

Appendix B.3

Canaan FERC License

4TH ITEM of-Level 1 printed in FULL format.

The Public Service Company of New Hampshire,

Project No. 7528-000

FEDERAL ENERGY REGULATORY COMMISSION - Office Director

28 F.E.R.C. P62,274; 1984 FERC LEXIS 1266

Order Issuing License (Minor)

August 24, 1984

CORE TERMS: license, dam, water, recreational, occupancy, conveyed, bypass, environmental, recommended, fishery, issuance, project area, reservoir, powerhouse, fish, conveyance, reserves, convey, scenic, site, effective, right to require, archeological, modification, permission, shoreline, electric, enhance, drawing, aquatic

PANEL:

[*1]

Quentin A. Edson, Director, Office of Hydropower Licensing.

OPINION:

The Public Service Company of New Hampshire (Applicant) filed on August 15, 1983, an application for license under Part I of the Federal Power Act (Act) for the continued operation of a constructed water power project known as the Canaan Project No. 7528. n1 The project is located on the Connecticut River in Coos County, New Hampshire and Essex County, Vermont, and affects the interests of interstate or foreign commerce.

n1 Authority to act on this matter is delegated to the Director, Office of Hydropower Licensing, under @ 375.308 of the Commission's regulations, 49 Fed. Reg. 29,369 (1984) (Errata issued July 27, 1984), (to be codified at 18 C.F.R. @ 385.14). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. @ 385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission. [*2]

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. No protests were filed and none of the agencies objected to issuance of the license. The Attorney General of the State of Vermont was granted intervention to represent the interests of the State of Vermont.

Project History and Description

The dam and hydropower project were constructed in 1927. The dam was reconstructed in 1943 after a washout of the original timber structure. The project consists of the 18-foot-high concrete gravity Canaan Dam, a reservoir with a storage capacity of 200 acre-feet, an intake structure, a 1,500-foot-long penstock, two surge tanks, a powerhouse with an installed capacity of 1,100

kW, and other appurtenances. A more detailed project description is contained in Ordering Paragraph (B).

Safety and Adequacy

The existing dam is classified low hazard. The Commission's New York Regional Office staff inspected the project and concluded that the project structures are in good condition.

The dam was analyzed and found to be safe against overturning and sliding under normal maximum and flood pool. The project spillway is adequate. [*3] The project is safe and adequate under the terms and conditions of this license.

Instream Flow

Operation of the project reduces stream flow in the 1,500-foot-long reach of the Connecticut River located between the project dam and the tailrace. Minimum flows through the bypass reach range from 5 to 10 cubic feet per second (cfs), except when the discharge of the river exceeds the maximum hydraulic capacity of the power generating system (446 cfs) and spillage occurs at the project dam. The 5 to 10 cfs minimum flow consists of leakage from the project dam. This minimum flow regime provides only marginal protection for the aquatic resources of the bypass reach.

The U. S. Department of the Interior (Interior) and the New Hampshire Fish and Game Department (FGD) stated that the bypass reach could provide suitable habitat for a salmonid fishery, if additional flows were released from the project dam. Interior recommended that the Applicant release a minimum flow of 50 cfs from the dam on an interim basis, and conduct studies, in cooperation with Interior, FGD and the Vermont Agency for Environmental Conservation (AEC), to determine minimum flow releases necessary to enhance the fishery [*4] of the bypass reach.

The Applicant agreed either to release a minimum flow of 50 cfs from the dam or to conduct a flow study to determine a minimum flow release that will protect aquatic resources of the bypass reach. The Applicant, however, objected to Interior's recommended inclusion of the AEC in the minimum flow study on the basis that the New Hampshire state environmental agencies are responsible for managing the resources of the Connecticut River in the project area.

The release of additional flows from the project dam would increase the amount of habitat for rainbow and brown trouts that currently inhabit this portion of the Connecticut River, but studies are needed to determine an appropriate minimum flow release. In regard to Interior's recommended inclusion of the AEC in the minimum flow study, it is noted that the FGD interacts informally with the AEC in management of the fishery resources of the Connecticut River, which are utilized by sportsmen from each state. In addition, AEC states that the bypass reach could provide nursery habitat for Atlantic salmon, and that Vermont and New Hampshire, along with other state and Federal fishery agencies, are cooperating in the [*5] "Strategic Plan for Restoration of Atlantic Salmon in the Connecticut River." Although the FGD has management authority for the resident fishery of the river, since project operation affects resources utilized by citizens of both states and flows through the bypass reach could also impact the salmon restoration plan, the AEC should be involved in the minimum flow study. Article 20 requires the

Licensee, in cooperation with the FGD, AEC, and Interior, to conduct a minimum flow study to determine the flows necessary to protect and enhance the fishery resources of the bypass reach.

