

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

1855

License (Major); Relicense;
Fish Passage Facilities;
Additional Generation;
Erosion Control; Safety;
Hydraulic Co-ordination

*Bellows Falls
file*

Before Commissioners: Charles B. Curtis, Chairman;
Georgiana Sheldon, Matthew Holden, Jr.,
and George R. Hall.

New England Power Company)

Bellows Falls
Project No. 1855

ORDER ISSUING NEW LICENSE (MAJOR)

(Issued August 3, 1979)

New England Power Company (NEPCO) has filed an application for new major license to authorize the continued operation and maintenance of the constructed Bellows Falls Project No. 1855. The project is located on the Connecticut River, a navigable waterway of the United States, in the counties of Cheshire and Sullivan, New Hampshire, and in the counties of Windham and Windsor, Vermont. 1/

Notice of the filing of the application was issued and the Environmental Defense Fund, Western Massachusetts Public Interest Group, Inc., For Lands' Sake, and Trout Unlimited were permitted to intervene. There are no conflicting applications for license pending before the Commission and the constructed project does not affect a government dam.

History and Description of the Project

Bellows Falls Hydro-Electric Corporation completed the construction of a timber dam across the Connecticut River at Bellows Falls in 1802. Improvements were made and a concrete dam replaced the timber one in 1907. A hydroelectric generating plant was constructed in 1928. The original license for the project was issued jointly to NEPCO, Bellows Falls Hydro-Electric Corporation, and

1/ The application was filed on June 23, 1969, and supplemented on August 13, 1969, February 24, April 29, August 17, and September 3, 1970, September 2, 1971, and June 20, 1973.

the Connecticut River Power Company on October 13, 1943, effective January 1, 1938. ^{2/} The original license expired on June 30, 1970. The project has operated under annual licenses since that date.

The constructed project comprises a concrete gravity dam, a 2,804-acre reservoir having a normal high water elevation of 291.63 feet m.s.l., a 1,700-foot long canal, a powerhouse with an installed generating capacity of 40,800 kW, and appurtenant facilities. During periods of low flow, the plant utilizes 9,600 acre-feet of storage capacity to supply daily peak load power by storing off-peak streamflows greater than 1,200 cfs. ^{3/} During high-flow periods, the plant is operated for base load power and passes the water as it is received.

Safety and Adequacy

All project structures, machinery, and appurtenant facilities were inspected in May 1979 by the Commission's staff and found to be adequately maintained and in good operating condition. In addition, the project was inspected by an independent consultant in June 1977 and found to be in sound condition throughout. The spillway capacity of the project is 105,000 cfs with the reservoir at elevation 291.63 feet. The maximum flood of record at Bellows Falls was 156,000 cfs in March of 1936. The Bellows Falls spillway passed the 1936 flood safely. Our staff estimates that at the time of the 1936 flood peak the gated spillway concrete overflow section was nearly submerged; therefore, greater floods would not increase the loading on the dam. ^{4/}

^{2/} On July 28, 1948, NEPCO purchased all of the physical properties of the Bellows Falls Project, as authorized by the Commission under terms of its order dated July 9, 1948, 7 F.P.C. 777.

^{3/} A minimum flow of 1,200 cfs is released from the project to the Vernon reservoir located immediately downstream, in order to supply cooling water to the Vermont Yankee Nuclear Plant located on Vernon reservoir. This minimum flow is provided pursuant to an operating agreement with Vermont Yankee Nuclear Power Corporation, and is negotiable downward, but not upward, under the agreement.

^{4/} Moreover, since the 1936 flood, the U.S. Army Corps of Engineers has built several flood control projects on tributaries to the Connecticut River above Bellows Falls, projects with a combined usable storage capacity of about 252,000 acre-feet.

Staff studies show that the dam would pass the maximum probable flood without sliding or overturning.

