

UNITED STATES OF AMERICA 65 FERC 62,154
FEDERAL ENERGY REGULATORY COMMISSION

Central Maine Power Company

Project No. 2519-003
Maine

ORDER ISSUING NEW LICENSE
(Major Project)
(Issued November 22, 1993)

Expires 12/31/2034

Central Maine Power Company (Central Maine) filed a license application under Part I of the Federal Power Act (FPA) to continue to operate and maintain the existing 2,250-kilowatt (kW) North Gorham Project located on the Presumpscot River, in Cumberland County, Maine. The Presumpscot River is a navigable waterway of the United States. 1/ Central Maine does not propose to install any additional capacity.

Notice of the application has been published. On April 17, 1992, the State of Maine State Planning Office (Maine) filed a timely motion to intervene. Maine didn't oppose the issuance of a new license. However, Maine stated that a new license for the North Gorham Project may be issued only if the Federal Energy Regulatory Commission (Commission) finds that the project is best adapted according to the Comprehensive Hydropower Plan (CHP) developed by Maine. Staff evaluated the project as it relates the CHP and to several other comprehensive plans. No conflicts were found.

Comments received from interested agencies and individuals have been fully considered in determining whether to issue this license.

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 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.

A. Recommended Alternative

Based on staff's independent review and evaluation of the North Gorham Project, agency recommendations, and the no-action alternative as documented in the Environmental Assessment (EA), I

have selected issuing a new license for the North Gorham Project, with enhancement measures, as the preferred option because: (1) the enhancement measures required by the license would protect and enhance the fishery, recreational and cultural resources; and (2) the electricity generated from a renewable resource would be beneficial because it would continue to offset the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

In order to protect and enhance the environmental resources, I am requiring six enhancement measures: (1) the release of a minimum flow of 222 cubic feet per second (cfs) or inflow, whichever is less, and maintenance of the project impoundment within 1 foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control; (2) the preparation of a plan and implementation schedule for testing, operating, and maintaining a downstream fish passage facility to enhance the salmonid fishery in the Presumpscot River; (3) the improvement of tailrace access and construction of a parking lot at the tailrace; (4) Licensee consultation with the agencies and towns and monitoring recreational use at the project; (5) determination of the eligibility of the Great Falls archeological site and if eligible, development of a mitigation plan to protect the site; and (6) implementing the provisions of 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 Issuing to Central Maine Power Company and Kennebec Water Power Company for Ten Hydroelectric or Storage Projects in Maine, executed on October 27, 1993.

B. Developmental and Nondevelopmental Uses of the Waterway

The project produces an estimated 11,148 megawatthours (MWh) of energy annually. A project would be economically beneficial, so long as its projected levelized cost is less than the levelized cost of alternative energy and capacity.

a. Minimum Flow Releases

The current license contains no requirements for minimum flow releases. However, Central Maine, in accordance with the resource agencies' recommendations, proposes to release, under normal operating conditions, a continuous instantaneous minimum flow of 222 cfs or inflow, whichever is less, from the project to enhance the fishery resources. The release of this minimum flow would not adversely affect the annual power generation because 222 cfs occurs about 99 percent of the time, and it would be released through the turbines.

The minimum flow releases would benefit fishery resources below the project area by providing a continuous flow for aquatic habitat.

b. Fish Passage

Central Maine proposes to provide downstream fish passage by modifying the existing trash sluice. Central Maine estimates that modifying the trash sluice would cost about \$342,000. The maintenance cost of the fish passage is estimated to be \$2,000 per year. The total levelized annual cost would be about \$19,940.

Central Maine estimates that about 2 percent of the generation flow would be diverted through the fish bypass facility. This would represent about 3.5 percent or 390.174 MWh of lost energy annually; thus, the average annual generation at the North Gorham plant would decrease to about 10,758 MWh. The energy loss would reduce the levelized value of the project power by about \$27,380 annually.

Providing downstream fish passage at the project would enhance the salmonid fishery in the Presumpscot River by providing fishes safe access downstream of the project. Further, downstream fish passage is consistent with the Maine Department of Inland Fisheries and Wildlife's (DIFW) fisheries management plan which includes stocking salmon and trout in the project area.

c. Tailrace Recreation Access and Cultural Resources

Central Maine proposes to construct a parking area for carry-in boaters and an access trail to the Presumpscot River to provide tailrace access. Central Maine estimates that the cost of these improvements would be about \$20,000, and the maintenance cost about \$2,000 annually. The total levelized annual cost for these enhancements would be about \$3,590. Before improving the tailrace access site, Central Maine would need to determine the eligibility of the Great Falls archeological site. Central Maine estimates that further archeological work would cost \$20,000, and the maintenance cost about \$2,000 annually. The total levelized cost would be about \$3,590.

Relocating the tailrace parking area and constructing a parking lot, and improving the tailrace access path would provide recreational benefits for the project site. If the fishery improves--as expected--recreational use of the project tailrace may increase; thus, increasing recreational benefits.

Determining the eligibility of the Great Falls site is necessary to comply with Section 106 of the National Historic

Preservation Act and to protect, if eligible, a historic property that may be affected by recreational development.

The effect of these measures--improving the tailrace access path, constructing a parking lot, and determining the eligibility of the Great Falls archeological site--on project economics is small--about \$3,590 annually--compared to the expected recreational and cultural benefits.

d. Total Enhancement Costs

Staff estimated the total levelized cost of the enhancement measures required in the new license to be about \$54,500 annually.

Central Maine proposes no new construction or improvements at the North Gorham Hydroelectric Project. The levelized project costs are the operation and maintenance costs, administrative and general expenses, and the debt service on the outstanding project investment. The project costs, even with the required enhancement measures, would be less than the value of the energy based on the cost of alternative power in the region.

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with Federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.

Under Section 10(a)(2) of the FPA, Federal and state agencies filed ten comprehensive plans that address various resources in Maine. Of these, Staff identified and reviewed six plans--four state and two federal--relevant to this project 2/. No conflicts were found.

Based on a review of the agency and public comments filed in this proceeding and on our independent analysis--pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA--I conclude that the North Gorham Project, with the required enhancement measures

- 2/ State plans: Strategic plan for management of Atlantic salmon in the State of Maine, 1984, Maine Atlantic Sea-Run Salmon Commission; Maine rivers study-final report, 1982, Maine Department of Conservation; State of Maine comprehensive river management plan, 1987, Maine State Planning Office; Maine comprehensive rivers management plan, volume 4, 1992, Maine State Planning Office; Federal plans: Final Environmental Impact Statement-Restoration of Atlantic salmon to New England Rivers, 1989, U.S. Fish and Wildlife Service; The nationwide rivers inventory, 1982, Department of the Interior-National Park Service.

and other special license conditions, would be best adapted to the comprehensive development of the Presumpscot River.

Project Retirement

The Commission has issued a Notice of Inquiry (NOI), dated September 15, 1993, requesting comments that address the decommissioning of licensed hydropower projects 3/. The NOI states that the Commission is not proposing new regulations at this time, but is inviting comments on whether new regulations may be appropriate. Alternatively, the Commission may consider issuing a statement of policy addressing the decommissioning of licensed hydropower projects, or take other measures. The North Gorham Project may be affected by future actions that the Commission takes with respect to issues raised in the NOI. Therefore, I have included Article 204, which reserves authority to the Commission to require the licensee, to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project.

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, we make 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. Staff has addressed the concerns of the Federal and state fish and wildlife agencies in the EA and the license includes conditions consistent with the recommendations of the agencies.

3/ Notice of Inquiry, Project Decommissioning at Relicensing, Docket No. RM93-23-000, September 15, 1993.

The Department of Interior (Interior), by letter dated January 13, 1993, (William Patterson, Regional Environmental Officer, U.S. Department of the Interior, Boston, Massachusetts) requests that any license issued for the North Gorham 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 405 of this 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.

ECPA CONSIDERATIONS

Section 10(a)(2)(C) and Section 15(a) of the FPA, require the Commission to consider in writing the following factors in issuing new licenses:

Consumption Efficiency Improvement Programs (Section 10(a)(2)(C))

In June 1987, Central Maine responded to a staff request to submit information concerning its ongoing and planned program to improve the consumption efficiency of its customer's use of electric energy. The submitted response, titled "Energy Management Report," consists of a lengthy and comprehensive document describing on-going and in-place efforts of the applicant in the period of 1986 and 1987.

This report describes about 20 on-going and planned programs which concern conservation incentives through rebates, loans, education and audits. Through these extensive programs, Central Maine realized energy savings of 32,627 MWh in the year 1986 and expected savings of 70,629 MWh for 1987.

The descriptions of Central Maine's more recent conservation and load management programs were provided to our staff through Exhibit H of the new license application. The exhibit shows, among other things, that Central Maine offers eight Demand Side Management (DSM) programs for residential customers and twelve DSM programs for commercial and industrial customers. These DSM measures would achieve savings of 119 gigawatt-hours of electricity in 1990 and would reduce peak demand by about 33 megawatts. It is noted in the report that, in 1990, Central Maine's Power Partners program achieved the first place honors in Edison Electric Institute's Common Goal national competition.

Central Maine's Conservation and Load Management program as described in these documents demonstrates excellent efforts to conserve electricity, reduce peak-hour demands and to support the objectives of Section 10(a)(2)(C) of the FPA.

Staff reviewed the Central Maine's license application and its record of compliance with the existing license 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.

As a result of the review, I conclude Central Maine can satisfy the conditions of a new license.

The Plans of the Applicant to Manage, Operate and Maintain the Project Safely (Section 15(a)(2)(B))

In Section H of the application, Central Maine describes in detail its employee-safety and public-safety measures and its operating constraints.

When flows are substantially above the project's turbine capacity, Central Maine runs the turbines on full capacity and opens the gates gradually in accordance with the project's High Water Guidelines. Central Maine also works closely with the Maine Emergency Management Agency (MEMA) to notify them of flood conditions and control measures. MEMA has a volunteer monitoring network for flood stage observations and is responsible for public notification and warning.

Central Maine has a Public Safety Plan which shows the location of the upstream safety facilities. A floating safety boom is installed annually upstream of the spillway and intake to protect boaters in the summer boating season. There are also four safety signs at the project advising the public about the project and associated safety considerations. These are in addition to the signs on the safety barriers.

Central Maine states that there have been no recorded lost time accidents for the project during the period 1985-89. There is no record of project-related employee or public injury or death within the project boundary. The plans of Central Maine to manage, operate, and maintain the project safely are adequate.

The Plans and Ability of the Applicant to Operate and Maintain the Project in a Manner Most Likely to Provide Efficient and reliable Electric Service (Section 15(a)(2)(C))

Central Maine reports the following efforts to operate and maintain the project in a manner most likely to provide efficient and reliable electric service.

The hydraulic capacity of the turbines is exceeded about 14 percent of the time, which is a very low exceedance point, therefore, additional turbine capacity to capture an additional increment would be very expensive relative to the benefit. The efficiencies of the turbines and generators are relatively good. Central Maine concluded that the North Gorham Project is developed to its optimal capacity. Staff concludes that the

existing project fully develops the economical hydroelectric potential of the site, and further power development would not be economically beneficial under currently projected economic conditions.

Central Maine is an electric utility that provides electricity to its customers through an extensive and coordinated system. Central Maine provides this power through its own generation, purchases from cogenerators and small power producers within Maine, and purchases from outside the state. The out-of-state purchases are through an interconnection with Canada and membership in the New England Power Pool (NEPOOL).

NEPOOL is a voluntary association of electric utilities in New England, representing 96 individual public and investor-owned utilities. To assure maximum benefits, the electric facilities of NEPOOL member companies are operated as if they comprised a single power system. NEPOOL accomplishes this by the central dispatch of power supplies, using the lowest cost generating and transmission equipment available at any given time. NEPOOL participants also have strengthened the reliability of the bulk power system through shared operating reserves and coordinated maintenance scheduling.

The system owned by Central Maine includes a mix of sources including hydro, nuclear, and oil-fired electric generating stations. The North Gorham Project is an integral part of this system and helps to provide reliable, reasonably priced electric power to Central Maine customers. Loss of the project would increase Central Maine's production costs in the future, since it would either have to build a new facility or purchase power at current avoided costs. Central Maine's 1991 Energy Resource Plan calls for relicensing of the North Gorham Project and other hydroelectric projects as a key element in avoiding the need for new energy and capacity sources.

The Need of the Applicant Over the Short and Long Term for the Electricity Generated by the Project to Serve Its Customers
(Section 15(a)(2)(D))

Central Maine is an investor-owned electric utility. In 1991 Central Maine generated 2,789,600 MWh of electric energy and purchased 7,507,700 MWh. Central Maine's service area is located in the NEPOOL, area of the Northeast Power Coordinating Council region.

As discussed in the EA, peak loads of the NEPOOL for the period of 1992-2001 would increase with a compound growth rate of 1.9 percent and the net energy requirements for the same period show a compound growth rate of 1.8 percent.

The North Gorham Project would continue to be useful in meeting a small part of the need for power projected by the NEPOOL. The project will continue to be available to displace fossil-fueled generation in NEPOOL and adjacent regions.

Staff concludes that Central Maine's short-term and long-term need for power exists to justify licensing the North Gorham Project.

The Impact of Receiving or Not Receiving the Project License on the Operation, Planning and Stability of Applicant's Transmission System (Section 15(a)(2)(E))

If Central Maine does not receive a new license for the project, any new licensee would likely connect the project power to Central Maine's existing transmission system. In such event, Central Maine's transmission system load and operation characteristics would remain unchanged.

The effects of replacement power of the project on the Central Maine's transmission system would be uncertain because the effects would be dependent on type, location and size of the next available least cost resources.

Whether the Plans of the Applicant Will be Achieved to the Greatest Extent Possible in a Cost Efficient Manner (Section 15(a)(2)(F))

Central Maine plans no project changes except those periodically required to ensure project safety. Staff concludes that the project, as presently constructed and as Central Maine proposes to operate it, fully develops the economical hydropower potential of the site, and will continue to provide power in a cost effective manner.

Term of License

Section 15 of the FPA specifies that any license issued shall be for a term which the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years. This provision is consistent with Commission policy which establishes 30-year terms for those projects which proposed no new construction, 40-year terms for those projects that proposed a moderate amount of new development, and 50-year terms for those projects that proposed a substantial amount of new development.

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Central Maine proposes no redevelopment of the existing project facilities or changes in operation of the project. Accordingly, the new license for the North Gorham Project will be for a term of 30 years.

Summary of Findings

A draft environmental assessment (DEA) was issued for this project on September 13, 1993. The Water Resources Commission concurred in the findings and recommendations in the DEA (letter from E. F. Sturgeon, Chairman, Water Resources Commission, Windham, Maine, October 18, 1993).

Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA attached to this order. The license conditions are consistent with the water quality certificate. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment. 4/

I 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 Director orders:

License term changed to 41 years, per paragraph (B) of "Order on Rehearing" issued Oct. 31, 1995

(A) This license is issued to Central Maine Power Company (Licensee), for a period of ~~30 years~~, effective January 1, 1994, to operate and maintain the North Gorham 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:

4/ A Safety and Design Assessment was prepared for the North Gorham Project No. 2519 and is available in the Commission's public file for this project.

