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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

James River-New Hampshire) Project No. 2327-002
Electric, Inc.)

ORDER ISSUING NEW LICENSE

(Issued August 1, 1994)

James River-New Hampshire Electric, Inc. (James River) filed a license application under Part I of the Federal Power Act (FPA) for the continued operation and maintenance of the 7,920 kilowatt (kW) Cascade Project, located on the Androscoggin River, in Coos County, New Hampshire. The Androscoggin River is a navigable waterway of the United States. 1/ James River originally proposed the addition of another powerhouse with one generating unit rated at 14,300 kW on the eastern shore of the river (the Pulsifer Rips development), but by an amendment dated November 29, 1993, James River withdrew its proposal to add the powerhouse. We will issue the license pursuant to the amended application.

BACKGROUND

Notice of the application has been published in the Federal Register. Motions to intervene in this proceeding were filed by the City of Berlin, New Hampshire (Berlin), the Town of Gorham, New Hampshire (Gorham), a coalition of groups consisting of Conservation Law Foundation, Inc., Appalachian Mountain Club, American Rivers, Inc., and Trout Unlimited (Conservation Law), and the Cascade Flats Neighborhood Organization. American Whitewater Affiliation and New England FLOW (American Whitewater) filed a late motion to intervene, which was granted by notice issued June 10, 1993. The New Hampshire Department of Fish and Game (Fish and Game) filed a late motion to intervene, which we are granting in an Order Granting Applications for New License for seven projects on the Androscoggin River, issued concurrently with the present order.

On October 19, 1992, the Commission issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project. The Commission's staff issued a Final Environmental Impact Statement (FEIS) for this project on

1/ Public Service Company of New Hampshire, 27 FPC 826 (1962).

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November 30, 1993. The comments received from interested agencies and individuals have been fully considered in the FEIS in determining whether to issue the license. The staff also prepared a Safety and Design Assessment (SDA), which is available in the Commission's public file for this project.

As we have indicated, concurrently with this order, we are issuing an Order Granting Applications for New License, which discusses issues common to seven projects on the Androscoggin River. The discussion in that order is incorporated by reference herein.

PROJECT DESCRIPTION

The existing project consists of a 583-foot-long concrete dam with two spillway sections: (1) a 53-foot-high ogee semi-
orbicular section topped with 3-foot-high flashboards and (2) a 168-foot-long gated forebay spillway topped with 7 operable and 7 inoperable log gates, a reservoir with a surface area of 28 acres, a powerhouse containing 3 generating units with a total rated capacity of 7,920 kW, a 50-foot-long transmission line, and appurtenant facilities. The project has an annual generation of 52.6 GWh. A more detailed project description can be found in ordering paragraph B(2) and in the FEIS.

APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10 and 15 of the FPA, we have evaluated James River's record as a licensee for these areas: (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 line improvements; and (7) project modifications.

1. Section 10(a)(2)(C): Conservation Efforts

James River is a wholly owned subsidiary of James River Paper Company, Inc., which uses virtually all of its electricity. James River is not a public utility and has no retail customers. Its only demand-side consumer is the parent paper company. In view of these facts, Section 10(a)(2)(C) does not apply to James River.

2. Section 15(a)(2)(A): Compliance History and Ability to Comply with the New License

We have reviewed James River's license application in an effort to judge its ability to comply with the articles, terms and conditions of any license issued, and with other applicable provisions of this part of the FPA. Based on that review, we

believe James River has or can acquire the resources and expertise necessary to carry out its plans and comply with all articles, terms and conditions of a new license.

3. Section 15(a)(2)(B): Safe Management, Operation, and Maintenance of the Project

Available river flows at the Cascade Project are affected by the extensive storage reservoirs upstream of the project. The storage reservoirs are operated by the Union Water Power Company and the Androscoggin Reservoir Company. Because of this regulated operation, there are generally no large, spontaneous increases or decreases in river flow. Since changes in the river flow at the Cascade Project tend to be gradual, downstream warning devices are not required at this project.