Additionally, the staff has analyzed the project works and reports that they are safe against sliding and overturning for various combinations of earthquake, ice, and water loading at the normal and maximum reservoir surface elevations. On the basis of our staff's report, we conclude that the project works are safe and adequate.

Comprehensive Development

The drainage area above Bellows Falls dam is 5,414 square miles, or about 50 percent of the total Connecticut River Basin area. Bellows Falls reservoir has a total volume of about 30,000 acre-feet at full reservoir elevation, 291.63 feet. Backwater effects raise the full reservoir level to about elevation 298 feet at the upstream end of the reservoir. Usable storage amounts to 9,600 acre-feet in four feet of drawdown. NEPCO owns and operates power storage capacity above the Bellows Falls Project amounting to about 255,900 acre-feet. NEPCO also utilizes 99,300 acre-feet of storage capacity from the State of New Hampshire's Lake Francis and benefits incidentally from streamflow regulation provided by other upstream reservoirs with a combined usable storage capacity of about 215,000 acre-feet. The hydraulic capacity of Bellows Falls power plant, when generating at full station load of 45,000 kW is 9,900 cfs. The estimated average annual generation is 220,800,000 kWh. The project would use a renewable resource for generation, saving the equivalent of about 362,000 barrels of oil annually.

Project No. 1855 develops the flow and fall of the Connecticut River from elevation 291.63 feet m.s.l. to elevation 229.63 m.s.l., up to the hydraulic capacity of its generating units. NEPCO's Wilder Project No. 1892 is located upstream from the Bellows Falls Project, and its Vernon Project No. 1904 is located immediately downstream. Considering backwater effects, there are about 34 feet of undeveloped head above Bellows Falls and 2.6 feet below. An application for preliminary permit has been filed by the Vermont Electric Cooperative for the Hart Island Hydroelectric Project No. 2820. The FPC Bureau of Power's Connecticut River Basin - Planning Status Report (1966) identified the Hart Island project as a potential site for a 24 mW hydroelectric project. This project, if constructed, would utilize essentially all the flow and

fall of the Connecticut River between the tailwater of the Wilder Project No. 1855.

In 1968, our staff investigated the feasibility of installing 45,000 kW of additional generating capacity at the Bellows Falls Project, with an estimated net increase in average annual energy of about 64 million kWh. The analysis resulted in a benefit/cost ratio of 0.83, which indicated that the installation of the additional units would be unattractive when compared with alternative sources of generation available in the project area. In as much as the cost of alternative sources of energy has escalated appreciably since that study was performed, additional generating facilities may now be feasible for the project. Article 37 requires NEPCO to file an economic feasibility study of installing more generating capacity and, if feasible, a schedule for filing an application to add capacity. Under Article 9 of this license, we retain the authority to require NEPCO to install additional capacity that may be economically feasible.

The U.S. Army Corps of Engineers has cited the need for closer coordination of operation between the Corps' projects and the licensed hydroelectric projects located in the Connecticut River Basin. NEPCO recognizes the need to coordinate the operation of the tributary flood control reservoirs and the main stem power storage facilities and plants during periods of flood flows. It has been meeting with personnel of the Corps' Reservoir Control Center to determine how coordination should be carried out. Article 32 requires coordination of project operations with the Corps of Engineers, in the interests of flood control and navigation.

We conclude that the project as constructed and as conditioned here makes efficient use of the flow and fall of the Connecticut River; will not be inconsistent with any proposed plans for future development of the basin; and is best adapted to a comprehensive plan for development of the Connecticut River Basin for beneficial public uses.

Federal Takeover

Section 14 of the Federal Power Act reserves to the United States the right to take over a non-publicly owned project upon expiration of the license, after paying the licensee's net investment in the project, not to exceed the fair value of the property taken, plus any severance damages. No federal department or agency, state, or municipality recommended takeover or redevelopment of the

project by the United States or any other entity. The project is not in conflict with any project that has been authorized or under study by the United States. There was no objection to relicensing the project. We know of no reason why federal takeover of the project would better serve the public interest than issuance of this license would. Thus, we shall not recommend federal takeover.

