

UNITED STATES OF AMERICA 116 FERC ¶62,159
FEDERAL ENERGY REGULATORY COMMISSION

FPL Energy Maine Hydro LLC

Project No. 2283-005

ORDER ISSUING NEW LICENSE

(August 23, 2006)

INTRODUCTION

1. On December 10, 1991, Central Maine Power Company (Central Maine) filed an application for a new license, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ for the continued operation and maintenance of the existing 31.54-megawatt (MW)² Gulf Island-Deer Rips Hydroelectric Project No. 2283, located on the Androscoggin River in Androscoggin County, Maine.³ The project does not occupy any federal lands. On December 28, 1998, Commission staff approved the transfer of the original license for this project from Central Maine to FPL Energy Maine Hydro LLC (FPL Energy),⁴ and FPL Energy assumed Central Maine's application for the new license.⁵ For the reasons discussed below, I am issuing a new 30-year license for the project.

¹16 U.S.C. §§ 797(e), 808 (2000).

² Although the application specified the project's capacity as 31.12 MW, FPL Energy Maine Hydro LLC, on May 16, 2003, filed a revised Exhibit A correcting the capacity reference.

³ The Androscoggin River was declared a navigable water of the United States by the Federal Power Commission. *See New Hampshire Water Resources Board*, 20 FPC 99 (1958). Since the project is located on a navigable waterway of the United States, the project is required to be licensed pursuant to Section 23(b)(1) of the FPA, 16 U.S.C. § 817(1).

⁴ *Central Maine Power Company, et al.*, 85 FERC ¶ 62,208 (1998).

⁵ This order will refer to the applicant as Central Maine or FPL Energy as appropriate in the context.

BACKGROUND

2. The Commission issued the original license for the project to Central Maine on July 5, 1962.⁶ The original license was backdated to July 1, 1958 and expired on December 31, 1993. Since then, the project has been operated under annual licenses.⁷

3. Notice of the application was issued on November 17, 1992. Timely motions to intervene were filed by the U.S. Department of the Interior (Interior); the Maine State Planning Office (Maine Planning Office); the U.S. Environmental Protection Agency, Region 1 (EPA); the Conservation Law Foundation, American Rivers, the Appalachian Mountain Club, and the Maine Audubon Society (Conservation Coalition); and Trout Unlimited, Trout Unlimited - Maine Council, the Atlantic Salmon Federation, and the Atlantic Salmon Federation - Maine Council (Trout Unlimited). On April 22, 1994, Topsham Hydro Partners (Topsham Hydro) filed a motion for late intervention; this motion was granted on September 2, 1994.

4. On October 28, 1993, the Commission issued public notice that the application was ready for environmental analysis and solicited comments, recommendations, terms and conditions, and prescriptions. Responses were received from Interior, Maine Planning Office, EPA, Conservation Coalition, Trout Unlimited, and, jointly, Androscoggin Land Trust, Androscoggin Valley Council of Governments, City of Auburn, and City of Lewiston (Androscoggin Land Trust).

5. Commission staff issued a draft Environmental Impact Statement (EIS) for the Lower Androscoggin River Basin, including the Gulf Island-Deer Rips Project, on December 8, 1995, and a final EIS on August 2, 1996.⁸ Staff considered all of the comments filed on the draft EIS in preparing the final EIS. Comments on the final EIS were filed by Conservation Coalition. References to the EIS in this order are to the final EIS unless otherwise specified.

⁶ *Central Maine Power Company*, 28 FPC 64 (1962).

⁷ *See* Section 15(a)(1) of the FPA, 16 U.S.C. §808(a)(1).

⁸ The draft and final EIS analyzed the environmental effects of issuing a new license for the Gulf Island-Deer Rips Project and an original license for the 1.31-MW Marcal Project No. 11482, located on the Little Androscoggin River, a tributary of the Androscoggin River. A license for the Marcal Project was issued on July 17, 1997. *Ridgewood Maine Hydro Partners, L.P.*, 80 FERC ¶ 62,038 (1997).

6. The motions to intervene, comments, and recommendations have been fully considered in determining whether, and under what circumstances, to issue this license.

PROJECT DESCRIPTION

7. The Gulf Island-Deer Rips Project consists essentially of two developments. The uppermost development, Gulf Island, includes the 2,488-foot-long Gulf Island dam, a 2,862-acre impoundment (Gulf Island Pond), and a powerhouse equipped with three turbine/generator units having a total authorized installed capacity of 20,900 kilowatts (kW). Gulf Island Dam has a maximum height of 92 feet and contains a 340-foot-long gated section. Gulf Island Pond, which extends 14.7 miles upstream of Gulf Island Dam, has a normal pool elevation of 262.0 feet National Geodetic Vertical Datum (NGVD) and a usable storage capacity of 10,300 acre-feet (AF).

8. The lower development, Deer Rips-Androscoggin No. 3, includes the 933-foot-long Deer Rips Dam, a 130-acre impoundment, and two powerhouses. The dam contains a headworks section of the Deer Rips powerhouse, located on the west side of the river and equipped with seven turbine/generator units having a total authorized installed capacity of 7,038 kW. A forebay located on the east bank of the river leads to a headworks section of the Androscoggin No. 3 powerhouse, which is equipped with one turbine/generator unit having an authorized installed capacity of 3,600 kW. The Deer Rips Dam has a maximum height of 50 feet, and the impoundment extends about 1.3 miles upstream to the Gulf Island development. Deer Rips and Androscoggin No. 3 are sometimes considered separate developments.

9. The entire project, including the impoundments and upstream flowage easements, extends approximately 19.5 miles along the Androscoggin River from river mile 53.2 to river mile 33.7. The project has an authorized installed capacity of 31.54 MW and an average annual generation of about 185.8 gigawatthours (GWh). A more detailed description of the project is set forth in ordering paragraph (B)(2), and in the EIS.⁹

10. Upstream storage reservoirs are used to regulate river flow in the Androscoggin River. During the summer months, river flow is released at a uniform rate from the Errol Dam Project No. 3133, located about 115 miles upstream of the Gulf Island-Deer Rips Project.¹⁰

⁹ EIS at pp. 2-1 through 7.

¹⁰ In accordance with a 1909 original operating agreement and the current Androscoggin River Headwater Benefits Agreement, the Union Water Power Company,
(continued)

11. The Gulf Island development is an intermittent peaking facility. This mode of operation causes fluctuation of the Gulf Island impoundment and fluctuations in river flow below the project. When inflows to the Gulf Island impoundment are below the hydraulic capacity of the Gulf Island development, the development operates in its normal peaking mode, in which water is stored and released to maximize energy generation during daily peak electrical loads. Peaking operation consists of generating during the weekday morning and evening peak periods when the industrial and residential demand is highest. This operation requires that the Gulf Island impoundment be drawn down during the peaking operation. On a weekly basis, the impoundment is generally drawn down by two to four feet below the full pond level. The extent and duration of the drawdown are dependent upon inflow.

12. The Deer Rips-Androscoggin No. 3 development operates as a run-of-river facility in that it uses inflows from the Gulf Island development. Consequently, the two powerhouses of this development generate on approximately the same schedule as the Gulf Island development.

13. The original license for the Gulf Island-Deer Rips Project did not include a minimum flow requirement. However, the license for FPL Energy's Lewiston Falls Project No. 2302, the next hydroelectric facility downstream, has a requirement that its licensee pass 1,000 cubic feet per second (cfs) as an interim minimum flow, which Central Maine and FPL Energy have voluntarily released from the Gulf Island development. Thus, discharge from the Gulf Island-Deer Rips Project is reduced to 1,000 cfs during the daily off-peak hours and on the weekends when the Gulf Island impoundment is being refilled.

14. Because the Gulf Island-Deer Rips Project releases flows on a variable daily discharge schedule, the project affects the operation of several downstream hydroelectric projects through the reregulation of river flow. The hydropower projects downstream from the Gulf Island-Deer Rips Project operate as run-of-river facilities, using the peaking flows released from the Gulf Island-Deer Rips Project. These projects, proceeding downstream from Gulf Island-Deer Rips, are the Lewiston Falls Project, the

which controlled the system of headwater storage reservoirs, was to maintain a target flow during the summer months of between 1,550 cubic feet per second (cfs) and 2,500 cfs, storage permitting, at Berlin, New Hampshire. The Headwater Benefits Agreement was approved by Commission staff in 1992. *Androscoggin Reservoir Company, et al.*, 59 FERC ¶ 62,372 (1992). In 1999, Union Water Company transferred the storage projects to FPL Energy, which operates them in accordance with the agreement.

Upper Androscoggin Project No. 11006, the Worumbo Project No. 3428, the Pejepscot Project No. 4784, and the Brunswick Project No. 2284.

15. In its license application, Central Maine proposed to increase the project's generating capacity by replacing two turbine runners and rewinding a generator at the Gulf Island development. With the expansion, the proposed project would have had an installed capacity of 35.42 MW and an average annual generation of about 207.17 GWh.¹¹ However, by letter of November 4, 2005, FPL Energy clarified to the Commission that it was withdrawing that proposal, which would have required a permit from the Maine Department of Environmental Protection (Maine DEP) under the Maine Waterways Development and Conservation Act due to the increase in the maximum hydraulic capacity of the Gulf Island development. Consequently, the relicensing proposal now contemplates no increase in the hydraulic capacity, installed capacity, or annual generation.

16. The license application proposed several changes in the project's operation to address environmental effects. To mitigate the effects of operating the project as a peaking facility, Central Maine proposed to limit water level fluctuations in the Gulf Island impoundment to no greater than one foot from May 1 through June 15 and four feet from June 16 through April 30, to provide a continuous minimum flow of 1,100 cfs or inflow, whichever is less, below the project, and to restrict downramping at the Deer Rips-Androscoggin No. 3 development.¹² Central Maine also proposed to develop a conservation and trail plan for certain Central Maine-owned lands around the project, to implement numerous recreation-related improvements, and to implement provisions of a Programmatic Agreement (PA).

17. In addition, the application proposed to continue the licensee's participation in a partnership with Boise Cascade, Inc. (now Rumford Paper Company), International Paper Company, and James River Paper Company (now Fraser Paper). This partnership was

¹¹ Replacement of the turbine runners would have increased the maximum hydraulic capacity of the Gulf Island development from 6,450 cfs to 6,610 cfs, and the generator rewind would have increased the installed capacity of the development from 20.9 MW to 25.20 MW. The average annual generation of the Gulf Island development would have increased to 148.78 GWh, and the average annual generation at the Deer Rips-Androscoggin No. 3 development would have increased to 58.39 GWh.

¹² The application proposed to reduce flows from full generation (5,120 cfs) to 1,100 cfs no faster than linearly over 20 minutes. This would appear to mean that flows would be reduced at a constant rate.

formed to address the negative effects on dissolved oxygen in the river of discharges from these paper companies' facilities upstream of the project and the exacerbation of this condition by the Gulf Island Dam through its impoundment of a substantial stretch of the river. Since 1992, Central Maine (and later FPL Energy) and the paper companies have maintained a facility, the Gulf Island Pond Oxygenation Project (GIPOP), at Upper Narrows, about five miles upstream of Gulf Island Dam, for injecting oxygen into Gulf Island Pond to improve dissolved oxygen levels. Licensee participation in this partnership and in the operation of the oxygenation facility was not a condition of the original license.

WATER QUALITY CERTIFICATION

18. Under section 401(a)(1) of the Clean Water Act (CWA),¹³ any applicant for a federal license to conduct any activity that may result in a discharge into United States waters must obtain a certification from the state in which the discharge would originate, unless the state water quality certifying agency waives certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. No license may be granted unless the certification has been obtained or waived. Section 401(d) of the CWA¹⁴ provides that the certification shall become a condition of any federal license that authorizes such a discharge.

19. Central Maine initially requested water quality certification for this project on November 27, 1991. Central Maine, and later FPL Energy, subsequently withdrew and refiled the request for certification each year before the expiration of the one-year period in which Maine DEP would have had to issue the certification or have it be deemed waived. On September 21, 2005, Maine DEP finally issued the certification, containing the conditions summarized here.¹⁵

¹³ 33 U.S.C. § 1341(a)(1).

¹⁴ 33 U.S.C. § 1341(d).

¹⁵ The delay in issuance of water quality certification occurred because the impoundment created by Gulf Island Dam did not meet applicable Class C dissolved oxygen standards, due in part to thermal stratification caused by the dam. Maine DEP's attempts to address this situation so that it could issue certification included instituting a rulemaking to clarify compliance with dissolved oxygen standards in stratified riverine impoundments, pursuit of state legislation to amend dissolved oxygen standards as they applied to riverine impoundments after the Maine Department of Attorney General determined that Maine DEP did not have authority to adopt a key provision of the rule,

(continued)

20. Condition 1 of the certification provides that the licensee shall maintain water levels in Gulf Island Pond within one foot of full pond level from May 1 through June 30 and within four feet of full pond from July 1 through April 30. It also requires the licensee to maintain the Deer Rips impoundment within one foot of full pond under run-of-river operations at all times. Condition 2 requires an instantaneous minimum flow of 1,430 cfs or inflow, whichever is less, to be released from the project dams at all times. Condition 3 provides that downramping of flows from the Deer Rips development from full generating flow to the required minimum flow shall be restricted to a rate no faster than linearly over 20 minutes. Condition 4 provides that the licensee shall install such fish passage facilities as may be required by Maine DEP, based on a written request from the Maine Atlantic Salmon Commission, to facilitate the restoration of Atlantic salmon and their migration past the project.

21. Condition 5.A requires the licensee to continue its partnership with the paper companies in operating the oxygen injection system at Upper Narrows. Condition 5.B requires the licensee, within 5 years of the certification, to inject up to 14,700 pounds a day of oxygen at Upper Narrows and up to 55,900 pounds a day at Lower Narrows, a site about 3 miles above Gulf Island Dam, at an oxygen transfer efficiency rate of 33 percent, or to take other measures as may be approved by Maine DEP to mitigate the impact of Gulf Island Dam on dissolved oxygen levels in Gulf Island Pond. Conditions 5.C through 5.G provide for the submission of a plan and schedule for this oxygen injection, as well as for plans, schedules, and reports on monitoring the oxygenation to ensure that the required Class C water quality standards for dissolved oxygen in Gulf Island Pond are being met.

22. Condition 6 requires the licensee to contribute, no later than June 1, 2006, \$100,000 toward the capital costs of chemical-addition equipment to remove phosphorus from the Livermore Falls municipal wastewater treatment plant effluent, or to take equivalent measures as may be approved by Maine DEP, to mitigate the impact of Gulf Island Dam on recreation use in Gulf Island Pond. Condition 7 requires the licensee to develop and maintain specified new and existing public recreational access and use facilities and facility improvements.