The Cascade Project is currently classified as having a high hazard potential. Based on this classification, the project would be subject to the requirements of 18 CFR, Part 12 of the Commission's regulations. James River maintains the Commission's Emergency Action Plan as required by 18 CFR, Subpart C of Part 12. James River has submitted the Sixth Independent Consultant Safety Inspection Report (Part 12) to the Commission for review. We have determined that the Sixth Part 12 Report is in compliance with the established criteria and engineering standards as specified in the Commission's Engineering Guidelines and have accepted the consultant's findings. In a letter dated May 7, 1993, James River requested the New York Regional Office to consider reclassifying the Cascade dam hazard potential from a high hazard rating to a low hazard rating. The Commission's staff is currently studying the request.

4. Section 15(a)(2)(C): Ability to Provide Efficient and Reliable Electric Service

The project is operated to derive maximum energy benefit from the river flow and is, therefore, operating in an efficient and reliable manner.

5. Section 15(a)(2)(D): Need for Power

The purpose of James River's electric generating resources is to supply electric power--capacity and energy--to meet a portion of the James River paper Company's requirements. The pulp and paper products industry is highly competitive, and is an energy-intensive industry. James River's competitive position depends heavily on the availability of a reliable source of low-cost electric power.

6. Section 15(a)(2)(E): Transmission Line Improvements

James River's existing transmission system is operated to carry electricity from James River's six existing hydroelectric projects and other generating facilities to the Burgess and Cascade paper mills. The transmission system is designed to function with the project out-of-service, such that no operational or circuit loading impacts would occur. Therefore, the existing transmission system is sufficient, and no changes to the service affected by the project operation would be necessary whether the Commission issues a license for the project or not.

7. Section 15(a)(2)(F): Project Modifications

James River proposes to modify the existing project operation of the Cascade Project to enhance environmental and aesthetic resources affected by the project. We have determined that these enhancements can be carried out in a cost effective manner.

8. Section 15(a)(3)(A) and (B): Compliance Record

James River has complied with the terms and conditions of the existing license and has made timely filings with the Commission.

WATER QUALITY CERTIFICATION

The New Hampshire Department of Environmental Services granted James River a water quality certification for the Cascade Project on July 6, 1989. The water quality certification prescribes a comprehensive water quality monitoring plan for Cascade as well as a final erosion control plan.

SECTION 18 - RESERVATION OF AUTHORITY TO PRESCRIBE FISHWAYS

The Department of the Interior requests that any license issued for the Cascade Project include a reservation of authority for Interior to prescribe the construction, operation, and maintenance of fishways pursuant to Section 18 of the FPA. Article 407 of the license reserves authority to the Commission to require the licensee to construct, operate and maintain such fishways as may be prescribed by Interior pursuant to Section 18 of the FPA.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j) of the FPA requires the Commission to include license conditions, based on recommendations of federal and state fish and wildlife agencies, for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife

resources. Pursuant to Section 10(j) of the FPA, the Commission's staff made a determination that the recommendations of the federal and state fish and wildlife agencies are consistent with the purposes and requirements of Part I of the FPA and applicable law. The staff has addressed the concerns of the federal and state fish and wildlife agencies in the FBIS, and the license includes conditions consistent with the recommendations of the agencies. 2/

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA requires the Commission to also consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Under Section 10(a)(2) of the Act, federal and state agencies filed 12 comprehensive plans that address various resources in New Hampshire. Of these, staff identified and reviewed eight plans relevant to this project. 3/ No conflicts were found.

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- 2/ James River notes that Interior's comments containing fish and wildlife recommendations were not timely filed. Section 4.34(b) of the Commission's regulations provides that recommended terms and conditions on a license application must be filed with the Commission no later than 60 days after issuance by the Commission of public notice declaring that the application is ready for environmental analysis. The section also provides that late-filed fish and wildlife recommendations will not be considered under Section 10(j) but rather under Section 10(a) of the FPA. Interior's comments were filed about three weeks after the due date and, under the regulation, should be considered under Section 10(a). In any event, we are adopting all of Interior's recommendations for this project to the extent that they are not rendered moot by the amendment.
- 3/ Wild and scenic rivers for New Hampshire, New Hampshire Office of State Planning, 1977; New Hampshire outdoors, 1988-1993: State comprehensive outdoor recreation plan, New Hampshire Office of State Planning, 1989; New Hampshire wetlands priority conservation plan, New Hampshire Office of State Planning, 1989; Public access plan for New Hampshire's lakes, ponds, sand rivers, New Hampshire Office of State Planning, 1991; New Hampshire rivers management and protection plan, State of New Hampshire, 1991; North American Waterfowl Management Plan, U.S. Fish and Wildlife Service, 1986; The nation-wide rivers inventory, National Park Service, 1982; Fisheries USA: The recreational fisheries Policy of the U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, undated.

COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a proposed project, the recreational, fish and wildlife resources, and other nondevelopmental values of the involved waterway are considered equally with power and other developmental values. In determining whether, and under what conditions, a hydropower license should be issued, the Commission must weigh the various economic and environmental tradeoffs involved in the decision.

Based on an independent review and evaluation of the existing Cascade Project, agency recommendations, and the no-action alternative as documented in the FEIS, we have selected issuing a new license for the Cascade Project with additional enhancement measures as the preferred option. We have selected this option because: (1) the required measures would protect and enhance the water quality, fishery resources and aesthetics; and (2) the electricity generated from a renewable resource would be beneficial because it would continue to replace the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable energy resources and reducing atmospheric pollution.

Both Conservation Law and Cascade Flats support the amendment deleting the Pulsifer Rips expansion request. Conservation Law states that the expansion would have further lowered dissolved oxygen levels, degraded water quality by reducing river flows, and caused further river sediment disturbance and resulting resuspension of dangerous toxics. However, it argues that James River should be required to provide an additional fishery enhancement to compensate for the improved habitat that will be forgone by the failure to create the Pulsifer Rips bypass reach. Conservation Law also contests James River's position that fish passage facilities are now not needed at the project. Cascade Flats states that the expansion would have had negative cumulative environmental, human health, socioeconomic, and aesthetic effects on the adjacent Cascade Flats neighborhood. Fish and Game expresses concern about the amendment's elimination of enhanced trout habitat in the Pulsifer Rips bypass reach. Although it requests that we deny the amended application, it appears primarily to seek an opportunity for consultation and the establishment of new mitigation and enhancement measures.

The Commission's staff has performed an economic analysis comparing James River's cogeneration alternative with the expansion alternatives originally proposed. The staff determined that the levelized cost of energy from James River's cogeneration alternative could not be greater than 97 mills per kilowatt-hour

of energy generation, starting in 1996, and that the cogeneration facilities would not cost more than \$1,200 per kilowatt of installed capacity. 4/ In its studies for the Androscoggin FEIS, the staff calculated the levelized cost of energy from James River's proposed Pulsifer Rips expansion to be about 149 mills/kWh. This comparison confirms James River's conclusion that installation of steam-electric cogeneration capacity in conjunction with its new process-steam boiler would be more economical than the Pulsifer Rips hydroelectric expansion proposal. 5/

James River originally proposed to modify unit number one at the existing Cascade Powerhouse to pass minimum flows into the bypass reach of the river below its proposed new Pulsifer Rips powerhouse. The modification of unit one would be economically beneficial if it were used to generate power from water that would otherwise be spilled without passing through either the existing Cascade powerhouse or the proposed Pulsifer Rips powerhouse. However, if the Pulsifer powerhouse is not constructed, there would be no environmental or economic benefit for modifying Cascade's unit number one.

The amended proposal would have greater economic benefits than would the original one. The elimination of improved trout habitat in the originally-proposed Pusifer Rips bypass reach is the only adverse environmental effect identified by the

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- 4/ The staff's estimate was based on discussions with Mr. E. Vargo of the firm Babcock & Wilcox, who designs such facilities. The staff based its fuel use calculations on an assumed cogeneration heat rate of 8,870 btu's per kilowatt-hour of generation, and its fuel cost calculations on the average fuel cost data for the New England Region from Table 115 of the Energy Information Administration's Supplement to the Annual Energy Outlook, February 1993.
- 5/ James River, in its amendment request, contends that the expansion, with staff's recommended mitigation, would not be economical. In support of this contention, it states that staff calculated that the Pulsifer Rips expansion would cost 174.6 mills/kWh, a figure comparable to its own estimate of 178 mills/kWh. James River misinterprets staff's use of the quoted figure. This figure referred to the 50-year levelized cost of alternative purchased power equivalent to the power which would be produced by the Pulsifer Rips expansion, starting in 1998. Staff calculated the 50-year levelized cost of power from the expansion starting in 1998 to be 149.04 mills/kWh. In any event, further discussion regarding the economic benefits of this expansion is unnecessary in light of our acceptance of the amendment.

