

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Snoqualmie River Hydro

Project No. 10359-003
Washington

ORDER ISSUING LICENSE
(Major Project)
(Issued May 5, 1992)

Snoqualmie River Hydro (SRH) filed a license application under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Youngs Creek Project, located on the Youngs Creek, in Snohomish County, Washington. The project would affect the interests of interstate commerce.

The run-of-river project would consist of a 12-foot-high diversion dam, an intake structure, a 51-inch-diameter, 14,500-foot-long penstock, a powerhouse with an installed capacity of 7.5 megawatts (MW), a short tailrace, and a 6.1-mile-long transmission line. A detailed project description is contained in ordering paragraph B(2).

Notice of the application has been published. No protests were filed in this proceeding, and no agency objected to issuance of this license.

Weyerhaeuser Company filed a motion to intervene to protect its rights as owner of portions of land where the project would be located. The Tulalip Tribes, the Washington Department of Fisheries (WDF), and the Washington Department of Wildlife (WDW) filed motions to intervene indicating areas of concern that the Commission should consider in the licensing proceeding.

The staff completed an environmental assessment (EA) for this project on December 23, 1991, which is attached to this order, and recommended issuance of a license. Comments and motions to intervene received from interested agencies and individuals have been fully considered in determining whether to issue this license.

Comprehensive Development

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

This order issues a license for the Youngs Creek Project with the mitigative measures proposed by SRH in its original proposal, with three exceptions:

(1) SRH proposed a draft monitoring plan to assess project impacts during operation. The plan would require increases in minimum flows during the winter and transition periods should proposed minimum flows fail to adequately protect the resident fish population. Minimum flows for October 1 to May 15 would be subject to adjustment in 3 cubic feet per second (cfs) increments each 5 years during the first 15 years of project operations, up to a predetermined limit. See section V(B)(5)(a), page 18, of the EA. This order does not adopt SRH's proposed flow-increase schedule. The staff concluded that this measure lacks biological justification and would be a financial risk for SRH.

(2) SRH proposed ramping rates of 1 to 4 inches per hour. To ensure that resident and downstream anadromous fish are protected during project operation, this order requires ramping rates in accordance with the WDF's standards, of 1 to 2 inches per hour, section 5(B)(5)(c), page 24 of the EA. This measure would not affect the power benefits of the project.

(3) This order requires SRH to install a mechanical cleaning system on its proposed fish screens to prevent clogging of the screens and the resultant increases in approach velocities, section V(B)(5)(d), page 26 of the EA. This measure would not significantly reduce the power benefits of the project. It would add \$80,000 to the total capital cost of the project, as estimated by SRH, reducing the annual net benefits by \$6,000, but could save on maintenance costs.

The staff estimates that, with the mitigative measures required in this order, the project would be potentially economically feasible, producing net annual benefits of \$121,000, levelized over the 50-year period of the license.

SRH hasn't made an agreement to sell project power, but expects to sell power to a utility in the Northwest. Using our estimated alternative energy cost for the Northwest, the staff finds the 100-percent-equity internal rate of return (ROR) for the project would be about 9.9 percent. With this ROR, the project would be a risky investment and financing entities would find it marginally attractive.

Section 10 (a)(2) of the Act requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Federal and state agencies have filed 65 comprehensive plans that address various resources in Washington. Of these, 6 plans are

relevant to this project.¹ No conflicts were found.

Based on the staff's review under sections 4(e) and 10(a), and their independent analysis, I find that the Youngs Creek Project, with the mitigative and enhancement measures required by this license, is best adapted to a comprehensive plan for the Youngs Creek drainage basin.

Water Quality Certification

On October 25, 1991, SRH applied for water quality certification for the project with the Washington Department of Ecology (WDOE). On February 24, 1992, WDOE issued water quality certification.

Coastal Zone Management Program

Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA) of 1972, as amended requires that license applicants for projects "...in or outside the coastal zone, affecting any land or water use or natural resource of the coastal zone of that state shall provide ..." a [self] certification that the project complies with the state's approved (by the U.S. Department of Commerce) Coastal Zone Management Program (CZMP) and that the project would be consistent with the program. "At the same time, the applicant shall furnish to the state or its designated agency a copy of the certification..." It also states that no license shall be granted "...until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed..."