Exhibit G- FERC No. 2519-003 Showing
1 4 General Map

(2) Project works consisting of: (1) a stone masonry and concrete dam about 1,009 feet long, having from west to east (a) a non overflow masonry wall section about 600.5 feet long; (b) an intake section about 51.5 feet long and 28 feet high with four gates 9.5 feet wide by 9.5 feet high, protected by trashracks with 1.25-inch clear spacing; (c) a sluice gate section about 47 feet long with four submerged sliding gates 4 feet wide by 5 feet high; (d) a spillway section about 256.5 feet long; (e) a sluice section about 15.5 feet long; and (f) a cutoff wall section about 38 feet long; (2) a reservoir with gross storage capacity of about 1,300 acre-feet at elevation 221.8 feet

containing one three-phase transformer bank rated at 3000/4200 kVA

(revised per order issued Sept. 21, 1994. See order.)

mean sea level, USGS datum; (3) four 8-foot-diameter steel penstocks extending approximately 50 to 70 feet downstream to two surge chambers; (4) two surge chambers; (5) a brick powerhouse about 58 feet wide and 71 feet long with two 1,460-hp turbines connected to two generating units each having 1,125 kW of generating capacity at a power factor of 0.75 kW/kVA; (6) a tailrace; (7) a transformer house; (8) a switch house; and (9) appurtenant facilities.

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

Exhibit A:

Pages A-1, A-4 through A-8, and A-12 through A-15, describing the existing mechanical, electrical and transmission equipment, filed November 13, 1991.

F exhibits renumbered per order issued Feb. 6, 1997. See order.

Exhibit F drawings	FERC No.	Showing
Sheet 1	2519- 003-1 1001	Dam, Plan-Sections-Details
Sheet 2	2519- 003-2 1002	Powerhouse, Plan-Sections
Sheet 3	2519- 003-3 1003	Dam and Powerhouse Elevations

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

(C) 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 United States", and the following additional articles:

Article 201. The Licensee shall pay the United States an annual charge, effective January 1, 1994, 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 ~~3,000 horsepower.~~ 2190 kilowatts

Per Order on Rehearing, issued Oct. 31, 1995.

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 deleted
per Order issued
Dec. 14, 1994.
See order.

~~Article 204. The Commission reserves authority to require the licensee, in the context of a rulemaking proceeding, a statement of policy, or a proceeding specific to this license, to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project.~~

Article 301. Within 90 days of completion of construction of the facilities authorized by this license (fish passage, recreation, etc.), the Licensee shall file for approval, revised Exhibits F and G, to show those project facilities as-built.

Article 401. The Licensee shall release from the North Gorham Project into the Presumpscot River a minimum flow of 222 cubic feet per second, as measured immediately downstream from

the project tailrace, or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish and wildlife resources in the Presumpscot River. This flow may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods upon agreement between the Licensee and the Maine Department of Environmental Protection. 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.

within 30

Article 402. The Licensee shall operate the North Gorham Project to minimize fluctuations of the reservoir surface elevation for the protection of fishery resources in the North Gorham impoundment. The Licensee shall act at all times to maintain the reservoir elevation, as measured immediately upstream of the project dam, within one foot of the normal water surface elevation of 221.8 feet mean sea level.

Per Order on Rehearing issued Oct. 31, 1995. See order.

This mode of operation may be temporarily modified if required by operating emergencies beyond the control of the Licensee and for short periods upon mutual agreement between the Licensee and the Maine Department of Environmental Protection. If this mode of operation is so modified, the Licensee shall notify the Commission ~~as soon as possible, but no later than 10 days~~ after each such incident.

within 30

Article 403. Within 90 days from the effective date of this license, the Licensee shall file with the Commission, for approval, a plan to provide for and monitor compliance with the water surface elevation restrictions and minimum instream flow requirements, as stipulated by Articles 401 and 402.

Article 403 modified by paragraph (B) of "Order Approving and Modifying Minimum Flow and Reservoir Elevation Gaging plan and Schedule" issued May 2, 1994.

The plan shall include, but not be limited to, a description of the level of automatic or staffed facility operation, details on the proposed location, design and calibration of the monitoring equipment, the method of data collection, and a provision for providing collected data to the U.S. Fish and Wildlife Service (FWS), the U.S. Geological Survey (USGS), the Maine Department of Environmental Protection (DEP), and the Maine Department of Inland Fisheries and Wildlife (DIFW) within 30 days from the date of the agencies' request for the data.

The monitoring plan shall also include a schedule for:

- (1) implementation of the program;
- (2) consultation with the appropriate Federal and state agencies concerning the data from the monitoring; and
- (3) filing the data, agency comments, and Licensee's response to agency comments with the Commission.

The Licensee shall prepare the plan after consultation with the FWS, the USGS, the DEP, and the DIFW. 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 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 water surface elevation monitoring plan, including any changes required by the Commission.

Article 404. Within 180 days from the effective date of this license, the Licensee shall file, for Commission approval, detailed functional design drawings of the Licensee's proposed downstream fish passage facilities together with a schedule to install the facilities. The schedule shall include provisions for the facilities to be installed and operational within 2 years from the effective date of this license.

The Licensee shall also file an operation and maintenance plan and schedule for ensuring efficient operation and maintenance of the downstream fish passage facilities. The plan shall include, at a minimum, a description of facility oversight and personnel commitments, and identify back-up equipment and supplies that shall be maintained to ensure fast repairs in the event of fishway breakdown.

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The Licensee shall prepare the aforementioned drawings, operation and maintenance plan, and schedules after consultation with the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection, and the Maine Department of Inland Fisheries and Wildlife. The Licensee shall include with the drawings and operation and maintenance plan documentation of consultation, copies of comments and recommendations on the drawings, plan, and schedules after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the Licensee's facilities.

The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the drawings, plan, and schedules with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

Pursuant to Article 301, the Licensee shall file as-built drawings of the fish passage, recreation facilities, etc.

The Commission reserves the right to require changes to the proposed facilities, operation and maintenance plan, and schedule. Upon Commission approval, the Licensee shall implement the proposal, including any changes required by the Commission.

Article 405. 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.

Article 406:
Annual Cultural Resources filing date: Feb. 15
Per Order issued June 14, 2002.
See order.
Language modified by Order on Rehearing, issued Oct. 31, 1995. See order.

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 Maine Historic Preservation Officer for the Management of Historic Structures and Eligible Archaeological Sites That May Be Affected By New Licenses Issuing To Central Maine Power Company and Kennebec Water Power Company For Ten Hydroelectric Or Storage Projects In Maine", executed on October 27, 1993. ~~The Commission reserves the authority to require changes to any Cultural Resources Management Plan or plans at any time during the term of the license.~~

Article 407. The Licensee, after consultation with the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Conservation, and the Towns of Gorham and Windham, shall monitor recreational use of the project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin from the effective date of the license and be filed according to the Commission's schedule for the FERC Form 80.

Article 407:
Amended per Order issued May 7, 1997 to require filing of the recreation report by June 15 of each year in which FERC form No. 80 is due.
Amended per Order issued Aug. 12, 2003 to change deadline for filing results of recreation use monitoring to six months after the due date of the form 80.

Every 6 years during the term of the license, the Licensee shall file a report with the Commission on the monitoring results. The report shall include: (1) annual recreation use figures; (2) an evaluation of the fisheries program and status reports of the vandalism, theft, and loitering problems in the Towns of Gorham and Windham; (3) a discussion of the adequacy of the Licensee's recreational access and facilities relative to the evaluation and status reports in item (2); (4) any plans to control or accommodate visitation in the project area; (5) documentation of agency consultation agency comments on the report after it has been prepared and provided to the agencies; and (6) specific descriptions of how the agencies' comments are accommodated by the report.

The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report with the Commission.

Article 408. Eighteen months after the effective date of the license, the Licensee shall file with the Commission, for approval, and upon approval implement, a tailrace access improvement plan for: (1) relocating the parking area and constructing a lighted parking lot with spaces for 5-6 cars; (2) improving the tailrace access trail; and (3) closing the existing access to vehicle traffic.

The plan shall include: (1) provisions for protecting properties listed on or eligible for the National Register of

Article 408:

Modified by
"Order
Modifying and
Approving
Tailrace Access
Improvement
Plan" issued
Feb 16, 1996.
See order.

Historic Places (2) a discussion of how the needs of the disabled were considered in the design and construction of the facilities; (3) a description of signs to be used in order to identify the recreational facilities; (4) drawings and specifications for each recreation facility; (5) the entity responsible for operating and maintaining the facilities; (6) erosion and sediment control measures that shall be implemented during construction, if applicable; and (7) a construction and improvement schedule.

The Licensee shall prepare the tailrace access improvement plan after consultation with the Maine Historic Preservation Commission, the U. S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Conservation, and the Town of Windham. The Licensee shall include copies of comments and recommendations on the 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.

Pursuant to Article 301, the Licensee shall file the as-built drawings of the recreation facilities.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 409. (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

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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

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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.

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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.

(E) 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.

(F) This order is issued under authority delegated to the Director and constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. section 385.713.

Fred E. Springer
Director, Office of
Hydropower Licensing

FOREWORD

The Federal Energy Regulatory Commission (Commission) issued the North Gorham Hydroelectric Project Draft Environmental Assessment (DEA) for comment on September 13, 1993. The following comment letter was received and reviewed by staff.

Commenting Entities	Date of Letter	
Water Resources Council		10/18/93

The Water Resources Council concurred in the findings and recommendations presented in the DEA.

ENVIRONMENTAL ASSESSMENT
FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING, DIVISION OF PROJECT REVIEW

North Gorham Hydroelectric Project
FERC Project No. 2519-003, Maine

November 3, 1993

I. APPLICATION

On November 13, 1991, the Central Maine Power Company (Central Maine), a utility, filed an application for a new major license for the existing North Gorham Hydroelectric Project. On September 21, 1992, Central Maine supplemented its application with additional information.

The project is located on the Presumpscot River at river mile 19.5 in the Towns of Gorham, Standish and Windham, in Cumberland County, Maine. The North Gorham Project license was originally issued on December 6, 1966, and expires on December

31, 1993. Central Maine proposes no new capacity and no new construction.

II. PURPOSE AND NEED FOR POWER AND ACTION

A. Purpose

The Commission must decide if it's going to issue a license to Central Maine for the project and what conditions should be placed on any license issued. Issuing a new license for the North Gorham Project would allow Central Maine to continue to generate electricity at the project for the term of a new license, making electric power from a renewable resource available to their customers. The project generates an average of about 10,758,000 kilowatthours (kWh) of energy annually.

In this environmental assessment (EA), we, the Commission staff, assess the environmental and economic effects of continuing to operate the project (1) as proposed by Central Maine and (2) with our recommended enhancement measures. We also consider the effects of the no-action alternative. There are no competing applications for the North Gorham Project.

B. Need for Power and Action

Central Maine, an investor-owned electric utility generated 2,789.6 gigawatthours (GWh) of electric energy and purchased 7,507.7 GWh in 1991 for their power system.

The North Gorham Project was originally constructed in the years of 1900 and 1901. The turbines and generators were

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installed in 1925 and 1926. The existing two generators have an aggregate nameplate rating of 2,250 kilowatts (kW).

Central Maine's service area is located in the New England Power Pool (NEPOOL) area of the Northeast Power Coordinating Council (NPCC) region. NPCC prepares a report, "Regional Reliability Council Long Range Coordinated Bulk Power Supply Programs," to the U. S. Department of Energy (DOE) each year. This report--known as DOE Code IE-411--contains, among other data, the forecast of annual energy requirement and the compound growth rate of the peak load for the next 10-year planning period.

According to the 1992 DOE Code IE-411 Report, the forecast of peak loads of the New England Power Pool for the period of 1992-2001 would increase with a compound growth rate of 1.9 percent. The forecasted net energy requirements for the same period show a compound growth rate of 1.8 percent. The report noted that the forecast includes adjustments for anticipated effects of Demand-Side Management (DSM) and non-utility generation.

The report also shows that the present generation schedule

of the region is sufficient to accommodate these compound growth rates and to provide reserves to meet the NPCC and NEPOOL reliability criteria for the first five year planning period.

The North Gorham Project would continue to be useful in meeting a small part of the need for power projected by the NEPOOL. The project would continue to displace fossil-fueled generation in the NEPOOL and adjacent regions. Such displacement would continue to conserve non-renewable primary energy resources and reduce the emission of noxious byproducts, resulting from the combustion of fossil fuels. Moreover, the need of the project power to meet the requirements of the utility's customer has been established by more than 68 years of continued operating history.

III. PROPOSED PROJECT AND ALTERNATIVES

A. Proposed Project

1. Project Description

The project facilities consist of (figure 1):

(a) a stone masonry and concrete dam about 1,009 feet long, having from west to east (i) a non overflow masonry wall section about 600.5 feet long; (ii) an intake section about 51.5 feet long and 28 feet high with four gates 9.5 feet wide by 9.5 feet high, protected by trashracks with 1.25-inch clear spacing; (iii) a sluice gate section about 47 feet long with four submerged sliding gates 4 feet wide by 5 feet high; (iv) a

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spillway section about 256.5 feet long; (v) a sluice section about 15.5 feet long; and (vi) a cutoff wall section about 38 feet long; (b) a reservoir with gross storage capacity of about 1,300 acre-feet at elevation 221.8 feet mean sea level; (c) four 8-foot-diameter steel penstocks extending approximately 50 to 70 feet downstream to two surge chambers; (d) two surge chambers; (e) a brick powerhouse about 58 feet wide and 71 feet long with two 1,460-horse-power (hp) turbines connected to two generating units each having 1,125 kilowatts (kW) of generating capacity; (f) a tailrace; (g) a transformer house; (h) a switch house; and (i) appurtenant facilities.

Other than the generator leads, there's no primary transmission line included in the license.

B. Proposed Enhancement Measures

1. Construction. No new construction is proposed.

2. Operation To enhance fishery resources, Central Maine proposes to: operate the project by releasing a minimum flow of 222 cubic feet per second (cfs), or inflow, whichever is less, and maintain impoundment level fluctuations within one foot of full pond during normal operation; and provide downstream fish passage facilities at the North Gorham dam (under certain

provisions, as discussed in Fisheries Resources, Section V. B. 2).

To enhance recreational opportunities at the project, Central Maine proposes to improve access at the project tailrace, construct a tailrace parking lot, and monitor recreational use at the project.

C. Alternatives to the Proposed Project

No reasonable action alternatives to the proposed project have been identified for evaluation. Various environmental measures that are included in Central Maine's proposal are evaluated under the appropriate resource headings in section V. B, Environmental Analysis - Proposed Project, and in section VII, Comprehensive Development and Recommended Alternative.

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D. The No Action Alternative

The no-action alternative would result in no change to the current environmental setting in the project area. Under the no-action alternative, the project would continue to operate as required by the original project license. No alterations or enhancements to the existing environmental resources would occur.

IV. CONSULTATION AND COMPLIANCE

A. Agency Consultation

After the Commission issued a public notice of the North Gorham Hydroelectric Project on March 30, 1992, and November 5, 1992, the following entities commented and/or intervened on the application. All comments become part of the record and are considered in our analysis of the project.

Commenting agencies and other entities	Date of letter
Maine Department of Environmental Protection	09-28-92
Department of the Interior	11-17-92, 01-13-93
Maine Department of Inland Fisheries and Wildlife	12-22-92
Department of the Army, Corps of Engineers	01-06-93
Maine Department of Marine Resources	01-11-93
Maine Executive Department, State Planning Office	02-11-93

Intervenor

Date of motion

State of Maine Executive Department,
State Planning Office

04-17-92

Central Maine responded to the agency comments on April 2, 1993. The Maine Executive Department, State Planning Office intervened only to be a party to the proceedings and doesn't oppose relicensing of the North Gorham Project.

B. Water Quality Certification

On November 26, 1991, pursuant to Section 401 of the Clean Water Act, Central Maine applied to the Maine Department of Environmental Protection (DEP) for 401 water quality certification (WQC) for the North Gorham Project. The DEP issued Central Maine's Section 401 WQC, on September 24, 1992, with conditions (letter from Dean C. Marriott, Commissioner, Maine Department of Environmental Protection, Augusta, Maine, September 28, 1992).