commenters with respect to this amendment. The commenters otherwise identify environmental advantages of the amendment in comparison with the original proposal. Although we believe that the measures recommended in the FEIS would have been sufficient to mitigate for any negative effects of the Pulsifer Rips development, we believe that, on balance, the economic benefits and positive environmental effects of withdrawing the expansion outweigh the loss of the improved trout habitat that would have been created. In our concurrent order granting applications for new license, we indicate why we believe the existing record is sufficient for us to determine appropriate enhancement and mitigation conditions for a license based on the amended application. As we will discuss, many of the enhancement conditions recommended by the FEIS remain pertinent.

In light of the above environmental and economic conclusions, we find that issuing a license for this project based on the amended application, rather than on the original proposal, is warranted. We must now consider the environmental impacts, enhancement and mitigation measures, and economic benefits relating to the revised proposal.

A number of the enhancement measures proposed by James River or added by the staff were designed to address effects of the Pulsifer Rips development and, with the abandonment of that development, are no longer necessary. James River filed an erosion and sediment control plan. 6/ The staff recommended that James River base its final measures on the conceptual erosion and sediment control plan, and that it should prepare these measures in consultation with appropriate resource agencies and with Gorham. 7/ The staff also recommended that James River consult with EPA and other appropriate agencies in preparing a plan for testing the reservoir sediments prior to their disturbance or removal and, if dioxin or other toxic materials are present, for the proper removal, handling, and disposal of those materials. All of these measures were designed only to mitigate effects of the Pulsifer Rips construction and will not be made a condition of the license, since no new construction will be authorized.

James River proposed, and the staff recommended, a minimum flow of 400 cfs from the existing Cascade powerhouse to the new Pulsifer Rips tailrace to maintain optimum salmonid habitat. Without the proposed Pulsifer Rips expansion, this 1.5-mile-long bypass reach will no longer exist, and the 400 cfs minimum flow is no longer possible. The existing Cascade project will

6/ FEIS, p. 4-1.

7/ FEIS, p. 4-26.

continue to operate as a run-of-river facility with minor variations in the impoundment level. Thus, aquatic habitat and fisheries both upstream and downstream of the Cascade project will be protected by minimizing fluctuations in water levels.

Withdrawal of the proposed Pulsifer Rips expansion also affects the conditions imposed for the existing 400-ft-long bypass reach extending from the base of Cascade dam to the existing Cascade powerhouse. Interior recommended that, prior to the start-up of the Pulsifer Rips powerhouse, an interim minimum flow of 6 cfs be released from the dam spillway. Interior also recommended that, following start-up of the Pulsifer Rips development, the interim minimum flow be increased to 100 cfs until an instream flow study could be conducted in the upper bypass reach. Interior's recommendation was based on the fact that, with the proposed flow of 400 cfs from the existing Cascade powerhouse, the back-water effects into the upper bypass reach would be significantly lessened or non-existent. EPA concurred with Interior's recommendations, and staff recommended these flow conditions. 8/.

However, since the Pulsifer Rips expansion will not be constructed, the existing bypass reach will continue to be back-watered by the Cascade tailrace. Studies of the bypass reach indicated that the back-watered pool offered suitable depths for salmonids at both leakage and 100 cfs. 9/ Therefore, a minimum flow of 6 cfs, equivalent to the present leakage flow released from the Cascade dam, will continue to provide adequate protection for the existing aquatic resources in the Cascade bypass reach. Consequently, the 100 cfs interim minimum flow is not needed, and we will require a minimum flow of 6 cfs to be released from the Cascade dam into the bypass reach.

As we note in the order granting applications for new license, Interior, pursuant to Section 18 of the FPA, prescribed the construction, operation, and maintenance of downstream fish passage facilities for the proposed new Pulsifer Rips intake. Interior based its prescription on the fact that, due to the proposed increase of 2,300 cfs in Cascade's hydraulic capacity and the associated reduction in spillage flows (from 20 percent to 6 percent), entrainment of fish into the project's turbines would be likely to increase. 10/ Without the proposed Pulsifer Rips expansion, all flows except spillage will continue to be passed through the existing Cascade powerhouse. Interior

8/ FEIS, p. 4-35.