Because the project is located in Snohomish County, a coastal county, WDOE must review the proposed project for consistency with the state's CZMP. By letter dated April 15, 1992, WDOE concurred with SRH's certification of project consistency with the CZMP.

¹ Washington's statewide comprehensive outdoor recreation plan, Interagency Committee for Outdoor Recreation, 1985, Olympia, Washington; Northwest conservation and electric power plan, Power Planning Council, 1986, Portland, Oregon; 1987 strategies for Washington's wildlife, Washington State Department of Game, 1986, Olympia Washington; Hydroelectric project assessment guidelines, Washington State Department of Fisheries, 1987, Olympia Washington; Shorelands and coastal zone management program, Washington State Department of Ecology, 1986, Olympia Washington; State of Washington natural heritage plan, Washington State Department of Natural Resources, 1987, Olympia, Washington.

Compliance with the Endangered Species Act

The bald eagle, which is federally listed as threatened in the state of Washington, perches, forages, and roosts in the vicinity of the proposed project during the winter. Our EA addresses the project's potential effects on the bald eagle. The staff concludes that the construction, operation, and maintenance of the proposed project, with the mitigative measures recommended by the staff in the EA, wouldn't be likely to adversely affect the bald eagle. By letter dated March 23, 1992, the U.S. Fish and Wildlife Service (FWS) concurred that the project wouldn't be likely to affect the bald eagle if the measures the staff recommended are fully implemented.

SRH, however, believes that two of the mitigative measures recommended in the EA are unnecessary.

SRH disagrees with the EA's conclusion that project construction traffic and transmission line construction might displace eagles feeding on fish, roosting, and perching along Elwell and Youngs Creeks and the Skykomish River. SRH says that winter construction would cause a minor increase in traffic, indiscernible to eagles in the area. SRH proposes to monitor bald eagle use of the night roost area during winter construction and, if SRH determines that heavy truck traffic is causing eagles to leave the roost early or to avoid the roost in the evening, SRH would restrict project construction traffic to the period between 1 hour after sunrise and 1 hour before sunset.

SRH thus proposes to take this measure after an adverse effect has already occurred.

SRH's analysis doesn't address project construction, which would occur in eagle use areas, and which would be the cause of increased traffic. Further, SRH's proposed mitigation would be implemented only after an adverse effect has been observed. The staff continues to believe that SRH should suspend all construction activities from November 1 to March 31, to protect wintering bald eagles.

SRH also disagrees with the EA's conclusion that the transmission line should be buried or routed to an existing bridge to avoid the potential for bald eagle collisions at the Skykomish River crossing. SRH says that the utility that would construct and maintain the transmission line owns about 2,000 miles of transmission line and has never received a report of a bald eagle collision with a powerline.

SRH proposes to install an aerial transmission line across the river that incorporates two mitigative measures: (1) installing spiral vibration dampeners on all conductors across the Skykomish River; and (2) arranging conductors at the river

crossing in a horizontal pattern to minimize the potential area for collision.

As stated in the EA, increasing the visibility of aerial transmission lines with aviation markers and other devices has not been shown to minimize eagle collisions. Further, FWS says that vibration dampeners are a less effective way of marking powerlines than aviation balls.² Burying the transmission line or attaching the line to an existing bridge would eliminate collision hazard entirely. Therefore, SRH should bury the section of the transmission line that crosses the Skykomish River or should attach the line to an existing bridge.

Articles 404 and 405 require the licensee to implement the measures recommended by the staff to protect bald eagles.

Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j)(1) of the Act, 16 U.S.C. §803(j)(1), requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act for the protection, mitigation, and enhancement of fish and wildlife. The EA and this order, address these concerns. This license provides conditions consistent with these recommendations, with one exception.

In the EA, the staff did not recommend adopting WDW's recommendation that SRH adopt a preset flow increase schedule. Since the staff concluded that a preset schedule to increase minimum flows lacked any biological justification as to benefits that would be provided to the aquatic resource, the staff found that the recommendation was inconsistent with the substantial evidence standard of section 313(b) of the Act. Staff agreed with WDW's recommended base flow and monitoring, but concluded that any subsequent increase in minimum flows should be based on the results of monitoring, not predetermined according to the preset schedule.

Under section 10(j)(2) of the Act, whenever the Commission believes that any recommendations of federal and state fish and wildlife agencies may be inconsistent with the Act or other applicable law, the Commission shall attempt to resolve such inconsistencies.