In summary, the WQC issued by the DEP requires that Central Maine: (a) maintain a minimum flow from the project of 222 cfs or inflow, whichever is less, except as temporarily modified by operating emergencies beyond Central Maine's control; (b) maintain the impoundment water surface elevation within one foot of 221.8 feet 1/ (crest of spillway), except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control; (c) monitor items a and b; (d) install and have operational downstream fish passage facilities at the North Gorham Dam within 2 years following the issuance of a license, should the Department of Inland Fisheries and Wildlife (DIFW) amend its existing Presumpscot River Management Plan to include the waters of the North Gorham Project within this period; and (e) provide public recreational access facilities in the project area as described in Central Maine's WQC application for the North Gorham Project.

V. ENVIRONMENTAL ANALYSIS

In this section, we first describe the general environmental setting in the project locale. Included is our determination of the potential for cumulative impacts to the environmental resources.

In our detailed assessment, we discuss each environmental resource affected by the project. For each resource, we first describe the affected environment--which is the existing condition and the baseline against which to measure the effects of the proposed project and any alternative actions--and then the environmental effects of the project including proposed enhancement measures.

Only the resources that would be affected are included in

detail in this EA. Continuing to operate the project would not affect geology and soils, terrestrial resources, land use, visual or aesthetic quality, and socioeconomics. So we've excluded these resources from our detailed analysis.

The project is within the range of the Federally listed endangered bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus anatum*). The U. S. Fish and Wildlife Service (Service) states that no Federally listed or proposed threatened and endangered species are known to occur in the project area, with the exception of occasional transient bald eagle and peregrine falcon (personal communication, Gordon Russell, Fish and Wildlife Biologist, U. S. Fish and Wildlife Service, Orono, Maine, January 6, 1993).

1/ All elevations are mean sea level unless otherwise stated.

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A. General Description of the Locale

1. Presumpscot River Basin

The Presumpscot watershed is located entirely in Maine. The basin is about 55 miles long in a north-south direction, and about 20 miles wide, with a total drainage area of about 648 square miles. The Presumpscot River rises in Sebago Lake and flows south-easterly 24 miles to the head of Casco Bay, between Falmouth and Portland. The total fall in the river is about 267 feet--average slope equals 11.1 feet per mile. Principal tributaries of the Presumpscot River are the Songo, Long Lake, Crooked, Pleasant and Piscataqua Rivers.

About one-fifth of the basin is farmland: most agricultural activities include dairy and poultry products. Industrial centers produce lumber and wood products, bricks, textiles and paper. Over 50 percent of the industrial establishments are devoted to milling and woodworking.

2. Cumulative Impacts

An action may cause cumulative impacts on the environment if its impacts overlap in space and/or time with the impacts of other past, present, and reasonably foreseeable future actions. The individually minor impacts of multiple actions, when added together in space and time, may amount to collectively significant cumulative impacts. The existing environment shows the effects of past and present actions and provides the context for determining the significance of cumulative impacts from future actions.

The Presumpscot River Basin is the primary geographic boundary for our analysis. We have compiled a table of existing projects in the Presumpscot River Basin as of March 26, 1993. There are no pending license applications or exemptions before the Commission in the Presumpscot River Basin. The existing projects are as follows (Federal Energy Regulatory Commission, 1993):

Table 1. Existing Projects in the Presumpscot River Basin

Expiration Date	Capacity	Project Name Installed and Number	Operating Mode	River Miles from North Gorham	Type of Project	Date
issued	1, 125 Kw	Smelt Hill P-7118	Run-of-River	19.5 miles downstream	Exemption	N/A 3/19/84
	1, 350 Kw	Saccarappa P-2897	Run-of-River	11.5 miles downstream	Minor	9/30/99
5/31/2000	800 Kw	Mallison Falls P-2932	Run-of-River	6.8 miles downstream	Minor	
5/31/2000	1, 000 Kw	Little Falls P-2941	Run-of-River	6.0 miles downstream	Minor	
8/31/2000	1, 900 Kw	Gambo P-2931	Run-of-River	4.6 miles downstream	Major	
9/30/2001	2, 400 Kw	Dundee P-2942	Run-of-River	2.0 miles downstream	Major	
	2, 250 Kw	North Gorham P-2519	Run-of-River	n/a	Major	12/31/93
3/31/2004	1, 800 Kw	Eel Weir P-2984	Storage	2.1 miles upstream	Major	

Figure 2 also shows a schematic representation of the locations of the hydroelectric facilities in the Presumpscot River Basin.

This EA reviews all of the resources, including water quality, fish and wildlife, recreation, and cultural, in the Presumpscot River Basin and assesses the potential for the North Gorham Project under review to contribute to cumulative effects. Based on our evaluation of agency and public comments, we have placed emphasis on analyzing the cumulative effects on fishery resources that could be affected cumulatively by the proposed relicensing of the North Gorham Project.

We assess the project's effect on resident (e.g., centrarchids, landlocked salmon, and trout occurring in the

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project area) and anadromous fish (e.g., American shad and
alewives being restored to the downstream portion of the

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Presumpscot River) in the cumulative impacts and fishery resource
section of this EA.

As shown in figure 2, the Presumpscot River has eight dams
on the main stem 21.6-mile-long section between head-of-tide and
Sebago Lake. Cumulative impacts on the anadromous fishery extend
throughout this reach. Historically (pre-1900), the river

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Figure 2. Schematic diagram of existing hydroelectric projects on the Presumpscot River, Maine (Source: Staff).

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supported anadromous runs of Atlantic salmon and shad. Dam construction on the river adversely affected these runs. The Maine Department of Marine Resources (DMR) currently has plans to restore anadromous fishes--American shad and alewives--to the Presumpscot River, but only as far upstream as the Cumberland Mills Dam 2/. The Atlantic Sea-Run Salmon Commission (ASRSC) currently has no plans to restore anadromous Atlantic salmon to the Presumpscot River (letter from Edward T. Baum, Program Coordinator, Atlantic Sea-Run Salmon Commission, Bangor, Maine, January 17, 1991).

The DMR recommends a minimum flow release of 222 cfs or inflow from the North Gorham Project that would allow for flow releases downstream of the Cumberland Mills Dam, to enhance the anadromous fishery in the lower reaches of the Presumpscot River. Requirements for continuous flow releases from the North Gorham impoundment would enhance the anadromous fishery downstream; however, flows from the North Gorham Project, as well as all downstream sections, are controlled by operations at the Eel Weir Project (FERC Project No. 2984), located immediately upstream from the North Gorham Project. Historical flow records show that a minimum of 222 cfs is almost always released from the Eel Weir Project 3/.

The Commission issued an order on January 7, 1992, requiring the licensee for the Eel Weir Project to discharge from the Eel Weir dam a continuous minimum flow of: 25 cfs from November 1 through March 31; 75 cfs from April 1 through June 30; and 50 cfs from September 1 through October 31, with the provision that the minimum flow be allocated from inflow or storage previously used for generation. This minimum flow requirement at the Eel Weir Project provides a constant passageway for fish to pass into the bypassed reach of river between the Eel Weir dam and powerhouse, and provides enhanced fisheries habitat in that reach.

Cumulative impacts associated with the resident fisheries are more localized: including the North Gorham impoundment and adjacent upstream and downstream impoundments. The North Gorham impoundment extends 1.1 miles upstream to the tailrace of the Eel

Weir Project powerhouse. Sebago Lake, created by the Eel Weir dam, is known for its landlocked Atlantic Salmon, brook trout, lake trout, and smallmouth and largemouth bass recreational fisheries. Landlocked salmon and trout pass from Sebago Lake

- 2/ This dam is located 13 miles downstream of the North Gorham Project.
- 3/ According to historical monthly average flow records from 1887 to 1992 for the Eel Weir Project (letter from S. D. Warren Company Regarding Notice of Complaints for Eel Weir Project, FERC No. 2984-022, Westbrook, Maine, 1 March 1993).

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into the North Gorham impoundment and tailwater during high flow events. The Maine Department of Inland Fisheries and Wildlife (DIFW) proposes to manage the North Gorham Project area for these salmonids from Sebago Lake, as well as for bass.

We discuss cumulative impacts on the anadromous and resident fisheries in further detail in the Fisheries Resources section of the EA (section V. B. 2).

Continuing to operate the project with Central Maine's proposed and our recommended measures would protect and enhance the environment and would result in beneficial cumulative effects to fisheries resources in the basin.

B. Proposed Project

1. Water Resources

Affected Environment: Flows at the project site were estimated based upon records from the USGS Gage No. 01064000 located 1.1 miles upstream on the Presumpscot River at the Eel Weir Project (drainage area of 441 square miles). Flows at the North Gorham Project (drainage area of 444 square miles) exceed 325 cfs 90 percent of the time, and exceed 1,000 cfs 10 percent of time 4/. The mean annual flow in the Presumpscot River at the project is about 657 cfs 5/.

The reservoir extends 1.1 miles upstream to the tailrace of the Eel Weir Dam powerhouse. The full impoundment (at elevation 221.8 feet) has a maximum depth of 23 feet, with a surface area of 98 acres. The reservoir has a gross storage capacity of 1,300 acre-feet, representing a turnover rate of about 16.5 hours at the maximum hydraulic capacity of 950 cfs (and about a day at the average annual flow).

The DEP classifies the Presumpscot River from the outlet of Sebago Lake (next upstream impoundment) to its confluence with Dundee Pond (the North Gorham Project discharges into the headpond of the downstream Dundee Project, FERC Project No. 2942) as Class A. The designated uses of Class A waters are for: drinking water after disinfection, fishing, recreation in and on

the water, industrial process and cooling water supply, hydroelectric power generation, habitat for fish and other

- 4/ Values were estimated from an annual flow duration curve derived from flow data at the USGS gage between 1970 and 1989.
- 5/ This value is based upon USGS flow records from 1887 to 1991.

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aquatic life, and naturally occurring aquatic life and bacteria content.

The standards require that discharged effluents are of equal or better water quality than the receiving waters, and that the project not violate water quality standards, including the state standard requirement of anti degradation. The dissolved oxygen (DO) content is required to be 7 parts per million (ppm) concentration or 75 percent (%) saturation, whichever is higher.

No known major industrial or sewage effluents or other point sources of pollution are located within the project area. Project waters meet state water quality standards. In July 1986 and 1987, Central Maine conducted water quality sampling in the project area. These data collected show that DO levels were above 90% saturation and 7 ppm concentration both upstream and downstream of the project, even during periods of relatively high temperature and low flows. The impoundment does not tend to stratify. The existing data indicate that Class A DO standards would be met under Central Maine's proposal to operate the project with a minimum flow of 222 cfs.

Environmental impacts and recommendations: The North Gorham Project, as proposed, would have no significant long-term effects on water quality in the project area because operations are not being altered, and historical operations have met state water quality standards. However, some short-term increases in turbidity and sedimentation may result from constructing the fish passage facilities.

Unavoidable Adverse Impacts: None.

2. Fishery Resources

Affected Environment: The Presumpscot River supports warmwater, coolwater, and coldwater fish species, including smallmouth bass, largemouth bass, perch, pickerel, brown bullhead, sucker, minnows and landlocked salmon. Landlocked salmon and trout drop down from Sebago Lake into the North Gorham impoundment and tailwater during high flow events. The Maine Natural Heritage Program of the Nature Conservancy conducted a survey for rare bivalve mollusks and fish in the project area in August 1986; none were found.

The Maine Department of Marine Resources (DMR) has plans to restore anadromous fishes--American shad and alewives--to the Presumpscot River as far upstream as the Cumberland Mills Dam, 13 miles downstream from the North Gorham Project. Flow releases from the North Gorham Project would provide habitat for: (a) resident fishes inhabiting the portion of the Presumpscot River directly downstream from the project; and (b) the anadromous fishery developing further downstream.

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Environmental impacts and recommendations:

a. Project operation. Central Maine proposes to operate the project with a minimum flow of 222 cfs released from the project at all times and maintain the impoundment water surface elevation within one foot of full pond.

To protect aquatic resources in the project impoundment and in the Presumpscot River downstream of the project, the U.S. Department of the Interior (Interior) recommends that the North Gorham Project operate in an instantaneous run-of-river mode, or with stable impoundment water levels and an instantaneous minimum flow of 222 cfs or inflow to the project, whichever is less. The Service defines "stable" impoundment levels at North Gorham as maintaining water levels within one foot of the normal water surface elevation (personal communication, Gordon Russell, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Orono, Maine, April 6, 1993).

Interior recommends that Central Maine consult with the Service, the USGS, DEP, and the DIFW, to develop and implement a plan to provide for and monitor the recommended project operation. Interior recommends that the plan include: (1) a description of the mechanisms and structures that would be used; (2) the level of automatic or staffed facility operation; (3) the methods for recording data on project operation; and (4) a plan for maintaining these data for inspection and filing with the Commission and resource agencies.

In the 401 WQC, the DEP requires Central Maine to release an instream flow of 222 cfs or inflow, whichever is less, and to maintain water levels in the North Gorham impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control. This instream flow release--recommended by the agencies and proposed by Central Maine--is the aquatic base flow (222 cfs), calculated as 0.5 cfs per square mile of drainage area.

The DEP includes conditions in the 401 WQC for Central Maine to develop plans, for approval by DEP, to provide for and monitor the recommended water surface elevation and instream flow release.

Our Recommendation

Operating the project with a one foot maximum water surface elevation fluctuation and a minimum instream flow release equivalent to the aquatic base flow--222 cfs--would protect and maintain aquatic and wildlife resources in Presumpscot River downstream of the project and in the project impoundment. In

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addition, the proposed minimum flow from the North Gorham Project would provide continuous flows further downstream for the enhancement of the developing anadromous fishery in the lower portion of the Presumpscot River.

Thus, we recommend that the Licensee be required to operate the project to maintain the project impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond the Licensee's control. We also recommend that the Licensee be required to provide a minimum instream flow release from the powerhouse equivalent to the aquatic base flow of 222 cfs. In addition, the Licensee should prepare a plan, for Commission approval, to provide for, and monitor these project operation specifications, as recommended by Interior (letter from William Paterson, Regional Environmental Officer, U.S. Department of the Interior, Boston, Massachusetts, January 13, 1993).

b. Fish passage. Historically, the DIFW managed the Presumpscot River in the project area for resident fishes, with smallmouth bass representing the principal fishery. More recently, the DIFW has begun to also manage for salmonids--primarily brook trout and landlocked Atlantic salmon--in the project area (Pierce et al, 1985). The management plan for the Eel Weir project, immediately upstream of the North Gorham Project, (Pierce et al, 1985) will be expanded to include the North Gorham Project area. After implementing this plan, salmonid populations are expected to increase at the North Gorham Project area.

Central Maine proposes to provide a downstream fish bypass system at the project dam if: (1) the DIFW clarifies or extends the Presumpscot River Management Plan goals to include North Gorham Project waters; (2) the Commission requires a minimum instream flow for the Eel Weir Project; and (3) the DIFW fully implements its fish management plan, including stocking--salmon and trout--in the Presumpscot River between the Eel Weir and North Gorham Dams.

Central Maine proposes to file fishway plans within six months after they receive evidence that the DIFW amended the Presumpscot River Management Plan and filed the revised plan with the Commission as an approved State comprehensive river management plan. Central Maine also proposes to construct and operate the fishway within 18 months of Commission approval of the operation and maintenance plans.

All of Central Maine's prerequisites for providing downstream fish passage are satisfied at present or would be satisfied within the next 2 years, as follows: (1) DIFW says that, within the next 2 years, it expects to revise the strategic

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plan to incorporate Dundee Pond and the North Gorham Pond as waters to be managed (letter from Frederick B. Hurley, Director, Bureau of Resource Management, Maine Department of Inland Fisheries and Wildlife, Augusta, Maine, December 22, 1992); (2) in January 1992, the Commission required that a minimum instream flow be released for landlocked salmon habitat in the bypassed reach downstream of the Eel Weir dam; and (3) based upon this action, the DIFW implemented its fisheries management plan for the Presumpscot River (Pierce et al, 1985) and began annual stocking of landlocked salmon in North Gorham Pond and brook trout in the Eel Weir bypass during the spring of 1992 (letter from Dean C. Marriott, Commissioner, Maine Department of Environmental Protection, Augusta, Maine, September 28, 1992).

