UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Anthony G. Sousa, Acting Chairman;
Charles G. Stalon, Charles A. Trabandt
and C. M. Naeve.

Public Utility District No. 1 of Lewis County, Washington	))	Project No. 2833-002

ORDER ISSUING LICENSE (MAJOR)

(Issued June 30, 1986)

Public Utility District No. 1 of Lewis County, Washington (P.U.D.), has filed an application for a license under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Cowlitz Falls Project No. 2833. The project would be located on the Cowlitz River in Lewis County, Washington, immediately upstream of the City of Tacoma's licensed Project No. 2016. The Cowlitz River has been found to be a navigable waterway of the United States. 1/

Public Notice and Comments

Notice of the application has been given, and comments were received from interested federal, state, and local agencies. A number of comments, protests, and motions to intervene were also received from individuals, agencies, and other entities. All intervention requests have been granted. The intervenors are: the Washington Department of Natural Resources (Natural Resources); the Washington Department of Fisheries (Fisheries); the Washington Department of Game (Game); the Washington Department of Ecology (Ecology); Lewis County, Washington (Lewis County); the City of Tacoma, Washington (Tacoma); the Cowlitz Indian Tribe (Tribe); Champion International Corporation (Champion); the Cowlitz Falls Dam Prevention Committee (Dam Committee); 12 individual residents of the project area; and the Friends of Whitewater.

Public meetings were held by Commission staff in Randle and Chehalis, Washington, and visits were made to the proposed site to identify environmental impacts and issues of concern that needed to be addressed in an Environmental Impact Statement (EIS). A draft EIS (DEIS) was prepared and circulated for comment.

1/ City of Tacoma, Washington, 10 F.P.C. 432 (1951).

PROPERTY OF PUBLIC REFERENCE
DO NOT REMOVE FROM

Upon review and consideration of those comments, the document was revised and a final EIS (FEIS) was issued. 2/ All of the significant impacts of the project and substantive comments on the application and the DEIS and FEIS as well as those in the interventions have been considered and, we believe, satisfactorily resolved. As discussed below, all of the agencies are now supportive of the project. The remaining objections to the project, which are from the Dam Committee and individual intervenors, 3/ are addressed below.

Project Description and Operation

A. Description

The proposed Cowlitz Falls Project would consist of: (1) an 800-foot-long concrete-gravity dam at river-mile 88.6, extending 140 feet above the streambed, and containing an ogee spillway overflow section with four radial gates; (2) a power intake structure integral with a non-overflow section of the dam; (3) two 18-foot-diameter steel penstocks; (4) a reservoir covering 610 acres, with a total volume of 10,200 acre-feet; (5) a powerhouse integrated with the dam and intake having a total installed capacity of 70 megawatts (MW); (6) a switchyard located about 500 feet downstream from the powerhouse; (7) a tailrace and modified channel, extending about 1 mile downstream from the powerhouse; (8) a 115-kilovolt (kv) transmission line, extending about 5.2 miles to a proposed substation at Glenoma; and (9) appurtenant facilities. A more detailed project description is given in ordering paragraph (B) below.

B. Operation

The Cowlitz Falls Project would be operated as a run-of-river plant, with turbines functioning at maximum efficiency and the

---

2/ Final Environmental Impact Statement, Cowlitz Falls Project, FERC Project No. 2833 - Washington, Office of Electric Power Regulation, Federal Energy Regulatory Commission, April 1983.

3/ On April 17, 1986, Norman and Catherine Sadler filed a motion for summary disposition and denial of the license application. Although Mr. Sadler represents the Dam Committee, the motion apparently was not filed on behalf of the Dam Committee because it was not mentioned. Also, Mr. Sadler is not an individual intervenor in this proceeding. However, because Mrs. Sadler is an intervenor on her own behalf, the motion is properly filed. No new issues were raised in the motion, and it is adequately addressed in this order.

reservoir operated to maintain maximum head and to minimize spill. With this operational scheme, the reservoir would essentially remain at a constant elevation for the majority of the year. During the months of August through October, inflows less than 1,500 cubic feet per second (cfs) would be regulated to increase turbine efficiency if Riffe Lake, one of the reservoirs for Project No. 2016 located immediately downstream, were filling the channel below Cowlitz Falls Dam; otherwise, flow below the minimum hydraulic capacity of 1,000 cfs would be spilled. The maximum hydraulic capacity of the units at the project would be approximately 10,000 cfs. An estimated 256,000 megawatt hours (MWh) of energy would be generated annually by the project. 4/

Need for the Project Power and Alternatives

The P.U.D. serves the electric power needs of most of Lewis County. 5/ Currently, the P.U.D. purchases, or obtains through exchange, substantially all of its power requirements from the Bonneville Power Administration (BPA). As a preference customer, the P.U.D. has priority for power sold by BPA. The P.U.D. has a power sales contract with BPA under which BPA agrees to supply power in excess of the P.U.D.'s own resources to the extent that power is available from the BPA system, and which requires the P.U.D. to "use its best efforts either to serve its load growth using firm resources or to make available for acquisition by [BPA] resources equivalent to the load growth of the [P.U.D.]." Consistent with this, the P.U.D. plans to use project power to serve a portion of its current and future loads. Alternatively, in the future, the power could be sold to BPA to help meet regional power demand.