Fish Passage Facilities

The Department of the Interior (Interior) and the New Hampshire Fish and Game Department (NHFG) recommended that fish passage facilities, needed for the restoration of Atlantic salmon and American Shad to upstream reaches of the Connecticut River, should be constructed as soon as possible at the Bellows Falls Project. The New Hampshire Office of State Planning, the New England River Basins Commission, and the intervenors in this proceeding expressed similar views. A restoration program was initiated in December 1966. NEPCO has cooperated in studies conducted in conjunction with this program and has contributed funds supporting such studies.

On October 5, 1978, in Docket No. E-7561, the Commission approved a settlement agreement covering installation of fish passage facilities at the Bellows Falls Project, the downstream Vernon Project No. 1904, and the upstream Wilder Project No. 1892. ^{5/} Construction of facilities at the Vernon Project is in progress and is expected to be completed in two construction seasons. The approved settlement agreement calls for construction of facilities at the Bellows Falls Project to begin within two years from the return of 30 adult salmon to the farther downstream Holyoke Project No. 2004, and to be completed in about two construction seasons. Article 15 of this license provides for continuing supervision of the construction and operation of fish passage facilities at the Bellows Falls Project.

Stream Flow Releases

The Coordinating Committee of the Connecticut River Basin Comprehensive Water and Related Land Resources Study has recommended a minimum flow of 0.2 cfsm (cubic feet per second per square mile of drainage area) for projects on the Connecticut River, to reestablish historic low flow levels.

^{5/} Signatories to the settlement agreement included the intervenors in this proceeding and the states of Connecticut, Massachusetts, New Hampshire, and Vermont.

Applied to the drainage area associated with the Bellows Falls Project, that requirement is the equivalent of 1,083 cfs. The New England River Basin Commission, the Vermont Agency of Environmental Conservation, and the Environmental Protection Agency also have recommended a minimum flow release of 0.2 cfs, with which our staff concurs. ^{6/} On the other hand, the Technical Committee for Fisheries Management of the Connecticut River Basin, the New Hampshire Fish and Game Department, and the Department of the Interior all favored a minimum release of 0.25 cfs (equivalent to 1,350 cfs from Project No. 1855), to promote anadromous fish runs.

In our recent order issuing a license for the Vernon Project No. 1904, the next project downstream from the Bellows Falls Project, we required a minimum flow release of 0.2 cfs. That figure represents the estimated minimum natural flow in the river if the various projects had not been constructed. Accordingly, in Article 33 of this license we are requiring a minimum flow release of 1,083 cfs, or 0.20 cfs, from the project. Should this minimum flow release prove inadequate to protect the Connecticut River fishery, however, we may require higher flow releases under Article 12 or Article 15. ^{7/} As noted above, this license also requires coordination of project operation with the Corps of Engineers for flood control purposes.

Recreation

The Department of the Interior and our staff both report that NEPCO's current Recreation Plan (Exhibit R) adequately provides for public use of the project's recreational resources. NEPCO's biennial filings of Form 80 will facilitate continuing review of the adequacy of recreational facilities. If a need for additional facilities develops in the future, the additional development may be required under Article 17 of this license.

Our staff reports that the project's spillway is not protected by a safety barrier, and that there are no lights or warning sirens downstream from the powerhouse to protect

^{6/} The New Hampshire Water Supply and Pollution Control Commission certified the project's compliance with New Hampshire water quality standards. The Vermont Agency of Environmental Conservation waived state certification under §401 of the Federal Water Pollution Control Act, on condition that the 0.20 cfs flow release be maintained.

^{7/} Although NEPCO is currently releasing 1,200 cfs under its operating agreement with Vermont Yankee Nuclear Power Corp., that agreement (as noted above) is negotiable downward. The Commission, of course, may require higher flow releases than those provided in the operating agreement.

the public using the resources of the river. Article 35 of this license requires NEPCO to install any safety devices that may be reasonably needed to protect the public using project lands and waters, to the satisfaction of our authorized representative, the Regional Engineer (see Article 4).