By letter dated January 3, 1992, the staff requested WDW to consider other options that would be agreeable to WDW and would

² Personal communication, Mike Tehan, U.S. Fish and Wildlife Service, Olympia, Washington, March 30, 1992.

adequately protect resident trout habitat consistent with other project purposes. The staff requested that WDW submit these options to the Commission within 45 days of the date of our letter.

WDW responded by letter dated February 4, 1992, and offered no alternatives, but further stated their reasons for recommending a preset flow increase schedule.

In a further attempt to resolve the issue, staff held a teleconference with WDW on March 11, 1992. An agreement was reached between staff and WDW whereby the licensee would be required to submit the results of monitoring to the Commission, including any minimum flow increases proposed if monitoring results indicate the need for increased flows.

WDW concurred with the requirement specified in Article 408, which requires SRH to monitor the resident trout population to assess reductions in the population as a result of project operations.

Subsequent to the EA and teleconference, the FWS, by letter dated March 23, 1992, provided 10 recommendations for the project. Our EA, and this order, address their concerns and the conditions included in the license order are consistent with FWS's recommendations, as discussed below.

FWS recommended fish population monitoring, run-of-the-river mode of operation, development of an erosion and sediment control plan, installation of an automatic shutoff valve, installation of fish screens and fish bypass, flow continuation for project shutdown, and ramping rates below the project. These measures are required by Articles 408 through 413. All of these measures except run-of-river operation and the emergency bypass valve were discussed in the EA.

Run-of-river operation and installation of an emergency bypass valve to be activated in the event of penstock rupture, were measures proposed by SRH in their application for license after consultation with agencies, including FWS.

Run-of-river operation would maintain riverine conditions in Youngs Creek and would minimize water level fluctuations below the project. Installation of the emergency bypass valve is an appropriate measure to prevent mass erosion and soil movement in the event of a rupture along the 2.7-mile-long penstock route. The costs for these measures are included in SRH's project costs.

FWS also recommends monitoring of gas supersaturation conditions at the project. The terms and the conditions of the water quality certificate, referenced as part of the project

license, require the licensee to monitor supersaturation in the project area.

I conclude that the fish and wildlife measures required in this license are consistent with the recommendations of the fish and wildlife agencies.

Section 18-Fishway Prescription

FWS requested that the Commission reserve FWS authority to, in the future, prescribe fishways and fish passage for resident rainbow trout in Youngs Creek. The Commission reserves this authority in Article 415.

Summary of Findings

The EA gives background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment. Issuing this license is not a major federal action significantly affecting the quality of the human environment.

The project will be safe if constructed, operated, and maintained in accordance with the requirements of this license.

Based on the staff analysis I conclude that the Youngs Creek Project does not conflict with any planned or authorized development, and is best adapted to comprehensive development of the waterway for beneficial public uses.

The Director orders:

(A) This license is issued to Snoqualmie River Hydro (licensee) for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Youngs Creek Project. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and to the regulations the Commission issues under the provisions of the Act.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 10359-</u>	<u>Showing</u>
1	8	Project Boundary Map
2	9	Project Boundary Map

(2) Project works consisting of: (a) a 12-foot-high, 65-foot-long diversion weir with a crest elevation of 1,530 feet mean sea level; (b) an intake structure; (c) a 51-inch-diameter, 14,500-foot-long penstock; (d) a powerhouse with a turbine generator unit with a generating capacity of 7.5 MW; (e) a short tailrace; (f) a 12.5-kilovolt, 6.1-mile-long overhead transmission line; and (g) other appurtenances.

The project works generally described above are more specifically described in section 3, Project Structures, of exhibit A of the application and shown by exhibit F:

<u>Exhibit F-</u>	<u>FERC No. 10359-</u>	<u>Showing</u>
1	1	Location map
2	2	General plan
3	3	Diversion weir and intake structure, plans and sections
4	4	Penstock profile and details
5	5	Bridge plan and section
6	6	Powerhouse site plan and sections
7	7	Powerhouse floor plans

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

(C) Those sections of exhibits A and the exhibits F and G described above are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-11, (October 1975), entitled "TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MAJOR PROJECT AFFECTING THE INTERESTS OF INTERSTATE OR FOREIGN COMMERCE", except article 20.

