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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Vermont Electric Cooperative, Inc.) Project No. 2816-001

ORDER ISSUING LICENSE (MAJOR)

(Issued November 24, 1981)

Vermont Electric Cooperative, Inc. (Applicant), filed on December 11, 1980, an application for a license under Part I of the Federal Power Act (Act) for the construction, operation, and maintenance of the North Hartland Project, FERC No. 2816. 1/

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. The Vermont Department of Public Service filed a notice of intervention in this proceeding on February 23, 1981. Petitions to intervene were filed by the State of Vermont and the White Current Corporation and were granted by notices issued April 27, 1981, and May 22, 1981, respectively. None of the Federal, State, or local agencies objected to issuance of the license. The significant concerns of the commenting agencies and the intervenors are discussed below.

Project Description

The proposed project would be located at the existing U.S. Army Corps of Engineers' (Corps) North Hartland Dam on the Ottauquechee River in Windsor County Vermont. The proposed project would utilize an existing outlet conduit at the dam, and would consist of: (1) an existing outlet to be lined with a 12-foot diameter steel pipe; (2) a 470-foot-long extension of the existing outlet connecting to two 7.5-foot diameter penstocks; (3) a powerhouse containing two 2,000 kW generating units; (4) a 12-foot diameter gated bypass outlet works branching from the penstock upstream of the powerhouse; (5) a 4.16/12.5-kV switchyard; (6) a 12.5-kV transmission line; and (7) appurtenant works. The project is more fully described in Ordering Paragraph (B) below. Project power would be used by the Applicant for public utility purposes

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation under 18 C.F.R. §375.308 (1980), as amended by 46 Fed. Reg. 14119 (1981).

either within its distribution system or for sale to other utilities. Estimated average annual generation of the proposed hydroelectric facilities is 12,100,000 kWh. 2/

Recreation

The Vermont Department of Forests and Parks operates the Quechee State Park and Recreation Area at the upper end of the reservoir. Recreational facilities at the reservoir are maintained by the Corps and include a picnic area, baseball field, boat launching ramp, and a nature trail.

The Applicant proposes to install an informational sign near the parking area to illustrate the hydro development. None of the commenting agencies recommended any further recreational development.

The Report on Recreational Resources complies with the Commission's regulations. The Applicant's proposal, however, does not warrant including the report in the license.

Fish and Wildlife Resources

The U.S. Department of the Interior (Interior) and the Vermont Agency of Environmental Conservation (VAEC) did not recommend mitigation measures for the effects of the project's operation. The Corps recommended that the Applicant should construct 15 0.25-acre ponds to compensate for the loss of shoreline habitat used by migratory waterfowl. The Applicant responded that no shoreline habitat would be lost because of its project, and that VAEC was satisfied with its proposals concerning fish and wildlife. The Applicant estimated that the cost of installing the ponds would be \$150,000 (in 1981 dollars), and stated this additional expense was not justified. Interior and VAEC are satisfied with the Applicant's proposals, and the Corps did not provide evidence that significant habitat loss would occur; therefore, we conclude that there are currently no grounds for directing the Applicant to undertake the mitigation recommended by the Corps.

2/ Construction of the proposed hydroelectric facilities would annually save the equivalent of 19,850 barrels of oil, or 5,600 tons of coal.

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The Corps suggested that the Applicant modify the project's peak curve to either limit the maximum drawdown to no lower than elevation 423 feet, or establish maximum limits for different seasons. The purpose of this change would be to protect fish spawning areas in May and June, and aquatic vegetation in July and August, and to avoid unnecessary exposure of sensitive areas to hardfreeze during the winter. The Applicant responded that VAEC has approved the proposed project operation. Article 38, however, requires licensee to enter into an agreement with the Corps so as not to adversely impact the overall project management objectives of the North Hartland Flood Control Project.

The Corps provided no evidence that fish spawning would be significantly impaired by the peaking operation. The State and Federal fish and wildlife agencies did not identify project operation as adversely affecting fishery resources. It is concluded, therefore, that it is not necessary to modify the project's proposed schedule of releases.

The Report on Fish, Wildlife, and Botanical Resources complies with the Commission's regulations. Its proposals to protect and enhance fish and wildlife resources, however, do not warrant including the report in the license. Article 40 of the license requires minimum flow releases below the North Hartland Dam, as proposed by the Applicant.