Erosion Control

The New Hampshire Fish and Game Department recommended that NEPCO be required to stabilize bank conditions within the impoundment area. The Department contends that fluctuation of the reservoir level has caused serious bank erosion and resultant siltation in the Connecticut River. Intervenor, including For Lands' Sake, have also raised this issue. We addressed this matter in our earlier "Order Approving Settlement Agreement Concerning Fish Passage Facilities..." 8/ There, we recognized that the Corps of Engineers was conducting a study of the Connecticut River to determine the causes of erosion, problem areas, and methods to reduce erosion. In our order we denied For Lands' Sake's motion that we not issue a license for the Wilder Project No. 1892 until the erosion study was complete and the findings were reviewed. We found that standard license Article 19 and, if necessary, special articles, could retain ample means for use to address any erosion problems the Corps' study might establish.

The Corps' final report on its erosion study is not yet available. Article 38 of the license we recently issued for Project No. 1904 already requires NEPCO to file a copy of the Corps' report within 30 days after it is issued. If the Corps' study report identifies erosion problems associated with Project No. 1855, we shall then entertain, on our own motion or the motion of others, the question of what mitigative measures might be appropriate.

Historic and Archaeological Resources

The Frank Adams Grist Mill, which NEPCO leases to the Bellows Falls Historical Society, is located within the project boundary. The Society uses the mill as its headquarters and keeps it open to the public. This early colonial mill contains tools and machinery of the era when hydro-mechanical power from the Connecticut River was utilized

8/ New England Power Co., Docket No. E-7561, Project Nos. 1904, 1855, and 1892 (issued Oct. 5, 1978).

to grind grain products. In addition, NEPCO is preserving, as a point of interest, Indian carvings discovered on rock outcroppings near the Vilas Bridge located within the project boundary.

The State Historic Preservation Officers (SHPO) of Vermont and New Hampshire were requested to review the proposed recreational development for the Bellows Falls Project to determine what effects, if any, relicensing and construction of any new recreational facilities might have on any known archeological remains. The Vermont SHPO stated that the issuance of a license for the project will not affect properties that are included or eligible for inclusion in the National Register of Historic Places. No response has been received to date from the New Hampshire SHPO, but our staff reports that no site listed in the National Register is within the project boundary. Since there are archeological remains within the project area, some of which have been preserved, it is in the public interest to require NEPCO to consult with the SHPOs in both Vermont and New Hampshire before any future construction, to prevent possible loss of any archeological resources within project boundaries. Article 35 of this license will ensure proper protection of historical and archeological resources.

Other Environmental Considerations

Approval of a new license for Project No. 1855 would permit continued project operation, which started in the 1920's. No additional power facilities are proposed. Continued operation and maintenance of the project and resulting environmental impacts are discussed in this order. Planned improvements to project recreational facilities would be beneficial and their construction would have no significant adverse environmental impacts. On the basis of the record, including agency and intervenor comments and the staff's independent analysis, the Commission concludes that issuance of this new license for Project No. 1855, as conditioned, is not a major federal action significantly affecting the quality of the human environment.

License Term

Our usual policy on relicensing is to limit the license term to 30 years if no substantial redevelopment is contemplated or proposed. ^{9/} In the circumstances of this project,

^{9/} See The Montana Power Co., Mystic Lake Project No. 2301, Order Issuing New License (Major) (issued Oct. 5, 1976).

however, we consider a longer term warranted, even though NEPCO does not propose to add new generating capacity. The Bellows Falls Project is located upstream from the Turners Falls Project No. 1889, the Northfield Mountain Project No. 2485, and the Vernon Project No. 1904. The expiration dates of the license for the Northfield Mountain Project, which makes joint use of the Turners Falls Reservoir, and the license for the Vernon Project are April 30, 2018. In the interests of coordinating the administration of projects on this reach of the Connecticut River, the license for Project No. 1855 will also terminate on April 30, 2018, too. 10/