The minimum flow study is to be completed within 9 months from issuance of the license with a flow release to be considered by the Commission shortly thereafter; therefore, stipulation of an interim flow release of 50 cfs as recommended by Interior during this period is unnecessary. Continued operation of the project will not adversely impact existing fishery resources and it will be more appropriate to require a minimum flow for the bypass reach after completion of the aforementioned study.

Interior also recommended that the Applicant release below the powerhouse a minimum flow of 136 cfs, or inflow to the [*6] reservoir, whichever is less, for protection of the aquatic resources of the river downstream of the project. The Applicant has agreed to maintain this minimum flow below the powerhouse.

The release of the minimum flow recommended by Interior and agreed to by the Applicant will protect the aquatic resources of the river downstream of the project and should consist of the combined releases from the project dam and powerhouse. Article 21 requires the release of 136 cfs minimum flow from the project.

Fish Passage

Interior recommended that the Applicant provide fish passage facilities at the project dam once an anadromous fishery is established in this section of the Connecticut River.

License Article 11 provides for construction of such facilities and modifications to project operation to facilitate fish passage in the future as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior, after notice and opportunity for hearing.

Other Environmental Considerations

The New Hampshire Water Supply and Pollution Control Commission and the Vermont Department of Water Resources and Environmental Engineering issued water quality [*7] certificates for the project on August 2, 1983, and May 10, 1984, respectively.

The State of New Hampshire has identified the Connecticut River (New Hampshire portion) as a potential Recreational River. Additionally, the project is within a 22-mile-long segment of the Connecticut River that has been identified as a potential National Wild and Scenic River, and included in the Nationwide Rivers Inventory. However, Interior stated that since no new construction is proposed and the project will continue to operate as it has in the past, the project will have no adverse impact on these values.

The Canaan Project is an existing development and no new construction or modification of project structures or operation is proposed. No Federally listed threatened or endangered species will be affected by the project. No sites will be affected that are listed or eligible for listing on the National Register of Historic Places. However, in accordance with standard Commission practice, Article 19 of this license requires cultural resources protection measures in

the event of any future construction or development at the project.

On the basis of the record, and Staff's independent environmental analysis, issuance of a license for the project, as conditioned, will not constitute a major Federal action significantly affecting the quality of the human environment.

Other Aspects of Comprehensive Development

The flow duration curve for the project indicates that the streamflow equals or exceeds the rated hydraulic capacity of the plant 70 percent of the time, and there appears to be potential for installation of additional capacity at the project. Article 23 requires the Licensee to study the feasibility of installing additional capacity at the project.

The project operates run-of-river and generates an average 7,300,000 kWh annually. n2 The project is not in conflict with any planned or potential development of the Connecticut River basin. The project will be best adapted to a plan for the comprehensive development of the Connecticut River for beneficial purposes upon compliance with the terms and conditions of the license.

n2 The project, with its annual generation of 7,300,000 kWh, utilizes a renewable resource that saves the equivalent of approximately 13,000 barrels of oil or 3,380 tons of coal.

License Term

In accordance with the policies established in the Order Issuing [*9] License (Major) for Project No. 2652, Pacific Power & Light Company (September 24, 1976) [56 FPC 1804], this license will be issued for a period of 25 years, effective the first day of the month in which this order is issued.

It is ordered that:

(A) This license is issued to the Public Service Company of New Hampshire (Licensee) under Part I of the Federal Power Act (Act) for a period of 25 years, effective the first day of the month in which this order is issued for the continued operation and maintenance of the Canaan Project No. 7528, located on the Connecticut River in Coos County, New Hampshire and Essex County, Vermont, and affecting the interests of interstate or foreign commerce. This license is 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 Canaan Project No. 7528 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area. The project area is shown and described by a certain exhibit that forms part of the application for license and that is designated and described [*10] as:

Exhibit
G-1

FERC
Drawing No. Showing
7528-5 Project Area

(2) Project works consisting of: (a) the 18-foot-high and 275-foot-long concrete gravity Canaan Dam; (b) 3.5-foot-high flash-boards; (c) a reservoir with a storage capacity of 200 acre-feet and normal surface elevation of 1,055 mean sea level; (d) an intake structure at the north side of the dam; (e) a 10-foot-diameter and 1,500-foot-long penstock; (f) 2 surge tanks; (g) a powerhouse with a 1,100-kW turbine-generator unit; (h) a tailrace about 400 feet long; (i) 2.3-kV generator leads, a 1,350-kVa 2.3/34.5-kV transformer bank; a ~~34.5-kV and 1,450-foot-long transmission line~~; and (j) other appurtenances.