Article 201. The licensee shall pay the United States an annual charge, effective the first day of the month in which this license is issued, for the purpose of reimbursing the United States for the cost of administration of Part I of the Act, as

annual
charge

determined by the Commission. The authorized installed capacity for that purpose is 10,000 horsepower.

amortization reserves

Article 202. Pursuant to Section 10(d) of the Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, accumulated after the first 20 years of operation under the license, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserved account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

land clearing

Article 203. The licensee shall clear and keep clear to an adequate width all 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 result from maintenance, operation, 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 lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

use of project lands

Article 204. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant

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

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) 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 project waters at normal 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 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the

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proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

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

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

(3) The instrument of conveyance must include the following covenants running with the land : (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(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

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project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

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

at construction
Article 301. The licensee shall begin construction of the project works within 2 years from the issuance date of the license and shall complete construction of the project within 4 years from the issuance date of the license. *May 3, 1993*

See down
Article 302. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of the cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit to the Commission's Regional Director and to the Director, Division of Dam Safety and Inspections, one copy of the approved cofferdam construction drawings and specifications and a copy of the letters of approval. *30 days before construction*

contract drawings
Article 303. The licensee shall, at least 60 days prior to the start of construction, submit one copy to the Commission's Regional Director and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the final contract drawings and specifications along with an accompanying supporting design report for pertinent features of the project, such as water retention structures, powerhouse, and water conveyance structures. The supporting design report should be consistent with the Commission's Engineering Guidelines. The Commission may require changes in the plans and specifications to assure a safe and adequate project. If the licensee plans substantial changes to location, size, type, or purpose of the water retention structures, powerhouse, or water conveyance structures, the plans and specifications must be accompanied by revised Exhibit F and G drawings, as necessary.

As-built drawings
Article 304. Within 90 days after finishing construction, the licensee shall file for Commission approval revised exhibits A, F, and G to describe and show the project as built.

aesthetics
Article 401. The licensee shall implement all of the visual resource mitigative measures contained in section 8.4 of the application for license filed August 28, 1990, which includes exterior surface treatments of structures, revegetation and other landscape plantings, clearing and grading standards, and lighting.

ESCP
Article 402. The licensee shall implement the Erosion Control Plan filed on December 3, 1990, as pages 1 through 76 and drawings 5-1 through 5-18 to minimize soil erosion and slope instability as a result of construction activities. The plan includes scheduling of land disturbing activities during the dry season and in-stream work to be performed during low flow periods. Diversions will be utilized to reduce velocities, intercept water, and divert runoff away from construction areas. Permanent and temporary filter and sediment traps will be constructed to control runoff and sediment during construction. Only areas which can be graded and stabilized in the current season will be disturbed.

Wildlife mitigation plan
Article 403. At least 90 days before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission for approval, a wildlife mitigation plan.

The plan shall provide for, at a minimum:

(a) revegetating all portions of the penstock right-of-way not contained within an access road right-of-way with sufficient densities of trees;

(b) revegetating the margins of the project access road right-of-ways with herbaceous plants and shrubs that are palatable to black-tailed deer and other species common in the vicinity;

(c) installing and maintaining gates at the entrances to the project access roads;

(d) installing and maintaining nest boxes and perch poles along the project access roads;

(e) enhancing at least 3.3 acres of existing riparian areas in the project vicinity to replace the wildlife values lost as the result of project construction;

(f) acquiring and preserving a stand of at least 2 acres of mature coniferous forest in the project vicinity;

(g) monitoring the effectiveness of the measures described in (a), (b), and (e) above, including steps to be taken in the event these measures are not effective, such as, but not necessarily limited to, modifying the measures or establishing or enhancing additional riparian forest areas;

(h) providing recommendations to the agencies and the Commission for alternative wildlife mitigation measures, if monitoring indicates that the revegetation measures or the riparian forest establishment or enhancement is not successful; and

wildlife mitigation plan

(i) schedules for implementing the measures proposed in (a) through (f) above, for filing the results of the monitoring program, and for filing recommendations for alternative wildlife mitigation.

