of Exhibit A and the following Exhibit F drawings conform to the Commission's rules and regulations and are to be approved and made a part of the license:

Exhibit A:

Sections 1.0, 2.0, 3.0, 4.0, 5.0 and table A.1.

Exhibit F:

Exhibit F-	FERC Drawing No. 2364-	Showing
1	1001	Site Plan
2	1002	Proposed Site Plan with Inflatable Flashboard
3	1003	Proposed Dam Sections
4	1004	Proposed Dam Sections

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Exhibit F-	FERC Drawing No. 2364-	Showing
5	1005	Existing and Proposed Spillway Downstream Elevation
6	1006	Existing and Proposed Spillway Downstream Elevation
7	1007	Existing and Proposed Spillway Downstream Elevation
8	1008	Powerhouse Elevation and Section
9	1009	Powerhouse Plan

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

(C) The Exhibits A, F, and G as designated in ordering paragraph (B) above, are approved and made part of this license.

(1) Exhibit G-2 (FERC Drawing No. 2364-1010) shows proposed changes to the project boundary approved by this order. Within 90 days of the effective date of this license, the licensee shall file for Commission approval revised Exhibit G drawings showing the approved boundary. In addition, the licensee shall make any boundary modifications and revisions to Exhibit G required to include the 3,400-foot-long, 13.8 kV project transmission line within the project boundary.

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

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

LICENSE ARTICLES AND CONDITIONS

Article 201. The license shall pay the United States an annual charge, effective May 1, 2004, 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

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from time to time. The authorized existing installed capacity for that purpose is 16,977 kilowatts.

In addition to the above charge, the license shall pay a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized proposed additional capacity for that purpose is 2,940 kilowatts.

Article 202. 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 license 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 license shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The license shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The license 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 license'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. Within 45 days of the effective date of the license, the license shall file three complete original sets of aperture cards of all the approved drawings. The sets must be reproduced on silver or gelatin 35 mm 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 (2364-1001 through 2364-1010) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must 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 complete original sets of aperture cards must be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third complete set of aperture cards shall be filed with the Commission's New York Regional Office.

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Article 204. If the licensee's project was directly benefitted 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. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-MW turbine generator unit, 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 assure construction is performed in a safe and environmentally sound manner. Construction may not commence until authorized by the Regional Engineer.

Article 302. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-MW turbine generator unit, the licensee shall submit one copy to the 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.

Article 303. Before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-megawatt turbine generator unit, 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 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 304. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-megawatt turbine generator unit, the licensee shall submit one copy to the 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, any 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

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of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 305. Within 90 days after finishing construction, the licensee shall submit, for Commission approval, eight copies of the revised exhibits A, F, and G describing the project as built. The licensee shall submit six copies to the Commission, one copy to the Regional Engineer, and one to the Director, Office of Energy Projects.

Article 401. The run-of-river operation required by Condition No. 2.A of Appendix A and the minimum flow below the project as required by Condition No. 2.B of Appendix A may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods of time upon mutual agreement between the licensee and the Maine Department of Inland Fish and Wildlife, the U.S. Fish and Wildlife Service, the Maine Atlantic Salmon Commission, Maine Department of Environmental Protection and the Maine Department of Marine Resources. If the run-of-river operation or minimum flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. The licensee shall release minimum flows into the Abenaki bypassed reach, beginning on January 1, 2007, according to the schedule given below, to provide protection for water quality and aesthetic resources, aquatic habitat, production of invertebrate forage for fish, and a seasonal fishery in the bypass. Dam leakage and any fish passage transport or attraction flows may constitute part of the required minimum flows.

Minimum Flow Schedule

<u>Month</u>	<u>Flow (cfs)</u>
January	100
February	100
March	100
April	100
May	200
June	300
July	300
August	300
September	300
October	200
November	100
December	100

The above flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for brief periods of time upon agreement among the licensee and the Maine Department of Inland Fish and Wildlife, the Maine Atlantic Salmon Commission, the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection and the Maine Department of Marine

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Resources. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. The licensee shall file, for Commission approval, the flow and water level monitoring plan required by Condition No. 2.E of Appendix A. The plan and schedule for installing, operating and maintaining streamflow monitoring equipment shall be as necessary to monitor and record streamflows and water levels required by Condition Nos. 2.A and 2.B of Appendix A. The flow and water level monitoring plan shall include, at a minimum, methods for collecting and recording data, a schedule for installing monitoring equipment and a provision for providing recorded data to the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, and Maine Department of Environmental Protection.