23. By letter of October 7, 2005, FPL Energy informed the Commission that it would appeal the water quality certification to Maine DEP and requested that the Commission

and undertaking additional water quality monitoring and analysis in preparation of a Total Maximum Daily Load (TMDL) to define waste discharge license limits and necessary certification conditions. *See* letters of Maine DEP filed June 6, 2002, September 30, 2003, and October 4, 2004.

defer issuance of the new license pending resolution of all procedural and technical issues related to the certification. Subsequently, on October 25, 2005, FPL Energy forwarded to the Commission a copy of its appeal of the certification and renewed its request for license issuance deferral. In its appeal, FPL Energy specifically requested amendment of the certification to delete the condition 2 minimum flow requirements, the condition 4 fish passage provision, the portions of condition 5 relating to oxygen injection at Lower Narrows, and the condition 6 wastewater treatment plant payment. On February 1, 2006, FPL Energy submitted further support for its request to defer license issuance, and by letter filed March 16, 2006, Maine DEP, noting that the conditions of the certification could change as a result of appeals filed by FPL Energy and other entities, requested that the Commission delay taking action on the application.

24. On April 12, 2006, FPL Energy forwarded to the Commission a March 30, 2006 order of Maine DEP's Board of Environmental Protection staying conditions 2, 5.B through G, and 6 until the Board issues a decision on FPL Energy's appeal. FPL Energy again requested that the Commission permit the certification proceedings to be resolved before acting on the license application.

25. Delays in issuing the water quality certification for this project have precluded issuance of a new license for the last decade. Although these delays were understandable, further deferral of license issuance would be unwarranted now that certification has been issued, since it would be in the public interest for the project to begin operating under conditions that address present environmental concerns. Maine DEP has not stayed the entire certification but only certain of its conditions. Therefore, the license will be issued including those certification conditions that have not been stayed. Those conditions are attached as Appendix A to this order and made requirements of this license by ordering paragraph (D). Ordering paragraph (D) also reserves the Commission's authority to revise those conditions as necessary upon Maine DEP's disposition of FPL Energy's appeal, as well as to modify the license as necessary to ensure consistency with those conditions.¹⁶

¹⁶ Condition 5.A of the certification provides that the licensee shall continue to participate in the GIPOP partnership "as described in section 4(c) of this certification." Condition 7 requires the licensee to develop, maintain, and monitor recreational facilities and facility improvements "as described in Section 8 of this order." Although the Commission generally appends only the conditions of a water quality certification to a license order, in this instance sections 4(c) and 8 of the certification text will be added to the conditions set out in Appendix A to ensure that the scope of the licensee's obligations is thoroughly identified in this license.

26. Some of the water quality certification conditions specify measures that are similar to ones proposed in the application or recommended by Commission staff, while other conditions introduce measures that were not previously contemplated. Since the certification was issued after issuance of the final EIS, this order contains additional analysis as warranted to address the certification conditions. Analysis of the individual conditions will be included in appropriate sections of this order.

SECTION 18 FISHWAY PRESCRIPTION

27. Section 18 of the FPA provides that the Commission shall require a licensee, at its own expense, to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.¹⁷ In comments timely filed on December 17, 1993, Interior stated that upstream and downstream fish passage facilities were not then needed at the project and requested that the new license be conditioned to reserve authority under section 18 to require such facilities if needed in the future. Consistent with Commission practice, Article 408 reserves the Commission's authority to require the licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the FPA.

28. Water quality certification condition 4 requires the licensee to install fish passage facilities that Maine DEP may require in the future for the migration of Atlantic salmon. The Commission has not customarily reserved its authority to accommodate the future fish passage desires of state fisheries agencies, since, unlike federal fishway prescriptions, state fish passage recommendations are not mandatory. Instead, the Commission has relied on standard license article 15, which requires all licensees to construct and operate reasonable facilities that the Commission may order, based on recommendations of state fish and wildlife agencies, for the conservation and development of fish and wildlife resources. However, although FPL Energy objected to condition 4 in its appeal of the water quality certification, Maine DEP has not stayed that condition. Consequently, it will be included in the new license.

THREATENED AND ENDANGERED SPECIES

29. Section 7(a)(2) of the Endangered Species Act (ESA) of 1973¹⁸ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of

¹⁷ 16 U.S.C. § 811.

¹⁸ 16 U.S.C. § 1536(a)(2).

federally listed threatened and endangered species or result in the destruction or adverse modification of designated critical habitat.

30. In its December 17, 1993, comments, Interior stated that, except for transient bald eagles and peregrine falcons, no federally listed or proposed threatened or endangered species were known to occur in the project area. Consequently, staff concluded that no biological assessment or further consultation was necessary.¹⁹ By letter of September 7, 2005, Commission staff requested that Interior's U.S. Fish and Wildlife Service (FWS) provide an updated threatened and endangered species list for the project area and asked whether any additional section 7 consultation would be necessary. In an October 19, 2005 filing, FWS informed the Commission that the situation concerning threatened and endangered species had changed, and that federally listed threatened bald eagles now nest and forage in the project area.

31. In response to this letter, Commission staff prepared a biological assessment (BA) of the effects of continued project operation on bald eagles in the project area. In the BA, staff recommended that FPL Energy develop a threatened and endangered species protection and enhancement plan that would include an educational program to address disturbances to bald eagles from recreational activities, timing restrictions on construction activities associated with recreational facility improvements within one mile of nesting and perching sites, and a provision for periodically surveying shoreline areas around the project's impoundments. The plan would be developed in consultation with FWS. Staff also concluded that its recommendation for the development of a land use management plan would help to protect the bald eagle's nesting and foraging habitat. With these recommendations, staff concluded that the proposed action is not likely to adversely affect the bald eagle and that formal consultation was not warranted. Staff sent FWS a copy of the BA and a notification of these conclusions by letter of November 3, 2005.

32. In a response filed January 12, 2006, FWS stated that the threatened and endangered species protection and enhancement plan and the land use management plan would adequately address the effects of the project on bald eagles, that relicensing the project with these measures would not be likely to adversely affect any federally listed endangered or threatened species, including the bald eagle, and that no further consultation would be required under section 7 of the ESA. The plans referred to are

¹⁹ EIS at p. 4-112.

required by Articles 409 (Threatened and Endangered Species Protection and Enhancement Plan) and 412 (Land and Trail Management Plan) of this license.²⁰

NATIONAL HISTORIC PRESERVATION ACT

33. The National Historic Preservation Act (NHPA)²¹ requires federal agencies to manage cultural resources under their jurisdiction and authorizes the Secretary of the Interior to maintain the National Register. Section 106 of the NHPA and its implementing regulations²² require federal agencies to take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

34. To satisfy these responsibilities, the Commission executed a PA with the Maine State Historic Preservation Officer²³ and invited Central Maine and Kennebec Water Power Company to concur with the stipulations of the PA. Central Maine and Kennebec Water Power Company concurred. The PA requires the licensee to prepare and implement a Cultural Resources Management Plan (CRMP) for the term of any new license issued for this project.²⁴ Execution of the PA demonstrates the Commission's

²⁰ FWS requested that the "final draft" of the biological assessment identify: (1) the owner of the island where the eagles currently nest, along with any management plans for protecting nesting habitat, and (2) lands owned by FPL Energy within the project boundary that could provide future eagle nesting and roosting habitat. There will be no further draft of the biological assessment; rather, Article 409 will require this information to be included in the Threatened and Endangered Species Protection and Enhancement Plan.

²¹ 16 U.S.C. § 470 *et seq.*

²² 36 C.F.R. Part 800 (2004).

²³ Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Maine State Historic Preservation Officer for the Management of Historic Structures and Eligible Archaeological Sites for Ten Hydroelectric or Storage Projects in Maine.

²⁴ The Commission no longer identifies this plan as a Cultural Resources Management Plan but rather as a Historic Properties Management Plan.

compliance with section 106 of the NHPA. Article 410 requires the licensee to implement the PA.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

35. Section 10(j)(1) of the FPA²⁵ requires the Commission, when issuing a license, to include license conditions, based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,²⁶ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

36. In response to the October 28, 1993 public notice that the application was ready for environmental analysis, Interior, on behalf of FWS, filed six section 10(j) recommendations for the Gulf Island-Deer Rips Project.²⁷ Interior’s recommendation for monitoring recreational use at the project was determined to be outside the scope of section 10(j).²⁸ That recommendation will be discussed in a later section of this order. This license contains conditions consistent with Interior’s recommendations for a dissolved oxygen and aquatic invertebrate (water quality) monitoring plan (Article 403), a minimum flow and project operational monitoring plan (Article 407), and a buffer zone/shoreline protection plan (Article 412).²⁹

37. Under section 10(j)(2) of the FPA, whenever the Commission believes that any recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, the Commission must attempt to resolve those

²⁵ 16 U.S.C. § 803(j)(1).

²⁶ 16 U.S.C. § 661 *et seq.*

²⁷ No other entity filed section 10(j) recommendations. Maine Planning Office, in a letter dated December 16, 1993, stated that the decisions, terms, and conditions of Maine DEP in the section 401 water quality certification shall represent the sole position of the State of Maine regarding the Gulf Island-Deer Rips license application.

²⁸ Staff concluded that the recommendation does not provide specific measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources.

²⁹ Article 412 requires a Land and Trail Management Plan, which is broader in scope than the buffer zone/shoreline protection plan recommended by Interior.

inconsistencies with the fish and wildlife agencies, giving due weight to the agencies' recommendations, expertise, and statutory responsibilities. 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.

38. Staff made an initial determination that two of Interior's recommendations were inconsistent with the comprehensive planning standard of section 10(a) of the FPA, including the equal consideration provision of section 4(e) of the FPA. Interior recommended that the licensee "limit drawdowns in the Gulf Island and Deer Rips impoundments to no more than one foot except as may be exceeded by natural flow events and as may be required for emergencies and periodic maintenance." Interior also recommended that, from May 1 through June 30, the licensee operate the project in a run-of-river mode with fluctuations above "the project dam" (presumably Gulf Island Dam) "minimized (no more than a one-foot drawdown)," and that, from July 1 through April 30, the licensee discharge from the project an instantaneous minimum flow of 1,700 cfs or inflow, whichever is less. Staff did not support the one-foot drawdown restriction for the period July through April or the 1,700-cfs minimum flow for the period December through April.³⁰

39. By letter of December 1, 1995, staff informed Interior of its preliminary determination and attempted to resolve the apparent inconsistencies. Interior responded by letter of February 22, 1996. A meeting was held on April 8, 1996, in Lewiston, Maine, to resolve the inconsistencies, but no resolution could be reached.³¹

40. Impoundment drawdowns and flow releases are related project operations, particularly in respect to the project's flexibility to conduct peaking operations. Commission staff analyzed each recommendation separately from an environmental standpoint but considered the recommendations together in determining whether the benefits of operating the project as Interior recommended would outweigh the costs. The following discussion reflects that analysis, as well as circumstances subsequent to staff's final EIS recommendation that must be considered in determining appropriate drawdown and flow conditions for this license.

³⁰ See draft EIS at Table 5-4.

³¹ See EIS at pp. 5-55 through 62 and the section 10(j) meeting summary dated April 19, 1996, which is available for inspection in the Commission's public file for this project.

Staff's draft EIS analysis

41. As noted, Interior recommended that the licensee limit drawdowns in the Gulf Island and Deer Rips impoundments to no more than one foot, except under specified circumstances. Further, for the period May 1 through June 30, Interior recommended, in connection with its recommendation for run-of-river operations, that impoundment fluctuations be minimized, with “no more than a one-foot drawdown.”

42. In the draft EIS, staff noted that a number of fish species inhabit Gulf Island Pond, but that the impoundment is best known for its blackbass (largemouth and smallmouth bass) fishery.³² Staff found that fluctuating water levels may affect eggs and larvae of largemouth and smallmouth bass, which typically spawn in May, June, or early July. Most bass spawn at depths of two to 4.5 feet, and fluctuations of water levels by three feet or more could adversely affect reproductive success.³³ A relatively stable impoundment level would provide protection for blackbass eggs and larvae, as well as for other aquatic resources, during the spawning and early development stages of the life cycle. With the current water level management regime, which involves drawdowns of up to four feet,³⁴ much of the available spawning and nursery habitat for blackbass is dewatered during the spawning/incubation season.³⁵ Staff determined that, with the fluctuations allowed under the existing regime, habitat for largemouth and smallmouth bass is reduced 11 and 44 percent, respectively, from the level of habitat that would be available with a stable impoundment.³⁶

43. Staff concluded that Interior’s recommendation for a one-foot impoundment fluctuation limitation during May and June would provide benefits to the blackbass fishery by improving habitat suitability and access to littoral zone habitat, and that Interior’s recommendation would be preferable to Central Maine’s proposed restriction in that it would protect nursery habitat for an additional two weeks (June 16 through 30).³⁷

³² Draft EIS at 3-25 and 26.

³³ *Id.* at p. 4-23.

³⁴ *Id.* at p. 2-6.

³⁵ *Id.* at p. 4-74.

³⁶ *Id.* at p. 4-73.

³⁷ Staff also found that Interior’s fluctuation limitation for these months would enhance spawning and nursery habitat for other centrarchids as well as for aquatic

However, staff concluded that limiting drawdowns from July through April probably would not result in any significant benefits to the blackbass fishery, because blackbass are mobile and can reoccupy aquatic habitat temporarily dewatered during weekly drawdowns.³⁸

44. Interior recommended run-of-river operations for May and June and a minimum flow of 1,700 cfs from July through April. This flow regime would ensure virtually year-round flows of at least 1,700 cfs in the river below the project.³⁹

45. When the environmental analysis for this project was undertaken, Maine Department of Inland Fisheries and Wildlife (Maine DIFW) managed the lower Androscoggin River for blackbass, pickerel, and perch. It also stocked the river downstream of the project with brown trout in an effort to develop a coldwater fishery. In addition, the Maine Department of Marine Resources (Maine DMR) planned to restore shad and alewife in the river below Lewiston Falls.⁴⁰ Below the project, the most significant fish habitat in the river is located in an approximately 2,000-foot stretch between the DeerRips/Androscoggin No. 3 development and the Lewiston Falls impoundment (Deer Rips), a 0.3-mile stretch located 1.8 miles below Lewiston Falls (Dresser's Rips), and an 8.3-mile stretch below Dresser's Rips extending to the Worumbo Project impoundment (Run Reach).⁴¹ Deer Rips and Dresser's Rips contained priority habitat for brown trout.⁴²

46. In preparation for filing its new license application, Central Maine, in 1988, conducted an instream flow study that evaluated the principal fish species in each reach: smallmouth bass, brown trout, and Atlantic salmon in Deer Rips; those three species plus

invertebrates, and would enhance wetlands in and around the Gulf Island impoundment by exposing less substrate and stimulating new submergent and emergent vegetation growth. Draft EIS at pp. 4-74 and 76 and 5-34.

³⁸ *Id.* at p. 4-64 and 74.

³⁹ The 90 percent exceedence flows in May and June are 4,660 cfs and 2,560 cfs, respectively. Draft EIS at p. 3-19.

⁴⁰ Draft EIS at pp. 3-9 through 14.

⁴¹ *Id.* at pp. 3-29 and 30.

⁴² *Id.* at p. 3-30, n.9.