The licensee shall prepare the plan after consultation with the Washington Department of Wildlife and the U.S. Fish and Wildlife Service. The licensee shall include with the plan documentation of consultation with the agencies before preparing the plan, copies of agency comments or recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how all the agency comments were accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing plans with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

line

Article 404. At least 90 days before the start of construction, the licensee shall file with the Commission for approval a transmission line design plan, prepared in accordance with the guidelines set forth in "Suggested Practices for Raptor Protection on Power Lines -- the state of the Art in 1981," by Raptor Research Foundation, Inc. The plan shall consider, at a minimum, the following: (a) adequate separation of energized conductors, groundwires, and other metal hardware; (b) adequate insulation; and (3) and any other measures necessary to protect raptors from electrocution hazards. The plan shall include detailed design drawings of the transmission line clearly showing phase spacing, configuration, and grounding practices, and a construction schedule. The plan shall also show the means by which the transmission line crosses the Skykomish River, i.e., buried in the river bed or attached to an existing bridge.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife. The licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt any

recommendation, the filing shall include the licensee's reasons, based on project-specific information.

T-Line
The Commission reserves the right to require changes to the plan. No transmission line construction shall begin until the licensee is notified that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission. As-built drawings of the transmission line shall be filed in accordance with the requirements of article 304 of this license.

*old Eagle
Plan*
Article 405. At least 90 days before the start of any land disturbing or land-clearing activities, the licensee shall file with the Commission for approval a plan to protect the federally listed threatened bald eagle (Haliaeetus leucocephalus). The plan shall include, but not be limited to, the following: (a) a project construction schedule, including transmission line construction, to avoid disturbances to wintering bald eagles by suspending project construction between November 1 and March 31; (b) preserving potential eagle perching and roosting trees, to the extent possible; and (c) burying the sections of the transmission line crossing the Skykomish River or attaching the transmission line under an existing bridge.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife. The licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

*Cultural
Resources*
Article 406. The licensee, before starting any land-clearing or land-disturbing activities along the transmission corridor route, shall conduct a cultural resources survey of portions of the transmission corridor route where landowner access was denied prior to licensing and surveys not conducted, and additional survey of the areas which the National Park Service-Interagency Archeological Services (NPS) indicated by letter dated September 10, 1990, may need more detailed inventory. If additional survey of the previously surveyed areas

is not necessary, the licensee shall provide a detailed explanation about why the previous survey adequately inventoried these areas. Survey shall be based on the recommendations of the Washington State Historic Preservation Officer (SHPO) and the NPS.

Handwritten: Cultural Resources Survey

A report shall be filed with the Commission for approval within 2 years from the date of this license documenting survey results, any justification of previous survey methods, and procedures necessary to avoid or mitigate impacts to any sites identified as eligible for inclusion in the National Register of Historic Places, together with letters from the SHPO and the NPS documenting presurvey consultation and commenting on the report.

The Commission reserves the right to require the licensee to conduct additional survey and file revised reports as necessary to complete an inventory of cultural resources of the transmission line route. The licensee shall not begin any land-clearing or land-disturbing activities until informed by the Commission that the requirements of this article have been fulfilled.

Handwritten: Cultural Resources Plan

Article 407. The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in this license, including recreation developments at the project, shall consult with the Washington State Historic Preservation Officer (SHPO).

If the licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the SHPO.

In either instance, the licensee shall file for Commission approval a cultural resource management plan (plan) prepared by a qualified cultural resource specialist after having consulted with the SHPO. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a

property, discovered during construction, until informed that the requirements of this article have been fulfilled.

*Fish
Monitoring
Plan*

Article 408. At least 90 days before the start of project operation, the licensee shall file with the Commission for approval a monitoring plan to determine changes in the resident trout population in Youngs Creek with the minimum flows in effect required by Article 411.

The licensee shall prepare the plan after consultation with the Washington Department of Wildlife and the U.S. Fish and Wildlife Service. The licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The plan shall include: (a) monitoring of pre-project trout populations until the project becomes operational; (b) monitoring of project effects on trout populations for 5 years after commencement of project operations, and subsequently thereafter should minimum flow increases be deemed necessary to protect the trout resource; (c) a schedule for providing the monitoring results to Washington Department of Wildlife and U.S. Fish and Wildlife Service; and (d) schedules for: (1) implementation of the monitoring program; (2) consultation with the Washington Department of Wildlife and U.S. Fish and Wildlife Service concerning the results of the monitoring; and (3) filing the results, agency comments, and licensee's response to agency comments with the Commission. If results of the monitoring determine that increases in flows are warranted (according to criteria defined in this monitoring plan), then SRH shall submit to the Commission for approval a proposal to increase minimum flows in the bypass reach of Youngs Creek to protect aquatic resources.