In 1983, the Northwest Power Planning Council (Council), established pursuant to the Pacific Northwest Electric Power Planning and Conservation Act (Conservation Act), P.L. 96-501, 6/ developed and published a regional power plan as required by that act. This plan established that there will be a need for additional power in the region over the 1981-2002 period ranging from 2,310 average annual megawatts under a low growth scenario to 10,721 average annual megawatts under a high growth scenario. 7/ The plan also

---

4/ The project will utilize a renewable resource that will save the equivalent of about 420,400 barrels of oil or 118,500 tons of coal per year.

5/ The P.U.D.'s service area is about 2,450 square miles and contains about 19,000 customers.

6/ 16 U.S.C. §§ 839b et seq.

7/ See Northwest Conservation and Electric Power Plan p. 4-2 (April 27, 1983).

establishes priorities for alleviating regional power shortages, with conservation and renewable resources designated as first and second priority resources.

The FEIS examined the electric power supply and demand situation in Lewis County and in the Pacific Northwest region. 8/ It found that by 1988, even with this project in service, only about half of the P.U.D.'s load would be supplied by its own resources. With respect to conservation, the FEIS concluded that the single most important obstacle to achieving conservation goals was the generally low price of electricity in the region. However, because the cost of new incremental capacity is much higher than the average price of electricity, there is a potentially high level of cost-effective conservation available when evaluated at the marginal price. However, it is too early to evaluate the effect of conservation measures for the near term. Thus, we believe that a project like Cowlitz Falls, utilizing a renewable resource, conforms to the objectives of the regional energy plan and the priorities set forth therein.

Since issuance of the FEIS in April 1983, the Council has published a revised plan. 9/ This plan projects a regional need for additional power resources by 1992 based on a mid-high load growth rate forecast and about 1996 based on a mid-low load growth rate forecast (the two equally likely and most probable load growth rate scenarios). Based on the length of the construction schedule, Project No. 2833 likely would not be placed in operation until 1991.

In accordance with the Conservation Act, the Council also prescribed a spectrum of resources to meet the region's power needs through 2005. In both the mid-low and mid-high growth rate scenarios, these resources include cost-effective conservation, hydroelectric generating resources, and thermal generating resources to firm up secondary energy; additional cogeneration and coal-fired resources are included to meet the mid-high forecast. Since the Conservation Act designates a higher priority for the use of renewable resources, the use of additional reliable, cost-effective, and environmentally acceptable hydroelectric resources to displace thermal generation and to defer installation of the thermal generation included in the Council's plan is justifiable. Such uses of hydroelectric resources can provide economic benefits, conservation of fossil fuels, and a reduction in the atmospheric impact of the combustion of fossil

---

8/ See FEIS Sections 1-2 and 1-3.

9/ Northwest Conservation and Electric Power Plan (1986).

fuels. The staff's recent reevaluation of project economics indicates these benefits would be available to the region through installation of the project. In addition, the recent and ongoing modifications to increase the carrying capacity of the transmission lines connecting the Pacific Northwest, California and the Southwest will allow a significantly greater transfer of power than has occurred historically and thereby provides an expanded market for economic project power.

In light of the above and the fact that the power to be produced by the project will be used by the P.U.D. to reduce its reliance on BPA, 10/ and given the uncertainties associated with accurately projecting power needs, 11/ we believe there is a need for the project. Also, as discussed later herein, the project may present the only current feasible means of restoring anadromous fish to the upper Cowlitz River Basin. Thus, in addition to the factors discussed above, the project may be necessary for anadromous fish purposes.

The FEIS also examined alternatives to the Cowlitz Falls project, including changing the design, building a woodwaste plant or a coal-fired plant, and taking no action. Staff's analysis indicated that the project as proposed by the P.U.D. at elevation 866 feet mean sea level (msl) would be the least costly, but not necessarily as desirable environmentally as a woodwaste facility. Staff further concluded, however, that operation of the project at elevation 862 msl is environmentally preferable and that the difference in the cost of project energy at this elevation versus the P.U.D.'s initially proposed elevation (866) would not be significant. 12/

Safety and Adequacy

The spillway capacity of the proposed project is adequate to pass the Probable Maximum Flood (PMF). The preliminary design of project structures shown on the Exhibit L drawings is adequate for estimating costs and for planning purposes. These designs,

---

10/ See City of Idaho Falls, Idaho, 25 FERC ¶ 62,345 (1983).

11/ See Friends of the River v. FERC, 720 F.2d 93, 101 (D.C. Cir. 1983).

12/ The project when operated at either the 866- or 862-foot msl normal pool elevation will be economically feasible based on current conditions with a levelized net annual benefit of $1.65 million at elevation 866 and $1.26 million at elevation 862.

however, are now only conceptual in nature. Therefore, Article 29 of the license requires the filing of revised Exhibit L drawings showing the final design of major project works, together with a supporting design report. Similarly, Article 30 requires the filing of the contract plans and specifications. Also, Article 31 requires a board of independent consultants to review the design, specifications, and construction of the project. Comments from the board must be submitted with the Exhibit L drawings and design memoranda. Commission staff will make a final assessment of the safety of project structures upon review of these documents before construction begins. The FEIS for this project contained a detailed discussion of the seismic risk evaluation and concluded that the risk was not of such a magnitude that the project should not be built. 13/ We believe that the project structures can be safely constructed and operated pursuant to proper engineering standards and the terms and conditions of this license.