Currently, no fish passage facilities exist at the North Gorham Project. Therefore, in conjunction with DIFW's plan to enhance the salmonid fishery, Central Maine developed functional design drawings and operational plans for downstream passage of salmon and trout from North Gorham impoundment into Dundee Pond.

As outlined in Central Maine's response to the Commission's additional information request submitted on September 15, 1992, project modifications to provide downstream fish passage would include constructing a small gate in the sluiceway, and adding a flume on the downstream side of the sluiceway to convey fish to the pool located below the deep gates. The proposed entrance is 2-feet-wide, and would be fitted with a stop log weir. From the sluice, fish would pass to the existing plunge pool beyond the spillway via an open steel trough. Central Maine estimated the cost of downstream fish passage facilities to be \$342,000 (1994 dollars). Operating the fish passage facility would require about 2 percent of generation flow, with associated costs during the term of a new license of \$198,000. Central Maine proposes to contact DIFW, DEP, and the Service to establish a schedule for developing downstream fish bypass facilities. Central Maine says the schedule would set target dates for developing and submitting the design plans, bypass construction, testing and "debugging", and ultimate operation (Central Maine Power Company, 1991).

In the 401 WQC the DEP requires Central Maine to install and operate downstream fish passage facilities at the North Gorham Project within 2 years following the issuance of a new license for the project, provided that within this period DIFW amends its existing Presumpscot River Management Plan to include the waters of the North Gorham Project. The 401 WQC states that Central Maine must consult with the state and Federal fisheries agencies to prepare and submit functional design drawings, a construction schedule, and operating and maintenance plans for the downstream fish passage facility. The DEP says that state and Federal

fisheries agencies, the Commission, and the DEP must review and approve the drawings, schedule, and plans.

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Section 18

Pursuant to Section 18 of the Federal Power Act (FPA) 6/ Interior prescribed downstream fish passage facilities for the North Gorham Project (letter from William Patterson, Regional Environmental Officer, U. S. Department of the Interior, Boston, Massachusetts, January 13, 1993), as proposed in Central Maine's additional information filing with the Commission dated September 15, 1992 (Central Maine Power Company, 1992). Interior prescribes that the Licensee should submit final plans to the Service for approval prior to constructing the downstream fishway. Interior also reserves its authority to prescribe fishways at the North Gorham Project.

In addition, Interior recommends that Central Maine consult with the Service and the DIFW and develop plans and schedules for operating and maintaining the downstream fishway at the North Gorham Project. Interior recommends that the operation and maintenance plan include a description of facility oversight and personnel commitments, and identify back-up equipment and supplies that would be maintained to ensure fast repairs in the event of fishway malfunctions.

Central Maine objects to Interior's recommendation to submit plans for installing and operating downstream fish passage facilities within 6 months after the date of issuance of a new license (letter from Gerald C. Poulin, P.E., Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April 2, 1993).

We believe that Central Maine's objection is based on an apparent lack of knowledge that the DIFW has implemented the fisheries management plan, including stocking in the project area (letter from Gerald C. Poulin, Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April 2, 1993).

Central Maine also objects to Interior's request for reservation of authority to prescribe fishways because Interior cited that it may use this authority to require modifications to the fishway. Central Maine asserts that modifications to existing fishways are outside of the prescription authority, and that an open-ended reservation of authority wouldn't allow the Commission to determine that a project is best adapted to a comprehensive plan for the waterway.

6/ Section 18 of the Federal Power Act provides: "The Commission shall require construction, maintenance, and operation by a licensee at its own expense of... such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior as appropriate."

Our Recommendation

Providing downstream fish passage facilities, as proposed by Central Maine, would enhance the salmonid fishery in the Presumpscot River by providing fishes safe access to portions of the river downstream of the North Gorham dam. Because the DIFW: (1) proposes to revise the Presumpscot River Management Plan, and (2) has already implemented the fisheries management plan by stocking fishes in the project area, we recommend that the fish passage plans be timely filed with the Commission and not delayed until the revised comprehensive plan is filed with the Commission. Nevertheless, we would encourage the DIFW to file the revised comprehensive plan with the Commission within the next two years.

Thus, we recommend that the Licensee be required to provide downstream fish passage facilities, as specified in its' filing dated September 15, 1992, and as prescribed by Interior and included in the 401 WQC. In addition, the Licensee should prepare a plan and implementation schedule, for Commission approval, for testing--as specified by Central Maine--operating, and maintaining--as specified by the Service--the downstream fishway.

We acknowledge Central Maine's objection to Interior's reservation of authority for fishways. However, conditions prescribed under Section 18 authority are mandatory. In addition, the Commission includes a license article that reserves Interior's authority to prescribe facilities for fish passage, upon Interior's request, in order to ensure that appropriate fish passage facilities may be constructed, operated, and maintained, should new or different facilities be necessary. Therefore, Interior's authority to prescribe fishways should be reserved.

Unavoidable Adverse Impacts: None.

c. Cumulative impacts on fisheries. As we've said in section V.B.4, we identified fisheries as a resource that could be cumulatively impacted in the river basin. Multiple developments in the basin (see section V.A.2, Existing and Proposed Hydroelectric Development) could affect the reproductive potential of species in the basin by limiting access to, or decreasing the suitability of spawning sites (e.g., by fluctuating impoundment water surface elevation or discharge flows). Multiple hydropower development could also adversely affect the fishery in the basin by reducing aeration, limiting fish movements, and impingement and entrainment of fish.

Water quality information (Section V.B.1., Water Resources) indicates that DO content is consistently within the state standards for DO concentration, and that the project doesn't

contribute significantly to adverse impacts regarding aeration of the Presumpscot River.

The resident and anadromous fisheries in the Presumpscot River would be maintained and enhanced by operating the North Gorham Project: (1) with limited impoundment water fluctuation-- within one foot of normal water surface elevation; (2) with a minimum instream flow release of 222 cfs; (3) and installing and operating downstream fish passage facilities.

Downstream fish passage facilities would allow landlocked salmon and trout to pass from Sebago Lake into the North Gorham Project area and into the lower reaches of the Presumpscot River. Fish passage facilities would also be consistent with the DIFW's management plan for the Presumpscot River. Through Interior's Section 18 reservation of authority to prescribe fishways, fish passage facilities may be altered or added to the project facilities in the future to enhance these fisheries resources in the river basin. A cumulative beneficial effect on recreational fisheries would result from implementing these enhancement measures.

3. Cultural Resources

Affected environment: Archaeological surveys at the North Gorham Project identified one archaeological site in the area of probable effect that could be eligible for listing on the National Register of Historic Places: the Great Falls site (ME 13-34). With a total areal extent of about 900 square meters, this site would have been well situated for fishing below the falls. Recovered artifacts include five tools, 30 flakes, and 20 fire-cracked rock fragments and one possible feature 7/. The site is predominantly bedrock at its northern end, but is undergoing moderate erosion at its southern end (letter from Ellen R. Cowie, Research Supervisor, and Dr. James B. Petersen, Director, University of Maine at Farmington Archaeology Research Center, Farmington, Maine, December 2, 1987).

The site's eligibility hasn't been determined, but it's likely--judging from the data recovered to date--that the site is eligible. The Maine Historic Preservation Commission (MHPC) agrees that if recreational development at the project tailrace is likely to affect the site, its eligibility should be determined (letter from Earle G. Shettleworth, State Historic Preservation Officer, Maine Historic Preservation Commission, Augusta, Maine, September 26, 1991).

7/ A feature is an anomaly in the soil matrix--for example, human burial remains, or a fire hearth.

Environmental impacts and recommendations: Currently, the Great Falls site may receive erosive effects from spring water releases from the North Gorham dam and informal recreational use by local residents of the area for boating and fishing access.

Central Maine proposes to improve recreational access at the tailrace--the location of the Great Falls archeological site--a measure that we recommend in section V.4. of this EA (letter from Gerry J. Mirabile, Environmental Specialist, Central Maine Power Company, Augusta, Maine, September 23, 1991). We recommend that the Licensee file a recreation tailrace access plan with the Commission for approval, and upon approval, implement the tailrace improvement access plan.

Developing or improving recreational opportunities at the existing tailrace access site would affect the archeological site. Therefore, the recommended recreation plan, when filed, should include an evaluation of the Great Falls site. If the site is eligible, the tailrace recreation tailrace access plan should include adequate provisions to mitigate the effects of the recreational development and the Licensee should consult with the MHPC.

To broadly protect historic properties at this and other Central Maine projects pending relicensing, the Commission, the Council and the MHPC executed a 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 Issuing to Central Maine Power Company and Kennebec Water Power Company for Ten Hydroelectric or Storage Projects in Maine, on October 27, 1993.^{8/} We recommend that the terms of this Agreement be applied to any license issued for this project.

Unavoidable Adverse Impacts: None.

^{8/} On May 25, 1993, the Commission issued a notice of restricted service list for commenting on the proposed programmatic agreement. On June 11, 1993, the Conservation Law Foundation et al. requested inclusion on the restricted service list (letter from Mark A. Sinclair, Staff Attorney, Conservation Law Foundation, Montpelier, Vermont, June 11, 1993). The Commission then issued a final notice of restricted service list on June 24, 1993 which included the Conservation Law Foundation et al. On July 9, 1993, the Conservation Law Foundation et al. filed comments with the Commission opposing the programmatic agreement (letter from Mark A. Sinclair, Staff Attorney, Conservation Law Foundation, Montpelier, Vermont, July 9, 1993).

4. Recreation and Other Land Uses

Affected Environment: The North Gorham Project is located on the Presumpscot River, approximately two miles north of Sebago Lake--Maine's second largest lake. Sebago Lake and the Saco River--located about 10 miles west of the project--offer many recreational opportunities: reducing recreational demand and use of the Presumpscot. However, if a quality landlocked salmon fishery is established--as proposed by the DIFW--the Presumpscot River would become a much more significant recreational river (Central Maine Power Company, 1991, application, appendix E-VII; see Fishery Resources, Section V. B. 2).

The Towns of Gorham, Windham, and Standish surround the project. Recreational demand on the Presumpscot River in this area is relatively light and local. Recreational users include town residents and non-residents: the majority of non-resident users come from the City of Portland, about 10 miles east of the project.

The primary recreational activities include boating and fishing, with some picnicking, swimming, and water skiing. Central Maine says that annual recreational use is 42,220 user-days, with the majority of use occurring during the day. Private access user-days account for 41% of the use and public access user-days accounts for 39% (Central Maine Power Company, 1991). The DIFW says the impoundment is fished heavily during the spring: 10-15 people use the 98-acre impoundment daily; summer average use is 2-3 people daily (Central Maine Power Company, 1992).

Public access is somewhat limited by private land ownership, residential subdivisions, and highway locations. However, there are four access sites at the project:

↳ Impoundment Access

(a) A small, 2-acre informal day-use area located between the North Gorham Road and the dam used primarily by area residents for picnicking, swimming and fishing. The site has an informal parking area for 2-3 vehicles, a picnic area, and fireplace. Central Maine leases this site to the Town of Gorham. The site capacity is 25 people.

(b) A primitive, informal carry-in boat access site located adjacent to the road along the west side of the river. There's no formal parking area; however, there's room for 1-2 vehicles on the side of the road. The site capacity is 4-6 people.

↳ Tailrace Access

(a) A primitive, informal walk-in access--by way of an unimproved trail--for anglers and carry-in boat launching is located on the Gorham side of the river. This site doesn't have

a parking area and site capacity is about 10 people.

(b) An informal, walk-in access for anglers and carry-in boat launching is located on Windham side of the tailrace. This site also provides access to the Dundee Project impoundment. No formal parking area is provided so users park along the road shoulder. Site capacity is 10-15 people.

Environmental Impacts and Recommendations: Central Maine proposes to enhance tailrace access and monitor recreational use and need for future recreational facilities or access at the project.

a. Public Access-Tailrace

Central Maine proposes to continue providing public access at the tailrace for fishing, boating, swimming, and picnicking. Central Maine proposes to enhance the Windham side (east) tailrace access by relocating the existing informal parking area and trail. Improvements include: (1) a lighted gravel parking area for 5-6 cars, located next to the Windham Center Road, and (2) an improved trail for carry-in access. Central Maine proposes to close the existing vehicle access and informal parking area that allows vehicles to park near the water. Central Maine estimates that relocating the parking area and improving the tailrace access would cost about \$40,000 (personal communication, Bill Campbell, Public Recreation Coordinator, Central Maine Power Company, Augusta, Maine, April 1, 1993). Central Maine plans to complete this work in 1996.

The 401 WQC requires that Central Maine provide public recreational access facilities in the project area. The 401 WQC also requires that Central Maine submit a schedule for providing recreational facilities for review by the Department of Conservation (DOC) and approval of the DEP, Bureau of Land Quality Control.

Interior (letter from William Patterson, Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Affairs, Boston, Massachusetts, January 13, 1993) concurs with Central Maine's proposal to enhance tailrace fishing access. The DIFW also agrees with the need for access to the project area (letter from Norman E. Trask, Deputy Commissioner, Maine Department of Inland Fisheries and Wildlife, Augusta, Maine, February 28, 1991).

Our Recommendation

Improving tailrace access by relocating and constructing a parking lot at the tailrace would continue to provide formal access to the tailwaters for fishing and boating. Because of the DIFW's landlocked salmon and trout stocking program, an increase in recreational fishing is expected. Consequently, formal access to the project tailwaters and a developed parking area is needed to accommodate use. We agree that Central Maine's proposal for

relocating the parking lot and improving the tailrace access would enhance recreational opportunities at the project. We also agree that the Central Maine's proposal is consistent with the 401 WQC requirements to provide recreational access to the project.

Because the improvements would affect a potentially eligible archeological site (see Cultural Resources, section V.B.3.), if we recommend recreational improvements to the site, Central Maine should protect properties listed on or eligible for the National Register of Historic Places.

We discuss how improving the access trail and constructing a parking lot would affect the project economics in the comprehensive development section (Section VI).

b. Public Access-Impoundment

Central Maine proposes to continue impoundment access at existing sites and consult with appropriate agencies and monitor recreational use at the project. Using FERC Form 80, Central Maine proposes to initiate a periodic review of project recreational facility status and needs. Central Maine proposes monitoring for 3 reasons: (1) current public access at the impoundment is adequate for present recreational use levels and demand; (2) the success of the fishery improvements is difficult to predict; therefore, it's premature to develop new or improve impoundment access; and (3) because of the high rate of vandalism and depreciative behavior at existing impoundment access sites, the Town of Gorham opposes any new development.

The DOC and Interior agree with Central Maine's proposal to monitor recreational use at the project. Interior recommends that Central Maine consult with the Service, DIFW, and the DOC and monitor recreational use of the project area to determine whether existing access facilities meet the demands for public use of fish and wildlife resources. Specifically, Interior recommends that Central Maine begin monitoring studies within 5 years after issuance of license and include in the studies annual recreation use data and meetings with agencies every 5 years (letter from William Patterson, Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Affairs, Boston, Massachusetts, January 13, 1993).

Central Maine disagrees with Interior's recommendation to collect annual recreation use data. Central Maine proposes to consult with the Service, DIFW, and the DOC every 6 years--consistent with the Commission's schedule for filing FERC Form 80--and assess the recreational needs at the project (letter from Gerald C. Poulin, P.E., Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April, 2, 1993).

Interior clarified their monitoring recommendation: it's intended to periodically evaluate recreation use in the project area. Interior doesn't object to our monitoring schedule of

every 6 years (personal communication, Gordon Russell, Fish and Wildlife Biologist, U. S. Fish and Wildlife Service, Orono, Maine, April 6, 1993).