The licensee shall include in the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the entities, and specific descriptions of how the entities' comments were accommodated in the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan for 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. The licensee shall not implement the plan 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 to the plan required by the Commission.

Article 404. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior pursuant to Section 18 of the Federal Power Act.

Article 405. The licensee shall design, install, operate and maintain passage facilities to provide efficient upstream and downstream passage for American eel and Atlantic salmon past the project. The designs for the interim downstream fishway for American eel and upstream fishways for American eel and Atlantic salmon shall conform to the preliminary layout presented in "Fish Passage and Protection Alternatives Assessment and Plan", prepared for Madison Paper Industries, Madison, Maine by Kleinschmidt, Pittsfield, October, 2001 unless the licensee and consulting agencies concur that alternative design layouts are appropriate.

(A) Within six months of the effective date of this license, the licensee shall file, for Commission approval, final plans and implementation schedules to install, operate, and maintain upstream and interim downstream passage facilities for American eel as provided for in Condition Nos. 3.A and 3.B of Appendix A. Within two years of the effective date of this license, upstream and interim downstream passage facilities for American eel shall be installed and operational at the project.

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(B) Not less than 90 days before the start of construction of permanent downstream passage facilities for American eel at the project, as provided for in Condition Nos. 3.A and 3.B of Appendix A, the licensee shall file, for Commission approval, a preliminary fishway design and a final plan and implementation schedule to install, operate, and maintain such facilities.

(C) Within six months of being given written notice by the Maine Atlantic Salmon Commission and the U.S. Fish and Wildlife Service, that sustained annual stocking of Atlantic salmon above the project has begun or shall begin within two years, the licensee shall file, for Commission approval, a preliminary fishway design and a final plan and implementation schedule to install, operate, and maintain interim downstream passage facilities for Atlantic salmon. The licensee shall consult with the two agencies annually to determine the schedule for such sustained annual stocking. The design of the facility may be integrated with the interim downstream passage facilities for American eel.

(D) Not less than 90 days before the start of construction of upstream and permanent downstream passage facilities for Atlantic salmon at the project, as provided for in Condition Nos. 4.A and 4.B of Appendix A, the licensee shall file, for Commission approval, final plans and implementation schedules to install, operate, and maintain such facilities. The licensee shall also file a preliminary fishway design for the permanent downstream passage facility.

(E) The licensee shall install and operate the upstream passage facility for Atlantic salmon, as provided in Condition Nos. 4.B of Appendix A, within two years following written certification by the U.S. Fish and Wildlife Service and the Maine Atlantic Salmon Commission that 226 returning Kennebec River Atlantic salmon [from the Lockwood Project (FERC No. 2574) fishlift or other lower Kennebec River trap and truck facility or fishway] have been released into the Kennebec River watershed above the Weston dam (FERC No. 2325) in any single season.

(F) The licensee shall consult annually with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service whenever interim downstream passage facilities for American eel and Atlantic salmon are operational at the project and shall make reasonable changes to interim downstream operations or design as mutually agreed to with the consulting agencies and approved by the Commission.

(G) The licensee shall prepare the plans and schedules for installing, operating, and maintaining passage facilities for American eel and Atlantic salmon and post-installation changes in operations or designs in such facilities in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service for review prior to filing with the Commission for approval. The licensee shall include with each plan documentation of consultation on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments were addressed in the plan. The licensee

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shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission for approval. 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. The licensee shall not implement a plan 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 to the plan required by the Commission.

Article 406. The licensee shall conduct testing of the effectiveness of interim and permanent upstream and downstream fish passage facilities following their construction, in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service as described below. The purpose of the effectiveness testing is to determine the efficiency of both interim and permanent fish passage facilities to allow movement of Atlantic salmon and American eel past the project. Efficiency targets are 80 percent for interim facilities and 90 percent for permanent facilities, subject to confirmation through testing that the targets are reasonably achievable and scientifically valid for the species being tested. The efficiency targets may be revised following consultation and agreement among the licensee and the consulting agencies. Any such change shall be included in the licensee's annual report to the Commission under Article 407 below.