Environmental Considerations

Comments on the project and analysis of the environmental impacts thereof in the FEIS have been submitted by federal, state, and local agencies as well as individuals and other organizations. In addition to the discussions in the FEIS, all comments have been considered and the significant concerns are addressed below. 14/

A. Geology and Soils

Project-induced landsliding and erosion could be reduced to relatively minor levels by suitable initial slope treatment, drainage control, revegetation, monitoring, and maintenance programs. However, the P.U.D. has proposed only general, not specific or detailed, measures to control erosion and slope stability. Article 34 therefore requires the P.U.D., prior to engaging in any construction or maintenance activity of a land-disturbing nature, and following consultation with appropriate agencies, to prepare an erosion, dust, sedimentation, and slope stability control plan.

Seepage from the reservoir could affect slope stability in banks downstream of the dam and also raise groundwater levels, thereby creating swampy areas in the Ancestral Cowlitz Valley. The P.U.D. has proposed only a general plan for evaluating, monitoring, and mitigating these possible impacts. Article 35 therefore requires

---

13/ See FEIS at pp. 2-12 - 2-13.

14/ A water quality certificate for this project was issued on July 20, 1984, by Ecology pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341.

the P.U.D., prior to engaging in any construction or maintenance activity of a land-disturbing nature, and following consultation with relevant agencies, to prepare and submit a more detailed plan.

B. Groundwater

The elevated water level in the reservoir will cause the groundwater table to rise within the reservoir banks and adjacent land areas. Higher groundwater tables will reduce the crop-producing capability of soils where the resultant groundwater tables are too shallow to be tolerated by crops. Higher groundwater tables could also adversely impact domestic water wells and septic systems of the few dwellings in the area. With the reservoir at elevation 862 feet msl as provided herein, only 10 acres of agricultural land would be adversely affected by inundation or raised groundwater levels. However, with the reservoir at elevation 866 feet msl, as initially requested by the P.U.D., approximately 170 acres of farmland would be adversely affected by higher groundwater levels. A large portion of those lands could experience a significant decline or total loss of productivity. A permeable pumice layer that underlies a major portion of the area that would be affected by a reservoir at elevation 866 feet msl would reduce the effectiveness of drainage systems that might be used for mitigation.

The P.U.D. proposes to monitor groundwater levels before construction and for at least one year after reservoir filling in order to determine the precise amount of farmland that would be adversely affected by project-induced groundwater impacts, and to purchase the land or install drainage works in the adversely impacted areas. If the groundwater impacts on farmland prove to be extensive, the P.U.D. will consider other mitigative measures on a case-by-case basis. The P.U.D. proposes to characterize the water quality of all wells that would be adversely impacted by elevated groundwater tables before filling the reservoir. If the potability of the water is found to be adversely impacted, the P.U.D. will seal the affected wells or relocate improperly sealed wells. The P.U.D. also proposes to modify or relocate any septic fields that are adversely impacted by project-induced changes in groundwater levels.

The P.U.D. has not proposed a means for evaluating or compensating property owners for groundwater impacts on the value of the affected lands or on agricultural productivity, and has not provided specific programs, measures, or schedules for monitoring, evaluating, or mitigating the effects of higher groundwater levels on lands, agricultural production, wells, or septic systems. Thus, while only 10 acres of farmland will be affected by the project as approved herein, we are including Article 36 in the license, requiring the preparation of a plan, after consultation with appropriate

agencies, that establishes specific programs, measures, and schedules for the monitoring, evaluation, and mitigation of project-related groundwater impacts on agricultural lands, agricultural production, wells, and septic systems.

C. Debris

During high-flow periods the Cowlitz and Cispus Rivers and their tributaries transport substantial quantities of organic debris. Commission staff's aerial and ground inspection of the project area during site visits revealed that trees and slash ranging in length from 4 to 90 feet, along with "debris islands" formed by the massing of debris on uprooted trees, are transported by the Cowlitz River. The staff concluded that the P.U.D.'s proposed mitigative measures, i.e., constructing 60-foot wide floodgates at the dam and cutting up debris longer than 60 feet before it was transported toward the dam, would not preclude debris accumulation at the floodgates during project operation. Such accumulation could reduce the capacity of the spillway to pass high flows associated with flood events and, thus, could contribute to flooding in the Randle area. We are including Article 37 in the license requiring the P.U.D., after consultation with the U.S. Army Corps of Engineers (Corps) and Ecology, to prepare a plan for the removal of debris that could block the project's spillway gates.