Our Recommendation

Central Maine looked at four areas as potential sites for improving impoundment access. Of those four areas, three included wetlands, which may restrict development due to biological importance of wetlands. Two of the four areas were secluded and subject to theft, vandalism, and loitering. One site already provides boating access. 9/ Given the current problems of vandalism and loitering and the unknown effect of developing an access near wetlands, none of these sites seem appropriate for additional access improvements at this time. Due to private landownership and highway location, sites for developing additional access are unavailable.

As we've said, while current recreational use of the project is light to moderate, there is potential for substantial increase in fishing use if the state's effort to establish a high quality salmon fishery is successful. The landlocked salmon program began in 1992 and the DIFW has stocked landlocked salmon in the North Gorham impoundment for the last 2 years. The State predicts that "landlocked salmon could draw thousands of anglers to the area above the North Gorham project" (Central Maine Power Company, 1991). Monitoring the success of this program would help determine whether additional access, or recreational facilities are needed at the project.

We agree with Central Maine's proposal to consult with the agencies and town officials and monitor recreational needs and demand at the North Gorham project. We also agree that it's not necessary for Central Maine to conduct an annual recreational use

- 9/ A conceptual plan and description for carry-in boat launch and access locations on the North Gorham impoundment is included as Figures 2-8 of the Additional Information Response dated September 15, 1992, and filed on September 21, 1992.

survey. It is appropriate, however, to use existing recreational use data and estimate annual use figures until the collection year--as specified in the FERC Form 80 filing schedule.

Therefore, we recommend that the Licensee consult with the Service, DOC, DIFW, and the Towns of Gorham and Windham, and monitor recreational use and demand at the project. The Licensee should consult with the Towns of Gorham and Windham to get status reports of vandalism, loitering, etc. that occurs at the project. The Licensee should also consult with the Service and the DIFW for fisheries program evaluation data.

The Licensee should file a report with the Commission which

includes: (1) annual recreational use figures; (2) a summary of the fisheries program evaluation and status reports of vandalism, etc. at the project; (3) a summary of the adequacy of Licensee' recreational access and facilities relative to the summaries in item (2); (4) the need for additional recreational facilities and access at the project; (5) any plans to control or accommodate visitation in the project area; and (6) documentation of consultation with the Service, DOC, DIFW, and the Towns of Gorham and Windham and the agencies' comments on the report. Monitoring of recreational use should follow the Commission's schedule for filing the FERC Form 80, every 6 years.

Unavoidable Adverse Impacts: None

C. Impacts of the No-Action Alternative

Under the no-action alternative, the project would continue to operate as it has in the past as discussed in Section III.D. The environmental enhancements Central Maine proposes and we recommend would not occur.

VI. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

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 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.

A. Recommended Alternative

Based on our independent review and evaluation of the North Gorham Project, agency recommendations, and the no-action alternative as documented in this EA, we have selected issuing a license for the North Gorham Project, with staff-recommended

enhancement measures, as the preferred option. We recommend this option because: (1) our required measures would protect and enhance the fishery resources, and recreational and cultural resources; and (2) the electricity generated from a renewable resource would be beneficial because it would continue to offset the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

In order to protect and enhance the environmental resources, we recommend 5 enhancement measures: (1) the release of a minimum flow of 222 cfs or inflow, whichever is less, and maintenance of the project impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by

inflows to the project area, or by operating emergencies beyond Central Maine's control; (2) the preparation of a plan and implementation schedule for testing, operating, and maintaining a downstream fish passage facility to enhance the salmonid fishery in the Presumpscot River; (3) the improvement of tailrace access and construction of a parking lot at the tailrace; (4) Licensee consultation with the agencies and towns and monitoring of recreational use at the project; and (5) determination of the eligibility of the Great Falls archeological site and if eligible, development of a mitigation plan to protect the site.

B. Developmental and nondevelopmental uses of the Waterway

A project would be economically beneficial, so long as its projected levelized cost is less than the levelized cost of alternative energy and capacity.

a. Minimum Flow Releases

The current license contains no requirements for minimum flow releases. However, Central Maine, in accordance with the resource agencies recommendations, proposes to release, under normal operating conditions, a continuous instantaneous minimum flow of 222 cfs or inflow, whichever is less, from the project to enhance the fishery resources. The release of this minimum flow would not adversely affect the annual power generation or increase costs because 222 cfs occurs about 99 percent of the time, and it would be released through the turbines.

Furthermore, the minimum flow releases would benefit fishery resources below the project area by providing a continuous flow for aquatic habitat.

b. Fish Passage

Central Maine proposes to provide downstream fish passage by modifying the existing trash sluice. Central Maine estimates

that modifying the trash sluice would cost about \$342,000. The maintenance cost of the fish passage is estimated to be \$2,000 per year. The total levelized annual cost would be about \$19,940.

Central Maine estimates that about 2 percent of the generation flow would be diverted through the fish bypass facility. This would represent about 3.5 percent or 390,174 kWh of lost energy annually: thus, the average annual generation at the North Gorham plant would decrease to about 10.7 GWh. The energy loss would reduce the levelized value of the project power by about \$27,380 annually.

Providing downstream fish passage at the project would enhance the salmonid fishery in the Presumpscot River by providing fishes safe access downstream of the project at a total levelized cost of \$47,320. Further, downstream fish passage is

consistent with the DIFW fisheries management plan which includes stocking salmon and trout in the project area.

c. Tailrace Recreation Access and Cultural Resources

Central Maine proposes to construct a parking area for carry-in boaters and an access trail to the Presumpscot River to provide tailrace access. Central Maine estimates that the cost of these improvements would be about \$20,000, and the maintenance cost about \$2,000 annually. The total levelized annual cost for these enhancements would be about \$3,590. Before improving the tailrace access site, Central Maine would need to determine the eligibility of the Great Falls archeological site (see Cultural Resources, section V.B.3). Central Maine estimates that further archeological work would cost \$20,000, and the maintenance cost about \$2,000 annually. The total levelized cost would be about \$3,590.

As we've said in the Recreation section, relocating the tailrace parking area and constructing a parking lot, and improving the tailrace access path would provide recreational benefits for the project site. If the fishery improves--as expected--recreational use of the project tailrace may increase; thus, increasing recreational benefits.

Determining the eligibility of the Great Falls site is necessary to comply with section 106 of the National Historic Preservation Act and to protect, if eligible, a historic property that may be affected by recreational development. If eligible, the Licensee may nominate the site to the National Register of Historic Places; adverse effects would be mitigated.

The effect of these measures--improving the tailrace access path, constructing a parking lot, and determining the eligibility of the Great Falls archeological site--on project economics is

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small--about \$7,180 annually--compared to expected recreational and cultural benefits.

d. Total Enhancement Costs

We estimate the total levelized cost of the enhancement measures to be required in the new license to be about \$54,500 annually or about 5.1 mills/kWh.

Even with the proposed enhancement measures as we discuss above, we conclude that the project would continue to provide power at a cost significantly below the cost of alternative power in the region.

The levelized project costs would be only the operation and maintenance (O&M) costs and the administrative and general (A&G) costs of the existing project, and the cost of the enhancement measures required in the new license. These total costs would be about 51.5 mills/kWh compared to the value of the power in the

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region of about 78 mills/kWh.

Based on a review of the agency and public comments filed in this proceeding and on our independent analysis--pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA--we conclude that the North Gorham Project, with our required enhancement measures and other special license conditions, would be best adapted to the comprehensive development of the Presumpscot River.

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with Federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.

Under Section 10(a)(2), Federal and state agencies filed 12 comprehensive plans that address various resources in Maine. Of these, we identified and reviewed eight plans--five state and

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three Federal --relevant to this project 10/. No conflicts were found.

VII. CONSISTENCY WITH FISH AND WILDLIFE RECOMMENDATIONS

Pursuant to Section 10(j) of the FPA, we make 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. 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. We have addressed the concerns of the Federal and state fish and wildlife agencies and made recommendations consistent with those of the agencies.

VIII. CONCLUSION

The project is constructed and operating. Consequently, there would be no project-related construction impacts. Operating the North Gorham Project with a minimum flow of 222 cfs and limiting impoundment fluctuations within one foot of normal pond would protect and enhance the aquatic and wildlife resources and in Presumpscot River downstream of the project. Also, relocating and constructing the tailrace parking lot, improving tailrace access, monitoring recreational use, and determining the eligibility of the Great Falls archeological site would protect and enhance recreational and cultural resources at the North Gorham Project.

IX. FINDING OF NO SIGNIFICANT IMPACT

On the basis of our independent environmental analysis, relicensing the North Gorham Project would not constitute a major

- 10/ State plans: Strategic plan for management of Atlantic salmon in the State of Maine, 1984, Maine Atlantic Sea-Run Salmon Commission; Maine rivers study-final report, 1982, Maine Department of Conservation; State of Maine comprehensive river management plan, 1987, Maine State Planning Office; Maine comprehensive rivers management plan, volume 4, 1992, Maine State Planning Office; Maine comprehensive rivers management plan, volume 5, 1993; Federal plans: Final Environmental Impact Statement-Restoration of Atlantic salmon to New England Rivers, 1989, U.S. Fish and Wildlife Service; The nationwide rivers inventory, 1982, Department of the Interior-National Park Service; Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service, undated, U.S. Fish and Wildlife Service.

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Federal action significantly affecting the quality of the human environment.

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XI. LIST OF PREPARERS

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(Fisheries Biologist, Ph. D, Fisheries Ecology).

CarLi sa M. Linton -- Terrestrial Resources, Threatened and
Endangered Species (Ecologist, M. S., Marine Estuarine
Biology-Environmental Science).

Wonkook Park--Purpose and Need for Power (Electrical Engineer,
B. S., Electrical Engineering).

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Dennis S. Tarnay -- Safety and Design Assessment (Civil Engineer;
M. S., Civil Engineering (Professional Degree)).

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Form L-3
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order
of the Commission, shall be subject to all of the provisions,
terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps,
plans, specifications, and statements described and designated as
exhibits and approved by the Commission in its order as a part of
the license until such change shall have been approved by the
Commission: Provided, however, That if the Licensee or the
Commission deems it necessary or desirable that said approved
exhibits, or any of them, be changed, there shall be submitted to
the Commission for approval a revised, or additional exhibit or
exhibits covering the proposed changes which, upon approval by
the Commission, shall become a part of the license and shall
supersede, in whole or in part, such exhibit or exhibits there-
tofore made a part of the license as may be specified by the
Commission.

Article 3. The project area and project works shall be in
Page 47

substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

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Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its

successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial

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sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representa-

tive. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing

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determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in

the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other

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project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish

and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways

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and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all

temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due

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diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect

to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove

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any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

ENVIRONMENTAL ASSESSMENT
FOR HYDROPOWER LICENSE

North Gorham Hydroelectric Project

FERC Project No. 2519 - 003

Maine

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Project Review
825 N. Capitol Street, NE
Washington, D. C. 20426

November 3, 1993

FOREWORD

The Federal Energy Regulatory Commission (Commission) issued the North Gorham Hydroelectric Project Draft Environmental Assessment (DEA) for comment on September 13, 1993. The following comment letter was received and reviewed by staff.

Commenting Entities	Date of Letter
Water Resources Council	10/18/93

The Water Resources Council concurred in the findings and recommendations presented in the DEA.

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SUMMARY

On November 13, 1991, Central Maine Power Company (Central Maine) filed an application for a new license for the existing 2.25 megawatt (MW) North Gorham Hydroelectric Project. On September 21, 1992, Central Maine supplemented its application with additional information.

The project is located on the Presumpscot River at river mile 19.5 in the Towns of Gorham, Standish and Windham, in Cumberland County, Maine. The North Gorham Project license was originally issued on December 6, 1966, and expires on December 31, 1993. Central Maine proposes no new capacity and no new construction.

The environmental assessment (EA) prepared for the North Gorham Project analyzes and evaluates the effects associated with the issuance of a license for the existing hydropower development and recommends terms and conditions to become a part of any license issued. For any license issued, the Federal Energy Regulatory Commission (Commission) must determine that the project adopted will be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and development purposed for which licenses are issued, the Commission must give equal consideration to the purpose of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife resources, and the protection of recreational opportunities. The EA for the North Gorham Project reflects the Commission's consideration of these factors.

Based on our consideration of all developmental and nondevelopmental resource interests related to the project, we recommend 5 measures to protect, mitigate adverse impacts to, and enhance environmental resource values. These environmental recommendations require the Licensee to:

(1) release a minimum flow of 222 cubic feet per second (cfs) or inflow, whichever is less, and maintain the project impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control;

(2) prepare a plan and implementation schedule for testing, operating, and maintaining a downstream fish passage facility to enhance the salmonid fishery in the Presumpscot River;

(3) improve tailrace access and construct a parking lot at the tailrace;

(4) consult with the agencies and towns and monitor recreational use of the project; and

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(5) determine the eligibility of the Great Falls archeological site and if eligible, develop a mitigation plan to protect the site, and

(6) implement the provisions of the programmatic agreement, executed on October 27, 1993.

These recommended environmental measures would avoid project-related adverse effects and would protect or enhance fish and wildlife resources, water quality, recreational resources, and undiscovered properties listed on or eligible for listing on the National Register of Historic Places. In addition, the electricity generated from the project would be beneficial because it would continue to reduce the use of fossil-fueled, electric generating plants, conserve nonrenewable energy resources, and reduce atmospheric pollution.

No reasonable action alternatives to the project have been identified for assessment. The no-action alternative, which would preserve existing conditions, has been considered and is addressed in the environmental analysis and the comprehensive development sections of this EA. Denial of the license would mean that about 10.7 million kilowatthours (kWh) of electric energy generation per year at the North Gorham Project would be lost and no measures would be implemented to protect and enhance existing environmental resources.

On November 6, 1991, pursuant to Section 401 of the Clean Water Act, Central Maine applied to the Maine Department of Environmental Protection (DEP) for 401 water quality certification (WQC) for the North Gorham Project. The DEP issued Central Maine's Section 401 WQC, on September 24, 1992, with conditions (Dean C. Marriott, Commissioner, Maine Department of Environmental Protection, Augusta, Maine, September 28, 1992). The conditions of the 401 WQC are discussed in section IV.B. of the EA.

Pursuant to Section 10(j) of the Federal Power Act (FPA), we make 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. 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. We have addressed the concerns of the Federal and state fish and wildlife agencies and made recommendations consistent with those of the agencies.

Under Section 18 of the FPA, Interior prescribes downstream passage facilities at the project--as described in Central Maine's filing on September 15, 1992--and reserves authority to prescribe the construction, operation and maintenance of fishways.

Based on our independent analysis of the project, including our consideration of all relevant economic and environmental concerns, we conclude in the EA that: (1) the North Gorham Project, with our recommended environmental measures and other special license conditions, would be best adapted to a comprehensive plan for the proper use, conservation, and development of the Presumpscot River and other project-related resources; and (2) issuance of a license for the North Gorham Project would not constitute a major Federal action significantly affecting the quality of the human environment.

ENVIRONMENTAL ASSESSMENT
FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING, DIVISION OF PROJECT REVIEW

North Gorham Hydroelectric Project

FERC Project No. 2519-003, Maine

November 3, 1993

I. APPLICATION

On November 13, 1991, the Central Maine Power Company (Central Maine), a utility, filed an application for a new major license for the existing North Gorham Hydroelectric Project. On September 21, 1992, Central Maine supplemented its application with additional information.

The project is located on the Presumpscot River at river mile 19.5 in the Towns of Gorham, Standish and Windham, in Cumberland County, Maine. The North Gorham Project License was originally issued on December 6, 1966, and expires on December 31, 1993. Central Maine proposes no new capacity and no new construction.