(A) Interim downstream passage facilities. The licensee shall conduct radio telemetry studies, or other comparable studies agreeable to the licensee and the consulted agencies, and approved by the Commission [see 406 C below], of the efficiency of interim downstream passage facilities for both American eel and Atlantic salmon for up to three years following the commencement of operation of those facilities for the respective species. For American eel, these studies are expected to take place in 2007, 2008, and 2009. For Atlantic salmon, the studies shall take place when the U.S. Fish and Wildlife Service and the Maine Atlantic Salmon Commission determine, after consultation with the licensee, that a sufficient number of appropriate salmon smolt are available for testing. The results of such studies shall be reviewed annually by the licensee and the consulted agencies, and study protocols and methodologies in any subsequent years adjusted as appropriate.

If the results of the efficiency studies indicate that a passage efficiency of 80 percent has been achieved for each species, the licensee shall maintain and operate the interim facility as built and have no further obligations for downstream American eel or Atlantic salmon passage until permanent facilities are installed after 2020. If efficiency is determined to be less than 80 percent for either species, the licensee shall work with the consulted agencies to develop a plan to modify the facilities or project operations. The plan shall be implemented after approval by the agencies, and the licensee shall then conduct additional studies, to be approved by the agencies, for up to three more years, using radio telemetry or other comparable studies, to assess downstream passage efficiency for both species. For American eel, the additional studies are expected to take

place in 2010, 2011, and 2012. For Atlantic salmon, the studies would occur in the three years following the first three-year study period.

If efficiency is again determined to be less than 80 percent for either species, the licensee shall again work with agencies to determine a plan to modify downstream passage facilities or project operations. The plan shall be implemented after approval by the consulted agencies and the Commission [see 406 (C) below]. The licensee may elect to conduct further studies of the efficiency of the facilities, in consultation with agencies. If further studies of efficiency for eel passage are not pursued, the licensee shall contribute funding in the amount of \$12,500 annually for the Abenaki Project to an Eel Research and Enhancement Fund, continuing at the same annual rate (i.e., without application of any escalation rate) in subsequent years until permanent downstream passage facilities for American eel are installed. The fund shall be administered by a Committee composed of the Maine Department of Marine Resources, the U.S. Fish and Wildlife Service and the licensee.

Prior to making any deposits to the fund, the licensee shall convene a meeting of the other members of the Committee to establish by-laws and other operational procedures to govern the activities of the Committee. The operating procedures shall include a provision that decisions by the Committee regarding releases of monies from the fund shall be by consensus, and in the event that the Committee cannot reach consensus within a reasonable period of time, then a decision regarding release of monies from the fund shall be deemed to have been made by the Committee when a two-thirds vote has been achieved. The operating procedures shall also establish the frequency of meetings and the responsibility for chairing the meetings. Meeting notices and minutes shall be provided by the licensee and annual reports shall be filed with the Commission and the Maine Department of Environmental Protection by the licensee.

(B) Permanent passage facilities. The licensee shall conduct post-construction studies of any permanent upstream and downstream fish passage facilities to monitor the facilities' effectiveness in achieving a target of 90 percent efficiency in the movement of American eel and Atlantic salmon through the facilities. At least six months prior to the completion of construction of any permanent upstream and downstream fish passage facilities after the project, and after consultation with and approval of the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service and approval by the Commission [see 406 (C) below].

(C) Study plans. The licensee shall prepare the plans in 406 (A) and (B) in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The licensee shall include with each plan documentation of consultation on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments were addressed in the plan and schedule. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission for approval. 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. The licensee shall not implement a plan 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 to the plan required by the Commission. If the results of monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 407. The licensee shall convene annual consultation meetings of the Maine Atlantic Salmon Commission, the U. S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, Trout Unlimited, and the Maine Council of the Atlantic Salmon Federation during the term of license to review the status of fish passage activities at the project, unless all potential meeting participants agree that a meeting is not needed. The licensee shall file a brief report with the Commission and the Maine Department of Environmental Protection after each annual meeting, with copies to all parties of the Settlement agreement filed on January 30, 2002, and corrected by an Addendum of Settlement filed on July 16, 2002.