D. Sedimentation and Reservoir Elevation

The Cowlitz River Valley near the headwaters of the proposed reservoir consists of a broad, low-lying floodplain (Big Bottom) that has been historically subject to periodic flooding. Ecology, the Dam Committee, and others have expressed concern that the deposition of sediment in the headwaters of the project reservoir would aggravate flooding in the Big Bottom area. In order to allay these concerns, the P.U.D. developed a mathematical model to simulate the sedimentary processes of the Cowlitz River under pre- and post-project conditions. Based on these model simulations, the P.U.D. determined that, by restoring the portion of the river located in the Big Bottom area to a free-flowing state using open floodgates for flows equal to or greater than 15,000 cfs, sediment deposited in the headwaters of the reservoir would be scoured out of the project area. The P.U.D. believes that operation in this manner would ensure minimal impact to flooding in the Big Bottom area.

Commission staff's mathematical analysis indicates, however, that the P.U.D.'s proposed operational scheme would not effectively scour sediment deposited in the upstream limits of the reservoir if the reservoir were to be maintained at an elevation of 866 feet msl. The headwaters of the project reservoir, maintained at 866, would extend into flood-prone areas where the deposition of sediment

within the river channel would reduce the capacity of the channel to transport high flows, thereby resulting in the aggravation of flooding in the Big Bottom area. Reducing the reservoir surface elevation from 866 to 862 feet msl would bring the backwater effect of the reservoir downstream toward the dam, significantly reducing the reservoir area that would extend into flood-prone areas. In addition, the staff's analysis indicates that the hydraulic characteristics of the river channel included within the reservoir maintained at an elevation of 862 feet msl are such that the proposed mode of operation would effectively scour sediment from the upper reaches of the reservoir.

In its comments on the FEIS, the P.U.D. proposed to maintain the project reservoir initially at an elevation of 862 feet msl. Furthermore, the P.U.D. proposed to develop and implement a program to obtain data on the amount of sediment deposited within the reservoir and to determine the effectiveness of the proposed mode of operation in minimizing sediment accumulation within the reservoir. The P.U.D. would then use these data to calibrate and verify its mathematical model.

We conclude that operation of the project reservoir at elevation 862 feet msl would minimize the impact of the project on flooding in the Big Bottom area. Therefore, we are, in Article 47, requiring operation of the reservoir at an elevation of 862 feet msl. In addition, to ensure that the proposed mode of operation effectively scours sediment from the headwaters of the reservoir, we are including Article 38, requiring the P.U.D. to develop a program for monitoring sediment accumulation within the project reservoir.

The operational procedures (i.e., number of floodgates required to accommodate various high flows, and methods to determine the timing of gate opening) that would be implemented to return the upper reaches of the reservoir to a free-flowing state when flows are equal to or greater than 15,000 cfs cannot be determined until the final design phase of project implementation. We are therefore including Article 39 in this license, requiring the P.U.D., within 2 years from the date of issuance of this license, to file for Commission approval a plan detailing these operational procedures. 15/

E. Fish and Wildlife Resources

On March 10, 1986, the P.U.D. filed a plan, developed in cooperation with Game, for mitigation of project impacts and enhancement of the fishery and wildlife resources of the project area, together with an agreement between itself and Game regarding implementation of the plan.

15/ At such time as the P.U.D. has completed studies showing that a higher reservoir elevation would not aggravate flooding, it could request an appropriate amendment to its license.

The major fishery components of the plan include: (1) construction practices that will minimize soil erosion; (2) design considerations that will provide a spillway to minimize nitrogen supersaturation and allow for later construction of downstream migrant fish collection facilities at the project; (3) a trout-stocking program for both the construction and project operation periods; (4) construction of sub-impoundments within the project reservoir to provide habitat and a fishery for warmwater species; (5) stream-habitat improvements in Siler and Kiona Creeks, tributaries to the project reservoir; and (6) a program to monitor the implementation and success of fishery mitigative measures.

Concerning wildlife, the plan provides for: (1) the purchase and management of lands for wildlife purposes; (2) creation of sub-impoundments for waterfowl; (3) management of the transmission right-of-way to provide forage for wildlife; (4) reservoir shoreline management to encourage the development of riparian habitat; and (5) monitoring of the wildlife measures.

The plan also provides measures for the protection and enhancement of the bald eagle, a federally listed threatened species. The measures include: (1) preservation of perch trees along the proposed reservoir shoreline; (2) planting of cottonwood trees along the shoreline; (3) construction of 10 to 20 artificial perch sites; (4) avoidance of reservoir clearing operations during the period between January 1 and March 1; and (5) design of the transmission line to minimize electrocution hazards to eagles.

The plan is designed for a reservoir elevation of 866 feet msl, but contains a provision for adjustment of the plan, should the project be licensed at an elevation of 862 feet msl. The U.S. Fish and Wildlife Service, by letter dated March 7, 1986, stated it supported the plan and that it does not object to issuance of a license. By letter dated January 27, 1986, Fisheries expressed its support for the plan and indicated that it does not object to issuance of a license. The National Marine Fisheries Service expressed its concurrence with Fisheries' position in a letter dated March 6, 1986. These agencies also pointed out that this project may present the only current feasible means of restoring anadromous fish to the upper Cowlitz River Basin, since there currently exists no practical way of capturing young salmon on their way to the ocean. They also agree that the project would not result in adverse cumulative impacts to the fishery resources of the Basin.