American shad in Dresser's Rips; and American shad in the Run Reach.⁴³ Using the results of this instream flow study, Commission staff evaluated habitat conditions for these primary fish species in respect to Interior's recommended 1,700-cfs flow, as well as flows of 1,400 cfs and 1,800 cfs.⁴⁴ Staff concluded that moderate to significant enhancements over the existing conditions would occur with the implementation of any of the three selected minimum flows.⁴⁵ Staff also concluded that Interior's recommended 1,700-cfs flow during the summer and fall periods would, with few exceptions, result in significantly improved habitat conditions in the lower Androscoggin, particularly for adult brown trout, and would generally meet the needs of improving habitat conditions for anadromous fish.⁴⁶ Interior's recommended minimum flow would also generally result in improved habitat duration compared to a lower flow of 1,400 cfs or Central Maine's proposed 1,100 cfs flow.⁴⁷ However, from December through April, habitat availability in the lower Androscoggin River with a 1,400-cfs minimum flow would not be significantly different from that with a 1,700-cfs minimum flow. In addition, staff found that the biological needs of fish are reduced in the winter and early spring.⁴⁸

47. Staff recommended that impoundment level fluctuations be restricted to one foot from May 1 through June 30 and to four feet from July 1 through April 30. It also recommended that the licensee release a minimum flow of 1,700 cfs from May 1 through November 30 and 1,400 cfs from December 1 through April 30. Staff estimated that the operational costs of these requirements would be about \$31,000 annually, about \$27,000 more than the annual costs of Central Maine's proposed operating measures.⁴⁹ Staff estimated that adopting Interior's fluctuation and flow requirements would entail an annual operating cost of \$57,000, or \$26,000 more than the cost of staff's

⁴³ *Id.* at p. 4-6.

⁴⁴ *Id.* at p. 4-64. The selection of these particular flows for analysis reflected the range of various flow recommendations of agencies and non-governmental organizations. See Table 2-3 at p. 2-36.

⁴⁵ *Id.* at p. 4-66.

⁴⁶ *Id.* at p. 4-63.

⁴⁷ *Id.* at p. 4-67.

⁴⁸ *Id.* at pp. 5-34 and 35.

⁴⁹ *Id.* at pp. 5-34 and 35.

recommendations. Staff rejected Interior's recommendations on the basis that their incremental benefits to fishery resources would not be worth those additional operating costs.⁵⁰

Attempted resolution

48. In its comments on the draft EIS, Central Maine explained that, if the impoundment drawdown were limited to one foot during May and June and the minimum flow were increased, as recommended by staff, there would not be enough storage during those months for the project to retain its New England Power Pool (NEPOOL) classification as a weekly-cycling facility.⁵¹ Central Maine asserted that a shift in classification from a weekly-cycling to a daily-cycling facility could significantly affect the revenue benefits that it derived from the project within the NEPOOL system.

49. At the section 10(j) meeting, Commission staff explained that it had reconsidered its analysis of the fluctuation issue in light of Central Maine's comments and had determined that the Gulf Island impoundment would need to fluctuate a minimum of two feet to meet the NEPOOL requirements for a weekly-cycling facility. Staff stated that the cost of reclassifying the project would be about \$200,000 annually, in addition to the lost power benefits from restricting impoundment fluctuations. Central Maine requested that staff view the one-foot impoundment restriction as a target fluctuation, with an allowance of up to two feet to meet any unusual NEPOOL power requirement, and staff agreed to do so.⁵² FWS did not revise its fluctuation restriction recommendation at the meeting. Moreover, it stated for clarification that its run-of-river recommendation for May and June was intended to permit only minor impoundment fluctuations to accommodate monitoring error or changes in natural flow conditions.⁵³

⁵⁰ *Id.* at pp. 5-38 and 55.

⁵¹ Central Maine stated that it would have to operate as a peaking facility for 10 hours a day to meet the NEPOOL requirement.

⁵² Since Central Maine had proposed a one-foot fluctuation limitation in its application, this request for a two-foot allowance represented a change in its proposal.

⁵³ Interior's year-round impoundment fluctuation recommendation and May-June run-of-river recommendation both provided for "drawdowns" of not more than a foot. Staff had inferred from this wording that Interior would permit the licensee to draw down the impoundment up to a foot through peaking operations even in May and June. Therefore, staff had stated in the draft EIS that it would adopt Interior's recommendation

50. At the section 10(j) meeting, FWS also continued to support its recommended flows as necessary to ensure that adequate flows would be present during the fish passage season and to fully protect aquatic habitat downstream from the project throughout the year. However, it stated that it would be open to changes to its flow recommendation if information became available to support an altered flow regime.⁵⁴ In an attempt to resolve the minimum flow issue, staff suggested that a reopener could be included in the license to address future flow needs for juvenile Atlantic salmon and fish passage in the lower Androscoggin River below the project. Although FWS supported such a reopener, it did not withdraw its minimum flow recommendation.

51. In the final EIS, staff confirmed that the Gulf Island impoundment would need to fluctuate a minimum of two feet at times during May and June to meet NEPOOL requirements.⁵⁵ Staff also concluded that there should be no significant environmental resource impacts with an occasional two-foot drawdown during this period.⁵⁶ Accordingly, staff recommended a target limitation of one foot on impoundment fluctuations during May and June, with an allowance of up to two feet to meet any unusual NEPOOL power requirements, and a four-foot fluctuation restriction for the remaining months. Staff also continued to recommend a minimum flow of 1,700 cfs for May through November and 1,400 cfs from December through April.⁵⁷

Post-EIS factors

52. Section 10(j)(2) provides that, if the Commission does not adopt a fish and wildlife recommendation, it must explain how the recommendation is inconsistent with

for run-of-river operations with a one-foot drawdown limitation for May and June. FWS's clarification revealed that Interior's recommendation did not permit the extent of fluctuation inferred by staff.

⁵⁴ At the meeting, FWS stated that information regarding flow needs for fish passage would be available from on-going studies within the next five years, but no such information was ever filed with the Commission, nor is it clear if these studies were completed.

⁵⁵ Final EIS at 4-26.

⁵⁶ *Id.* at pp. 5-35 and 36.

⁵⁷ The reopener provision discussed at the section 10(j) meeting was not included as part of staff's recommendations in the final EIS.

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. Discharge of these section 10(j)(2) obligations here is affected by the water quality certification, which was issued after staff published its EIS recommendations.

53. Condition 1 of the water quality certification provides that Gulf Island Pond is to be maintained within one foot of full pond level from May 1 through June 30 and within four feet of full pond level from July 1 to April 30. Condition 1 also provides that the Deer Rips impoundment is to be maintained within one foot of full pond level under run-of-river operation at all times. Condition 1 provides that these restrictions are to apply except as temporarily modified by approved maintenance activities, extreme hydrological conditions, emergency electrical system conditions, or agreement between the licensee and the appropriate state and federal agencies. This certification condition is similar to the impoundment fluctuation restriction recommended by staff, except that Maine DEP's one-foot fluctuation restriction for May and June is not a target and specifies no allowance for greater fluctuations that may be necessary during those months to meet NEPOOL requirements. Because this condition was not stayed by Maine DEP, it must be included in the license, but it does not necessarily preclude adoption of a more restrictive impoundment fluctuation condition, such as Interior proposed.

54. Condition 2 of the water quality certification requires the release of a 1,430-cfs instantaneous minimum flow at all times. This minimum flow is lower than that recommended by Interior for the whole year and by staff for May through November, and it is only slightly higher than staff's recommended flow for the rest of the year.⁵⁸ Maine DEP has stayed the minimum flow condition of the certification, which therefore will not be included in this license. Nevertheless, the license must include an appropriate minimum flow requirement.

55. In its October 7, 2005 request to defer issuance of this license, FPL Energy asserted that the minimum flow required by the water quality certification is unnecessarily high because Maine DIFW has curtailed the stocking and management of the lower Androscoggin River for brown trout. FPL Energy insisted that the application's proposed minimum flow of 1,100 cfs would fully support the fishery

⁵⁸ The 1,430-cfs certification flow (which had also been proposed by Androscoggin Land Trust) and staff's recommended 1,400-cfs flow for December through April differ by about 2 percent and would likely have similar effects on aquatic habitat in the lower Androscoggin River. EIS at p. 4-67, n. 18.

management objectives in the lower Androscoggin since there is no longer a need to optimize habitat to support a brown trout fishery.

56. In response to this contention, staff reviewed Maine's *Brown Trout Management Plan*.⁵⁹ Staff determined that, while stocking of brown trout in the Androscoggin River downstream to Lewiston has produced a viable brown trout fishery in certain sections of the river, disappointing results have caused Maine DIFW to end its brown trout management program downstream of Lewiston. As relevant to the fisheries analysis in this proceeding, only the Deer Rips reach continues to contain priority habitat for brown trout below the project; Maine DIFW no longer manages the Dresser's Rips reach for that species.⁶⁰

57. FPL Energy's comment on this changed circumstance was directed at the minimum flow condition of the water quality certification, not at staff's own minimum flow recommendation. However, because staff's recommended minimum flow is either essentially the same as or higher than that required by the certification, depending on the time of year in question, FPL Energy's argument is also relevant to staff's recommendation. Therefore, it is appropriate to revisit staff's analysis of the relationship between flows and fish habitat in the study reaches downstream of the project to determine whether the change in Maine DIFW's fishery management goals would warrant establishing lower required minimum flows.

58. Brown trout remains an important species in the Deer Rips reach. Staff found that habitat increases sharply from the lowest flows simulated (575 cfs) to the maximum weighted usable area (WUA) at 3,000 cfs. The license application's proposed flow of 1,100 cfs provides 66 percent of the maximum WUA available for juveniles and 79 percent of the maximum WUA available for adults.⁶¹ A flow of 1,400 cfs provides 77 percent of available WUA for juvenile brown trout and 88 percent for adults, while a flow of 1,700 cfs provides 88 percent for juveniles and 94 percent for adults.⁶²

⁵⁹ Boland, J.J. 2001. *Brown Trout Management Plan*. Maine Department of Inland Fisheries and Wildlife, Division of Fisheries and Hatcheries. 28 pp.

⁶⁰ The current abundance objective for brown trout is to maintain the species' current distribution in all management regions, which would include Deer Rips.

⁶¹ EIS at pp. 4-8 and 9.

⁶² *Id.* at p. 4-67.

59. The flow study also evaluated habitat duration for brown trout in the study reaches under median and extreme low flow conditions for representative months of each season.⁶³ The flow study showed that, in May, habitat duration for adult brown trout would be about the same in Deer Rips with flows of 1,100 cfs, 1,400 cfs, and 1,700 cfs under any conditions. During August, adult trout habitat duration would also be about the same for any flow release under median flow conditions, while under extreme flow conditions, flows of 1,400 cfs and, especially, 1,700 cfs would result in significant improvements in habitat duration. The flow study showed that, during October, under both conditions, adult trout habitat duration would be greater at a flow of 1,400 cfs, in comparison to a flow of 1,100 cfs, and greater still with a flow of 1,700 cfs. In January, under both conditions, a 1,400-cfs flow would significantly improve habitat duration at Deer Rips over that which would exist under a flow of 1,100 cfs, but only minimal improvements in habitat duration would occur with flows above 1,400 cfs.⁶⁴

60. The above analysis shows that, even with the cessation of brown trout stocking in Dresser's Rips, flows higher than those proposed in the application would provide benefits for the brown trout habitat in Deer Rips. Flows of 1,400 and, particularly, 1,700 cfs provide a greater percentage of the maximum available habitat for brown trout than 1,100 cfs. Under extreme low flow conditions in the summer and under median and low flow conditions in the fall, flows of 1,400 cfs and, especially, 1,700 cfs would result in significant improvements in habitat duration over a flow of 1,100 cfs, while both 1,400-cfs and 1,700-cfs flows would provide improved habitat duration in the winter.

61. Brown trout was staff's primary consideration in establishing minimum flows, but staff's analysis showed that higher flows also benefited other fish species. In Deer Rips, spawning habitat for smallmouth bass peaks at 1,430 cfs,⁶⁵ and, considering Deer Rips and Dresser's Rips in combination, total habitat for all life stages of smallmouth bass is nearly maximized at flows between 1,400 and 1,800 cfs.⁶⁶ Flows of 1,400 and 1,700 cfs

⁶³ Habitat duration was measured as a percentage of peak WUA that would be available in average flow years and extreme low flow years with the specified flow releases.

⁶⁴ EIS at pp. 4-69 through 71.

⁶⁵ *Id.* at pp. 4-7 through 9, 4-67.

⁶⁶ *Id.* at p. 4-68. However, staff did not consider habitat for smallmouth bass significant for determining minimum flows because it was not a management priority in the lower Androscoggin River below the project. *Id.* at p. 5-36.

also provide more of the maximum available habitat for all life stages of American shad in the Dresser's Rips and Run reaches than does a flow of 1,100 cfs.⁶⁷ Staff found that its recommended 1,700-cfs minimum flow from May through November would provide a moderately improved zone-of-passage for migrating shad and alewife and would also aid shad and alewife spawning and incubation.⁶⁸ Flows of 1,400 and 1,700 cfs provide more of the maximum available habitat for juvenile and adult Atlantic salmon in Deer Rips and for juvenile Atlantic salmon in Dresser's Rips than does a flow of 1,100 cfs.⁶⁹ These conclusions are not affected by Maine DIFW's changed fishery goals for brown trout.

62. Staff concluded in the EIS that the minimum flows proposed in the application would improve habitat for fish species but that additional benefits would occur at staff's higher recommended flows.⁷⁰ The changes in Maine DIFW's fishery goals since issuance of the EIS do not alter that general conclusion or support adoption of the proposed 1,100-cfs year-round minimum flow as a license requirement.

Conclusion

63. Based on its revised understanding of Interior's recommended impoundment fluctuation restriction for May and June, as clarified at the section 10(j) meeting, staff modified its estimate of the annual operating cost of Interior's operational requirements (i.e., flows and Gulf Island Pond water level fluctuations). Staff determined that Interior's requirements would result in an increase of 100 MWh of power produced at the project but would reduce the project's power benefits because 310.0 MWh of generation would be shifted from on-peak to off-peak power generation periods. Staff estimated the resulting operational costs, or decrease in the project's annual power value, at \$69,000.⁷¹ Due to the passage of time since the EIS was issued, staff has revised this cost figure to

⁶⁷ *Id.* at pp. 4-11 through 14 and 4-68. However, staff concluded that optimizing habitat for American shad was not warranted, as this would require flows in excess of 5,000 to 6,000 cfs, which would not be feasible year-round. *Id.* at p. 5-35.

⁶⁸ *Id.* at p. 5-35.

⁶⁹ *Id.* at pp. 4-8, 11, 67, and 68.

⁷⁰ *Id.* at pp. 4-6 and 5-36.

⁷¹ *Id.* at p. 5-39, and 56.

reflect current conditions. Staff now estimates that the annual operating costs of Interior's recommended conditions would be \$150,400.⁷²

64. Interior's recommended conditions entail a significant power benefit loss that staff concluded was not warranted by the aquatic benefits that they would produce. Reviewing the record, as supplemented by the water quality certification and staff's updated cost estimates, I accept staff's conclusions.