per Errata Notes 8/28/86

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

Exhibit A--Section A(1) (iii)

FERC	
Exhibit	
Drawing No.	Showing
F-1	
7528-1	Site Plan and Profile
F-2	
7528-2	Plan and Elevation of Dam
F-3	
7528-3	Sections
F-4	
7528-4	Powerhouse

[*11]

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

(C) Exhibits F and G designated in Ordering Paragraph (B) above and Section A(1) (iii) of Exhibit A are approved and made a part of the license.

(D) Pursuant to Section 10(i) of the Act, it is in the public interest to waive the following sections of Part I of the Act, and they are excluded from the license:

Sections 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license [*12] is also subject to Articles 1 through 18 set forth in Form L-12 (revised October 1975), entitled "Terms and Conditions of License for Constructed Minor Project Affecting the Interests of Interstate or Foreign Commerce", attached to [reported at 54 FPC 1871] and made a part of this license. The license is also subject to the following additional articles:

Article 19. Licensee shall, prior to the commencement of any construction or development of any project works or other facilities at the project, consult and cooperate with the New Hampshire State Historic Preservation Officer (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 any such activity. If any previously unrecorded archeological or historical sites are discovered during the course of 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 [*13] 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 20. Licensee shall, in cooperation with the New Hampshire Fish and Game Department, Vermont Agency for Environmental Conservation, and the U. S. Fish and Wildlife Service, develop a mutually agreeable instream flow study plan to determine the minimum flow release(s) from the project dam that are necessary to protect and enhance fish and wildlife resources of the bypass reach of the Connecticut River. Within 3 months from the date of issuance of this license, the Licensee shall file the plan with the Commission, along with comments from the above agencies on the adequacy of the plan.

In the event that a mutually agreeable plan cannot be developed, the Licensee shall file for Commission approval, a proposed instream flow study plan, along with comments from the above agencies on the plan. The Commission reserves the right to require modifications to the plan.

Within 9 months from the date of issuance of this [*14] license, the Licensee shall file, with copies to the agencies consulted, a report on the results of the study, and, for Commission approval, recommendations for the flow release(s) from the project dam. Comments from the aforementioned agencies on the adequacy of the recommended minimum flow(s) shall be included in the filing.

Article 21. Licensee shall maintain a minimum flow of 136 cubic feet per second, or inflow to the reservoir whichever is less, as measured immediately downstream of the Canaan Project, to protect the fish and wildlife resources of the Connecticut River. These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, for the minimum flow study required by Article 20, and for short periods upon mutual agreement among the Licensee, the New Hampshire Fish and Game Department, and the Vermont Agency for Environmental Conservation.

Article 22. The Licensee shall pay the United States the following annual charge effective the first day of the month in which this order is issued:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined [*15] in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 1,470 horsepower.

Article 23. The Licensee shall, within one year from the date of issuance of the license, prepare and file with the Commission a feasibility analysis of installing additional generating capacity, taking into account, to the extent practicable, all benefits including any contribution to the conservation of renewable energy 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.

Article 24. (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 other 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, [*16] and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses 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, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types 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 [*17] and facilities that can accommodate no more than 10 aircraft at a time where said facility is intended to serve single-family type landings; 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 uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the [*18] 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 [*19] 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 titles 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 certificates 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 [*20] at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each recreational 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 file a letter to the Director, Office of Electric Power Regulation, 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 [*21] 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 ensure that the construction, operation, and maintenance of structures [*22] 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 area. The project area may be changed to exclude land conveyed under this article only upon approval of revised Exhibit F or G drawings (project area 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 [*23] F or G drawings would be filed for approval for other purposes.

(F) The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license. In acknowledgment of acceptance of this order and its terms and conditions, it shall be signed by the Licensee and returned to the Commission within 60 days from the date this order issued.

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MINOR PROJECT AFFECTING THE INTERESTS OF
INTERSTATE OR FOREIGN COMMERCE**

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 theretofore made a part of the license as may be specified by the Commission.

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

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

Article 6. 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 representative. 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 be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing 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 7. 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 8. 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 9. 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 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 Commission may prescribe for the purposes hereinbefore mentioned.

Article 10. 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 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 11. 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 12. 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 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 13. 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 14. 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 the 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 15. 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 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 16. 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 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 17. 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 18. 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.