We have reviewed the submitted plan and agree with the agencies that its numerous provisions will adequately compensate for project impacts on fish and wildlife resources, including bald eagles, and will provide additional enhancement measures. Also, we agree with them that the plan's provisions requiring the project to be designed to facilitate later construction of downstream migrant fish collection facilities will help ensure the success of anadromous fish

restoration efforts in the Basin. Finally, we agree that the project, if constructed and operated in accordance with the plan, will not result in adverse cumulative impacts to fishery resources and water quality, including sedimentation. 16/ Accordingly, we are approving the plan in ordering paragraph (D) hereof. Also, we are including as Article 46 of the license a provision of the agreement providing that the project will operate in a run-of-river mode with a 1,000-cubic-feet-per-second minimum flow when the elevation of the downstream Riffe Lake is drawn down below 750 feet msl. However, under the Federal Power Act, the Commission is vested with the authority for determining how a project is constructed, operated and maintained. Therefore, in carrying out the provisions of the plan and the related agreement, the P.U.D. must comply with the provisions of the Federal Power Act, the other terms and conditions of this license, and all orders of the Commission or its delegates. Also, although the plan includes measures for the protection and enhancement of the bald eagle, we are requiring the P.U.D., in Article 40, to submit a final plan incorporating those measures, including a map showing the location of the proposed measures to enhance the bald eagle, and detailed design drawings of the artificial eagle perch sites and the transmission line.

F. Cultural Resources

The P.U.D. has completed an extensive cultural resources mitigation plan. Six archeological sites and 15 historical sites and structures were identified in the project area, but most of them are outside of the area of project impact. One archeological site (the Cowlitz Falls South Site, 45LE209) has been determined eligible for inclusion in the National Register of Historic Places. The P.U.D. has developed a plan to reduce project impacts on this site, to further test other sites before engaging in any construction or maintenance activity of a land-disturbing nature, and to monitor construction activities in the event that new sites are discovered during project construction. The plan also includes a post-construction monitoring program to determine if project operation causes currently unexpected impacts to known sites or exposes currently unknown resources through erosion. The State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Cowlitz Indian Tribe have all endorsed the plan. Article 41 of the license ensures proper implementation of the plan.

16/ Supplement to Environmental Assessment, Davis Creek Project, FERC Project No. 7182-000, Office of Hydropower Licensing, Federal Energy Regulatory Commission (February 6, 1986). This document is available in the Division of Public Information and in the Commission's public file associated with this proceeding.

G. Recreation

In its Exhibit R, the P.U.D. proposes to develop two public access sites, to reserve land for future recreational development, and to acquire and develop a non-project site as a multi-purpose athletic field. The Exhibit R also states that the P.U.D. is negotiating an agreement with the Lewis County Parks and Recreation Department for the operation and maintenance of the proposed recreational facilities.

The Exhibit R generally conforms to the Commission's regulations and therefore is being approved and made a part of this license. However, we are also including Article 42 requiring that the P.U.D. file a copy of the final agreement for the operation and maintenance of the recreational facilities and a copy of specific site plans and a schedule for completion of each area proposed for initial recreational development.

Intervenor Champion is concerned about the possible impact of traffic associated with project recreational activities on its private logging roads. Although Champion's roads do provide a slighty shorter route to the project area from the larger population areas such as the City of Tacoma, there are better maintained public roads to the project area. Furthermore, peak recreational activity should occur during the weekends, when logging activity is minimal. Therefore, we believe that impacts to these private, unimproved logging roads due to increased recreational opportunities at the project would be minor. The P.U.D. has stated its intention to conclude an agreement with Champion prior to commencement of construction to resolve possible conflicts during the construction period. Article 42 also requires the P.U.D. to file a copy of this agreement.

Intervenor Friends of Whitewater has requested that the P.U.D. replace a boat-ramp take-out facility that will be inundated by the project. The P.U.D. has agreed to do so, and Article 42 requires the facility to be built.

H. Land Use

The P.U.D. proposes to purchase in fee an adequate buffer zone consistent with the Commission policy established in Opinion No. 91.[17/] The P.U.D. also proposes to lease back or permit current adjacent land owners to utilize these buffer zone lands for specified purposes. Because of potential conflicts between use of these buffer lands and other project-related activities,

---

17/ Alabama Power Company, 12 FERC ¶ 61,060 (1980).

such as mitigation programs and recreational access, we are including Article 43 in the license, requiring the P.U.D. to prepare a detailed land management plan that coordinates use of buffer areas with other land uses.

I. Columbia River Basin Fish and Wildlife Program

Pursuant to Section 4(h) of the Conservation Act, 18/ the Council developed the Columbia River Basin Fish and Wildlife Program (Program) 19/ to protect, mitigate and enhance fish and wildlife resources affected by the development and operation of hydroelectric projects on the Columbia River and its tributaries. Section 4(h) states that federal agencies operating or regulating hydroelectric projects within the basin shall exercise their responsibilities to provide equitable treatment for fish and wildlife resources with other purposes for which the river system is utilized. It further states that these agencies shall take into account to the fullest extent practicable the Program adopted thereunder. Finally, project operators or regulators are directed to consult with federal and state fish and wildlife agencies, appropriate Indian Tribes, and affected project operators in carrying out the provisions of the section.