65. During the May-June spawning/incubation period, either a one-foot target drawdown restriction with occasional two-foot drawdowns, as recommended by staff, or a one-foot fluctuation restriction, as recommended by Interior, would improve blackbass habitat in Gulf Island Pond over that available under current project operation. In any event, the water quality certification's requirement for a one-foot restriction during these two months precludes adopting staff's more flexible recommendation.⁷³ During the remainder of the year, significant habitat would be present in the littoral zone even with peaking operations involving drawdowns of up to four feet. Aquatic habitat is not permanently dewatered during peaking operations but rather fluctuates in amount during the peaking cycle.⁷⁴ Since blackbass are mobile organisms, they can easily occupy and reoccupy littoral-zone habitat that has been dewatered for a few days. Further, Interior's one-foot fluctuation restriction would be likely to provide little, if any, additional benefits to wetland vegetation in the Gulf Island impoundment.⁷⁵ Therefore, I conclude that there

⁷² In the EIS, staff also estimated that Interior's recommended operational changes would result in a combined increase of 420 MWh of energy at the Gulf Island-Deer Rips Project and the projects below it on the lower Androscoggin River but would cost those projects an estimated \$62,000 annually due to a shift to off-peak generation. EIS at p. 5-23. Staff has not been able to update this cost figure due to lack of data from the licensees of the other downstream projects.

⁷³ Both Interior and the water quality certification provide for a year-round maximum fluctuation of one foot in the Deer Rips impoundment. Staff's section 10(j) inconsistency finding was not directed at Interior's recommendation for a restriction on Deer Rips impoundment fluctuations.

⁷⁴ EIS at p. 4-79.

⁷⁵ Changes in the operation of the Gulf Island-Deer Rips Project to a stable impoundment level year-round could alter the composition of the existing impoundment vegetation in such a way as to render wetlands less productive. Therefore, staff concluded that Interior's recommended operational changes have the potential to adversely affect wetlands in the Gulf Island impoundment. EIS at p. 5-40.

would be little additional benefit from imposing a one-foot fluctuation restriction during the entire year, as Interior recommends.⁷⁶

66. Interior's recommended 1,700-cfs flow during the summer and fall periods would significantly improve habitat conditions in the lower Androscoggin, particularly for adult brown trout as well as for anadromous fish, and would generally result in improved habitat duration compared to a lower flow of 1,400 cfs or the application's proposed 1,100 cfs flow. However, from December through April, habitat availability in the lower Androscoggin River with a 1,400-cfs minimum flow would not be significantly different from that with a 1,700-cfs minimum flow. In addition, the biological needs of fish are reduced in the winter and early spring. Therefore, there would be little benefit to extending Interior's recommended 1,700-cfs minimum flow requirement to the period December through April.

67. Adopting staff's recommendations, as limited by the water quality certification, would result in restricting impoundment fluctuations to one foot during May and June and four feet during the rest of the year, and requiring a 1,700-cfs minimum flow for the period May through November and a 1,400-cfs minimum flow during the remaining months. In the EIS, staff determined that the annual operational cost of its recommended impoundment fluctuation restrictions and minimum flow requirements would be about \$31,000.⁷⁷ Adjusting this figure to reflect present-day economic conditions and the stricter fluctuation restriction imposed by the certification produces a revised estimate of \$81,650 in annual operating costs. The record, as discussed above, indicates that these measures would produce most of the benefits that would result from Interior's recommended restrictions and flows while reducing the project's power benefits by much less. I agree with staff's conclusion that Interior's recommendations do not provide enough additional benefits to fishery resources, aquatic habitat, and wetlands to justify the lost power benefits.

68. For the reasons indicated above, I find, in accordance with FPA section 10(j)(2)(A), that Interior's recommendations for (1) a year-round restriction to a maximum one-foot drawdown of Gulf Island Pond, and (2) run-of-river project

⁷⁶ Although a state's determination of appropriate conditions does not relieve the Commission of its responsibility to make its own environmental findings, Maine DEP's specification of a four-foot impoundment drawdown restriction for July through April further supports the conclusion that the more stringent restriction recommended by Interior for those months is not environmentally necessary.

⁷⁷ EIS at p. 5-36.

operations in May and June and a minimum flow of 1,700 cfs for the rest of the year are inconsistent with the comprehensive planning standard of section 10(a)(1) of the FPA. In accordance with FPA section 10(j)(2)(B), I find that the requirements adopted here for (1) an impoundment drawdown limitation of one foot in May and June and four feet for the rest of the year, and (2) a 1,700-cfs minimum flow for May through November and a 1,400-cfs minimum flow for December through April will be consistent with the comprehensive planning standard, because they will sufficiently protect and enhance fisheries and their habitat in Gulf Island Pond and in reaches of the Androscoggin River below the project while minimally diminishing the efficient use of the project for the production of electric power.

69. As previously noted, staff also concluded that adopting Interior's recommendations could cause the project to violate NEPOOL requirements for a weekly cycling facility, resulting in the project's reclassification. According to Central Maine's estimate, such a reclassification would entail an additional annual cost of \$200,000, which staff calculates as equivalent to \$256,000 under current economic conditions. Staff attempted to address this problem by recommending a two-foot impoundment drawdown allowance for May and June, but condition 1 of the water quality certification requires the water level in Gulf Island Pond to be maintained within one foot of full pond level for those months, with exceptions noted earlier. FPL Energy did not appeal this condition of the certification. Because it is not clear whether the potential for project reclassification could be avoided by the adoption of staff's recommendations as limited by this certification condition, the additional cost of reclassification has not been considered in the above analysis of Interior's recommendations.

OTHER ISSUES

Scope and method of environmental analysis

70. Some parties have questioned the scope of staff's environmental analysis as well as some aspects of its methodology. Staff adequately supported its analysis in the final EIS, including in its responses to the parties' comments on these issues in Appendix E of that document. However, because Conservation Coalition reiterates some of these concerns in its comments on the final EIS and because certain developments have occurred since the issuance of the final EIS, some of these issues warrant additional discussion.

71. Staff determined that, for anadromous and resident fishery resources, wetlands and dependent wildlife resources, and hydroelectric generation and cost of energy, the geographic scope of analysis in the EIS should encompass the mainstem of the lower Androscoggin River downstream of river mile 41.1, primarily because regulation of impoundment fluctuations and streamflow at the Gulf Island-Deer Rips Project affects

those resources downstream. This reach includes not only the Gulf Island-Deer Rips Project but also the licensed projects downstream of it. For water quality, staff also considered cumulative impacts associated with some industrial discharges above river mile 41.1.⁷⁸

72. Conservation Coalition contends that staff should instead have performed a basin-wide analysis that would encompass, in particular, the effects on downstream resources of the Androscoggin River headwater reservoirs, whose operation pursuant to the Androscoggin River Headwater Benefits Agreement controls the flow of the entire river. In its response to Conservation Coalition's comments, staff explained why it was unnecessary and impractical to expand the geographic scope of the analysis and why the staff's choice of geographic scope was consistent with the Commission's National Environmental Policy Act (NEPA) obligations and Council on Environmental Quality (CEQ) regulations.⁷⁹ In most respects, staff's response need not be repeated in detail here.⁸⁰

73. Conservation Coalition asserts that, since staff did not consider the upstream flow agreements and facilities in its cumulative analysis, the analysis does not meaningfully consider the many cumulative impacts and alternative regimes possible for water flows and water quality requirements along the Androscoggin River. In the EIS, staff acknowledged the interrelated operations of the storage dams and hydropower projects along the whole river, as well as the relationship between upstream development and water quality and flow issues in the lower portion of the basin. However, as staff noted, relicensing the Gulf Island-Deer Rips Project would not alter the existing operational regime of the upstream storage reservoirs and would therefore have no incremental effect

⁷⁸ EIS at pp. 1-6 and 7.

⁷⁹ *Id.* at pp. E-87 through 90. On this issue, as on other issues raised by Conservation Coalition, the staff's response reflects the discussion in *Public Service Company of New Hampshire*, 68 FERC ¶ 61,177 (1994), *order on reh'g* 74 FERC ¶ 61,177 (1996) (*Public Service*), where the Commission disposed of these issues as raised by the Conservation Law Foundation and related parties in respect to the relicensing of seven projects on the Upper Androscoggin River in New Hampshire.

⁸⁰ Among other things, staff restated the Commission's findings in *Public Service* that section 1502.4(c) of the CEQ regulations, encouraging evaluation of "broad actions," does not mandate a basin-wide analysis, and that section 1508.18(b)(3) of those regulations, relating to the assessment of "adoption of programs," does not apply to the issuance of hydropower licenses. EIS at p. E-87.

on environmental conditions at those reservoirs. Consequently, the present proceeding would not be the appropriate place to analyze the cumulative effects related to operation of the upstream storage reservoirs.

74. Staff noted that, in an August 1994 order,⁸¹ the Commission determined that two of the headwater storage facilities, the Upper Dam on Mooselookmeguntic Lake and the Middle Dam on the Richardson Lake, were required to be licensed. The Commission directed the owner of these facilities, then Union Water Power Company, to file either an amendment to an existing license to include these facilities or an application for a separate license or licenses. Staff stated that any environmental assessment prepared for this licensing action would permit a better evaluation of the basin-wide or cumulative effects involving those reservoirs. Staff recommended inclusion of a reopener provision in the Gulf Island-Deer Rips Project license to reserve the Commission's authority to implement any measures needed to ameliorate these cumulative impacts.⁸²

75. In 1999, FPL Energy, which had acquired these storage facilities, filed an application for their licensing. After preparing a draft and final environmental assessment (EA) for the licensing action, Commission staff issued a license for the Upper and Middle Dam Storage Project No. 11834 in December 2002.⁸³ The staff's EA evaluated cumulative effects of licensing the storage facilities, including effects on downstream resources, but did not find that licensing the project would have any negative cumulative effects that needed to be addressed through license conditions. Although the license contained certain minimum flow and headpond level restrictions, no change was effected in the regulation of the reservoirs for the provision of downstream flows.

76. Staff's recommendation in the Lower Androscoggin EIS for a reservation of Commission authority to address cumulative effects anticipated that a license for the Gulf Island-Deer Rips Project would be issued before completion of the environmental analysis of licensing the storage facilities. Because that analysis has been completed, so that the license for the Gulf Island-Deer Rips Project will not have to be modified to

⁸¹ *Union Water Power Company*, 68 FERC ¶ 61,180 (1994), *reh'g denied* 73 FERC ¶ 61,296 (1995).

⁸² EIS at pp. E-88 and 89.

⁸³ *FPL Energy Maine Hydro LLC*, 101 FERC ¶ 62,179 (2002). The staff's EAs were based on an applicant-prepared EA and a settlement agreement derived from a process in which FPL Energy, federal and state resource agencies, non-governmental organizations, and the public participated.

implement actions derived from the upstream storage project analysis, there is no reason to include a reservation of authority for that purpose in this license.⁸⁴

77. Conservation Coalition and Interior contend that staff erroneously defined the baseline for assessing relicensing impacts as existing conditions instead of pre-project conditions, and that it incorrectly defined the no-action alternative as the continued operation of the projects. In its response to comments in the final EIS, staff explained its choice of baseline and the no-action alternative, which reflected Commission policy.⁸⁵ Since then, the Commission's position on the choice of a baseline and of the no-action alternative in relicensing proceedings has been upheld in *American Rivers v. FERC*, 187 F.3d 1007 (9th Cir. 1999). No further discussion of this issue is necessary here.

78. Conservation Coalition contends that staff failed to consider energy conservation as an alternative to the proposed action, as required by NEPA and the FPA. Conservation Coalition argues that alternative power sources and energy conservation could allow the licensee to modify hydropower operations to enhance non-power values without unreasonable cost to the licensee's power requirements. Staff explained that, in most situations, energy conservation measures do not displace relatively low-marginal-cost generating resources such as hydropower, because the generating resources that are displaced are those with the higher marginal costs, such as oil-, natural gas-, and coal-fueled generating resources.⁸⁶ In its comments on the final EIS, Conservation Coalition continues to dispute staff's explanation and to argue that energy conservation results in real savings to the licensee that should be taken into account in determining the costs of recommended enhancements.

⁸⁴ The Commission's policy on use of reserved authority in hydropower licenses to ameliorate cumulative effects is stated at 18 C.F.R. § 2.23 (2006). That regulation provides that the Commission will address and consider cumulative impact issues at relicensing to the fullest extent possible consistent with its responsibility to avoid undue delay and will reserve authority, to be defined as narrowly and specifically as possible, only to the extent that it is not possible to explore and address all cumulative impacts at relicensing. Thus, the policy does not contemplate reserving specific authority to address cumulative effects in all licenses.

⁸⁵ EIS at pp. E-92 and 93. This policy was fully articulated in the Commission's 1994 order in *Public Service*.

⁸⁶ EIS at pp. 2-28 and E-108.

79. In discussing the issues, staff discussed Central Maine's record with regard to energy conservation and efficiency. Since then, FPL Energy has become the licensee and relicense applicant. FPL Energy is actively involved in promoting cost-effective conservation and load management programs.⁸⁷ Staff explained in the EIS that its studies regarding economics and the need for power took projected energy conservation measures into consideration.⁸⁸ Staff's analysis, as supplemented by consideration of FPL Energy's energy conservation record, satisfies the Commission's obligations under NEPA and the FPA. There is no basis in the record to conclude that FPL Energy could take additional energy conservation measures that would be extensive enough to counterbalance the costs of further enhancement measures.

Contaminants

80. Conservation Coalition argues that, because staff did not conduct a basin-wide analysis, it did not properly address the issue of toxic contaminants, specifically dioxin and mercury, in the river system and in Gulf Island Pond. Conservation Coalition contends that the Commission has the responsibility to require hydropower operators on the river to conduct additional studies of the possible resuspension of these contaminants in the impoundment and the basin.

81. While staff acknowledged the presence of mercury and dioxin in the impoundment and river, it emphasized that these contaminants were not produced by the project but probably by paper and pulp mills located upstream. The evidence in the record did not indicate that project peaking operations resulted in any significant resuspension of dioxin or additional methylation of mercury, nor did it suggest that additional analysis might identify alternative project operations likely to reduce levels of mercury or dioxin at the project. Staff also explained that the Commission lacks the authority to require the paper companies to cooperate with the licensee in addressing the problem of these contaminants.⁸⁹ However, staff did recommend inclusion in the license of an article reserving the Commission's authority to require the licensee to conduct studies or to modify project facilities or operations to address cumulative effects relating to mercury and dioxin contamination in the impoundment or the river.

⁸⁷ See www.fpl.com.

⁸⁸ EIS at pp. E-108 and 109.

⁸⁹ *Id.* at pp. E-96 and 97.

82. At the time that the final EIS was issued, Maine DEP had not yet issued its water quality certification for this project. Acknowledging that the issued certification might include conditions pertaining to mercury and dioxin monitoring in the river, staff stated that any such conditions would be addressed in the license order. The certification that has since been issued by Maine DEP does not contain any conditions relating specifically to the presence of these contaminants. Under these circumstances, the Commission's standard article 15, permitting license modifications as needed for the conservation and development of fish and wildlife resources, will be sufficient to address any future problems relating to contaminants in the project area without the need for a specific license article.

Dissolved Oxygen

83. Conservation Coalition and EPA note that, despite operation of the GIPOP facility, Gulf Island Pond fails to achieve Maine Class C water quality standards much of the time. These parties urge that the licensee be required to study a range of alternatives to the GIPOP and that the license contain a specific reopener provision to facilitate incorporation of alternative operational measures that might be identified. In the EIS, staff recommended that the licensee be required to develop a plan to study such alternatives.⁹⁰ Although staff did not recommend inclusion of a specific reopener article as requested by these parties, it recommended inclusion in the study plan article of standard language to require operational changes or other reasonable environmental enhancements at the project if the study process identifies a more effective alternative to the GIPOP.