The Commission reserves the right to require changes to the plan. Project operation shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

*Run-of-river
mode*

Article 409. The licensee shall operate the project in a run-of-river mode for the protection of aquatic resources in Youngs Creek. The licensee shall at all times act to minimize the fluctuation of the forebay surface elevation by maintaining a discharge from the project so that, at any point in time, flows

as measured downstream from the project tailrace approximate the sum of inflows to the project forebay. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and WDW. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

*shut-off
valve*
Article 410. At least 90 days before the start of construction, the licensee shall file with the Commission for approval, a plan for the design and construction of a system that will automatically detect a conduit or penstock failure and immediately shut off flow in the conduit or penstock at the headworks in the event of such a failure.

The plan, at a minimum, shall include: (a) design drawings; (b) a schedule for installation and testing of the system prior to operation of the project; (c) a schedule for annual testing of the system for the life of the project; and (d) a description of a plan to manually close off the conduit or penstock until the system is operational if any malfunction is revealed during testing.

The Commission reserves the right to require changes to the plan. Construction shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission

*stream
flow
requirements*
Article 411. The licensee shall release from the Youngs Creek Project into Youngs Creek minimum flows according to the following table, as measured at the flow recording gage required by Article 414, or inflow to the project reservoir, whichever is less, to protect the resident fish population in the bypassed reach of Youngs Creek.

Staff's recommended minimum flow releases to the bypass reach of Youngs Creek.

Month	Minimum Flow (cfs)
October 1 - April 30	3
May 1 - May 15	8
May 16 - July 15	40
July 16 - September 30	22

These flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for

short periods upon agreement between the licensee and the Washington Departments of Wildlife and Fisheries. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

ramping rates
Article 412. The licensee shall maintain maximum rates of change in river flow (ramping rates) during project start-up and shut-down according to the following table.

Ramping rates to be maintained for the Youngs Creek Project

Season	Daylight	Night	Rationale
February 16 - June 15 Salmon Emergence	No Ramping	2 in/hr	Chinook fry in gravel during day
June 15 - October 31 Steelhead Emergence and rearing	2 in/hr	1 in/hr	Steelhead fry show opposite behavior
November 1 - February 15 Winter-refuge activity	2 in/hr	2 in/hr	Low fish activity

* Daylight is defined as 1 hour before dawn and 1 hour after sunset

The location at which to measure ramping rate compliance shall be mutually determined by the licensee, the Washington Department of Wildlife and the U.S. Fish and Wildlife Service prior to project operation. The location of this site should be identified in the as-built drawings as required by Article 304.

screening monitoring??
Article 413. The licensee shall design, construct and install the intake screening structure and fish bypass according to the functional design as shown in drawings 1 and 2 of the additional information dated April 19, 1991, to protect fish resources. The screen shall be installed and operational before commercial operation of the project. Within 90 days after the installation of the screen, the licensee shall file, with the Commission, as-built drawings of the self-cleaning screen system, electrically operated gates and sensors, and bypass.

stream gage
Article 414. The licensee shall design, construct, and install a continuous recording gage (Geological Survey standard), within 100 yards downstream of the project diversion in the bypass reach. Within 90 days after the installation of the gage and annually thereafter, the licensee shall file with the Commission, the Washington Department of Wildlife, the Washington Department of Fisheries, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey, records that show the gage has been

accurately calibrated prior to operation, annually, and after repair. The project diversion and gage installations shall be shown on the as-built drawings as required by article 303.

The licensee shall make available flow information from the gage required by this article to the Commission and appropriate agencies within 30 days from a request for the information. The Commission reserves the right to require additional gaging if determined necessary in the future.

reserve authority in fishway
Article 415. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior. The Commission also reserves authority to require the licensee to permit the Interior to inspect project records pertinent to fishways, and to investigate and prepare a report documenting the effectiveness of such fishways.

(E) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to the Commission filing. Proof of service on these entities must accompany the filing with the Commission.

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



Fred E. Springer
 Director, Office of
 Hydropower Licensing

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED
MAJOR 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 works shall be constructed 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.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations 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 a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any features or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work 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 allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties

shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial 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 nonpower 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 state 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 locations 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 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 and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

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

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

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

Article 20. The Licensee shall 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.

Article 21. 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 22. 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 23. 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.