The Commission's regulations require applicants to initiate pre-filing consultation with these entities and to provide for post-filing opportunities for these entities to review and comment on the application and the environmental impact statement. These consultations, as well as environmental scoping meetings conducted by Commission staff, have occurred on this project.

Section 1200 of the Program provides a framework for assessing and mitigating the impacts of new hydroelectric development on fish and wildlife resources and lists a number of mitigative measures that should be implemented. Development of the Cowlitz Falls Project at elevation 862 would result in adverse impacts on fish and wildlife resources because of the inundation of 11 miles of the Cowlitz and Cispus Rivers, the blockage of resident fish movements, and the loss or degradation of 619 acres of wildlife habitat. However, we believe that the fish and wildlife mitigation plan submitted by the P.U.D. and approved herein will adequately mitigate expected adverse impacts to fish and wildlife resources, including bald eagles.

18/ 16 U.S.C. § 839b(h).

19/ The Program was adopted on November 15, 1982, and amended on October 10, 1984.

License articles will ensure protection of important cultural resource sites of the Cowlitz Indian Tribe. Article 48 also reserves Commission authority to alter project structures and operations pursuant to changes in the Program. As discussed previously, the relevant resource agencies and the Tribe support the project.

We therefore conclude that the issuance of this license is consistent with the Conservation Act and the Program developed thereunder, and will provide equitable treatment to fish and wildlife.

Other Aspects of Comprehensive Development

We find that the project, the benefits of which outweigh its impacts and which is not in conflict with any planned development, would make good use of the water resources of the Cowlitz and Cispus Rivers, and would be best adapted to the comprehensive development of the Cowlitz River Basin for beneficial purposes upon compliance with the terms and conditions of this license. Approval of the project is therefore in the public interest.

The Commission orders:

(A) This license is issued to Public Utility District No. 1 of Lewis County, Washington, under Part I of the Federal Power Act (Act) for a period of 50 years, effective the first day of the month in which this order is issued, for the construction, operation, and maintenance of the Cowlitz Falls Project No. 2833, located in Lewis County, Washington on the Cowlitz River, and subject to the terms and conditions of the Act which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Cowlitz Falls Project No. 2833 consists of:

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

Exhibit	FERC No. 2833-	Title
J-1	1	Regional Plan-Transmission System
J-2	2	General Project Plan
K-1	3	Project Boundary - Cowlitz Falls Reservoir
K-2	4	Project Boundary - Cowlitz Falls Reservoir

K-3	5	Project Boundary - Cowlitz Falls Reservoir
K-4	6	Project Boundary - Transmission line
K-5	7	Tabulation of Project Boundary Data

(2) Project works consisting of:

(a) a 140-foot-high, concrete-gravity dam, having a crest length of 800 feet at River Mile 88.6 of the Cowlitz River; (b) a reservoir covering 610 acres, with a total volume of 10,200 acre-feet at an elevation of 862 feet mean sea level (msl); (c) an ogee type spillway with four spillway bays, each 60 feet wide and equipped with 60-foot-wide and 36-foot-high radial gates; (d) a power intake structure, integral with the dam, consisting of two 27-foot-wide and 33-foot-high bellmouth openings, each protected by a trash rack, and a sediment control wall; (e) two 18-foot-diameter steel penstocks; (f) a powerhouse, integrated with the dam, containing two Kaplan turbines directly connected to two synchronous generators with total installed capacity of 70 MW; (g) a switchyard, located 500 feet downstream from the powerhouse; (h) two 13.8/115-kV delta-wye three-phase step-up transformers each rated 40.5 MVA FOA; (i) two 115-kV transmission lines, approximately 500 feet in length, constructed from the step-up transformers to the 115 kV bus of the proposed switchyard near the powerhouse; (j) a 115-kV, 5.2-mile-long transmission line connecting the switchyard to the point of junction with the 115-kV bus of the licensee's proposed Glenoma substation; and (k) all other facilities and interests appurtenant to the operation of the project, which are generally shown and described by the following exhibits:

Exhibit	FERC No. 2833-	Title
L-1	8	General Project Arrangement Reservoir Map - Sheet 1
L-2	9	Reservoir Map - Sheet 2
L-3	10	Reservoir Map - Sheet 3
L-4	11	Project Plan
L-5	12	Dam and Spillway Sections
L-6	13	Typical Powerhouse Plans
L-7	14	Powerhouse Sections
L-8	15	Downstream Channel Modifications
L-9	16	Typical Switchyard Layout
L-10	17	Typical One Line Diagram
L-11	18	Transmission Line Structures
L-12	19	Geologic Sections

L-13	20	Site Geology and Exploration Plan
L-14	21	Ancestral Valley - Plan and Sections
L-15	22	Geotechnical Investigations - Ancestral Valley
L-16	23	Geotechnical Investigations - Ancestral Valley

Exhibit M: General description of mechanical, electrical and transmission equipment consisting of six (6) typewritten pages, filed on April 6, 1981;

Exhibit R: Exhibit R, filed on April 6, 1981, consisting of pages 10-1 through 10-32 of text and tables, and one drawing, Figure 10-1, FERC No. 2833-24.