The Commission orders:

(A) This license is issued to New England Power Company of Westboro, Massachusetts, under Part I of the Federal Power Act (Act), for a period effective the first day of the month in which this license is issued ~~and terminating~~ 08 01 -79 April 30, 2018, for the continued operation and maintenance of the Bellows Falls Project No. 1855, located in Windham and Windsor Counties, Vermont, and Cheshire and Sullivan Counties, New Hampshire, on the Connecticut River, a navigable waterway of the United States, subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Bellows Falls Project No. 1855 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary, the project area and boundary being shown and described by certain exhibits which form part of the application for license and which are designated and described as:

10/ We are also mindful that, assuming the requisite number of adult salmon return to the Holyoke Project, NEPCO will be investing a significant amount of new capital in the Bellows Falls Project to provide fish passage facilities.

<u>Exhibit</u>	<u>FERC No. 1855-</u>	<u>Showing</u>
J Sheet 1-A	59	General Map
K-1-1-A	60	Index
K-1; Sheet 1A of 23	61	Project Boundary Map
K-1; Sheet 2A of 23	62	Project Boundary Map
K-1; Sheet 3A of 23	63	Project Boundary Map
K-1; Sheet 4A of 23	64	Project Boundary Map
K-1; Sheet 5A of 23	65	Project Boundary Map
K-1; Sheet 6A of 23	66	Project Boundary Map
K-1; Sheet 7A of 23	67	Project Boundary Map
K-1; Sheet 8A of 23	68	Project Boundary Map
K-1; Sheet 9A of 23	69	Project Boundary Map
K-1; Sheet 10A of 23	70	Project Boundary Map
K-1; Sheet 11A of 23	71	Project Boundary Map
K-1; Sheet 12A of 23	72	Project Boundary Map
K-1; Sheet 13A of 23	73	Project Boundary Map
K-1; Sheet 14A of 23	74	Project Boundary Map
K-1; Sheet 15A of 23	75	Project Boundary Map
K-1; Sheet 16A of 23	76	Project Boundary Map
K-1; Sheet 17A of 23	77	Project Boundary Map
K-1; Sheet 18A of 23	78	Project Boundary Map
K-1; Sheet 19A of 23	79	Project Boundary Map
K-1; Sheet 20A of 23	80	Project Boundary Map
K-1; Sheet 21A of 23	81	Project Boundary Map
K-1; Sheet 22A of 23	82	Project Boundary Map
K-1; Sheet 23A of 23	83	Project Boundary Map

(2) Project works consisting of: (a) a concrete gravity dam 643 feet long and 30 feet high, having a gated spillway; (b) Bellows Falls Reservoir, extending 26 miles upstream, having a surface area of 2,804 acres at normal pool elevation of 291.63 feet m.s.l.; (c) a power canal 1,700 feet long; (d) a tailrace 900 feet long; (e) a powerhouse containing three generating units, each rated at 13,600 kW; (f) transmission facilities consisting of: (i) generator leads to the 6.9-kV bus; (ii) the 6.9-kV bus; (iii) Nos. 1, 2, and 3 step-up transformers, rated 6.9/115 kV, 6.9/46/115 kV, and 6.9/115 kV, respectively; and (g) appurtenant facilities.

The location, nature, and character of these projects works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits which also form a part of the application for license and which are designated and described as:

<u>Exhibit L</u>	<u>FERC No. 1855-</u>	
1A	84	General Layout of Plant
2A	85	Dam and Spillway-Plan and Sections
3A	86	Spillway Sections
4A	87	Canal-Plan and Sections
5A	88	Powerhouse and Switchyard- Plan and Elevation
6A	89	Powerhouse-Plan
7A	90	Powerhouse-Section

Exhibit M consisting of four typed pages giving a general description of mechanical, electrical, and transmission equipment, filed on January 23, 1969.