84. In its water quality certification, Maine DEP attempted to address the failure of the existing oxygenation operations to achieve dissolved oxygen standards in Gulf Island Pond. Condition 5.A requires continuation of the existing partnership with the paper companies to operate the existing oxygen injection system at Upper Narrows. Conditions 5.B through G, in brief, prescribe injection of oxygen at a second point, Lower Narrows, require plans for and monitoring of those operations or "other equivalent measures" as may be approved by Maine DEP, and make the licensee "responsible for taking such actions as are needed to meet Class C dissolved oxygen standards in the Gulf Island Pond, insofar as Gulf Island Dam causes or contributes to a violation of these standards." However, as noted earlier, conditions 5.B through G have been stayed and are not being included in this license at this time.

⁹⁰ *Id.* at pp. 5-31 and 32, E-77 and 78, and E-98 and 99.

85. The GIPOP facility has been in operation since June 1992. Water quality monitoring conducted since that time indicates that dissolved oxygen has improved significantly in Gulf Island Pond. In addition, dissolved oxygen standards are maintained in the downstream Deer Rips and Lewiston Falls impoundments, provided dissolved oxygen of 5.0 mg/l is maintained in the Gulf Island tailrace.

86. In 1999 and 2000, additional water quality data was collected in Gulf Island Pond for the purpose of updating Maine DEP's water quality model.⁹¹ Based on this data, Maine DEP concluded that, under current conditions, about 10 percent of the modeled volume of Gulf Island Pond does not meet Maine's Class C dissolved oxygen standards during the summer low-flow, high-temperature period. In addition, Maine DEP concluded that 23 percent of the modeled volume of water does not meet the minimum monthly average dissolved oxygen level of 6.5 mg/l needed to satisfy Class C narrative criteria for supporting indigenous fish. Maine DEP's model showed that, with all upstream point source discharges at zero levels and Gulf Island Dam in place, dissolved oxygen standards would be met with either an increase in the amount of oxygen injected at the existing facility or the addition of a second oxygen injection facility located about two miles downstream from the existing facility. Also, the model showed that the intermittent peaking operation of the Gulf Island development does not appear to affect dissolved oxygen levels in Gulf Island Pond.

87. In 2004, the GIPOP Partnership undertook an engineering study to determine the effectiveness of the existing oxygenation system and to determine the feasibility and cost of supplemental oxygenation alternatives. The resulting report found that the efficiency of the existing facility could be improved through two different configurations. The report also found that other alternatives could be implemented that would likely result in compliance with dissolved oxygen standards to the thermocline (point of thermal stratification) in Gulf Island Pond. Based on these findings and additional modeling, Maine DEP issued the Androscoggin River Total Maximum Daily Load (TMDL) Report in May 2005.⁹² This report found that, under specific waste load allocations for the upstream discharges and oxygen injection configuration, dissolved oxygen standards would be met in Gulf Island Pond.⁹³ The report also recognized that other options for injecting oxygen into Gulf Island exist.

⁹¹ Water quality certification at p. 7.

⁹² The Androscoggin River TMDL was approved by the U.S. Environmental Protection Agency on July 18, 2005.

⁹³ This finding assumes an oxygen transfer efficiency rate of 33 percent and oxygen injection rates of up to 105,000 pounds per day at two sites in Gulf Island Pond.

88. It is clear that, while the existing oxygen injection system has improved water quality, the dissolved oxygen standards in Gulf Island Pond are still not being met. Article 402 of this license requires the licensee to develop a dissolved oxygen enhancement plan. Article 403 of this license requires the licensee to file for Commission approval a water quality monitoring plan to ensure that Gulf Island Pond and the river downstream of the project comply with Maine's Class C water quality standards for dissolved oxygen, water temperature, and nutrients. The monitoring plan is to be prepared in consultation with relevant Maine agencies and FWS as to the results of the monitoring and the need for any additional measures to improve water quality. Article 403 reserves the Commission's right to direct the licensee to modify project structures or operations to ensure that the project maintains state water quality standards.

89. Condition 5.A of the certification requires continuation of the existing operations and must be included as a condition of the license. While the excluded certification conditions, 5.B through G, contemplate the possibility of alternatives to the oxygen injection operations, it is possible that they could place on the licensee the entire burden of attaining Class C water quality standards in Gulf Island Pond. Non-attainment of these standards is the result of a combination of factors, including point-source discharge of pollutants, the settling and decomposition of algae, the hydrologic conditions created by Gulf Island Dam, and natural conditions and non-point sources of pollution. Staff concluded in the EIS that the water quality problems in Gulf Island Pond were jointly caused and should continue to be jointly remedied by the GIPOP partnership.⁹⁴ The post-EIS analysis of conditions in the impoundment does not invalidate that conclusion.

90. Therefore, I conclude that the dissolved oxygen enhancement plan required by Article 402 and the water quality monitoring plan required by Article 403 are preferable to the stayed certification conditions, which do not appear to apportion among the licensee and the paper companies the responsibility for addressing the failure of Gulf Island Pond to meet the applicable dissolved oxygen standards. However, if Maine DEP sustains the certification conditions on appeal, they will have to be included in the license, and these articles may have to be amended accordingly. As stated previously, ordering paragraph (D) of this license reserves the Commission's authority to modify the license to achieve conformity with the water quality certification.

Municipal wastewater treatment funds

91. Condition 6 of the water quality certification requires FPL Energy to contribute \$100,000 to the capital cost of chemical-addition equipment to remove phosphorus from

⁹⁴ EIS at p. 4-57.

the Livermore Falls municipal wastewater treatment plan effluent or take equivalent measures as may be approved by Maine DEP. FPL Energy is also required to file, within 6 months of the issuance of the certification, a plan to implement the requirements of condition 6. Although Maine DEP has stayed this condition pending FPL Energy's appeal, it is appropriate to assess this measure here, since staff had no previous opportunity to evaluate it.

92. As noted previously, the Androscoggin River receives treated water discharges from industrial and municipal point sources. These discharges include various nutrients, such as phosphorus, that promote the growth of algae in the river and Gulf Island Pond. In fact, the certification indicates that algal blooms occur on Gulf Island Pond every summer.⁹⁵ As noted in the certification, algal blooms affect water quality, specifically dissolved oxygen, and other designated uses of the water body.⁹⁶ In addition, the certification indicates that the presence of numerous dams on the river, including Gulf Island Dam, contributes to algae growth in the river.

93. In an attempt to address the issue of algal blooms, data were collected in Gulf Island Pond during 1999 and 2000 to update Maine DEP's water quality model.⁹⁷ The results of this data collection and modeling effort are contained in the June 2002 Androscoggin River modeling report. Maine DEP's modeling indicates that phosphorus discharges would need to be significantly reduced or eliminated for algae, as measured by chlorophyll-a levels, to fall below the threshold for algal blooms. In addition, Maine DEP issued its Androscoggin River TMDL Report, which indicates that Gulf Island Dam causes a 2 parts per billion increase in chlorophyll-a levels in Gulf Island Pond. Modeling conducted to support development of the TMDL affirms that, with the waste load allocations implemented as proposed in the TMDL, algal blooms would be eliminated on Gulf Island Pond.

94. Impoundments create hydrologic conditions conducive to algal growth, in that they act as a sink for nutrient inputs. Removal of phosphorus from upstream industrial and municipal water discharges will remove, or significantly reduce, a nutrient source largely responsible for the elevated chlorophyll-a levels that produce algal blooms in Gulf Island Pond. Maine DEP indicates that the estimated capital cost for the upgrades to the Livermore Falls waste water treatment facility that will remove phosphorus from the

⁹⁵ Water quality certification at p. 11.

⁹⁶ *Id.* at p. 11.

⁹⁷ *Id.* at p. 11.

facility's discharge is \$100,000.⁹⁸ Because this amount is equal to the contribution required by the certification, the certification would make FPL Energy solely responsible for these upgrades.

95. Although Gulf Island Dam contributes to the production of algal blooms, it does not produce the phosphorus that causes them. Therefore, the licensee should not bear the entire financial burden of resolving this problem. The Article 403 requirement for a water quality monitoring plan encompasses identification of measures needed to improve water quality in respect to nutrients, which would include phosphorus, in Gulf Island Pond. This requirement should ensure that the licensee addresses the problem of algal blooms in Gulf Island Pond. However, if Maine DEP affirms condition 6 of the water quality certification, that condition will have to be included in the license.

Shoreline protection

96. In its application, Central Maine proposed to develop a land conservation and trail plan for lands within the project boundary and any additional Central Maine lands not within the project boundary but within 200 feet of the high-water elevation of the project's two impoundments.⁹⁹ In the EIS, staff recommended that the licensee prepare such a comprehensive land use management plan for Commission approval to protect environmental resources, including aesthetics and public access to shorelands. The plan would include, among other things, maps delineating the shoreland protective buffer zone area and text indicating the cost and types of ownership to be acquired. Staff recommended that the licensee, in preparing the plan, consult Maine Department of Conservation, Interior's National Park Service, Androscoggin Land Trust, the Androscoggin Valley Council of Governments, Conservation Law Foundation, and the Cities of Lewiston and Auburn.¹⁰⁰

97. Conservation Coalition objects to deferring the details of shoreline protection to a post-licensing determination. It also objects to staff's rejection of its recommendation for a buffer zone that would extend 500 feet from the shoreline, include all Central Maine lands and islands within the broader watershed, and include non-Central Maine lands within the 500-foot corridor. Androscoggin Land Trust also supports inclusion of additional Central Maine lands in the plan, as well as conservation easements on Central

⁹⁸ *Id.* at p. 12.

⁹⁹ EIS at p. 2-13.

¹⁰⁰ *Id.* at pp. 4-91 and 92 and 5-37 and 38.

Maine lands and a program to fund implementation of the plan.¹⁰¹ Conservation Coalition urges creation of an environmental enhancement fund for the purchasing of conservation easements in shorelands as they become available.

98. The Commission typically uses a requirement to develop a land management plan as a means of defining the precise extent of shoreland protection. The EIS determined that some level of shoreland protection is needed, and the extent of that protection can be addressed sufficiently by requiring the licensee to file a land and trail management plan after consultation with appropriate federal and state agencies, local governments, and interest groups. Neither NEPA nor the FPA requires that all the details of a shoreland protection plan be stipulated prior to licensing.

99. Section 4.41(f)(7)(iii) of the Commission's regulations¹⁰² requires the licensee to consider provisions for a shoreline buffer zone that must be within the project boundary and "of sufficient width to allow public access to project lands and waters and to protect the scenic, public recreational, cultural, and other environmental values of the reservoir shoreline." Section 4.51(i)(B)¹⁰³ requires the boundary around the project impoundment to be located no more than 200 feet (horizontal measure) from the exterior margin of the reservoir except "where additional lands are necessary for project purposes, such as public recreation, shoreline control, or protection of environmental resources." Staff adequately explained in the EIS why, as to this project, a wider buffer zone or inclusion of additional lands is not warranted and why measures advocated by Androscoggin Land Trust and Conservation Coalition, such as conservation easements and an enhancement fund, could be considered during consultation about the plan but should not be required in the license as issued.¹⁰⁴

100. The subsequent transfer of the existing license from Central Maine to FPL Energy complicates implementation of staff's recommendation. The transferee of a license is required to acquire all project lands and facilities, but FPL Energy had no obligation as a licensee to acquire those Central Maine lands not already within the project boundary.

¹⁰¹ Androscoggin Land Trust had recommended a 250-foot buffer zone but, in its comments on the FEIS, agreed with staff's limitation of the buffer zone to 200 feet. EIS at E-42.

¹⁰² 18 C.F.R. § 4.41(f)(7)(iii) (2006).

¹⁰³ 18 C.F.R. § 4.51(i)(B) (2006).

¹⁰⁴ EIS at pp. 4-90 and 91, E-42, E-103 and 104, and E-106 and 107.

Thus, the additional lands contemplated for shoreland protection may no longer be licensee-owned, and their acquisition by FPL Energy may entail costs that would not have been incurred by Central Maine or considered by staff in the EIS. However, inclusion of these additional shorelands was a basis for staff's conclusion that the comprehensive land use management plan would "adequately protect the resources along the Androscoggin River from excessive or inappropriate development."¹⁰⁵ The need for shoreland protection is not reduced by transfer of the license.¹⁰⁶

101. Article 412 requires the licensee to file a land and trail management plan, after consultation with specified agencies, cities, and non-governmental entities. Because it is not possible on the present record to determine either the extent of licensee-owned lands within the projected 200-foot buffer zone or the cost to FPL Energy of acquiring additional lands for protection, Article 412 directs the licensee to identify appropriate licensee-owned and non-licensee-owned lands within the 200-foot buffer zone that may be suitable for inclusion in the project boundary to serve the purposes of the plan.

102. In its comments on the final EIS, Conservation Coalition asks that the licensee be directed to forward a draft plan to the consulting parties at least 120 days before the deadline for its submission to the Commission, that the recommendations of the consulting parties be forwarded to the Commission with the plan, that the Commission provide an informal dispute resolution on the details of the plan before rendering a decision should any of the parties request such a resolution, and that the Commission respond to the recommendations of the consulting parties in writing where those recommendations differ from the final plan and where the Commission has adopted the licensee's position. License articles requiring the filing of plans contain standard language providing for the licensee to include documentation of consultation and recommendations, including descriptions of how the consulting parties' recommendations have been accommodated and the reasons for rejecting any such recommendations. Licensees generally are also required to allow a minimum of 30 days

¹⁰⁵ *Id.* at pp. 4-91 and 92.

¹⁰⁶ Moreover, FPL Energy assumed the relicense application filed by Central Maine, including the proposal to bring lands then owned by Central Maine into the project boundary to the extent that they were determined to serve the purposes contemplated by the land management plan.

for parties to comment and make recommendations. There is no reason to depart from those standard procedures here.¹⁰⁷

Recreation

103. Central Maine proposed to implement numerous recreation-related improvements. These included maintaining existing recreation facilities, enhancing recreation access and parking areas for the project, constructing canoe portage routes around the Gulf Island and Deer Rips dams, monitoring recreation use at the project, and developing a schedule and computerized tracking system for implementing recreation improvements. Staff recommended the development of a recreation enhancement plan that would include these and other provisions. Condition 7 of the water quality certification requires the licensee to develop, maintain, and monitor new and existing public recreational access and use facilities, as described in the text of the certification, as well as to submit plans for developing, monitoring, and maintaining these facilities.

104. The facilities listed in the certification are consistent with those proposed by Central Maine and staff's recommendation. Article 411 of the new license requires the licensee to prepare a recreation enhancement plan consistent with condition 7 and to file it with the Commission.

105. Staff made a preliminary determination that Interior's recommendation to monitor recreational use at the Gulf Island-Deer Rips Project does not qualify as a fish and wildlife recommendation under section 10(j), in that it does not provide specific measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources. Although the recommendation was considered outside the scope of section 10(j), staff considered it under section 10(a)(1) of the FPA and recommended its approval. I agree that this recommendation is not within the scope of section 10(j). In any event, Interior's recommendation should be satisfied by the monitoring provisions of Article 411 of the license.