(3) All of the structures, fixtures, equipment, or facilities used or useful in the maintenance and operation of the project area, including such portable property as may be used or useful in connection with the project or any part thereof, whether located on or off the project area, if and to the extent that the inclusion of such property as part of the project is approved or acquiesced in by the Commission; together with all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance of the project.

(C) Exhibits J, K, L, M, and R designated and described above are approved and made a part of the license.

(D) The Cowlitz Falls Project Fish and Wildlife Mitigation Plan, filed on March 10, 1986, in this proceeding, consisting of 18 pages of text and 3 figures, is approved.

(E) This license is issued subject to the terms and conditions set forth in FERC Form L-4 (revised October 1975) entited "Terms and Conditions of License for Unconstructed Major Projects Affecting Navigable Waters of the United States" designated as Article 1 through 28. The license is also subject to the following special articles:

Article 29. The licensee shall file with the Commission for approval by the Director, Office of Hydropower Licensing, revised Exhibit L drawings showing the final design of project structures. The revised Exhibit L drawings shall be accompanied by a supporting design report and licensee shall not begin construction of any project structure until the corresponding revised Exhibit L has been approved.

Article 30. The licensee shall file with the Commission and provide the Commission's Regional Director, and the Director, Office of Hydropower Licensing, one copy each of the contract drawings and specifications at least 60 days prior to start of construction. The Director, Office of Hydropower Licensing, may require changes in the plans and specifications so as to assure a safe and adequate project.

Article 31. The licensee shall retain a Board of three or more qualified, independent, engineering consultants to review the design, specifications, and construction of the project for safety and adequacy. The names and qualifications of the Board members shall be filed with the Commission for approval by the Director, Office of Hydropower Licensing, with a copy provided to the Commission's Regional Director. Among other things, the Board shall assess: the geology of the project site and surroundings; the design, specifications, and construction of the dam, spillway, powerhouse, electrical and mechanical equipment, and emergency power supply; instrumentation; the filling schedule for the reservoir(s) and plans for surveillance during the initial fillings; and construction procedures and progress. The licensee shall furnish to the Board, with a copy to the Regional Director and two copies to the Director, Office of Hydropower Licensing, prior to each meeting, allowing sufficient time for review, documentation showing details and analyses of design and construction features to be discussed, significant events in design and construction that have occurred since the last Board meeting, drawings, questions to be asked, a list of items for discussion, an agenda, and a statement indicating the specific level of review to be performed by the Board. Within 30 days after each Board meeting, the licensee shall submit to the Commission copies of the Board's report and a statement of intent to comply with the Board's recommendations, or a statement identifying a plan to resolve the issue(s). In the event of noncompliance, the licensee shall provide detailed reasons for not doing so. The Board's review comments for each portion of the project shall be submitted prior to or simultaneously with the submission of the corresponding Exhibit L final design drawings and design memoranda. The licensee shall also submit a final report of the Board upon completion of the project. The final report shall contain a statement indicating the Board's opinion with respect to the construction, safety, and adequacy of the project structure(s).

Article 32. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the

approved design. At least 30 days prior to start of construction of the cofferdams, the licensee shall provide to the Commission's Regional Director one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 33. The licensee shall commence the construction of the project within 2 years of the date of issuance of the license, and shall thereafter in good faith and with due diligence prosecute and complete such construction of project works within 6 years of the date of issuance of the license.

Article 34. The licensee, after consultation with the Soil Conservation Service of the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, the Washington Department of Ecology, the Washington Department of Game, and the Washington Department of Fisheries, shall prepare and file with the Commission, within 1 year from the date of issuance of this license, and prior to engaging in any construction or maintenance activity of a land-disturbing nature, a plan to control erosion, dust, and slope stability, and to minimize the quantity of sediment or other potential water pollutants resulting from construction and operation of the project. The plan shall also include: provisions for identifying problem areas along the reservoir shoreline and for designing and implementing suitable treatment of those areas prior to reservoir filling; an implementation schedule; monitoring and maintenance programs for project construction and operation; and provisions for periodically reviewing the plan and for implementing any necessary revisions to the plan. In the event that the licensee does not concur with any agency recommendations, licensee shall provide a discussion of the reasons for not concurring based on actual site geological, soil, and groundwater conditions. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, directs otherwise, the licensee may commence ground-disturbing or spoil activities at the project 90 days after filing the above plan.

Article 35. The licensee, after consultation with the Soil Conservation Service of the U.S. Department of Agriculture, and the U.S. Environmental Protection Agency, shall prepare and file with the Commission and provide the Commission's Regional Director, within 6 months from the date of issuance of this license, and prior to engaging in any construction or maintenance activity of a land-disturbing nature, a detailed plan for evaluating, monitoring, and mitigating the effects of project-induced seepage and raised groundwater

levels in slopes downstream of the dam and in the Ancestral Cowlitz Valley. This plan shall also include: details of the proposed investigation to determine the project's potential seepage and groundwater impacts; an implementation schedule for seepage and groundwater monitoring and mitigation during project construction and operation; provisions for periodically reviewing the plan and for implementing any necessary revisions to the plan; and documentation of agency consultation. In the event that the licensee does not concur with any agency recommendations, licensee shall provide a discussion of the reasons for not concurring. The licensee shall periodically furnish to the Commission, as may be requested by the Commission or the Regional Director, a report of these programs. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, directs otherwise, the licensee may commence ground-disturbing or spoil activities at the project 90 days after filing the above plan.