9/ FEIS, p. 4-15.

10/ FEIS, p. 4-41.

did not prescribe or recommend fish passage facilities for the existing Cascade intake, either initially or in response to the notice of the Cascade application amendment. Consequently, we will not require fish passage facilities at this project, although, as we state in the order granting applications for new license, we will reserve Interior's authority to prescribe fishways at the project in the future.

The FEIS recommended that James River, after consultation, should file a plan for providing public access to the west side of the river between the Pulsifer Rips penstock intake and the tailrace. ^{11/} Similarly, the FEIS recommended that James River, after consultation, prepare and implement a landscaping and revegetation plan to minimize the aesthetic impact of the Pulsifer Rips structures. ^{12/} Because these recommended measures are related solely to the Pulsifer Rips expansion, they will not be required. Article 407, requiring a shoreline protection plan, makes adequate provision for protection of recreational resources.

James River argues in its amendment filing that establishing buffer zones at Cascade would not be necessary without the Pulsifer Rips expansion. However, the FEIS's conclusion that a shoreline protection plan is necessary at Cascade is not based on the construction of facilities at Pulsifer Rips. ^{13/} The same shoreline protection plan is recommended for other projects where no construction is proposed. Consequently, this measure is still needed.

The FEIS recommends requiring implementation of the programmatic agreement for cultural resource protection. The agreement contains provisions for archeological data recovery along the Pulsifer Rips penstock. Since Pulsifer Rips will not be built, this measure is not needed. The agreement contains provisions for amending the agreement by any of the parties. Therefore, we will simply include a license article adopting the FEIS recommendation.

Considering the mitigation measures to be required as license conditions, the staff has performed a revised economic analysis of the amended Cascade proposal. The analysis assumes that any license issued would be for a 30-year term, since there would be no new construction.

^{11/} FEIS, p. 4-50.

^{12/} FEIS, p. 4-47.

^{13/} FEIS, p. 4-52.

The existing Cascade Project has an installed capacity of 7.92 MW and generates about 52.60 GWh of energy per year. The annual operating cost of the existing project is about \$2,832,000 (53.84 mills/kWh). The 30-year levelized annual value of the project's power, based on the cost of purchased power, is about \$7,952,000 (151.18 mills/kWh), in 1994 dollars. Therefore, the levelized net annual economic benefit of the existing project without any enhancement measures would be about \$5,120,000 (97.34 mills/kWh).

The enhancement measures being required include a minimum flow of 6 cfs into the bypassed reach of the dam. The 6-cfs minimum flow would reduce the project's existing energy generation by about 0.11 GWh annually, and the project's 30-year levelized net economic benefits by about \$11,000 per year. Even with the enhancement measures, the project would provide about 52.49 GWh of clean and renewable energy annually, at a cost significantly below the cost of equivalent replacement power. We conclude that the existing project would continue to be economically beneficial when compared to the alternative cost of fossil fuel and capacity in the region.

SUMMARY OF FINDINGS

Background information, analysis of impacts and support for related license articles are contained in the FEIS.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the SDA.

We conclude that the project would not conflict with any planned or authorized development, and would be best adapted to comprehensive development of the waterway for beneficial public uses.

The Commission orders:

(A) This license is issued to James River-New Hampshire Electric, Inc. (Licensee), for a period of 30 years, effective the first day of the month in which this license is issued, to operate and maintain the Cascade Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the Licensee's interests in those lands shown by Exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 2327-</u>	<u>Showing</u>
1	19	Project Location Plan
2	20	Site Location Map
3	21	Project Area Map 1
4	22	Project Area Map 2
5	23	Project Area Map 3