The purpose of the meetings shall be to provide an opportunity for the introduction and discussion of agenda items such as the status of construction and testing of interim and permanent fish passage facilities, the review of effectiveness testing results and testing methodologies, the status of Atlantic salmon restoration activities, the status of various funding programs sponsored by the licensee, and any research or fish passage design developments that may affect future plans. The meetings shall also provide for regular communication among all parties so that they are aware of any future activities requiring their time and input.

Article 408. Within 15 days from making a deposit into the account entitled the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund," as required by Condition No. 5.A of Appendix A, the licensee shall notify the Commission, in writing, that it has deposited money into the fund.

Article 409. If construction of Atlantic salmon hatching facilities is not substantially underway by 2010 (or by a date that is six years after the effective date of this license, whichever is later) the \$50,000 in escrow, plus any annual funding placed in the escrow account and any accrued interest to the Atlantic salmon stocking account, required by Condition Nos. 6.A and 6.B of Appendix A, shall be deposited to the Atlantic Salmon and Aquatic Riverine Habitat Account (see Condition No. 5 of Appendix A and article 408). The remaining annual funding (for the years 2010 through 2018, or later in accordance with this paragraph) shall also be deposited in the Atlantic Salmon and Aquatic Riverine Habitat Account. If any of the funding provided by the licensee under this provision, and any accrued interest, is unexpended at the end of the

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term of the license, or at such time that the Atlantic salmon restoration effort is no longer active, such funds and accrued interest shall be returned to the licensee.

Funding for Atlantic salmon stocking provides a project-specific measure consistent with the restoration goals for Atlantic salmon, because about 75 percent of the Atlantic salmon habitat in the Kennebec River Basin lies upstream of the Abenaki Project and is currently unavailable due to the lack of adequate permanent fish passage at the project.

Article 410. Within one year of the implementation of minimum bypass flows, the licensee shall consult with the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife and shall evaluate the resident riverine fish species passage capability at the lower log sluice area in the Abenaki bypass for movement into and out of the bypass reach at the proposed minimum bypass flows. The licensee shall make modifications to the concrete plug in the ledge channel beside the old log sluice in order to accommodate such passage if deemed necessary by the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife. If such modifications are agreed to between the licensee and the agencies, the licensee shall file a plan to modify or remove the concrete plug for Commission approval.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife. 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 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. Upon Commission approval, the licensee shall implement the plan including any changes to the plan required by the Commission.

Article 411. The Final Shoreline Buffer Zone Management Plan (Offer of Settlement, Appendix A, filed by the licensee with the Commission on January 31, 2002, and corrected by an Addendum of Settlement filed July 16, 2002) is approved. The licensee shall complete the implementation of the plan within 18 months from the effective date of this license. Within 6 months of the effective date of this license, the licensee shall file with the Commission for approval a final plan for implementing the Final Shoreland Buffer Zone Management Plan as required by Condition No. 8 of Appendix A. The licensee shall prepare the implementation plan in consultation with the Maine State Historic Preservation Office in addition to the entities listed in Condition No. 8. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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The Commission reserves the right to require changes to the plan. No land-disturbing activities shall begin at the project 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 412. The Final Recreation Plan (Offer of Settlement, Appendix B, filed by the licensee with the Commission on January 31, 2002, and corrected by an Addendum of Settlement filed July 16, 2002) is approved. The licensee shall complete the implementation of the plan within 42 months from the effective date of this license as required by Condition No. 9 of Appendix A.

Article 413. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the State Historic Preservation Officer, for Managing Historic Properties That May Be Affected by Licenses Issuing to Madison Paper Industries for Continued Operation and Maintenance of the Anson and Abenaki Hydroelectric Power Projects on the Kennebec River in Maine" (PA) executed on September 24, 2002, including but not limited preparing and implementing a Historic Properties Management Plan (HPMP) for the project.

Within 12 months of the effective date of the license, the licensee shall file with the Commission for approval the HPMP. The HPMP shall be prepared in consultation with the Maine State Historic Preservation Officer, the Passamaquoddy Tribe, the Penobscot Indian Nation, the Aroostook Band of Micmacs, and the Houlton Band of Maliseet Indians consistent with the PA to: (1) protect known National Register eligible archeological sites and structures at the Anson Project; and (2) prevent disturbance to undiscovered sites that may be eligible for listing in the National Register during any ground-disturbing activities that may be undertaken during the term of license.