II. PURPOSE AND NEED FOR POWER AND ACTION

A. Purpose

The Commission must decide if it's going to issue a license to Central Maine for the project and what conditions should be placed on any license issued. Issuing a new license for the North Gorham Project would allow Central Maine to continue to generate electricity at the project for the term of a new license, making electric power from a renewable resource available to their customers. The project generates an average of about 10,758,000 kilowatthours (kWh) of energy annually.

In this environmental assessment (EA), we, the Commission staff, assess the environmental and economic effects of continuing to operate the project (1) as proposed by Central Maine and (2) with our recommended enhancement measures. We also

consider the effects of the no-action alternative. There are no competing applications for the North Gorham Project.

B. Need for Power and Action

Central Maine, an investor-owned electric utility generated 2,789.6 gigawatthours (GWh) of electric energy and purchased 7,507.7 GWh in 1991 for their power system.

The North Gorham Project was originally constructed in the years of 1900 and 1901. The turbines and generators were installed in 1925 and 1926. The existing two generators have an aggregate nameplate rating of 2,250 kilowatts (kW).

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Central Maine's service area is located in the New England Power Pool (NEPOOL) area of the Northeast Power Coordinating Council (NPCC) region. NPCC prepares a report, "Regional Reliability Council Long Range Coordinated Bulk Power Supply Programs," to the U. S. Department of Energy (DOE) each year. This report--known as DOE Code IE-411--contains, among other data, the forecast of annual energy requirement and the compound growth rate of the peak load for the next 10-year planning period.

According to the 1992 DOE Code IE-411 Report, the forecast of peak loads of the New England Power Pool for the period of 1992-2001 would increase with a compound growth rate of 1.9 percent. The forecasted net energy requirements for the same period show a compound growth rate of 1.8 percent. The report noted that the forecast includes adjustments for anticipated effects of Demand-Side Management (DSM) and non-utility generation.

The report also shows that the present generation schedule of the region is sufficient to accommodate these compound growth rates and to provide reserves to meet the NPCC and NEPOOL reliability criteria for the first five year planning period.

The North Gorham Project would continue to be useful in meeting a small part of the need for power projected by the NEPOOL. The project would continue to displace fossil-fueled generation in the NEPOOL and adjacent regions. Such displacement would continue to conserve non-renewable primary energy resources and reduce the emission of noxious byproducts, resulting from the combustion of fossil fuels. Moreover, the need of the project power to meet the requirements of the utility's customer has been established by more than 68 years of continued operating history.

III. PROPOSED PROJECT AND ALTERNATIVES

A. Proposed Project

1. Project Description

The project facilities consist of (figure 1):

- (a) a stone masonry and concrete dam about 1,009 feet long,

having from west to east (i) a non overflow masonry wall section about 600.5 feet long; (ii) an intake section about 51.5 feet long and 28 feet high with four gates 9.5 feet wide by 9.5 feet high, protected by trashracks with 1.25-inch clear spacing; (iii) a sluice gate section about 47 feet long with four submerged sliding gates 4 feet wide by 5 feet high; (iv) a spillway section about 256.5 feet long; (v) a sluice section about 15.5 feet long; and (vi) a cutoff wall section about 38 feet long; (b) a reservoir with gross storage capacity of about 1,300 acre-feet at elevation 221.8 feet mean sea level; (c) four 8-foot-diameter steel penstocks extending approximately 50 to 70

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feet downstream to two surge chambers; (d) two surge chambers; (e) a brick powerhouse about 58 feet wide and 71 feet long with two 1,460-horse-power (hp) turbines connected to two generating units each having 1,125 kilowatts (kW) of generating capacity; (f) a tailrace; (g) a transformer house; (h) a switch house; and (i) appurtenant facilities.

Other than the generator leads, there's no primary transmission line included in the license.

B. Proposed Enhancement Measures

1. Construction. No new construction is proposed.

2. Operation To enhance fishery resources, Central Maine proposes to: operate the project by releasing a minimum flow of 222 cubic feet per second (cfs), or inflow, whichever is less, and maintain impoundment level fluctuations within one foot of full pond during normal operation; and provide downstream fish passage facilities at the North Gorham dam (under certain provisions, as discussed in Fisheries Resources, Section V. B. 2).

To enhance recreational opportunities at the project, Central Maine proposes to improve access at the project tailrace, construct a tailrace parking lot, and monitor recreational use at the project.

C. Alternatives to the Proposed Project

No reasonable action alternatives to the proposed project have been identified for evaluation. Various environmental measures that are included in Central Maine's proposal are evaluated under the appropriate resource headings in section V. B, Environmental Analysis - Proposed Project, and in section VII, Comprehensive Development and Recommended Alternative.

D. The No Action Alternative

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The no-action alternative would result in no change to the current environmental setting in the project area. Under the no-

action alternative, the project would continue to operate as required by the original project license. No alterations or enhancements to the existing environmental resources would occur.

IV. CONSULTATION AND COMPLIANCE

A. Agency Consultation

After the Commission issued a public notice of the North Gorham Hydroelectric Project on March 30, 1992, and November 5, 1992, the following entities commented and/or intervened on the application. All comments become part of the record and are considered in our analysis of the project.

Commenting agencies and other entities	Date of letter
Maine Department of Environmental Protection	09-28-92
Department of the Interior	11-17-92, 01-13-93
Maine Department of Inland Fisheries and Wildlife	12-22-92
Department of the Army, Corps of Engineers	01-06-93
Maine Department of Marine Resources	01-11-93
Maine Executive Department, State Planning Office	02-11-93
Intervenor	Date of motion
State of Maine Executive Department, State Planning Office	04-17-92

Central Maine responded to the agency comments on April 2, 1993. The Maine Executive Department, State Planning Office intervened only to be a party to the proceedings and doesn't oppose relicensing of the North Gorham Project.

B. Water Quality Certification

On November 26, 1991, pursuant to Section 401 of the Clean Water Act, Central Maine applied to the Maine Department of Environmental Protection (DEP) for 401 water quality certification (WQC) for the North Gorham Project. The DEP issued Central Maine's Section 401 WQC, on September 24, 1992, with conditions (letter from Dean C. Marriott, Commissioner, Maine Department of Environmental Protection, Augusta, Maine, September 28, 1992).

In summary, the WQC issued by the DEP requires that Central Maine: (a) maintain a minimum flow from the project of 222 cfs or inflow, whichever is less, except as temporarily modified by

operating emergencies beyond Central Maine's control; (b) maintain the impoundment water surface elevation within one foot of 221.8 feet 1/ (crest of spillway), except as temporarily modified by approved maintenance activities, by inflows to the

project area, or by operating emergencies beyond Central Maine's control; (c) monitor items a and b; (d) install and have operational downstream fish passage facilities at the North Gorham Dam within 2 years following the issuance of a license, should the Department of Inland Fisheries and Wildlife (DIFW) amend its existing Presumpscot River Management Plan to include the waters of the North Gorham Project within this period; and (e) provide public recreational access facilities in the project area as described in Central Maine's WQC application for the North Gorham Project.

V. ENVIRONMENTAL ANALYSIS

In this section, we first describe the general environmental setting in the project locale. Included is our determination of the potential for cumulative impacts to the environmental resources.

In our detailed assessment, we discuss each environmental resource affected by the project. For each resource, we first describe the affected environment--which is the existing condition and the baseline against which to measure the effects of the proposed project and any alternative actions--and then the environmental effects of the project including proposed enhancement measures.

Only the resources that would be affected are included in detail in this EA. Continuing to operate the project would not affect geology and soils, terrestrial resources, land use, visual or aesthetic quality, and socioeconomics. So we've excluded these resources from our detailed analysis.

The project is within the range of the Federally listed endangered bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus anatum*). The U. S. Fish and Wildlife Service (Service) states that no Federally listed or proposed threatened and endangered species are known to occur in the project area, with the exception of occasional transient bald eagle and peregrine falcon (personal communication, Gordon Russell, Fish and Wildlife Biologist, U. S. Fish and Wildlife Service, Orono, Maine, January 6, 1993).

1/ All elevations are mean sea level unless otherwise stated.

A. General Description of the Locale

1. Presumpscot River Basin

The Presumpscot watershed is located entirely in Maine. The basin is about 55 miles long in a north-south direction, and

about 20 miles wide, with a total drainage area of about 648 square miles. The Presumpscot River rises in Sebago Lake and flows south-easterly 24 miles to the head of Casco Bay, between Falmouth and Portland. The total fall in the river is about 267 feet--average slope equals 11.1 feet per mile. Principal tributaries of the Presumpscot River are the Songo, Long Lake, Crooked, Pleasant and Piscataqua Rivers.

About one-fifth of the basin is farmland: most agricultural activities include dairy and poultry products. Industrial centers produce lumber and wood products, bricks, textiles and paper. Over 50 percent of the industrial establishments are devoted to milling and woodworking.

2. Cumulative Impacts

An action may cause cumulative impacts on the environment if its impacts overlap in space and/or time with the impacts of other past, present, and reasonably foreseeable future actions. The individually minor impacts of multiple actions, when added together in space and time, may amount to collectively significant cumulative impacts. The existing environment shows the effects of past and present actions and provides the context for determining the significance of cumulative impacts from future actions.

The Presumpscot River Basin is the primary geographic boundary for our analysis. We have compiled a table of existing projects in the Presumpscot River Basin as of March 26, 1993. There are no pending license applications or exemptions before the Commission in the Presumpscot River Basin. The existing projects are as follows (Federal Energy Regulatory Commission, 1993):

Table 1. Existing Projects in the Presumpscot River Basin

Expiration	Capacity	Project Name Installed and Number	Operating Mode	River Miles from North Gorham	Type of Project	Date
issued	1, 125 Kw	Smelt Hill P-7118	Run-of-River	19.5 miles downstream	Exemption	N/A 3/19/84
	1, 350 Kw	Saccarappa P-2897	Run-of-River	11.5 miles downstream	Minor	9/30/99
5/31/2000	800 Kw	Mallison Falls P-2932	Run-of-River	6.8 miles downstream	Minor	
5/31/2000	1, 000 Kw	Little Falls P-2941	Run-of-River	6.0 miles downstream	Minor	

8/31/2000	Gambo P-2931 1,900 Kw Run-of-River	4.6 miles downstream	Major	
9/30/2001	Dundee P-2942 2,400 Kw Run-of-River	2.0 miles downstream	Major	
	North Gorham P-2519 2,250 Kw Run-of-River	n/a	Major	12/31/93
3/31/2004	Eel Weir P-2984 1,800 Kw Storage	2.1 miles upstream	Major	

Figure 2 also shows a schematic representation of the locations of the hydroelectric facilities in the Presumpscot River Basin.

This EA reviews all of the resources, including water quality, fish and wildlife, recreation, and cultural, in the Presumpscot River Basin and assesses the potential for the North Gorham Project under review to contribute to cumulative effects. Based on our evaluation of agency and public comments, we have placed emphasis on analyzing the cumulative effects on fishery resources that could be affected cumulatively by the proposed relicensing of the North Gorham Project.

We assess the project's effect on resident (e.g., centrarchids, landlocked salmon, and trout occurring in the project area) and anadromous fish (e.g., American shad and alewives being restored to the downstream portion of the

Presumpscot River) in the cumulative impacts and fishery resource section of this EA.

As shown in figure 2, the Presumpscot River has eight dams on the main stem 21.6-mile-long section between head-of-tide and Sebago Lake. Cumulative impacts on the anadromous fishery extend throughout this reach. Historically (pre-1900), the river

Figure 2. Schematic diagram of existing hydroelectric projects on the Presumpscot River, Maine (Source: Staff).

supported anadromous runs of Atlantic salmon and shad. Dam construction on the river adversely affected these runs. The Maine Department of Marine Resources (DMR) currently has plans to restore anadromous fishes--American shad and alewives--to the Presumpscot River, but only as far upstream as the Cumberland Mills Dam 2/). The Atlantic Sea-Run Salmon Commission (ASRSC) currently has no plans to restore anadromous Atlantic salmon to the Presumpscot River (letter from Edward T. Baum, Program Coordinator, Atlantic Sea-Run Salmon Commission, Bangor, Maine,

January 17, 1991).

The DMR recommends a minimum flow release of 222 cfs or inflow from the North Gorham Project that would allow for flow releases downstream of the Cumberland Mills Dam, to enhance the anadromous fishery in the lower reaches of the Presumpscot River. Requirements for continuous flow releases from the North Gorham impoundment would enhance the anadromous fishery downstream; however, flows from the North Gorham Project, as well as all downstream sections, are controlled by operations at the Eel Weir Project (FERC Project No. 2984), located immediately upstream from the North Gorham Project. Historical flow records show that a minimum of 222 cfs is almost always released from the Eel Weir Project 3/.

The Commission issued an order on January 7, 1992, requiring the licensee for the Eel Weir Project to discharge from the Eel Weir dam a continuous minimum flow of: 25 cfs from November 1 through March 31; 75 cfs from April 1 through June 30; and 50 cfs from September 1 through October 31, with the provision that the minimum flow be allocated from inflow or storage previously used for generation. This minimum flow requirement at the Eel Weir Project provides a constant passageway for fish to pass into the bypassed reach of river between the Eel Weir dam and powerhouse, and provides enhanced fisheries habitat in that reach.

Cumulative impacts associated with the resident fisheries are more localized: including the North Gorham impoundment and adjacent upstream and downstream impoundments. The North Gorham impoundment extends 1.1 miles upstream to the tailrace of the Eel Weir Project powerhouse. Sebago Lake, created by the Eel Weir dam, is known for its landlocked Atlantic Salmon, brook trout, lake trout, and smallmouth and largemouth bass recreational fisheries. Landlocked salmon and trout pass from Sebago Lake

- 2/ This dam is located 13 miles downstream of the North Gorham Project.
- 3/ According to historical monthly average flow records from 1887 to 1992 for the Eel Weir Project (letter from S. D. Warren Company Regarding Notice of Complaints for Eel Weir Project, FERC No. 2984-022, Westbrook, Maine, 1 March 1993).

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into the North Gorham impoundment and tailwater during high flow events. The Maine Department of Inland Fisheries and Wildlife (DIFW) proposes to manage the North Gorham Project area for these salmonids from Sebago Lake, as well as for bass.

We discuss cumulative impacts on the anadromous and resident fisheries in further detail in the Fisheries Resources section of the EA (section V. B. 2).

Continuing to operate the project with Central Maine's proposed and our recommended measures would protect and enhance

the environment and would result in beneficial cumulative effects to fisheries resources in the basin.

B. Proposed Project

1. Water Resources

Affected Environment: Flows at the project site were estimated based upon records from the USGS Gage No. 01064000 located 1.1 miles upstream on the Presumpscot River at the Eel Weir Project (drainage area of 441 square miles). Flows at the North Gorham Project (drainage area of 444 square miles) exceed 325 cfs 90 percent of the time, and exceed 1,000 cfs 10 percent of time 4/. The mean annual flow in the Presumpscot River at the project is about 657 cfs 5/.

The reservoir extends 1.1 miles upstream to the tailrace of the Eel Weir Dam powerhouse. The full impoundment (at elevation 221.8 feet) has a maximum depth of 23 feet, with a surface area of 98 acres. The reservoir has a gross storage capacity of 1,300 acre-feet, representing a turnover rate of about 16.5 hours at the maximum hydraulic capacity of 950 cfs (and about a day at the average annual flow).

The DEP classifies the Presumpscot River from the outlet of Sebago Lake (next upstream impoundment) to its confluence with Dundee Pond (the North Gorham Project discharges into the headpond of the downstream Dundee Project, FERC Project No. 2942) as Class A. The designated uses of Class A waters are for: drinking water after disinfection, fishing, recreation in and on the water, industrial process and cooling water supply, hydroelectric power generation, habitat for fish and other

- 4/ Values were estimated from an annual flow duration curve derived from flow data at the USGS gage between 1970 and 1989.
- 5/ This value is based upon USGS flow records from 1887 to 1991.

aquatic life, and naturally occurring aquatic life and bacteria content.