(2) Project works consisting of: (a) a concrete dam, with a total length of about 583 feet and a maximum height of 53 feet, with two spillway sections: (1) an ogee semi-orbicular shaped spillway section, about 313 feet long with a maximum height of about 53 feet, at a crest elevation of 898.4 feet (USGS), topped with 3-foot-high flashboards, and (2) a gated forebay spillway structure, about 168 feet long by 15 feet wide, with a sill elevation of 886.5 feet (USGS), topped with 7 operable and 7 inoperable log gates, each about 9 feet wide by 11 feet high; (b) a concrete/brick powerhouse, about 43 feet wide by 135 feet long, with three hydroelectric generating units having (1) a total rated capacity of 7,920 kW, (2) a hydraulic capacity range of 870 - 2,690 cfs, and (3) a design head of about 45 feet; (c) a reservoir with a surface area of about 28 acres, at a water surface elevation of 901.4 feet (USGS); (d) a 22-kV, 50-foot-long primary transmission line; 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 sections of Exhibit A filed February 1, 1989, and revisions in the additional information response filed on July 10, 1989:

The turbines and generators as described on pages A-1 through A-22.

Exhibit F - The following Exhibit F drawings filed on February 1, 1989, and revisions in the additional information response filed on July 10, 1989:

(B) The project consists of:

(1) All lands, to the extent of the Licensee's interests in those lands shown by Exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 2327-</u>	<u>Showing</u>
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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 sections of Exhibit A filed February 1, 1989, and revisions in the additional information response filed on July 10, 1989:

The turbines and generators as described on pages A-1 through A-22.

Exhibit F - The following Exhibit F drawings filed on February 1, 1989, and revisions in the additional information response filed on July 10, 1989:

<u>Exhibit</u>	<u>FERC No.</u>	<u>Showing</u>
<u>Existing Cascade Facility:</u>		
F-1	2327-1	Dam Plan
F-2	2327-2	Spillway and Forebay Wall Elevations
F-3	2327-3	Forebay Gate Structure-Plan and Elevation
F-4	2327-4	Dam Sections
F-5	2327-5	Powerhouse and Gatehouse Plan
F-6	2327-6	Powerhouse-Longitudinal Section
F-7	2327-7	Powerhouse-Cross Section
F-8	2327-8	Powerhouse-North Elevation
F-9	2327-9	Powerhouse-East Elevation
F-10	2327-10	Powerhouse-South Elevation

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

(C) The Exhibits A, F, and G described above are approved and made part of the license.

(D) 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 U.S.," and the following additional articles.

Article 201. The Licensee shall pay the United States an annual charge, effective on the first day of the month in which this license is issued, for the purpose of reimbursing the United States for the cost of administration of Part I of the FPA as determined by the Commission. The authorized installed capacity for that purpose is 29,600 horsepower.

Article 202. Pursuant to Section 10(d) of the FPA, 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 includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

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

Article 204. The Commission reserves authority, in the context of a rulemaking proceeding, a statement of policy, or a proceeding specific to this license, to require the Licensee to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project. The terms of this article shall be effective unless the Commission, in Dockets No. RM93-23, finds that the Commission lacks statutory authority to require such actions, or otherwise determines that the article should be rescinded.

Article 205. The Commission reserves authority, in the context of any licensing, relicensing, or license or exemption amendment proceeding involving the upstream Androscoggin River Basin projects located at Mooselookmeguntic Lake, Richardson Lake, the Azischoos Project No. 4026, the Errol Project No. 3133, the Pontook Project No. 2861, or the Kennebago Project No. 4413, to require the Licensee, in a proceeding specific to this license, to conduct studies, modify minimum flow releases, or otherwise make reasonable provisions for modifying project facilities or operation as necessary to mitigate or avoid

cumulative effects identified in environmental analyses of these upstream projects.

Article 401. The Licensee shall operate the project in a run-of-river mode for the protection of fish and wildlife resources and water quality in the Androscoggin River. The Licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, approximate the sum of inflows to the project reservoir. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the Licensee, or for short periods upon mutual agreement between the Licensee, the New Hampshire Fish and Game Department, and the U.S. Fish and Wildlife Service. If the flow is so modified, the Licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. The Licensee shall release from the Cascade dam into the Androscoggin River a minimum flow of 6 cubic feet per second, as measured immediately below the Cascade dam, or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish and wildlife resources and water quality in the bypassed reach of the Androscoggin River. 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 New Hampshire Fish and Game Department, and the U.S. Fish and Wildlife Service. If the flow is so modified, the Licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. Within six months of the effective date of this license the Licensee shall file with the Commission for approval, a plan to monitor run-of-river operation and minimum flows of the project, as stipulated by Articles 401 and 402 to describe how flows will be maintained below the project when the impoundment is refilled after any maintenance and/or repairs.