¹⁰⁷ Conservation Coalition also notes the staff's recommendation that the land management plan be prepared in consultation with Conservation Law Foundation. Conservation Coalition asks for a clarification that all of its members be included as consulting parties. Article 412 will require the licensee to consult with all members of Conservation Coalition.

Dam decommissioning trust fund

106. The Conservation Coalition recommends that Central Maine accept the fiscal responsibility for project decommissioning and dam removal, through either establishment of a decommissioning fund or some other method of guaranteeing that funds would be available to decommission the project and remove the dams at the end of the new license term. In its *Policy Statement on Project Decommissioning*,¹⁰⁸ the Commission declined to impose a generic decommissioning requirement, deciding instead to determine, on a case-by-case basis, whether the life of a particular project might end within a license term and whether the financial viability of a licensee might indicate that it could not meet likely levels of expenditures without some form of advanced planning. There is no indication that the usefulness of the Gulf Island-Deer Rips Project would end during the license term. In addition, the licensee is a public corporation that appears to be financially stable and capable of meeting decommissioning expenses when and if they arise during the license term. Therefore, there is no basis for imposing a decommissioning fund requirement in this license.

Request for adjudicatory hearing

107. In their motions to intervene, Conservation Coalition and Trout Unlimited requested that the Commission conduct an adjudicatory hearing to resolve outstanding questions of material fact. Neither the FPA nor the Administrative Procedures Act¹⁰⁹ requires a trial-type hearing instead of a notice-and-comment type hearing. The record compiled in this proceeding is sufficient to resolve all issues relevant to determining whether and under what conditions a new license should be issued. Therefore, an adjudicatory hearing is unnecessary.

Annual Charges

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

¹⁰⁸RM93-23-000, III FERC Statutes and Regulations, Regulations Preambles, ¶ 31,011 at pp. 31,233-34 (1994).

¹⁰⁹ 5 U.S.C. § 551 *et seq.*

Amortization Reserve

109. The Commission requires that, for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 203 requires the establishment of the account.

Exhibit F and G Drawings

110. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Articles 202 and 205 require the licensee to file revised exhibit drawings.

Headwater Benefits

111. Some projects directly benefit 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.

Use and Occupancy of Project Lands and Waters

112. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 413 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

Review of final plans and specifications

113. Where new construction or modifications to the project are involved,¹¹⁰ the Commission requires a licensee to file revised drawings of project features as built. Article 301 provides for the filing of these drawings.

¹¹⁰ This license authorizes the installation of flow and lake level monitoring equipment and the construction of recreation facilities, pursuant to Articles Article 407 and 411, respectively.

Notification and Commission authorization

114. In Appendix A there are certain water quality certification conditions allowing the licensee to deviate temporarily from maintenance of required impoundment levels and downramping restrictions under certain circumstances. However, the conditions do not provide for notification to the Commission and other agencies. Therefore, Article 401 requires the licensee to notify the Commission, Maine DIFW, Maine Department of Marine Resources, and FWS prior to implementing these modifications to project operations. Another certification condition provides for the future installation of fish passage facilities as may be required by Maine DEP. These facilities may not be installed without prior Commission authorization granted after the filing of an application to amend the license. Article 401 requires such Commission approval.

STATE AND FEDERAL COMPREHENSIVE PLANS

115. Section 10(a)(2) of the FPA¹¹¹ requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.¹¹² Under section 10(a)(2) of the FPA, federal and state agencies filed a total of 14 comprehensive plans that address various resources in Maine. Of these, the staff identified and reviewed 10 plans relevant to this project and the other projects in the lower Androscoggin River Basin.¹¹³ No conflicts were found.

116. The staff also reviewed federal and state plans that were relevant to this proceeding but were not listed as Commission-approved comprehensive plans.¹¹⁴ No conflicts were found with any of these plans.

¹¹¹ 16 U.S.C. § 803(a)(2)(A).

¹¹² Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2006).

¹¹³ See EIS at pp. 5-53 and 54. Staff has also identified and considered a subsequently-filed relevant state comprehensive plan: State of Maine comprehensive outdoor recreational plan (SCORP), assessment and policy plan, Vol. 1, Maine Department of Conservation, December 1993.

¹¹⁴ See EIS at p. 5-54.

APPLICANT'S PLANS AND CAPABILITIES

117. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,¹¹⁵ Commission staff evaluated FPL Energy'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 services; (7) cost effectiveness of plans; and (8) actions affecting the public. I accept the staff's findings in each of the following areas.

Conservation Efforts

118. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like FPL Energy. FPL Energy is actively involved in promoting cost-effective conservation and load management programs for residential, commercial, and industrial customers. Staff concludes that FPL Energy is making reasonable efforts to conserve electricity and has made a satisfactory good faith effort to comply with Section 10(a)(2)(C) of the FPA.

Compliance History and Ability to Comply with New License

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

Safe Management, Operation, and Maintenance of the Project

120. Staff has reviewed FPL Energy's management, operation, and maintenance of the Gulf Island-Deer Rips Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. Staff concludes that the dams and other project works are safe, and that there is no reason to believe that FPL Energy cannot continue to safely manage, operate, and maintain these facilities under a new license.

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

Ability to Provide Efficient and Reliable Electric Service

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

Need for Power

122. FPL Energy is a subsidiary of FPL Group, Inc., one of the nation's largest providers of electricity-related services. FPL Energy owns generation assets in 24 states.¹¹⁶ The company's generation assets total 12,522 MW. About 58 percent of this capacity is thermal electric: 6,511.44 MW natural gas and 751.32 MW oil. The remainder of FPL Energy's generating capability is comprised of 3,255.72 MW wind, 1,502.64 MW nuclear, and 375.66 MW hydro. FPL Energy also has about 147 MW of solar and about 11 MW of biomass generation. All of FPL Energy's hydroelectric generation is located in Maine. The 31.54-MW Gulf Island-Deer Rips Hydroelectric Project generates an average of 185,800 MWh annually: 93,500 MWh on-peak and 92,300 MWh off-peak.

123. The Gulf Island-Deer Rips Project is located within the Northeast Power Coordinating Council's (NPCC) New England region (ISO-NE). NPCC's 10-year coordinated plan summary for the period 2005 through 2014 projects an average annual compound growth rate of 1.5 percent for the summer peak demand. Capacity additions of about 1,250 MW are forecasted for the 2005 through 2008 period and no capacity additions are forecasted from 2008 through 2014. Reserve margins will decrease from 19.4 percent in 2005 to 8.5 percent in 2014.

124. Power from the Gulf Island-Deer Rips Project can continue to meet FPL Energy's customers' growing needs, as well as meeting part of the regional need for power. The project displaces fossil-fueled electric power generation that the regional utilities

¹¹⁶ California, Washington, Oregon, New Mexico, Wyoming, Massachusetts, Maine, Rhode Island, New Hampshire, New York, Alabama, South Carolina, Virginia, Pennsylvania, West Virginia, New Jersey, Texas, Wisconsin, Iowa, Minnesota, North and South Dakota, Kansas, and Oklahoma.

http://www.fplenergy.com/portfolio/contents/portfolio_by_region.shtml. Accessed May 2, 2006.

currently use and thereby reduces the emission of noxious byproducts caused during the combustion of fossil fuels.

Transmission Services

125. The project's transmission facilities that are required to be licensed include the generator leads, step-up transformers, buses, and switching facilities. There are no associated transmission lines included as part of this project. FPL Energy is proposing no changes that would affect its own or other transmission services in the region.

Cost Effectiveness of Plans

126. FPL Energy proposes no changes that would increase generation at the Gulf Island-Deer Rips Project. However, FPL Energy does plan to make a number of facility and operational modifications to enhance environmental resources affected by the project. Based on FPL Energy's record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

Actions Affecting the Public

127. Central Maine provided opportunity for public involvement in the development of the application for a new license for the Gulf Island-Deer Rips Project. During the previous license period, Central Maine (formerly) and FPL Energy (currently) provided facilities to enhance the public use of project lands and facilities and operated the project with consideration for the protection of downstream uses of the lower Androscoggin River. FPL Energy uses the project to help meet its power needs and pays taxes that contribute to the cost of public services provided by local government.

PROJECT ECONOMICS

128. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics for hydropower projects, as articulated in *Mead Corp.*, 72 FERC ¶ 61,027 (1995), the Commission uses current costs to compare the costs of the project and likely alternative power, without no forecasts of potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

129. In applying this analysis to the Gulf Island-Deer Rips Project, we have considered two options: FPL Energy's proposal and the project as licensed herein. As proposed by FPL Energy, the levelized annual cost of operating the project is \$5,298,060, or \$28.51/MWh. The proposed project would generate an estimated 185,800 MWh of energy annually, valued at \$13,389,270 in 2006 dollars.¹¹⁷ To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power. Therefore, in the first year of operation, the project would cost \$8,091,210, or \$43.55/MWh, less than the likely alternative cost of power.

130. As licensed herein with the staff measures and mandatory conditions that have not been stayed, the levelized annual cost of operating the project would be about \$5,444,100, or \$29.29/MWh. Based on an estimated average of 185,900 MWh as licensed, the project would produce power valued at \$13,318,130. Therefore, in the first year of operation, project power would cost \$7,874,030, or \$42.36/MWh, less than the likely cost of alternative power.¹¹⁸

131. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include their capability to provide an almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and

¹¹⁷ Details of the staff's economic analysis for the project, as licensed herein and for various alternatives, are included in the EIS. Staff has updated this analysis, based on information obtained from FPL Energy, to reflect 2005 dollars. The alternative power costs used in staff's updated economic analysis reflect costs for on- and off-peak energy: \$78.48/MWh for peak and \$63.89/MWh for off-peak energy. *See* FPL Energy's February 10, 2006 letter to the Commission.

¹¹⁸ If the project were licensed with staff's recommended measures and all of the conditions of the water quality certification, including those that have been stayed, the levelized annual cost of operating the project would be about \$5,579,390 or \$30.01/MWh. Based on an estimated average of 185,900 MWh, the project would produce power valued at \$13,318,130. Therefore, in the first year of operation, project power would cost \$7,775,490, or \$41.83/MWh, less than the likely cost of alternative power. This alternative would include staff's recommended minimum flow rather than the minimum flow regime of the certification, since staff found that higher flows than those of the certification would be warranted for part of the year.

a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

COMPREHENSIVE DEVELOPMENT

132. Sections 4(e) and 10(a)(1) of the FPA¹¹⁹ require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation, the protection, mitigation of damages to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

133. The final EIS, as supplemented by this order, contains background information, analysis of effects, and support for related license articles. The project will be safe if operated and maintained in accordance with the requirements of this license.

134. Based on staff's independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EIS and supplemented here, I am selecting the proposed project with the staff-recommended measures and the mandatory agency conditions that have not been stayed as best adapted to a comprehensive plan for improving or developing the Androscoggin River. I have selected this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required measures will protect and enhance water quality, fishery resources, wetlands and associated wildlife, recreation, aesthetics, and historic properties; and (3) the 185,900 MWh of electricity generated from this renewable resource will continue to replace the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable energy resources, reducing atmospheric pollution.

LICENSE TERM

135. Section 15(e) of the FPA¹²⁰ provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year

¹¹⁹ 16 U.S.C. §§ 797(e) and 803(a)(1), respectively.

¹²⁰ 16 U.S.C. 808(e).

terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation or enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures. The level of these activities associated with the relicensing of the Gulf Island-Deer Rips Project warrants issuing this license for a term of 30 years.

The Commission orders:

(A) This license is issued to FPL Energy Maine Hydro LLC (licensee) for a period of 30 years, effective the first day of the month in which this order is issued, to operate and maintain the Gulf Island-Deer Rips Hydroelectric Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interest in those lands, enclosed by the project boundary shown by Exhibit G filed on December 10, 1991, and updated in corrections to Exhibit G, Sheet 2 filed on January 30, 1995.

<u>Exhibit G-</u>	<u>FERC No. 2283-</u>	<u>Showing</u>
1	1013	Detail Map-Reservoir
2	1014	Detail Map-Reservoir
3	1015	Detail Map-Reservoir
4	1016	Detail Map-Reservoir
5	1017	Detail Map-Reservoir
6	1018	Detail Map-Reservoir
7	1019	Detail Map-Reservoir
8	1020	Detail Map-Reservoir
9	1021	Detail Map-Reservoir

- (2) Project works consisting of three separate developments.

Gulf Island Development

- (a) a concrete gravity and earthfill dam, totaling about 2,488 feet long, with a maximum height of 92 feet, consisting of: (1) 1,280 feet of earth embankment (1,042-foot-long west embankment and 240-foot east embankment), having a crest elevation of 270.0 feet National Geodetic Vertical Datum (NGVD) with concrete core walls extending to ledge to elevation 267.0 feet (NGVD); (2) a 370-foot-long spillway section, with a crest elevation of 255.0 feet (NGVD), topped with a 7.5-foot-high inflatable rubber dam; (3) a 340-foot-long gated section, with (i) two stoney gates, each measuring 16 feet high by 8.5 feet wide, (ii) seven Taintor gates, each measuring 15 feet high by 30 feet wide, (iii) a stanchion section, 13 feet high by 49.5 feet wide, and (iv) a 16-foot-wide sluice gate; (4) a 149-foot-wide intake section, integral with the powerhouse, equipped with trashracks having 7/16-inch steel bars at 4-9/16 inch openings; and (5) a 349-foot-bulkhead section;
- (b) a concrete, steel, and brick powerhouse, measuring 32 feet wide by 146 feet long, equipped with three vertical Francis turbine-generator units with: (1) an existing installed capacity of 20,900 kW; (2) a maximum hydraulic capacity of 6,450 cfs; and (3) a rated head of 56 feet;
- (c) an impoundment about 14.7 miles long with: (1) a surface area of about 2,862 acres; (2) a gross storage capacity of 55,100 acre-feet (AF); (3) a useable storage capacity of 10,300 AF; and (4) a normal pool elevation of 262.0 feet (NGVD) and tailwater elevation of 206.0 feet (NGVD); and
- (d) appurtenant facilities.