In the event that the PA is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee shall obtain Commission approval before engaging in any ground disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effect.

Article 414. Within one year of the effective date of the license, the licensee shall file for Commission approval documentation of the conveyance of the Madison owned portion of the Old Point Mission Site (Maine Archeological Site 69-2) to the Archaeological Conservancy as provided for in the Offer of Settlement filed on January 30, 2002, and corrected by an Addendum of Settlement filed on July 16, 2002. At a minimum, documentation shall include: (1) a copy of the conservation easement with the Maine Historic Preservation Commission showing all of its terms; (2) a copy of the licensee's endowment terms to the Archaeological Conservancy for monitoring and enforcement of the terms of the conservation easement; (3) an explanation by the licensee of how the amount of the endowment was determined; and (4) proof that the endowment has been paid.

Article 415. (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 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm

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drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved 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 or K 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.

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(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 shall 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 or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article shall 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 or K 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.

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

(F) This Order is final unless a request for rehearing is filed within 30 days from its effective date, 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.

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J. Mark Robinson
Director
Office of Energy Projects

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APPENDIX A

Water Quality Certification Conditions for the Abenaki Hydroelectric Project
(Filed collectively with the certification conditions for the
Anson Hydroelectric Project, Project No. 2365)
Issued February 21, 2003, by the Maine Department of Environmental Protection

1. STANDARD CONDITIONS OF APPROVAL

The approved expansion of generating capacity at the Abenaki Project is subject to the Standard Conditions of Approval for projects under the Maine Waterway Development and Conservation Act, 06-096 CMR Chapter 450.9(C), a copy attached.

2. 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 2.E. below, or upon such other schedule as established by FERC, both projects 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. The Anson impoundment may fluctuate by as much as approximately six inches below the normal pond elevation of 248.15 feet (USGS) for periods not to exceed six hours per occasion in response to emergency power system demand conditions, as declared by the New England Independent System Operator or the successor entity responsible for regional power dispatch.

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, minimum flows shall be released from the Anson and Abenaki Projects in accordance with the provisions of the January 30, 2002 "Offer of Settlement." Specifically, Licensee shall release the following minimum flows:

- From the Anson Project, a minimum flow of 1,540 cubic feet per second, as measured below the powerhouse and dam, or inflow to the project reservoir, whichever is less, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 2.E. below, or upon such other schedule as established by FERC.
- From the Abenaki Project, a minimum flow of 1,540 cubic feet per second, as measured below the powerhouse and the bypass reach, or inflow to the project reservoir, whichever is less, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 2.E. below, or upon such other schedule as established by FERC.

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- Into the Abenaki bypass reach, beginning on January 1, 2007, the following flows:

<u>Month</u>	<u>Flow (cfs)</u>
January	100
February	100
March	100
April	100
May	200
June	300
July	300
August	300
September	300
October	200
November	100
December	100

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 New Licenses for the projects 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.

3. UPSTREAM AND DOWNSTREAM EEL PASSAGE

A. Upstream eel passage facilities shall be installed and operational at both projects within 2 years following the issuance of new FERC licenses for the projects. Interim downstream eel passage shall be installed and operational within 2 years following the issuance of new FERC licenses for the projects. Permanent downstream eel passage shall be installed and operational by July 1, 2020, if effectiveness testing of the interim downstream passage facilities do not meet an efficiency goal of 90%.

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B. The applicant shall, within 6 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, submit final design and operational plans for the upstream and downstream eel passage facilities required by Part A of this condition, prepared in consultation with MDMR, MDIFW, MASC and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, DEP, USFWS and FERC prior to construction.

C. The applicant shall, in consultation with MDMR, USFWS, MDIFW and MASC, conduct a study or studies to determine the effectiveness of the upstream and downstream eel passage facilities required by this Part A of this condition.