Exhibit R filed June 23, 1969, and supplemented September 2, 1971, consisting of: (1) 14 pages of text; (2) an appendix entitled "Estimated Public Visitation 1968; 1975; Ultimate"; and (3) Exhibit R drawing FERC No. 1855-91, entitled "General Recreation Map".

Exhibit S filed September 2, 1971 consisting of nine pages of text entitled "Fish and Wildlife Report."

(3) All of the structures, fixtures, equipment, or facilities used or useful in the maintenance and operation of the project and located on the project area, all portable property which may be employed in connection with the project, located on or off the project area, as approved by the Commission, and all riparian or other rights which are necessary or appropriate in the maintenance or operation of the project.

(C) Exhibits J, K, L, M, and R, designated and described in ordering paragraph (B) above, are approved and made a part of the license. Exhibit S, designated and described in ordering paragraph (B), is approved and made part of the license subject to the Commission's "Order Approving Settlement Agreement Concerning Fish Passage Facilities . . .," Docket No. E-7561, Project Nos. 1904, 1855, and 1892 (issued Oct. 5, 1978).

(D) This license is also subject to Articles 1 through 28 set forth in Form L-3 (Revised October 1975) entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States",

attached to and made a part of this license. This license is also subject to the following special conditions set forth as additional articles:

Article 29. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account as of the end of each fiscal year: Provided, that, if and to the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of such deficiency shall be deducted from the amount of any surplus earnings accumulated thereafter until absorbed, and one-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account; and the amounts thus established in the project amortization reserve account shall be maintained therein until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the weighted cost components of long-term debt, preferred stock, and the cost of common equity, as defined herein. The weighted cost component for each element of the reasonable rate of return is the product of its capital ratios and cost rate. The current capital ratios for each of the above elements of the rate of return shall be calculated annually based on 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 rates 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 of 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 30. The Licensee shall pay the United States the following annual charge, effective the first day of the month in which this license is issued:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by

the Commission in accordance with the provisions of its regulations in effect from time to time. The authorized installed capacity for that purpose is 54,400 horsepower.

Article 31. Licensee shall implement, and modify when appropriate, the emergency action plan on file with the Commission designed to provide an early warning to upstream and downstream inhabitants and property owners if there should be an impending or actual sudden release of water caused by an accident to, or failure of, project works. That plan shall include: instructions to be provided on a continuing basis to operators and attendants for actions they are to take in the event of an emergency; detailed and documented plans for notifying law enforcement agents, appropriate Federal, State, and local agencies, operators of water-related facilities, and those residents and owners of properties that could be endangered; actions that would be taken to reduce the inflow to the reservoir, if possible, by limiting the outflow from upstream dams or control structures; and actions to reduce downstream flows by controlling the outflow from dams located on tributaries to the stream on which the project is located. Licensee shall also maintain on file with the Commission a summary of the study used as a basis for determining the areas that may be affected by an emergency, including criteria and assumptions used. Licensee shall monitor any changes in upstream or downstream conditions which may influence possible flows or affect areas susceptible to damage, and shall promptly make and file with the Commission appropriate changes in the emergency action plan. The Commission reserves the right to require modifications to the plan.

✓ Article 32. The Licensee shall enter into an agreement with the Department of Army, Corps of Engineers (Corps), providing for the coordinated operation of the project, in the interest of flood control and navigation, on the Connecticut River in accordance with rules and regulations prescribed by the Secretary of the Army. A conformed copy of the agreement shall be filed with the Commission with one year of the date of issuance of this license. If the Licensee and the Corps fail to reach agreement, then within one year from the date of issuance of this license the Licensee shall file its proposals for coordinated operation of the project with other water resource projects on the Connecticut River, together with a copy of the Corps' objections to the Licensee's proposals. The Commission reserves the right to impose conditions on the Licensee for coordinated operation of the project.