Deer Rips and Androscoggin No. 3 Developments

- (a) a concrete gravity dam, totaling 932.7 feet long, with a maximum height of 50 feet consisting of: (1) two headgate sections (see below); (2) a concrete wastegate section, about 55.5 feet long, with two gated deep discharge tubes, each seven feet in diameter; and (3) a 738.2-foot-long spillway section, with a crest elevation of 201.7 feet (NGVD), topped with four-foot-high pin-supported flashboards;

- (b) the Deer Rips development, consisting of (1) a 94-foot-long headworks section of the Deer Rips powerhouse, located on the west end of the dam, with eight wooden gates, each measuring 14 feet high by seven feet wide, leading to a canal, measuring 650 feet long by 75 feet wide by an average of 22 feet deep; (2) a concrete, steel, and brick powerhouse, measuring 47 feet wide by 136 feet long, with a 32-foot-wide by 57-foot-long addition, equipped with five horizontal twin-runner Francis turbine-generator units and two vertical Francis turbine-generator units, having (i) an installed capacity of 7,038 kW, (ii) a hydraulic capacity of 3,936 cfs, and (iii) a rated head of 32 feet; (3) eight wooden intake gates that control flow to the units, measuring 11.3 by 14 feet (units 1-5 and 7) and 11.5 by 9 feet (unit 6); (4) six trashracks having 3/8-inch steel bars at 2-1/4 inch openings, and a seventh trashrack with 1/4-inch steel bars with 2-1/2 inch spacings; and (5) an excavated tailrace, about 250 feet long by 150 feet wide, with a normal elevation of 173.7 feet (NGVD);
- (c) the Androscoggin No. 3 Development, consisting of: (1) a 45-foot-long by 38-foot-wide forebay, located on the east end of the dam and leading to the Androscoggin No. 3 powerhouse, with (i) three- and five-foot-high flashboards to elevation 207 feet (NGVD), and (ii) stoplog slots and two steel gates, each measuring 14 feet high by 17.5 feet wide; (2) a concrete, steel, and brick powerhouse, measuring 44 feet wide by 52 feet long, equipped with one vertical fixed-blade turbine-generator unit, having (i) an installed capacity of 3,600 kW, (ii) a hydraulic capacity of 1,775 cfs, and (iii) a rated head of 32 feet; (4) two trashracks having 3/8-inch steel bars at 3-1/2 inch openings; and (5) an excavated tailrace, about 400 feet long by 60 feet wide, with a normal elevation of about 173.0 feet (NGVD);
- (d) an impoundment about 1.3 miles long with: (1) a surface area of about 130 acres; (2) a gross storage capacity of 1,200 AF; (3) a negligible useable storage capacity; and (4) a normal pool elevation of 205.7 feet (NGVD);
and
- (e) appurtenant facilities.

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

Exhibit A: The following Exhibit A sections, filed on December 10, 1991, and revised in a filing on June 10, 1994, and May 16, 2003:

Project No. 2283-005

49

Exhibit A, the Section titled PROJECT DESCRIPTION, describing the principal existing and proposed facilities, including the dams/spillways, powerhouses, impoundments, turbines and generators, transmission lines, and appurtenant facilities (pages A-1 through A-17, figures A-7 and A-8).

Exhibit F: The following Exhibit F drawings, filed on December 10, 1991, and as revised and amended on January 15 and May 28, 2003:

<u>Exhibit</u>	<u>FERC No. 2283-</u>	<u>Showing</u>
F-1	1001	General Project Plan -- Deer Rips and Androscoggin No. 3 Powerhouses, Dam, Canal
F-2	1002	Concrete Dam -- Deer Rips - Androscoggin No. 3 Plan, Elevation, and Sections
F-3	1003	Powerhouse -- Deer Rips, Plan and Longitudinal Section
F-4	1004	Powerhouse -- Deer Rips typical sections
F-5	1005	Powerhouse Elevations -- Androscoggin No. 3 - Deer Rips Canal Headworks Plan and Sections
F-6	1006	Powerhouse -- Androscoggin No. 3, Plan and Sections
F-7	1007	General Plan -- Gulf Island Dam and Powerhouse
F-8	1008	Gulf Island -- Concrete Dam Elevations

Project No. 2283-005

50

F-9	1009	Concrete Dam -- Gulf Island Typical Sections
F-10	1010	Earth Dam -- Gulf Island, Plan, Sections, and Elevation
F-11	1011	Powerhouse -- Gulf Island Plan and Sections
F-12	1012	Rubber Dam -- Gulf Island Plan, Elevations and Sections

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and 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 and F, described above are approved and made part of the license. The Exhibit G drawings filed as part of the application for license do not conform to Commission regulations and are not approved.

(D) This license is subject to the conditions of the water quality certification issued by the Maine Department of Environmental Protection pursuant to section 401(a) of the Clean Water Act, 33 U.S.C. § 1341(a)(1), as those conditions are set forth in Appendix A to this order. Authority is reserved to the Commission to amend this license to include such water quality certification conditions as may be required by the Maine Department of Environmental Protection upon resolution of the appeal filed by the licensee of the water quality certification issued September 21, 2005, and to modify existing conditions of this license as necessary to achieve consistency with any such additional certification conditions.

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

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

and as determined in accordance with provisions of the Commission's regulations from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 31,538 kilowatts (kW).

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

- a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project Drawing Number (i.e., P-1234-#### through P-1234-####) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

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

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

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

Article 203. Amortization Reserve. Pursuant to section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and

maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

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

Article 204. *Headwater Benefits.* If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 205. *Exhibit G Drawings.* Within 90 days of the issuance date of the license, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing, within the project boundary, all principal project works necessary for operation and maintenance of the project. Such project works shall include the existing Gulf Island Pond Oxygenation Project (GIPOP) facility required by condition 5.A of the water quality certification (certification) issued September 21, 2005, by the Maine Department of Environmental Protection and attached as Appendix A to this license, and all existing and proposed recreation facilities required by condition 7 of the certification. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41 (2006).

Article 301. As-built Drawings. Within 90 days after completing construction of the facilities authorized by this license, the licensee shall file for Commission approval revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's D2SI-NYRO, the Director, D2SI, and the Director, DHAC.

Article 401. Commission Reporting and Filing of Amendments.

(a) Requirement to Notify the Commission of Planned and Unplanned Deviations from License Requirements

Two water quality certification (certification) conditions in Appendix A of this license would allow the licensee to temporarily modify project operations under certain conditions. The Commission shall be notified prior to implementing such modifications, if possible, or in the event of an emergency, as soon as possible, but no later than 10 days after each such incident. The Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the U.S. Fish and Wildlife Service shall also be notified prior to implementing any modifications to the lake levels, and down-ramping of flows required by certification conditions 1.A and 3.A, respectively.

WQC Condition No.	License Requirement
1.A	Lake Levels
3.A	Down-ramping of Flows

(b) Requirement to File Amendment Applications

Certification condition No. 4 in Appendix A of this license contemplates a future change to project operations or facilities for the purpose of mitigating environmental impacts. This change may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. This condition is listed below.

WQC Condition No.	Modification
4	Structural changes to provide fish passage

Article 402. Dissolved Oxygen Enhancement Plan. Upon issuance of this license and consistent with Condition 5.A of the Section 401 water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of

Environmental Protection (Maine DEP), the licensee shall continue to participate in the Gulf Island Pond Oxygenation Project (GIPOP) partnership to operate and maintain the existing oxygen injection system on Gulf Island Pond.

Within one year from the issuance date of this license, the licensee shall file with the Commission, for approval, a dissolved oxygen (DO) enhancement plan for the Gulf Island-Deer Rips Project. The purpose of the DO enhancement plan is to coordinate efforts among the GIPOP partners (i.e., licensee, Fraser Paper, Rumford Paper Company, & International Paper) to protect and improve DO conditions in Gulf Island Pond and in the Androscoggin River downstream from the Gulf Island-Deer Rips Project.

The plan shall include, at a minimum:

- (1) measures to improve DO in Gulf Island Pond, including any measures identified in the TMDL (Total Maximum Daily Load) for the Androscoggin River and Gulf Island Pond;
- (2) a description of the licensee's responsibility in implementing the measures identified in Item (1);
- (3) a feasibility assessment of each measure identified in Item (1) to improve DO in Gulf Island Pond, including (a) an evaluation of the economic and environmental effects of those measures, and (b) any recommendations for implementing specific measures based on the evaluation;
- (4) a provision for monitoring DO in Gulf Island Pond after any measure(s) identified in Item (1) have been implemented, as provided for by Article 403 of this license; and
- (5) a schedule for implementing the DO enhancement plan.

The licensee shall prepare the DO enhancement plan in consultation with the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the Maine DEP, as well as with Fraser Paper, Rumford Paper Company, and International Paper, or their successors. 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 aforementioned agencies and paper companies, and specific descriptions of how the consulted entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and paper companies 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 required by the Commission.

Article 403. *Water Quality Monitoring Plan.* Within 180 days from the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor water quality at select sites in Gulf Island Pond and in the Androscoggin River downstream from the Gulf Island-Deer Rips Project. The purpose of this monitoring plan is to ensure that the Gulf Island Pond and the river downstream from the project comply with Maine's Class C water quality standards for dissolved oxygen (DO), water temperature, and nutrients (e.g., phosphorus, nitrogen, etc.).

The water quality monitoring plan shall include, at a minimum:

- (1) a description of all mechanisms, structures, and protocols for monitoring DO, water temperature, and nutrient levels at identified sites in Gulf Island Pond and downstream in the affected reaches of the Androscoggin River;
- (2) the existing DO monitoring program associated with the Gulf Island Pond Oxygenation Project (GIPOP) facility, including a description of the licensee's responsibility for implementing the monitoring program (as it relates to the GIPOP Partnership);
- (3) a provision to monitor aquatic invertebrates downstream in reaches of the Androscoggin River affected by operation of the project, including describing (a) the methods used to assess the aquatic invertebrate community, and (b) an explanation of the relationship between aquatic invertebrates and water quality, as well as how this biotic measure will be used to assess compliance with water quality;
- (4) a map depicting the location(s) of all proposed monitoring sites, including any accompanying information to explain why those site(s) were selected;
- (5) a provision to address any long-term water quality monitoring needs associated with enhancement measures implemented under Article 402 of this license;
- (6) the methods for recording and maintaining data on DO, water temperature, nutrients, and aquatic invertebrate populations, as well as providing relevant data to the Commission and the agencies identified below for review; and
- (7) a schedule for (a) implementing the monitoring plan, (b) consulting with the agencies, as identified below, concerning the results of the monitoring and the need for any additional measures to improve water quality in Gulf Island Pond and downstream in the Androscoggin River, and (c) filing the results,

agency comments, and licensee's response to agency comments with the Commission.

The licensee shall prepare the water quality monitoring plan in consultation with the Maine Department of Environmental Protection, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the U.S. Fish and Wildlife Service. 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 aforementioned 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 required by the Commission. If the results of monitoring indicate that changes in project structures or operations are necessary to ensure that the project maintains state water quality standards in respect to dissolved oxygen, water temperature, and nutrients, the Commission may direct the licensee to modify project structures or operations.

Article 404. *Lake Level Restrictions.* The licensee shall maintain lake levels in Gulf Island Pond and Deer Rips reservoir in accordance with condition 1.A of the water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of Environmental Protection. For purposes of compliance with this condition, the licensee shall implement the lake level restrictions upon approval of the plan required by Article 407 of this license. In addition, full pond is defined as 262.0 feet National Geodetic Vertical Datum (NGVD) for Gulf Island Pond and 205.7 feet NGVD for the Deer Rips reservoir.

Article 405. *Minimum Instream Flows.* Upon approval of the plan required by Article 407 of this license, the licensee shall release from the Gulf Island-Deer Rips Project into the Androscoggin River downstream from the confluence of the Deer Rips and the Androscoggin No. 3 tailraces, a seasonal minimum flow of 1,700 cubic feet per second (cfs) from May 1 through November 30 and 1,400 cfs from December 1 through April 30, or inflow, whichever is less, for the protection and enhancement of water quality and fishery resources in the Androscoggin River downstream from the Gulf Island-Deer Rips Project.

This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the

licensee, the Maine Department of Environmental Protection (Maine DEP), the Maine Department of Inland Fisheries and Wildlife (Maine DIFW), the Maine Department of Marine Resources (Maine DMR), and the U.S. Fish and Wildlife Service (FWS). If the flow is so modified, the licensee shall notify the Commission, the Maine DEP, the Maine DIFW, the Maine DMR, and the FWS as soon as possible, but no later than ten days after each such incident.

Article 406. *Down-ramping of Flows.* The licensee shall restrict down-ramping of flows downstream from the project in accordance with condition 3.A of the water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of Environmental Protection. For purposes of compliance with this condition, the licensee shall implement the down-ramping restriction upon approval of the plan required by Article 407 of this license.

Article 407. *Project Operations and Flow Monitoring Plan.* Within 180 days from the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor compliance with project operations, including lake level restrictions, minimum flows, and down-ramping of flows discharged from the project, as required by Articles 404, 405, and 406, respectively, and conditions 1.A and 3.A of the water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of Environmental Protection (Maine DEP).

The plan shall describe how the minimum flows will be provided, as well as provide a means to independently verify compliance with the project operational and flow requirements of this license. In addition, the plan shall identify the monitoring methods and locations of monitoring devices necessary to ensure that the project is operated in a manner consistent with the requirements of this license.

The plan shall include, at a minimum:

- (1) a description of the methodology for releasing required minimum flows, including an explanation of how the required flows will be maintained downstream from the project when the project's reservoirs are refilled after generation and/or maintenance drawdowns;
- (2) a description (including locations) of any existing equipment that will be used to record water surface elevations in Gulf Island Pond and the Deer Rips impoundment, as well as downstream flow requirements, and the planned locations of any additional equipment needed to monitor project operations and flows;

- (3) a description of the extent of manned versus automatic operation of the monitoring equipment;
- (4) procedures for recording and maintaining data on the project operation, as well as flows in the lower Androscoggin River immediately below the confluence of the Deer Rips and Androscoggin No. 3 tailraces;
- (5) a provision to report appropriate project operations (e.g., generation, water surface elevations, etc.) and flow data to the Commission and the consulted agencies, as identified below, in a timely manner (within 30 days); and
- (6) a schedule for implementing the plan.

The plan shall include provisions consistent with the emergency notification requirements for project operations, lake levels, and flows required by this license. In addition, should impoundment elevations or instream flows, as measured according to the approved monitoring plan, fall below the levels required by this license, the plan shall include a provision whereby the licensee files, with the Commission, a report of the incident within 30 days of the incident.

The report shall, to the extent possible, identify the cause, severity, and duration of the incident and any observed or reported adverse environmental impacts resulting from the incident. The report shall also include: (1) operational data necessary to determine compliance with this article; (2) a description of any corrective measures implemented at the time of the occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and (3) comments or correspondence, if any, received from resource agencies, as identified below, regarding the incident. Based on the report and the Commission's evaluation of the incident, the Commission reserves the right to require modifications to project facilities and operations to ensure future compliance.

The licensee shall prepare the project operation and flow monitoring plan in consultation with the Maine DEP, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey. 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 aforementioned 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 required by the Commission. Any equipment installed in accordance with this article shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

Article 408. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 409. *Threatened and Endangered Species Management Plan.* Within 180 days of the issuance date of this license, the licensee shall file, for Commission approval, a plan to protect the federally listed threatened bald eagle (*Haliaeetus leucocephalus*) and its habitat in the project area. Consistent with Commission staff's Biological Assessment issued November 3, 2005, and the U.S. Fish and Wildlife Service's (FWS) letter filed on January 12, 2006, the Threatened and Endangered Species Management Plan shall include, at a minimum:

- (1) an educational program;
- (2) time of year restrictions for recreational enhancement projects within one mile of nesting sites or known perching areas;
- (3) a provision to identify the approximate location(s) of known eagle nest areas or other important habitat, such as perch/roost trees, on the map developed pursuant to Article 412; and
- (4) a schedule for conducting periodic surveys of the shoreline of Gulf Island Pond and the Deer Rips impoundment, and filing the results of the surveys with FWS, the Maine Department of Inland Fisheries and Wildlife (Maine DIFW), and the Commission (including any recommendations for additional measures to protect bald eagle and/or their habitat at the project).