Should it be established in the future that the construction and operation of the project adversely affect fish and wildlife resources, including, inter alia, fish spawning areas and migratory waterfowl shoreline habitat, the licensee may be ordered to undertake appropriate mitigation pursuant to authority reserved to the Commission under Article 15 of the license. Temporary modification of the minimum flows for fishery management purposes is provided for by Article 40.

Cultural Resources

The State Historic Preservation Officer has concluded that the area of the potential environmental impact contains no properties of historic, architectural, or archeological significance that are included in or eligible for inclusion in the National Register of Historic Places. In accordance with standard Commission practice 3, Article 41 of this license requires protection of cultural resources.

Other Environmental Considerations

Construction activities would result in noise, dust, soil erosion, and increased vehicular traffic; these effects would be minor and temporary. Installing the steel liner and other work involving the existing dam outlet would require lowering the water surface elevation to 410 feet and closing

the intake gates to shut off flow through the dam. The Applicant proposes to maintain a minimum downstream flow during the work on the outlet by pumping water over the emergency spillway north of the dam. When construction is completed, diversion of the discharge below the dam into the project penstock would draw water approximately 500 feet of the river channel. The affected stretch is largely a manmade channel associated with the dam's construction. On the basis of the record, including agency comments and the staff's independent analysis, it is found that issuance of a license for this project, as conditioned, would not be a major Federal action significantly affecting the quality of the human environment.

Safety and Adequacy

The proposed North Hartland powerplant will be located at the Corps of Engineers' North Hartland Flood Control Dam. Based upon staff's analysis, it is concluded that the project structures will be safe if constructed in accordance with sound engineering practice.

The powerplant would normally be operated during the daily peak load periods of the Applicant's electric system. The project is economically feasible when compared to the estimated levelized annual cost of an equivalent amount of capacity and energy generated by the most reasonable alternative source of power, a combined cycle plant.

By letter dated July 16, 1981 the New England Division, Corps of Engineers requested certain articles be included in the license regarding the construction and operation of the project. The articles set forth in this order incorporate the Corps' requests, with the exception of the request for free power. In its order issuing license for the Lucky Peak Project 4/ the Commission found it to be outside the scope of its authority under Section 11(c) to require a licensee to furnish free of cost to the United States power for operation of Federal facilities that are not navigation facilities.

Comprehensive Development

The proposed North Hartland Project would fully use the flow and fall of the Ottauquechee River at the Corps' North Hartland Dam to develop power which is currently not utilized.

4/ See "Order on Appeal Modifying Order Issuing License and Granting Intervention", FERC Project No. 2832, (issued October 9, 1980).

3/ See S.D. Warren Project No. 2897, Order Denying Rehearing (issued February 19, 1980).

It is concluded that, subject to the terms and conditions of this license, Project No. 2816 is best adapted to a comprehensive plan for development of the Connecticut River Basin for beneficial public uses and that issuance of this license is in the public interest.

Interventions

The White Current Corporation (WCC) filed on April 27, 1981, a petition to intervene on the application for major license for Project No. 2816. The petition was granted on May 27, 1981. The petition stated that on January 15, 1979, the White Current Corporation was issued a minor license for the White Current Project FERC No. 2787, located downstream of the North Hartland Dam.

WCC's petition to intervene requested:

- (1) that action on VEC's application for license be deferred until WCC's application for rehearing on the Project No. 2787 proceeding is acted upon;
- (2) that VEC be ordered to adopt a final design plan for Project No. 2816 and prepare a study of the effects of its project on the White Current Project;
- (3) that maximum flow releases should be established for the North Hartland Project to minimize the effect on power output at the White Current Project; and
- (4) that WCC should be compensated for any loss of output at its project.

Since the filing of its petition to intervene in this proceeding, WCC has withdrawn its application for rehearing in the Project No. 2787 proceeding, thus eliminating its contention that action in this proceeding should be deferred pending resolution of its rehearing application.