Article 33. The Licensee shall maintain a continuous minimum flow of 1,083 cfs (0.20 cubic feet per second per square mile of drainage basin) or a flow equal to the inflow of the reservoir, whichever is less, from the project into the Connecticut River. These flows may be modified temporarily: (1) during and to the extent required by operating emergencies beyond the control of the Licensee; and (2) in the interest of recreation and protection of the fisheries resources upon mutual agreement between the Licensee and the Fish and Game Departments of the States of New Hampshire and Vermont.

Article 34. Prior to the commencement of any construction or development of any project works or other facilities at the project, the Licensee shall consult and cooperate with the appropriate State Historic Preservation Officer(s) (SHPO) to determine the need for, and extent of, any archeological or historic resource surveys and any mitigative measures that may be necessary. The Licensee shall provide funds in a reasonable amount for such activity. If any previously unrecorded archeological or historic sites are discovered during the course of the construction, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historic resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historic work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 35. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens or other devices that may be reasonably needed to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Article 36. In the interests of protecting and enhancing the scenic, recreational, and other environmental values of the project, Licensee: (1) shall supervise and control the use and occupancy of project lands and waters; (2) shall prohibit, without further Commission approval, the further use and occupancy of project lands and waters other than as specifically authorized by this license; (3) may authorize, without further Commission approval, the use and occupancy of project lands and waters for landscape plantings and the construction, operation, and maintenance

of access roads, power and telephone distribution lines, piers, landings, boat docks, or similar structures and facilities, and embankments, bulkheads, retaining walls, or other similar structures for erosion control to protect the existing shoreline; (4) shall require, where feasible and desirable, the multiple use and occupancy of facilities for access to project lands and waters; and (5) shall ensure to the satisfaction of the Commission's authorized representative that all authorized uses and occupancies of project lands and waters: (a) are consistent with shoreline aesthetic values, (b) are maintained in a good state of repair, and (c) comply with State and local health and safety regulations. Under item (3) of this article, Licensee may, among other things, institute a program, for issuing permits to a reasonable extent for the authorized types of use and occupancy of project lands and waters. Under appropriate circumstances, permits may be subject to the payment of a fee in a reasonable amount. Before authorizing the construction of bulkheads or retaining walls, Licensee shall: (a) inspect the site of the proposed construction, (b) determine that the proposed construction is needed, and (c) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site. If an authorized use or occupancy fails to comply with the conditions of this article or with any reasonable conditions imposed by the Licensee for the protection of the environmental quality of project lands and waters, the Licensee shall take appropriate action to correct the violations, including, if necessary, cancellation of the authorization and removal of any non-complying structures or facilities. The Licensee's consent to an authorized use or occupancy of project lands and waters shall not, without its express agreement, place upon the Licensee any obligation to construct or maintain any associated facilities. Licensee shall, within 60 days prior to commencement of a program for issuing permits, furnish a copy of its guidelines and procedures for implementing the program to the Commission's authorized representative and its Director, Office of Electric Power Regulation. Whenever the Licensee makes any modification to these guidelines and procedures, it shall promptly furnish a copy to each of those persons. The Commission reserves the right to require modifications to these guidelines and procedures.

✓ Article 37. The Licensee shall, within six months from the date of issuance of the license, prepare and file with the Commission a feasibility analysis of installing additional generating capacity at the Bellows Falls Project, taking into account, to the extent reasonable, all benefits that would be derived from the installation, including any contribution to the conservation of non-renewable natural

resources. If the study shows additional capacity to be economically feasible, the Licensee shall simultaneously file a schedule for filing an application to amend its license to install that capacity.

(E) This order shall become final 30 days from the date of its issuance unless application for rehearing shall be filed as provided in Section 313(a) of the Act, and failure to file such an application shall constitute acceptance of this license. In acknowledgement of the acceptance of this license it shall be signed for the Licensee and returned to the Commission within 60 days from the date of issuance of this order.

By the Commission.

(S E A L)

Kenneth F. Plumb,
Secretary.