The standards require that discharged effluents are of equal or better water quality than the receiving waters, and that the project not violate water quality standards, including the state standard requirement of anti degradation. The dissolved oxygen (DO) content is required to be 7 parts per million (ppm) concentration or 75 percent (%) saturation, whichever is higher.

No known major industrial or sewage effluents or other point sources of pollution are located within the project area. Project waters meet state water quality standards. In July 1986

and 1987, Central Maine conducted water quality sampling in the project area. These data collected show that DO levels were above 90% saturation and 7 ppm concentration both upstream and downstream of the project, even during periods of relatively high temperature and low flows. The impoundment does not tend to stratify. The existing data indicate that Class A DO standards would be met under Central Maine's proposal to operate the project with a minimum flow of 222 cfs.

Environmental impacts and recommendations: The North Gorham Project, as proposed, would have no significant long-term effects on water quality in the project area because operations are not being altered, and historical operations have met state water quality standards. However, some short-term increases in turbidity and sedimentation may result from constructing the fish passage facilities.

Unavoidable Adverse Impacts: None.

2. Fishery Resources

Affected Environment: The Presumpscot River supports warmwater, coolwater, and coldwater fish species, including smallmouth bass, largemouth bass, perch, pickerel, brown bullhead, sucker, minnows and landlocked salmon. Landlocked salmon and trout drop down from Sebago Lake into the North Gorham impoundment and tailwater during high flow events. The Maine Natural Heritage Program of the Nature Conservancy conducted a survey for rare bivalve mollusks and fish in the project area in August 1986; none were found.

The Maine Department of Marine Resources (DMR) has plans to restore anadromous fishes--American shad and alewives--to the Presumpscot River as far upstream as the Cumberland Mills Dam, 13 miles downstream from the North Gorham Project. Flow releases from the North Gorham Project would provide habitat for: (a) resident fishes inhabiting the portion of the Presumpscot River directly downstream from the project; and (b) the anadromous fishery developing further downstream.

Environmental impacts and recommendations:

a. Project operation. Central Maine proposes to operate the project with a minimum flow of 222 cfs released from the project at all times and maintain the impoundment water surface elevation within one foot of full pond.

To protect aquatic resources in the project impoundment and in the Presumpscot River downstream of the project, the U.S. Department of the Interior (Interior) recommends that the North Gorham Project operate in an instantaneous run-of-river mode, or with stable impoundment water levels and an instantaneous minimum flow of 222 cfs or inflow to the project, whichever is less. The Service defines "stable" impoundment levels at North Gorham as maintaining water levels within one foot of the normal water

surface elevation (personal communication, Gordon Russell, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Orono, Maine, April 6, 1993).

Interior recommends that Central Maine consult with the Service, the USGS, DEP, and the DIFW, to develop and implement a plan to provide for and monitor the recommended project operation. Interior recommends that the plan include: (1) a description of the mechanisms and structures that would be used; (2) the level of automatic or staffed facility operation; (3) the methods for recording data on project operation; and (4) a plan for maintaining these data for inspection and filing with the Commission and resource agencies.

In the 401 WQC, the DEP requires Central Maine to release an instream flow of 222 cfs or inflow, whichever is less, and to maintain water levels in the North Gorham impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control. This instream flow release--recommended by the agencies and proposed by Central Maine--is the aquatic base flow (222 cfs), calculated as 0.5 cfs per square mile of drainage area.

The DEP includes conditions in the 401 WQC for Central Maine to develop plans, for approval by DEP, to provide for and monitor the recommended water surface elevation and instream flow release.

Our Recommendation

Operating the project with a one foot maximum water surface elevation fluctuation and a minimum instream flow release equivalent to the aquatic base flow--222 cfs--would protect and maintain aquatic and wildlife resources in Presumpscot River downstream of the project and in the project impoundment. In

addition, the proposed minimum flow from the North Gorham Project would provide continuous flows further downstream for the enhancement of the developing anadromous fishery in the lower portion of the Presumpscot River.

Thus, we recommend that the Licensee be required to operate the project to maintain the project impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond the Licensee's control. We also recommend that the Licensee be required to provide a minimum instream flow release from the powerhouse equivalent to the aquatic base flow of 222 cfs. In addition, the Licensee should prepare a plan, for Commission approval, to provide for, and monitor these project operation specifications, as recommended by Interior (letter from William Paterson, Regional Environmental Officer, U.S. Department of the

Interior, Boston, Massachusetts, January 13, 1993).

b. Fish passage. Historically, the DIFW managed the Presumpscot River in the project area for resident fishes, with smallmouth bass representing the principal fishery. More recently, the DIFW has begun to also manage for salmonids-- primarily brook trout and landlocked Atlantic salmon--in the project area (Pierce et al, 1985). The management plan for the Eel Weir project, immediately upstream of the North Gorham Project, (Pierce et al, 1985) will be expanded to include the North Gorham Project area. After implementing this plan, salmonid populations are expected to increase at the North Gorham Project area.

Central Maine proposes to provide a downstream fish bypass system at the project dam if: (1) the DIFW clarifies or extends the Presumpscot River Management Plan goals to include North Gorham Project waters; (2) the Commission requires a minimum instream flow for the Eel Weir Project; and (3) the DIFW fully implements its fish management plan, including stocking--salmon and trout--in the Presumpscot River between the Eel Weir and North Gorham Dams.

Central Maine proposes to file fishway plans within six months after they receive evidence that the DIFW amended the Presumpscot River Management Plan and filed the revised plan with the Commission as an approved State comprehensive river management plan. Central Maine also proposes to construct and operate the fishway within 18 months of Commission approval of the operation and maintenance plans.

All of Central Maine's prerequisites for providing downstream fish passage are satisfied at present or would be satisfied within the next 2 years, as follows: (1) DIFW says that, within the next 2 years, it expects to revise the strategic

plan to incorporate Dundee Pond and the North Gorham Pond as waters to be managed (letter from Frederick B. Hurley, Director, Bureau of Resource Management, Maine Department of Inland Fisheries and Wildlife, Augusta, Maine, December 22, 1992); (2) in January 1992, the Commission required that a minimum instream flow be released for landlocked salmon habitat in the bypassed reach downstream of the Eel Weir dam; and (3) based upon this action, the DIFW implemented its fisheries management plan for the Presumpscot River (Pierce et al, 1985) and began annual stocking of landlocked salmon in North Gorham Pond and brook trout in the Eel Weir bypass during the spring of 1992 (letter from Dean C. Marriott, Commissioner, Maine Department of Environmental Protection, Augusta, Maine, September 28, 1992).

Currently, no fish passage facilities exist at the North Gorham Project. Therefore, in conjunction with DIFW's plan to enhance the salmonid fishery, Central Maine developed functional design drawings and operational plans for downstream passage of salmon and trout from North Gorham impoundment into Dundee Pond.

As outlined in Central Maine's response to the Commission's additional information request submitted on September 15, 1992, project modifications to provide downstream fish passage would include constructing a small gate in the sluiceway, and adding a flume on the downstream side of the sluiceway to convey fish to the pool located below the deep gates. The proposed entrance is 2-feet-wide, and would be fitted with a stop log weir. From the sluice, fish would pass to the existing plunge pool beyond the spillway via an open steel trough. Central Maine estimated the cost of downstream fish passage facilities to be \$342,000 (1994 dollars). Operating the fish passage facility would require about 2 percent of generation flow, with associated costs during the term of a new license of \$198,000. Central Maine proposes to contact DIFW, DEP, and the Service to establish a schedule for developing downstream fish bypass facilities. Central Maine says the schedule would set target dates for developing and submitting the design plans, bypass construction, testing and "debugging", and ultimate operation (Central Maine Power Company, 1991).

In the 401 WQC the DEP requires Central Maine to install and operate downstream fish passage facilities at the North Gorham Project within 2 years following the issuance of a new license for the project, provided that within this period DIFW amends its existing Presumpscot River Management Plan to include the waters of the North Gorham Project. The 401 WQC states that Central Maine must consult with the state and Federal fisheries agencies to prepare and submit functional design drawings, a construction schedule, and operating and maintenance plans for the downstream fish passage facility. The DEP says that state and Federal fisheries agencies, the Commission, and the DEP must review and approve the drawings, schedule, and plans.

Section 18

Pursuant to Section 18 of the Federal Power Act (FPA) 6/ Interior prescribed downstream fish passage facilities for the North Gorham Project (letter from William Patterson, Regional Environmental Officer, U. S. Department of the Interior, Boston, Massachusetts, January 13, 1993), as proposed in Central Maine's additional information filing with the Commission dated September 15, 1992 (Central Maine Power Company, 1992). Interior prescribes that the Licensee should submit final plans to the Service for approval prior to constructing the downstream fishway. Interior also reserves its authority to prescribe fishways at the North Gorham Project.

In addition, Interior recommends that Central Maine consult with the Service and the DIFW and develop plans and schedules for operating and maintaining the downstream fishway at the North Gorham Project. Interior recommends that the operation and maintenance plan include a description of facility oversight and personnel commitments, and identify back-up equipment and supplies that would be maintained to ensure fast repairs in the event of fishway malfunctions.

Central Maine objects to Interior's recommendation to submit plans for installing and operating downstream fish passage facilities within 6 months after the date of issuance of a new license (letter from Gerald C. Poulin, P.E., Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April 2, 1993).

We believe that Central Maine's objection is based on an apparent lack of knowledge that the DIFW has implemented the fisheries management plan, including stocking in the project area (letter from Gerald C. Poulin, Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April 2, 1993).

Central Maine also objects to Interior's request for reservation of authority to prescribe fishways because Interior cited that it may use this authority to require modifications to the fishway. Central Maine asserts that modifications to existing fishways are outside of the prescription authority, and that an open-ended reservation of authority wouldn't allow the Commission to determine that a project is best adapted to a comprehensive plan for the waterway.

- 6/ Section 18 of the Federal Power Act provides: "The Commission shall require construction, maintenance, and operation by a licensee at its own expense of... such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior as appropriate."

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Our Recommendation

Providing downstream fish passage facilities, as proposed by Central Maine, would enhance the salmonid fishery in the Presumpscot River by providing fishes safe access to portions of the river downstream of the North Gorham dam. Because the DIFW: (1) proposes to revise the Presumpscot River Management Plan, and (2) has already implemented the fisheries management plan by stocking fishes in the project area, we recommend that the fish passage plans be timely filed with the Commission and not delayed until the revised comprehensive plan is filed with the Commission. Nevertheless, we would encourage the DIFW to file the revised comprehensive plan with the Commission within the next two years.

Thus, we recommend that the Licensee be required to provide downstream fish passage facilities, as specified in its' filing dated September 15, 1992, and as prescribed by Interior and included in the 401 WQC. In addition, the Licensee should prepare a plan and implementation schedule, for Commission approval, for testing--as specified by Central Maine--operating, and maintaining--as specified by the Service--the downstream fishway.

We acknowledge Central Maine's objection to Interior's reservation of authority for fishways. However, conditions prescribed under Section 18 authority are mandatory. In addition, the Commission includes a license article that reserves Interior's authority to prescribe facilities for fish passage, upon Interior's request, in order to ensure that appropriate fish passage facilities may be constructed, operated, and maintained, should new or different facilities be necessary. Therefore, Interior's authority to prescribe fishways should be reserved.

Unavoidable Adverse Impacts: None.

c. Cumulative impacts on fisheries. As we've said in section V.B.4, we identified fisheries as a resource that could be cumulatively impacted in the river basin. Multiple developments in the basin (see section V.A.2, Existing and Proposed Hydroelectric Development) could affect the reproductive potential of species in the basin by limiting access to, or decreasing the suitability of spawning sites (e.g., by fluctuating impoundment water surface elevation or discharge flows). Multiple hydropower development could also adversely affect the fishery in the basin by reducing aeration, limiting fish movements, and impingement and entrainment of fish.

Water quality information (Section V.B.1., Water Resources) indicates that DO content is consistently within the state standards for DO concentration, and that the project doesn't

contribute significantly to adverse impacts regarding aeration of the Presumpscot River.

The resident and anadromous fisheries in the Presumpscot River would be maintained and enhanced by operating the North Gorham Project: (1) with limited impoundment water fluctuation-- within one foot of normal water surface elevation; (2) with a minimum instream flow release of 222 cfs; (3) and installing and operating downstream fish passage facilities.

Downstream fish passage facilities would allow landlocked salmon and trout to pass from Sebago Lake into the North Gorham Project area and into the lower reaches of the Presumpscot River. Fish passage facilities would also be consistent with the DIFW's management plan for the Presumpscot River. Through Interior's Section 18 reservation of authority to prescribe fishways, fish passage facilities may be altered or added to the project facilities in the future to enhance these fisheries resources in the river basin. A cumulative beneficial effect on recreational fisheries would result from implementing these enhancement measures.

3. Cultural Resources

Affected environment: Archaeological surveys at the North Gorham Project identified one archaeological site in the area of probable effect that could be eligible for listing on the

National Register of Historic Places: the Great Falls site (ME 13-34). With a total areal extent of about 900 square meters, this site would have been well situated for fishing below the falls. Recovered artifacts include five tools, 30 flakes, and 20 fire-cracked rock fragments and one possible feature 7/. The site is predominantly bedrock at its northern end, but is undergoing moderate erosion at its southern end (letter from Ellen R. Cowie, Research Supervisor, and Dr. James B. Petersen, Director, University of Maine at Farmington Archaeology Research Center, Farmington, Maine, December 2, 1987).

The site's eligibility hasn't been determined, but it's likely--judging from the data recovered to date--that the site is eligible. The Maine Historic Preservation Commission (MHPC) agrees that if recreational development at the project tailrace is likely to affect the site, its eligibility should be determined (letter from Earle G. Shettleworth, State Historic Preservation Officer, Maine Historic Preservation Commission, Augusta, Maine, September 26, 1991).

7/ A feature is an anomaly in the soil matrix--for example, human burial remains, or a fire hearth.

Environmental impacts and recommendations: Currently, the Great Falls site may receive erosive effects from spring water releases from the North Gorham dam and informal recreational use by local residents of the area for boating and fishing access.

Central Maine proposes to improve recreational access at the tailrace--the location of the Great Falls archeological site--a measure that we recommend in section V.4. of this EA (letter from Gerry J. Mirabile, Environmental Specialist, Central Maine Power Company, Augusta, Maine, September 23, 1991). We recommend that the Licensee file a recreation tailrace access plan with the Commission for approval, and upon approval, implement the tailrace improvement access plan.

Developing or improving recreational opportunities at the existing tailrace access site would affect the archeological site. Therefore, the recommended recreation plan, when filed, should include an evaluation of the Great Falls site. If the site is eligible, the tailrace recreation tailrace access plan should include adequate provisions to mitigate the effects of the recreational development and the Licensee should consult with the MHPC.

To broadly protect historic properties at this and other Central Maine projects pending relicensing, the Commission, the Council and the MHPC executed a 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 Issuing to Central Maine Power Company and Kennebec Water Power Company for Ten Hydroelectric or Storage Projects in Maine, on October 27, 1993. 8/ We recommend that the terms of this Agreement be applied to any license issued for this project.

Unavoidable Adverse Impacts: None.

8/ On May 25, 1993, the Commission issued a notice of restricted service list for commenting on the proposed programmatic agreement. On June 11, 1993, the Conservation Law Foundation et al. requested inclusion on the restricted service list (letter from Mark A. Sinclair, Staff Attorney, Conservation Law Foundation, Montpelier, Vermont, June 11, 1993). The Commission then issued a final notice of restricted service list on June 24, 1993 which included the Conservation Law Foundation et al. On July 9, 1993, the Conservation Law Foundation et al. filed comments with the Commission opposing the programmatic agreement (letter from Mark A. Sinclair, Staff Attorney, Conservation Law Foundation, Montpelier, Vermont, July 9, 1993).