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

E. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of the upstream and downstream eel passage study, along with any recommendations for changes in the design and/or operation of any passage facilities installed pursuant to this condition. The Department reserves the right, after notice to the applicant and opportunity for hearing, to require reasonable changes in the design and/or operation of these passage facilities as may be deemed necessary to adequately pass eels upstream and downstream through the project site. Any such changes must approved by FERC prior to implementation.

4. UPSTREAM AND DOWNSTREAM ANADROMOUS FISH PASSAGE

A. The applicant shall install and operate the following downstream anadromous fish passage facilities at the projects:

- Provide interim downstream passage facilities at the Projects for Atlantic salmon when sustained annual stocking above the Projects has begun. MPI shall conduct effectiveness testing of interim passage facilities in consultation with agencies. An efficiency of 90% or better would mean that the interim passage facilities would serve as permanent downstream passage for Atlantic salmon during the term of license.
- Provide permanent downstream passage facilities at the Projects for Atlantic salmon when permanent upstream passage for Atlantic salmon is constructed, if interim downstream passage facilities for Atlantic salmon do not meet an efficiency goal of 90%. Permanent downstream passage for Atlantic salmon would not be required prior to May 1, 2020. MPI may elect, upon consultation with agencies, to install permanent downstream passage facilities for Atlantic

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salmon concurrent with installation of permanent downstream facilities for American eel or with installation of permanent upstream passage for Atlantic salmon.

B. The applicant shall install and operate upstream passage facilities at the Projects for Atlantic salmon when 226 returning Kennebec River Atlantic salmon have been released in the Kennebec watershed above the Weston dam in a single season. Permanent upstream passage for Atlantic salmon would not be required to be operational prior to May 1, 2020. If the trigger number of 226 returning Atlantic salmon is not reached by 2020, MPI may elect to construct permanent upstream passage for Atlantic salmon or to contribute funding, in the amount of \$25,000 per Project annually, starting in 2020 and continuing in subsequent years of the new license term, to the Atlantic Salmon and Aquatic Riverine Habitat Restoration Fund. (See Condition 5 of this approval.) MPI would provide such funding until either: 1) permanent upstream passage facilities are built; or 2) until the restoration program for Atlantic salmon on the Kennebec River is no longer active.

C. The applicant shall, at least 60 days prior to construction or upon such other schedule as established by FERC, submit final design and operational plans for the upstream and downstream anadromous fish passage facilities required by this condition, prepared in consultation with MDMR, MASC, MDIFW and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, MASC, USFWS, DEP and FERC prior to construction.

D. The applicant shall, in consultation with MDMR, MASC, MDIFW and USFWS, conduct a study or studies to determine the effectiveness of the upstream and downstream anadromous fish passage facilities required by this condition.

E. The applicant shall, concurrent with the commencement of facilities operation or upon such other schedule as established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream and downstream anadromous fish passage facilities required by this condition, prepared in consultation with MDMR, MASC, MDIFW and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, MASC, DEP, and FERC prior to implementation.

F. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of any upstream and downstream anadromous fish passage effectiveness studies, along with any recommendations for changes in the design and/or operation of any passage facilities installed pursuant to this condition. The Department reserves the right, after notice to the applicant and opportunity for hearing, to require reasonable changes in the design and/or operation of these 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.

5. RIVERINE AQUATIC HABITAT RESTORATION FUND

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A. The applicant shall establish an Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund ("Fund") of \$570,000 through four unequal deposits in accordance with the provisions of the January 30, 2002 "Offer of Settlement."

B. Under the terms of the Offer of Settlement and this certification, the Fund will be used for projects intended to 1) support Atlantic salmon habitat restoration and/or enhancement activities in the watershed above Weston Dam; 2) cover costs, associated with rearing and/or acquiring Atlantic salmon smolts (or other juvenile salmon life stages) for stocking in the watershed above Weston Dam; and 3) provide funding for interim fish passage for adult Atlantic salmon from the Lockwood Dam (or other lower Kennebec River dam facility) to spawning areas in the watershed above the Weston Dam, as identified through the Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee process described in the Offer of Settlement.

C. The Fund shall be administered by the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee" in accordance with the provisions of the Offer of Settlement, and the projects shall be implemented in accordance with a schedule to be established by that committee.

D. The applicant, with assistance from the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee", shall prepare annual reports documenting the work of this Committee. These annual reports shall be filed with FERC and the DEP Bureau of Land and Water Quality.