WCC's contention that VEC should be required to submit final design plans, more detailed flow schedules and a study of the project's effects on Project No. 2787 is without merit. The level of detail set forth in VEC's application is sufficient for the purpose of licensing and is appropriate to the current status of plans for the proposed development. VEC has, however, assured WCC that it will cooperate with WCC by providing more detailed plans as they are developed and assisting in a determination of the effect of Project No. 2816 on WCC's project. Such cooperation is expected of all licensees as part of their comprehensive development responsibilities.

With respect to WCC's claim that VEC should establish flow releases that would minimize adverse effects on the White Current Project No. 2787 and should be required to compensate WCC for any loss of output at its project, it must be noted that the Order Issuing License for Project No. 2787 anticipated and discussed the potential impact of Project No. 2816 on the White Current Project. Article 27 of WCC's license for Project No. 2787 expressly states that "the right, power, and authority are reserved to the United States to construct, operate, and maintain, or to the Commission to issue a license authorizing the construction, operation and maintenance of a hydroelectric project which will more completely utilize the water resources of the section of the Connecticut River Basin in which the project is located." That article reserved sufficient authority to the Commission to license Project No. 2816 and did not provide any basis for WCC to assert a right to compensation. WCC's requests in this regard represent an attempt to raise issues that were determined by the Commission when it issued the license for Project No. 2787 and therefore must be denied.

License Term and Effective Date of Annual Charges

This license is effective the first day of the month following the one in which it is issued. The construction proposed for the North Hartland Project, using an existing dam, is similar to the relicensing of a project for which a moderate amount of new development is proposed. Therefore, a term of license of 40 years would be consistent with the Commission policy set forth in its Order Issuing License for FERC Project No. 2301. 5/

It ordered that:

(A) This license is issued to the Vermont Electric Cooperative, Inc. (licensee) under Part I of the Federal Power Act (Act), for a period of 40 years from the first day of the month following the one in which this license is issued, for the construction, operation, and maintenance of the North Hartland Project FERC No. 2816, located on the Ottauquechee River in Windsor County, Vermont. The project affects a Federal dam. 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.

5/ See Montana Power Company, Mystic Lake Project No. 2301, Order Issuing New License (Major) (issued October 5, 1976).

(B) The North Hartland Project No. 2816 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 are shown and described by certain exhibits that form part of the application for license and that are designated and described as follows:

<u>Exhibit</u>	<u>FERC No.</u>	<u>Showing</u>
G (Sheet 1 of 3)	2816-8	Project Location
G (Sheet 2 of 3)	2816-9	Project Location
G (Sheet 3 of 3)	2816-10	Project Location

(2) Project works consisting of:

(i) an existing outlet located in the south end of the dam, which would be lined with steel for use as the intake for Project No. 2816; (2) a 12-foot-diameter penstock which would be installed above ground for a distance of 470 feet from the toe of the dam to the powerhouse; (3) a powerhouse which would have an installed capacity of 4,000 kW; (4) a tailrace approximately 400 feet long which would extend from the powerhouse to the river; (5) a bypass conduit, 12 feet in diameter, which would branch off from the penstock about 100 feet before the powerhouse, discharging water through a control gate into a concrete-lined channel extending 60 feet east to the tailrace; (6) a fenced switchyard, parking area, and access road which would be constructed next to the powerhouse; (7) approximately one-quarter mile of wood pole transmission line which would connect the switchyard with the distribution system of the Green Mountain Power Corporation; and (8) appurtenant works.

The location, nature and character of these project works are generally shown and described by the exhibits 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 - The following Sections of Exhibit A filed on December 11, 1980.

- Section A.3, entitled "Turbines and Generators" Consisting of Page A.3-1; and, Table A.3-1 shown on Page A.3-2.
- Section A.4, entitled "Transmission Lines" consisting of Page A.4-1.
- Section A.5, entitled "Appurtenant Equipment", and consisting of two pages of text (A.5-1 and A.5-2) and Figure A.5-1 entitled Single Line Diagram.

<u>Exhibit F Sheet No.</u>	<u>FERC No. 2816-</u>	<u>Titled</u>
1-1	2	Site Plan & General Arrangement
1-2	3	Outlet Works Profiles
1-3	4	Powerhouse Plan
1-4	5	Powerhouse & Bypass Gate East Elevation
1-5	6	Powerhouse & Bypass Gate Sections
1-6	7	Penstock & Bypass Piping Sections

(iii) 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 in the operation or maintenance of the project.