4. Recreation and Other Land Uses

Affected Environment: The North Gorham Project is located on the Presumpscot River, approximately two miles north of Sebago Lake--Maine's second largest lake. Sebago Lake and the Saco River--located about 10 miles west of the project--offer many recreational opportunities: reducing recreational demand and use of the Presumpscot. However, if a quality landlocked salmon fishery is established--as proposed by the DIFW--the Presumpscot River would become a much more significant recreational river (Central Maine Power Company, 1991, application, appendix E-VII; see Fishery Resources, Section V. B. 2).

The Towns of Gorham, Windham, and Standish surround the project. Recreational demand on the Presumpscot River in this area is relatively light and local. Recreational users include town residents and non-residents: the majority of non-resident users come from the City of Portland, about 10 miles east of the project.

The primary recreational activities include boating and fishing, with some picnicking, swimming, and water skiing. Central Maine says that annual recreational use is 42,220 user-days, with the majority of use occurring during the day. Private access user-days account for 41% of the use and public access user-days accounts for 39% (Central Maine Power Company, 1991). The DIFW says the impoundment is fished heavily during the spring: 10-15 people use the 98-acre impoundment daily; summer average use is 2-3 people daily (Central Maine Power Company, 1992).

Public access is somewhat limited by private land ownership, residential subdivisions, and highway locations. However, there

are four access sites at the project:

þ Impoundment Access

(a) A small, 2-acre informal day-use area located between the North Gorham Road and the dam used primarily by area residents for picnicking, swimming and fishing. The site has an informal parking area for 2-3 vehicles, a picnic area, and fireplace. Central Maine leases this site to the Town of Gorham. The site capacity is 25 people.

(b) A primitive, informal carry-in boat access site located adjacent to the road along the west side of the river. There's no formal parking area; however, there's room for 1-2 vehicles on the side of the road. The site capacity is 4-6 people.

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þ Tailrace Access

(a) A primitive, informal walk-in access--by way of an unimproved trail--for anglers and carry-in boat launching is located on the Gorham side of the river. This site doesn't have a parking area and site capacity is about 10 people.

(b) An informal, walk-in access for anglers and carry-in boat launching is located on Windham side of the tailrace. This site also provides access to the Dundee Project impoundment. No formal parking area is provided so users park along the road shoulder. Site capacity is 10-15 people.

Environmental Impacts and Recommendations: Central Maine proposes to enhance tailrace access and monitor recreational use and need for future recreational facilities or access at the project.

a. Public Access-Tailrace

Central Maine proposes to continue providing public access at the tailrace for fishing, boating, swimming, and picnicking. Central Maine proposes to enhance the Windham side (east) tailrace access by relocating the existing informal parking area and trail. Improvements include: (1) a lighted gravel parking area for 5-6 cars, located next to the Windham Center Road, and (2) an improved trail for carry-in access. Central Maine proposes to close the existing vehicle access and informal parking area that allows vehicles to park near the water. Central Maine estimates that relocating the parking area and improving the tailrace access would cost about \$40,000 (personal communication, Bill Campbell, Public Recreation Coordinator, Central Maine Power Company, Augusta, Maine, April 1, 1993). Central Maine plans to complete this work in 1996.

The 401 WQC requires that Central Maine provide public recreational access facilities in the project area. The 401 WQC also requires that Central Maine submit a schedule for providing

recreational facilities for review by the Department of Conservation (DOC) and approval of the DEP, Bureau of Land Quality Control.

Interior (letter from William Patterson, Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Affairs, Boston, Massachusetts, January 13, 1993) concurs with Central Maine's proposal to enhance tailrace fishing access. The DIFW also agrees with the need for access to the project area (letter from Norman E. Trask, Deputy Commissioner, Maine Department of Inland Fisheries and Wildlife, Augusta, Maine, February 28, 1991).

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Our Recommendation

Improving tailrace access by relocating and constructing a parking lot at the tailrace would continue to provide formal access to the tailwaters for fishing and boating. Because of the DIFW's landlocked salmon and trout stocking program, an increase in recreational fishing is expected. Consequently, formal access to the project tailwaters and a developed parking area is needed to accommodate use. We agree that Central Maine's proposal for relocating the parking lot and improving the tailrace access would enhance recreational opportunities at the project. We also agree that the Central Maine's proposal is consistent with the 401 WQC requirements to provide recreational access to the project.

Because the improvements would affect a potentially eligible archeological site (see Cultural Resources, section V.B.3.), if we recommend recreational improvements to the site, Central Maine should protect properties listed on or eligible for the National Register of Historic Places.

We discuss how improving the access trail and constructing a parking lot would affect the project economics in the comprehensive development section (Section VI).

b. Public Access-Impoundment

Central Maine proposes to continue impoundment access at existing sites and consult with appropriate agencies and monitor recreational use at the project. Using FERC Form 80, Central Maine proposes to initiate a periodic review of project recreational facility status and needs. Central Maine proposes monitoring for 3 reasons: (1) current public access at the impoundment is adequate for present recreational use levels and demand; (2) the success of the fishery improvements is difficult to predict; therefore, it's premature to develop new or improve impoundment access; and (3) because of the high rate of vandalism and depreciative behavior at existing impoundment access sites, the Town of Gorham opposes any new development.

The DOC and Interior agree with Central Maine's proposal to monitor recreational use at the project. Interior recommends

that Central Maine consult with the Service, DIFW, and the DOC and monitor recreational use of the project area to determine whether existing access facilities meet the demands for public use of fish and wildlife resources. Specifically, Interior recommends that Central Maine begin monitoring studies within 5 years after issuance of license and include in the studies annual recreation use data and meetings with agencies every 5 years (letter from William Patterson, Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Affairs, Boston, Massachusetts, January 13, 1993).

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Central Maine disagrees with Interior's recommendation to collect annual recreation use data. Central Maine proposes to consult with the Service, DIFW, and the DOC every 6 years--consistent with the Commission's schedule for filing FERC Form 80--and assess the recreational needs at the project (letter from Gerald C. Poulin, P.E., Vice President, Engineering, Central Maine Power Company, Augusta, Maine, April, 2, 1993).

Interior clarified their monitoring recommendation: it's intended to periodically evaluate recreation use in the project area. Interior doesn't object to our monitoring schedule of every 6 years (personal communication, Gordon Russell, Fish and Wildlife Biologist, U. S. Fish and Wildlife Service, Orono, Maine, April 6, 1993).

Our Recommendation

Central Maine looked at four areas as potential sites for improving impoundment access. Of those four areas, three included wetlands, which may restrict development due to biological importance of wetlands. Two of the four areas were secluded and subject to theft, vandalism, and loitering. One site already provides boating access. 9/ Given the current problems of vandalism and loitering and the unknown effect of developing an access near wetlands, none of these sites seem appropriate for additional access improvements at this time. Due to private landownership and highway location, sites for developing additional access are unavailable.

As we've said, while current recreational use of the project is light to moderate, there is potential for substantial increase in fishing use if the state's effort to establish a high quality salmon fishery is successful. The landlocked salmon program began in 1992 and the DIFW has stocked landlocked salmon in the North Gorham impoundment for the last 2 years. The State predicts that "landlocked salmon could draw thousands of anglers to the area above the North Gorham project" (Central Maine Power Company, 1991). Monitoring the success of this program would help determine whether additional access, or recreational facilities are needed at the project.

We agree with Central Maine's proposal to consult with the agencies and town officials and monitor recreational needs and demand at the North Gorham project. We also agree that it's not

necessary for Central Maine to conduct an annual recreational use

- 9/ A conceptual plan and description for carry-in boat launch and access locations on the North Gorham impoundment is included as Figures 2-8 of the Additional Information Response dated September 15, 1992, and filed on September 21, 1992.

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survey. It is appropriate, however, to use existing recreational use data and estimate annual use figures until the collection year--as specified in the FERC Form 80 filing schedule.

Therefore, we recommend that the Licensee consult with the Service, DOC, DIFW, and the Towns of Gorham and Windham, and monitor recreational use and demand at the project. The Licensee should consult with the Towns of Gorham and Windham to get status reports of vandalism, loitering, etc. that occurs at the project. The Licensee should also consult with the Service and the DIFW for fisheries program evaluation data.

The Licensee should file a report with the Commission which includes: (1) annual recreational use figures; (2) a summary of the fisheries program evaluation and status reports of vandalism, etc. at the project; (3) a summary of the adequacy of Licensee's recreational access and facilities relative to the summaries in item (2); (4) the need for additional recreational facilities and access at the project; (5) any plans to control or accommodate visitation in the project area; and (6) documentation of consultation with the Service, DOC, DIFW, and the Towns of Gorham and Windham and the agencies' comments on the report. Monitoring of recreational use should follow the Commission's schedule for filing the FERC Form 80, every 6 years.

Unavoidable Adverse Impacts: None

C. Impacts of the No-Action Alternative

Under the no-action alternative, the project would continue to operate as it has in the past as discussed in Section III.D. The environmental enhancements Central Maine proposes and we recommend would not occur.

VI. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

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 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.

A. Recommended Alternative

Based on our independent review and evaluation of the North Gorham Project, agency recommendations, and the no-action alternative as documented in this EA, we have selected issuing a license for the North Gorham Project, with staff-recommended

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enhancement measures, as the preferred option. We recommend this option because: (1) our required measures would protect and enhance the fishery resources, and recreational and cultural resources; and (2) the electricity generated from a renewable resource would be beneficial because it would continue to offset the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

In order to protect and enhance the environmental resources, we recommend 5 enhancement measures: (1) the release of a minimum flow of 222 cfs or inflow, whichever is less, and maintenance of the project impoundment within one foot of the normal water surface elevation of 221.8 feet, except as temporarily modified by approved maintenance activities, by inflows to the project area, or by operating emergencies beyond Central Maine's control; (2) the preparation of a plan and implementation schedule for testing, operating, and maintaining a downstream fish passage facility to enhance the salmonid fishery in the Presumpscot River; (3) the improvement of tailrace access and construction of a parking lot at the tailrace; (4) Licensee consultation with the agencies and towns and monitoring of recreational use at the project; and (5) determination of the eligibility of the Great Falls archeological site and if eligible, development of a mitigation plan to protect the site.

B. Developmental and nondevelopmental uses of the Waterway

A project would be economically beneficial, so long as its projected levelized cost is less than the levelized cost of alternative energy and capacity.

a. Minimum Flow Releases

The current license contains no requirements for minimum flow releases. However, Central Maine, in accordance with the resource agencies recommendations, proposes to release, under normal operating conditions, a continuous instantaneous minimum flow of 222 cfs or inflow, whichever is less, from the project to enhance the fishery resources. The release of this minimum flow would not adversely affect the annual power generation or increase costs because 222 cfs occurs about 99 percent of the time, and it would be released through the turbines.

Furthermore, the minimum flow releases would benefit fishery resources below the project area by providing a continuous flow for aquatic habitat.

b. Fish Passage

Central Maine proposes to provide downstream fish passage by modifying the existing trash sluice. Central Maine estimates

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that modifying the trash sluice would cost about \$342,000. The maintenance cost of the fish passage is estimated to be \$2,000 per year. The total levelized annual cost would be about \$19,940.

Central Maine estimates that about 2 percent of the generation flow would be diverted through the fish bypass facility. This would represent about 3.5 percent or 390,174 kWh of lost energy annually; thus, the average annual generation at the North Gorham plant would decrease to about 10.7 GWh. The energy loss would reduce the levelized value of the project power by about \$27,380 annually.

Providing downstream fish passage at the project would enhance the salmonid fishery in the Presumpscot River by providing fishes safe access downstream of the project at a total levelized cost of \$47,320. Further, downstream fish passage is consistent with the DIFW fisheries management plan which includes stocking salmon and trout in the project area.

c. Tailrace Recreation Access and Cultural Resources

Central Maine proposes to construct a parking area for carry-in boaters and an access trail to the Presumpscot River to provide tailrace access. Central Maine estimates that the cost of these improvements would be about \$20,000, and the maintenance cost about \$2,000 annually. The total levelized annual cost for these enhancements would be about \$3,590. Before improving the tailrace access site, Central Maine would need to determine the eligibility of the Great Falls archeological site (see Cultural Resources, section V.B.3). Central Maine estimates that further archeological work would cost \$20,000, and the maintenance cost about \$2,000 annually. The total levelized cost would be about \$3,590.

As we've said in the Recreation section, relocating the tailrace parking area and constructing a parking lot, and improving the tailrace access path would provide recreational benefits for the project site. If the fishery improves--as expected--recreational use of the project tailrace may increase; thus, increasing recreational benefits.

Determining the eligibility of the Great Falls site is necessary to comply with section 106 of the National Historic Preservation Act and to protect, if eligible, a historic property that may be affected by recreational development. If eligible, the Licensee may nominate the site to the National Register of Historic Places; adverse effects would be mitigated.

The effect of these measures--improving the tailrace access

path, constructing a parking lot, and determining the eligibility of the Great Falls archeological site--on project economics is

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small--about \$7,180 annually--compared to expected recreational and cultural benefits.

d. Total Enhancement Costs

We estimate the total levelized cost of the enhancement measures to be required in the new license to be about \$54,500 annually or about 5.1 mills/kWh.

Even with the proposed enhancement measures as we discuss above, we conclude that the project would continue to provide power at a cost significantly below the cost of alternative power in the region.

The levelized project costs would be only the operation and maintenance (O&M) costs and the administrative and general (A&G) costs of the existing project, and the cost of the enhancement measures required in the new license. These total costs would be about 51.5 mills/kWh compared to the value of the power in the region of about 78 mills/kWh.

Based on a review of the agency and public comments filed in this proceeding and on our independent analysis--pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA--we conclude that the North Gorham Project, with our required enhancement measures and other special license conditions, would be best adapted to the comprehensive development of the Presumpscot River.

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with Federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.

Under Section 10(a)(2), Federal and state agencies filed 12 comprehensive plans that address various resources in Maine. Of these, we identified and reviewed eight plans--five state and

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three Federal--relevant to this project 10/. No conflicts were found.

VII. CONSISTENCY WITH FISH AND WILDLIFE RECOMMENDATIONS

Pursuant to Section 10(j) of the FPA, we make 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. 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. We have addressed the concerns of the Federal and state fish and wildlife agencies and made recommendations consistent with those of the agencies.

VIII. CONCLUSION

The project is constructed and operating. Consequently, there would be no project-related construction impacts. Operating the North Gorham Project with a minimum flow of 222 cfs and limiting impoundment fluctuations within one foot of normal pond would protect and enhance the aquatic and wildlife resources and in Presumpscot River downstream of the project. Also, relocating and constructing the tailrace parking lot, improving tailrace access, monitoring recreational use, and determining the eligibility of the Great Falls archeological site would protect and enhance recreational and cultural resources at the North Gorham Project.

IX. FINDING OF NO SIGNIFICANT IMPACT

On the basis of our independent environmental analysis, relicensing the North Gorham Project would not constitute a major

- 10/ State plans: Strategic plan for management of Atlantic salmon in the State of Maine, 1984, Maine Atlantic Sea-Run Salmon Commission; Maine rivers study-final report, 1982, Maine Department of Conservation; State of Maine comprehensive river management plan, 1987, Maine State Planning Office; Maine comprehensive rivers management plan, volume 4, 1992, Maine State Planning Office; Maine comprehensive rivers management plan, volume 5, 1993; Federal plans: Final Environmental Impact Statement-Restoration of Atlantic salmon to New England Rivers, 1989, U. S. Fish and Wildlife Service; The nationwide rivers inventory, 1982, Department of the Interior-National Park Service; Fisheries USA: the recreational fisheries policy of the U. S. Fish and Wildlife Service, undated, U. S. Fish and Wildlife Service.

Federal action significantly affecting the quality of the human environment.

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