In addition to the aforementioned measures, the threatened and endangered species management plan shall identify: (1) the owners of the island where the eagles currently nest, along with any management plans for protecting nesting habitat; and (2) any lands owned by the licensee within the project boundary that could provide future eagle nesting and roosting habitat.

The licensee shall prepare the threatened and endangered species management plan in consultation with FWS and Maine DIFW. The licensee shall include with the plan,

documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the aforementioned agencies, and specific description 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 make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific information.

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

Article 410. Programmatic Agreement. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Maine State Historic Preservation Officer for the Management of Historic Structures and Eligible Archaeological Sites that may be Affected by New Licenses Issued to Central Maine Power Company and Kennebec Water Power Company for ten Hydroelectric or Storage Projects in Maine" executed on October 27, 1993, and including but not limited to the Cultural Resources Management Plan (CRMP) for the project.

In the event that the Programmatic Agreement is terminated, the licensee shall continue to implement the provisions of its approved CRMP. The Commission reserves the authority to require changes to the cultural resources management plan at any time during the term of the license. If the Programmatic Agreement is terminated, the licensee shall obtain the approvals from, or make notifications to, the Commission or the State Historic Preservation Officer, where the cultural resources management plan calls upon the licensee to do so.

Article 411. Recreation Enhancement Plan. Within one year of the issuance date of this license, the licensee shall file, for Commission approval, a final recreation plan to enhance recreation resources at the Gulf Island-Deer Rips Project, consistent with condition 7 of the water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of Environmental Protection (Maine DEP). The licensee shall prepare the recreation plan in consultation with the National Park Service, the Maine DEP, the Maine Department of Conservation (Maine DC), the cities of Lewiston and Auburn, Maine (Cities), and the Androscoggin Land Trust (Land Trust). In addition, the licensee shall prepare the final recreation plan in conjunction with the cultural resources management plan required as part of the Programmatic Agreement under Article 410 of this license, so that recreational

enhancements do not conflict with any historic properties or cultural sites in the project area.

The final recreation plan shall include, at a minimum, the measures identified below.

- (1) Operate and maintain the existing recreation facilities on Gulf Island Pond and the Deer Rips impoundment, including the boat launch facilities at the Turner-Greene Bridge, the three island day-use picnic areas, and the three informal day-use and boat/fishing access areas located on Gulf Island Pond (i.e., Waterman Road, Greene, and Goggins Island sites).
- (2) Develop, or provide a feasibility assessment for developing, a carry-in boat launch facility on the Androscoggin River downstream from the Deer Rips impoundment.
- (3) Develop, or provide a feasibility assessment for, a formal carry-in boat access site at the Waterman Road site.
- (4) Expand the roadside parking area, and provide additional public access, at the informal carry-in access site on Switzerland Road, along the Deer Rips impoundment.
- (5) Maintain the existing public access to the Deer Rips tailrace area, as well as parking at the Deer Rips powerhouse for canoeists and the annual canoe race.
- (6) Construct and maintain canoe portage trails around both the Gulf Island and Deer Rips dams.
- (7) Monitor recreation use annually and file a report every six years, in conjunction with the FERC Form 80 Recreation Use Assessment Report, that includes (a) annual recreation use figures, (b) a discussion of the adequacy of the licensee's recreation facilities at the project site to meet recreation demand, (c) a description of the methodology used to collect all study data, (d) if there is a need for additional facilities, a recreation plan proposed by the licensee to accommodate recreation needs in the project area, and (e) documentation of consultation with the National Park Service, the Maine DEP, the Maine DC, the Cities, and the Land Trust.
- (8) Develop a computerized tracking system for implementing any required recreational improvements.

The final recreation plan shall also include: (1) a map(s) that clearly identifies all existing and proposed recreation sites and public access, in relation to the existing Gulf

Island-Deer Rips Project boundary; (2) a map(s) that clearly identifies where the project boundary is to be modified such that all land areas associated with the measures listed above are incorporated into the project; (3) conceptual facility site plans for each site; (4) a description of soil erosion and sediment control measures to be used during construction of the recreation facilities; (5) descriptions of how existing and new facilities will be constructed, operated, and maintained, including the entity or entities responsible; (6) a discussion of how the needs of the disabled were considered in the planning and design of the recreation facilities; (7) a description of appropriate sign(s) to be placed at the recreation sites; and (8) an implementation schedule.

The licensee shall include with the final recreation plan documentation of agency consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the entities consulted during preparation of this plan (as identified above), and specific descriptions of how such entities' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted entities to comment prior to 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 required by the Commission. Any structure or facility built or installed in accordance with the Commission-approved final recreation plan that is, or is proposed to be, within the project boundary shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

Article 412. *Land and Trail Management Plan.* Within one year of the issuance date of this license, the licensee shall file, for Commission approval, a land and trail management plan for the Gulf Island-Deer Rips Project, consistent with condition 7.A of the water quality certification (attached as Appendix A to this license) issued September 21, 2005, by the Maine Department of Environmental Protection (Maine DEP). The purpose of this plan is to coordinate land-management activities and protect environmental resources (e.g., aesthetics, public access, sensitive habitats) on appropriate project shorelands.

The licensee shall prepare the land and trail management plan in consultation with the National Park Service, the Maine DEP, the Maine Department of Conservation, the cities of Lewiston and Auburn, Maine, the Androscoggin Land Trust, the Androscoggin Valley Council of Governments, the Conservation Law Foundation, American Rivers, the Appalachian Mountain Club, and the Maine Audubon Society. In addition, the licensee shall prepare the land and trail management plan in conjunction with the cultural

resources management plan required as part of the Programmatic Agreement under Article 410 of this license, so that land management decisions do not conflict with any historic properties or cultural sites in the project area.

The plan shall address management concerns related to (a) licensee-owned land within the project boundary, and (b) any additional lands within 200 feet of the high-water elevation of the impoundment that may be needed for project-related purposes. The plan shall include, at a minimum:

- (1) a copy of Exhibit G [or comparable map(s)] and other pertinent information that describes all lands that are subject to this article, as described above;
- (2) a list of criteria that were applied to the lands described in Item (1) to determine their need for each of the project-related purposes, as described above;
- (3) information on (a) the cost and types of ownership rights to be acquired or (b) other methods of protecting lands identified in Item (1) (i.e., buffer zones);
- (4) any allowable uses for those lands identified in Item (1) (e.g., public access, trail development, protection of wildlife habitats and scenic and cultural resources, commercial uses, etc.); and
- (5) conditions that will guide the use of the lands identified in Item (1) (e.g., land-clearing and ground-disturbing limitations, development and use restrictions and allowances, building setback requirements, landscape restoration standards, grounds maintenance practices, landscape screening provisions, permitting system, and monitoring and inspection procedures).

The licensee shall include with the land and trail management plan documentation of agency consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the entities consulted during preparation of this plan (as identified above), and specific descriptions of how such entities' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted entities to comment prior to 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 required by the Commission.

Article 413. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

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

be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission 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 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least

60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

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

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

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

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

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only

Project No. 2283-005

67

upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

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

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

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

J. Mark Robinson
Director
Office of Energy Projects

APPENDIX A

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CERTIFICATION UNDER SECTION 401 OF THE
FEDERAL CLEAN WATER ACT

1. WATER LEVELS

- A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as define below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant and appropriate state and/or federal agencies, water levels in the project impoundments shall be maintained as follows:
- In Gulf Island Pond, within one foot of full pond level from May 1 through June 30 and within four feet of full pond from July 1 through April 30 annually; and
 - In the Deer Rips impoundment, within one foot of full pond under run-of-river operation at all times.
- B. “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.
- C. “Emergency Electrical System Conditions” means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- D. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans for providing and monitoring the impoundment water levels required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality.

2. MINIMUM FLOWS [Omitted]

3. DOWNRAMPING OF FLOWS

- A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as define below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant and appropriate state and/or federal agencies, the downramping of flows from the Deer Rips development from full generating flow to the required minimum flow shall be restricted to a rate no faster than linearly over 20 minutes.
- B. "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.
- C. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating 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.
- D. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans for providing the downramping of flows from the Deer Rips Development required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality.

4. FISH PASSAGE FACILITIES

Based on a written request from the Atlantic Salmon Commission that fish passage facilities be installed on the main stem of the Androscoggin River above Lewiston Falls to facilitate the restoration of Atlantic salmon, the applicant shall install such fish passage facilities as may be required by the Department, after notice to the applicant and the opportunity for a hearing, to allow the migration of Atlantic salmon into and out of the river above the project dams.

5. GULF ISLAND POND OXYGENATION

- A. The applicant shall, effective on the date of issuance of this certification, continue to participate in the partnership with Fraser Paper, Rumford Paper Company, and International Paper or their successors in interest, as described in section 4(c) of this certification, to operate and maintain an oxygen injection system at Upper Narrows in such manner as is currently approved by the Department.

[B through G Omitted]

6. GULF ISLAND POND PHOSPHORUS CONTROL [Omitted]

7. RECREATIONAL ACCESS AND USE FACILITIES

- A. The applicant shall develop, maintain and monitor the new and existing public recreational access and use facilities, and shall develop and maintain the facility improvements, as described in Section 8 of this order.
- B. The applicant shall, within one year of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans for developing, maintaining and monitoring the recreational access and use facilities required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality.

8. 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 the review and approval of the Department prior to implementation.

9. COMPLIANCE WITH ALL APPLICABLE LAWS

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

10. EFFECTIVE DATE

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

11. SEVERABILITY

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

[WATER QUALITY CERTIFICATION TEXT - - RELEVANT EXCERPTS]

4. DISSOLVED OXYGEN

c. Oxygenation Project. Based on the results of the water quality modeling, DEP worked with the paper companies and Central Maine Power Company to evaluate alternatives for improving DO levels in Gulf Island Pond and in the Deer Rips and Lewiston Falls impoundments. It was determined that injecting oxygen directly into Gulf Island Pond was the most viable option.

CMP (now FPL Energy) then voluntarily joined with James River Company (now Fraser Paper), Boise-Cascade (now Rumford Paper Company), and International Paper Company to form the Gulf Island Pond Oxygenation Partnership. The Partnership has been responsible for constructing, operating and maintaining an oxygenation injection facility, known as the Gulf Island Pond Oxygenation Project (GIPOP), located at a site about 5 miles upstream of Gulf Island Dam called Upper Narrows, one of two hydrologic constrictions on the pond. The facility has been operational since June 1, 1992. FPL Energy pays 14% of annual GIPOP operating and maintenance costs, pursuant to the GIPOP Agreement of General Partnership dated January 9, 1991.

Initially, GIPOP was operated to inject 73,000 pounds of oxygen into Gulf Island Pond (resulting in a dissolved oxygen input of 27,000 pounds) every 24 hours from July 1 to September 30 annually. In 1999, the DEP approved a revised GIPOP operational plan designed to maximize the transfer of oxygen when not needed to meet water quality standards and to minimize the transfer of oxygen when not needed to meet standards. Under the revised operational plan, GIPOP operation begins and ends when the 3-day average water temperature at Turner Bridge is greater than 18 degrees Celsius in June and

less than 21 degrees Celsius in September, respectively. Once begun in June, GIPOP operation continues until ending in September, with oxygen injection rates ranging from 8,000 to 91,000 pounds per day depending on river flows and water temperatures.

Water quality monitoring since 1992 indicates that, initially after the operation of GIPOP began, there were significant improvements in DO levels in Gulf Island Pond. However, there has been minimal additional improvement in DO levels since 1993, and present DO levels in the impoundment still fail to attain applicable standards.

In addition, water quality monitoring since GIPOP went on-line in 1992 indicates that DO standards are maintained in the Deer Rips and Lewiston Falls impoundments, as well as in the river below Lewiston Falls, as long as DO levels of at least 5 parts per million are achieved in the Gulf Island Tailrace.

* * *

8. FISHING AND RECREATION IN AND ON THE WATER

a. Existing Uses. Major recreational uses in the project area include bank and boat fishing, hunting, trail travel activities, and recreational boating. Continuing improvements in water quality and in the availability of game fish for angling are expected to result in growing recreational use in the future.

b. Existing Recreational Facilities. Existing recreational facilities on Gulf Island Pond include: an informal boat access site located on applicant-owned land at the end of East Waterman Road in Auburn; a commercial airport and float plane base in Turner; an informal picnic and boat access site located on applicant-owned land in Greene; a public parking and boat launch facility developed in 1989 by the prior licensee at the Turner Bridge site; three day-use and picnic sites on applicant-owned islands; and an informal day-use, picnic and fishing site on applicant-owned land at the south end of Goggins Island in Leeds.

Access to the Deer Rips impoundment is currently provided at an informal carry-in boat access site located on applicant-owned land along Switzerland Road in Lewiston.

Informal access to the river below Deer Rips Dam is available across applicant-owned land below the Deer Rips powerhouse in Auburn.

c. Applicant's Proposals. In 1989, the prior licensee developed a Comprehensive Recreational Facilities Plan which was designed to meet current and anticipated public recreational needs at CMP-owned hydro projects. Based on this plan, and after

consultations with resource agencies, local interest groups, and the affected municipalities, the applicant proposes to undertake the following measures to protect and enhance recreational access and use in the project area:

- Limit normal weekly impoundment drawdowns of Gulf Island Pond to no greater than one foot from May 1 through June 30, and four feet from July 1 through April 30;
- Continue to operate the Deer Rips development as a run-of-river facility, with minimal impoundment fluctuations during normal project operations;
- Maintain the new boat launch facility at the Turner Bridge site;
- Monitor use and make improvements as needed at the Turner Bridge site;
- Maintain three existing island day use-picnic areas and three existing informal day use and boat/fishing access areas on Gulf Island Pond (Waterman Road site, Greene site, and Goggins Island site);
- Monitor use and make improvements as needed at the Goggins Island site;
- Investigate the feasibility of developing a formal carry-in boat access site to the Androscoggin River below Deer Rips;
- Investigate the feasibility of developing a formal carry-in boat access site at Waterman Road;
- Continue to allow access to the Deer Rips impoundment across applicant-owned land at the Switzerland Road site, and improve existing road-side parking at the site;
- Continue to allow access to the Deer Rips tailrace area across applicant-owned land adjacent to the Deer Rips powerhouse;
- Install and maintain a canoe portage trail at each of the project dams; and
- Develop a conservation and trail plan for all FPL-owned land within 200 feet of the high water elevation of the project impoundments.

d. Agency Comments. The Department of Conservation (DOC) comments that the State owns a 2,262 acre parcel along the West Shore of Gulf Island Pond that was purchased through the Land for Maine's Future Program with the intent to preserve the scenic, undeveloped character of the shoreline and to permit passive public recreational access to the area. The DOC also comments that the applicant's proposals for recreational access are consistent with the agency's management plans for the State parcel on Gulf Island Pond and should be adequate to meet public access in the project area.

e. Discussion. There is a reasonable assurance that the applicant's proposals to protect and enhance recreational access and use in the project area will be adequate to ensure that the project waters will be suitable for the designated use of recreation in and on the water, subject to the other provisions of this Order.