The plan shall include, but not be limited to, a schedule for installing the monitoring equipment, the proposed location, design, and calibration of the monitoring equipment, the method of flow data collection, and a provision for providing flow data to the consulted agencies, within 30 days from the date of the agencies request for the data.

The Licensee shall prepare the plan after consultation with the U.S. Geological Survey, the U.S. Fish and Wildlife Service, the New Hampshire Fish and Game Department. The Licensee shall include with the plan documentation of consultation and copies of

comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations 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 monitoring plan. Upon Commission approval, the Licensee shall implement the monitoring 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 run-of-river operation or maintenance of minimum flows, the Commission may direct the Licensee to modify project structures or operations.

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

Article 405. Within six months of the effective date of this license, the Licensee shall file with the Commission for approval, a plan to monitor dissolved oxygen (DO) levels and temperature of the Androscoggin River upstream and downstream of the project. The purpose of this monitoring plan is to ensure that stream flows, as measured immediately upstream of the impoundment, downstream of the project dam, and downstream of the project tailrace, maintain a DO content of no less than 75 percent saturation.

The monitoring plan shall include a schedule for:
(1) implementation of the monitoring plan; (2) consultation with the appropriate federal and state agencies concerning the results of the monitoring; and (3) filing the results, agency comments, and Licensee's response to agency comments with the Commission.

The Licensee shall prepare the monitoring plan after consultation with the New Hampshire Department of Environmental Services, the New Hampshire Fish and Game Department, and the U.S. Fish and Wildlife Service. The Licensee shall include with the monitoring plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the monitoring plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations

prior to filing the monitoring 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 monitoring plan. Upon Commission approval, the Licensee shall implement the monitoring 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 maintenance of the state DO standard, the Commission may direct the Licensee to modify project structures or operations.

Article 406. The Licensee shall implement the provisions of the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the New Hampshire Division for Historic Preservation, for Managing Historic Properties Likely to be Affected by Continuing to Operate the Sawmill Project, Project No. 2422, Cross Power Project, Project No. 2326, Cascade Project, Project No. 2327, Gorham Project, Project No. 2311, Shelburne Project, Project No. 2300, J. Brodie Smith Project, Project No. 2287, and Gorham Project, Project No. 2288, All Located on the Androscoggin River" executed on November 18, 1993. The Commission reserves the authority to require changes to the Cultural Resources Management Plan or plans at any time during the term of the license.

Article 407. Within one year from the effective date of this license, the Licensee shall develop and file, for Commission approval, a shore land protection plan. The plan shall be designed to protect the aesthetics of and public access to the project's shore lands.

The plan shall include, but not be limited to: (1) maps delineating the shore land protective buffer zone area; (2) the method by which the buffer zone would be maintained, including any cost and method of acquiring (fee or less-than-fee) the various land parcels that comprise the buffer, and the criteria used for selecting the buffer zone widths; and (3) provisions for: (a) maintaining prescribed minimum-width, no tree-cutting, buffer zones around the project's shores, public roads, and private property; (b) carefully planning any timber clearing activities adjacent to the buffer zones, including giving special consideration to the scale and pattern of any areas where cutting is performed; (c) minimizing openings in shoreline vegetation where future recreational facility development requires construction closer to the shoreline than the prescribed minimum-width buffer zone; (d) maintaining the project transmission line right-of-ways in a way that minimizes adverse aesthetic effects

caused by the clearing of vegetation; (e) landscape screening, on a as-needed basis, for all storage buildings, parking areas, and other adverse visual features that are visible from the shoreline, impoundment, or other adjacent critical viewpoints. Further, the licensee should conduct a periodic inspection of project lands to identify any features in need of screening or general clean-up, and subsequently take remedial action.

The Licensee shall prepare the plan after consultation with the Town of Gorham, City of Berlin, New Hampshire Fish and Game Department, and the National Park 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 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.

Article 408. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

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

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

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

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

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

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

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (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 insure 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 or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

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

(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 of the date of issuance of this order, as provided in Section 313 of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

(S E A L)


Linwood A. Watson, Jr.
Acting Secretary.