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

(D) This license is also subject to the terms and conditions set forth in Form L-2 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States" attached to and made a part of this license. This license is also subject to the following additional articles:

Article 33. The design and construction of only those facilities that will be an integral part of or that could affect the structural integrity of the North Hartland Dam shall be done in consultation with and subject to the review and approval of the U.S. Army Corps of Engineers (Corps), New England Division, Waltham, Massachusetts. The Commission reserves the right to resolve any disagreement between the Licensee and the Corps. Licensee shall reimburse the Corps for costs it incurs in the review and approval of the design and construction of project works directly related to the structural integrity of North Hartland Dam.

Article 34. The Licensee shall file with the Commission's Regional Engineer in New York, and the Director, Office of Electric Power Regulation, one copy each of the final contract drawings and specifications, such as water retention structures, powerhouse, and water conveyance structures, 60 days prior to start of construction. The Director, Office of Electric Power Regulation may require changes in the plans and specifications to assure a safe and adequate project.

Article 35. The Licensee shall within 90 days of completion of construction, file in accordance with the Commission's Rules and Regulations revised Exhibits A and F to describe and show the project as-built.

Article 36. The Licensee shall hold and save the United States of America free from any and all claims and damages resulting from construction, operation, and use of the North Hartland Dam and facilities for power purposes.

Article 37. The Licensee shall commence construction of the project works within two years from the effective date of this license and in good faith and with due diligence, shall prosecute and complete construction of the project works within five years from the start of construction.

Article 38. The Licensee, prior to commencement of construction, shall enter into an agreement with the U.S. Army Corps of Engineers, District Engineer, New England Division, Waltham, Massachusetts, specifying details on operational procedures and a power rule curve consistent with the overall project management objectives of the North Hartland Flood Control Project.

Article 39. The Licensee shall pay to the United States the following annual charge:

(1) 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 its regulations in effect from time to time. The total authorized installed capacity for that purpose is 5,330 horsepower.

(2) For the purpose of recompensing the United States for the use of North Hartland Dam and appurtenances, a reasonable annual charge as determined by the Commission in accordance with provisions of its Regulations in effect from time to time.

Article 40. Licensee shall discharge from the North Hartland Dam, a continuous minimum flow of 23 cubic feet per second during July through October, and 40 cubic feet per second during the remainder of the year, or the inflow to the reservoir, whichever is less, for the purpose of protecting and enhancing aquatic resources in the Ottauquechee River. These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Vermont Department of Fish and Game. Q.M.W.

Article 41. The Licensee shall, prior to commencement of any future construction at the project, consult with the Vermont State Historic Preservation Officer (SHPO) about the need for any cultural resource survey and salvage work. The Licensee shall make available funds in a reasonable amount for any such work as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, 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 historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical 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 42. (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 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 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 to 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 and facilities; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable and to 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 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 modifications 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 period calendar year, the type of interest conveyed, the location of 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 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 at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must 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 market 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 may convey the intended interest at the end of that period.

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

(1) Before conveying the interest, the Licensee shall consult with the 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 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 or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

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

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K Drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 1.7(d) (1979), as amended, 44 Fed. Reg. 46449 (1979). The filing of a petition appealing this order to the Commission or an application for rehearing as provided in Section 313(a) of the Act does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission.

The licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license. In acknowledgment of acceptance of this license 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 is issued.

William W. Lindsay
William W. Lindsay
Director, Office of Electric
Power Regulation

Project No. 2816

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this Order, Vermont Electric Cooperative, Inc. this ____ day _____, 19____, has caused its corporate name to be signed hereto by _____, its _____ President, and its corporate seal to be affixed hereto and attested by _____, its _____ Secretary, pursuant to a resolution of its Board of Directors duly adopted of the ____ day of _____ 19____, a certified copy of the record of which is attached hereto.

By _____
President

Attest:

Secretary

(Executed in quadruplicate)

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 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 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.

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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 benefited 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 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 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 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.

Basin Development

OPEN DOOR FOR FLOW MODIFICATION.

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 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.

SOIL EROSION,
WATER POLLUTION

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, 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. Upon approval of the clearing plan 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.

CLEARING RESERVE

Article 21. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment

of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the Department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, or make provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 30. 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 31. 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 32. 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.