6. FUNDING FOR ATLANTIC SALMON STOCKING

A. The applicant shall, within three months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, provide \$50,000 per project for support of Atlantic salmon hatching facilities, in accordance with the terms of the January 30, 2002, Offer of Settlement.

B. The applicant shall, beginning within two years of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, provide \$5,000 per project per year for twelve years for support of hatching or purchasing of Atlantic salmon eggs or procurement of fry for stocking, in accordance with the terms of the January 30, 2002, Offer of Settlement.

7. WETLANDS MONITORING

A. The applicant shall, within five years of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, conduct monitoring of the wetlands surrounding the Anson impoundment as described in the January 30, 2002, Offer of Settlement.

B. A plan for this monitoring shall be developed in consultation with MDIFW, USFWS, DEP and the U. S. Army Corps of Engineers. The applicant shall submit the results of the wetlands monitoring required by Part A of this condition and

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these results shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

8. SHORELAND BUFFER ZONE MANAGEMENT PLAN

A. The applicant shall, within 18 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, implement the Shoreland Buffer Zone Management Plan in accordance with the provisions of the January 30, 2002 Offer of Settlement.

B. The applicant shall, within 6 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, submit a plan for implementing the Shoreline Management Plan as required by Part A of this condition. This plan shall be developed in consultation with USFWS, MDIFW, Maine Department of Conservation (MDOC), Maine State Planning Office, Town of Anson, Town of Madison, Kennebec Valley Trails and the Appalachian Mountain Club, and shall include a schedule for implementation. This plan shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

9. RECREATIONAL ACCESS AND USE FACILITIES

The applicant shall, within 42 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, construct, improve and maintain new and existing public recreational access and use facilities as proposed in the January 30, 2002, Offer of Settlement.

The applicant shall, in accordance with the schedule established in the new FERC licenses for the projects, submit final plans for constructing, improving and maintaining the recreational access and use facilities required by Part A of this condition. These plans shall be developed in consultation with USFWS, MDIFW, MDOC, Appalachian Mountain Club, Kennebec Valley Trails, Kennebec Valley Chapter of Trout Unlimited, Town of Anson and Town of Madison. These plans shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

10. EROSION AND SEDIMENTATION CONTROL

A. In addition to any specific erosion and sedimentation control measures proposed by the applicants, Madison Paper Industries and its agents shall take all necessary measures to ensure that their activities do not result in measurable erosion or sedimentation during or after the approved expansion of the Abenaki Project.

B. Cofferdam fill placed in the waterway shall consist of clean granular material free from vegetative matter, lumps or balls of clay and other deleterious substances. That portion passing a 3-inch (No. 200) sieve shall not exceed 10 percent fines, by weight.

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C. Madison Paper Industries shall, no less than one month prior to construction mobilization, prepare and submit a detailed erosion and sedimentation control plan for the approved expansion of the Abenaki Project. This plan must be reviewed and approved by the DEP Bureau of Land and Water Quality prior to the start of construction.

11. CONCRETE CURING

With the exception of limited amounts of concrete used where necessary to seal the interface between steel cofferdams and the underlying bedrock, uncured concrete shall not be placed in direct contact with surface waters. Concrete shall be precast and cured at least three weeks before placing in the water, or where necessary, shall be placed in forms and shall cure at least one week prior to contact with surface water. No washing of tools, forms, etc. shall occur in or adjacent to the waterway.

12. DEMOLITION/EXCAVATION SPOILS DISPOSAL

All solid waste generated by the approved expansion of the Abenaki Project, including used cofferdam fill, excavated forebay sediments, excavated rock and demolition debris, shall be disposed of at suitable upland sites in accordance with the Maine Solid Waste Management Rules.

13. PERMITS FOR RECREATIONAL FACILITIES

The applicant shall obtain permits as may be required under the Natural Resources Protection Act to authorize the construction of new recreational access facilities or the improvement of existing recreational access facilities.

14. 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.

15. 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 projects in accordance with the terms of this certification.

16. EFFECTIVE DATE

This water quality certification shall be effective concurrent with the effective date of the new licenses issued for the projects by the Federal Energy Regulatory Commission.