Article 36. The licensee, after consultation with the U.S. Environmental Protection Agency, the Soil Conservation Service of the U.S. Department of Agriculture, and the State of Washington Department of Agriculture, shall prepare and file with the Commission and provide the Commission's Regional Director, within 6 months from the date of issuance of this license, a plan establishing specific measures to identify, monitor, evaluate, and mitigate impacts to agricultural lands, argicultural production, wells, and septic systems resulting from project-related groundwater level increases.

The plan shall include: provisions for identifying and mapping affected lands, wells, and septic systems; an implementation schedule; a monitoring and implementation program for mitigative measures as specific needs are identified; provisions for compensating property owners for reduced agricultural production or for purchasing affected lands; provisions for periodically reviewing the plan and for making any necessary revisions to the plan; and documentation of agency consultation. In the event that the licensee does not concur with any agency recommendations, the licensee shall provide a discussion of the reasons for not concurring based on actual site geological, soil, and groundwater conditions. The licensee shall periodically furnish to the Commission, as may be requested by the Commission or the Regional Director, reports on these monitoring activities and mitigative measures. The Commission reserves the right to require changes to the plan.

Article 37. The licensee, after consultation with the U.S. Army Corps of Engineers and the Washington Department of Ecology, and within 1 year from the date of issuance of this

license, shall prepare and file, for Commission approval, a debris removal plan to be implemented during construction and operation of the project. The plan shall include, but not be limited to: (i) a delineation of the area from which debris will be removed; (ii) criteria that will be used to designate the types of debris to be removed; (iii) methods of removal; and (iv) a schedule detailing when debris removal operations would be undertaken.

Article 38. The licensee, in cooperation with the U.S. Army Corps of Engineers, and the Washington Department of Ecology, within 18 months from the date of issuance of this license, shall file, for Commission approval, a monitoring program to determine the effectiveness of project operation in eliminating sediment buildup in the headwaters of the project reservoir. Comments on the program from the aforementioned agencies should be included in the filing. The Commission reserves the right to require modifications to the program.

Article 39. The licensee, within 2 years from the date of issuance of this license, shall file a plan of operation with the Commission, for approval, detailing the operational procedures that would be implemented to minimize the accumulation of sediment in the headwaters of the project reservoir when flows of the Cowlitz River are equal to or greater than 15,000 cubic feet per second. The Commission reserves the right to require modification to the plan.

Article 40. The licensee, in cooperation with the Endangered Species Office of the U.S. Fish and Wildlife Service and the Washington Department of Game, shall prepare, consistent with the provisions of the plan approved in ordering paragraph (D) hereof, and file a bald eagle protection plan, for Commission approval, within 1 year from the date of issuance of this license. The plan shall include: (1) a map showing the location of perch trees that will be preserved along the reservoir shoreline, the location of cottonwood plantings, and the location of the artificial perch sites; (2) detailed design drawings of the artificial perch sites; (3) detailed design drawings of the project transmission line, clearly showing phase spacing, configuration and grounding practices, prepared in accordance with guidelines set forth in "Suggested Practices for Raptor Protection on Power Lines," Raptor Research Report No. 4, Raptor Research Foundation, Inc., 1981; and (4) agency comments on the adequacy of the plan. The licensee shall not commence reservoir clearing or operation of the transmission line until the plan is approved by the Commission.

Article 41. The licensee, in cooperation with the Washington State Historic Preservation Officer (SHPO) and the Cowlitz Indian Tribe, prior to engaging in any construction or maintenance activity of a land-disturbing nature or project activity that would affect significant cultural resources, shall develop and implement a cultural resource management plan to reduce project-induced impacts to the Cowlitz Falls South Archeological Site and to avoid indirect impacts to sites that would not be directly impacted by project construction or operation. The management plan shall consist of: (i) a data recovery program for the Cowlitz Falls South Archeological Site consistent with the Advisory Council on Historic Preservation's Guidelines for the Treatment of Archeological Properties; (ii) a surveillance/monitoring program to detect any indirect effects on the Cowlitz Falls North Archeological Site, with provisions for additional testing work to reassess the site's importance if damage is detected, and with a procedure for formulating specific mitigative measures in the event of such damage; (iii) a program to raise the elevation of the Champion International wooden bridge and its approaches to compensate for project-induced increases in water levels; (iv) a program for monitoring archeologically-sensitive areas during transmission line construction, including specific measures for developing mitigative or avoidance procedures if significant resources are discovered; and (v) a program for the curation of any artifacts recovered during archeological work at the project, developed in consultation with the Cowlitz Indian Tribe.

Reports documenting mitigation at the Cowlitz Falls South Site, and their acceptance by the SHPO, shall be filed with the Commission at least 30 days prior to any construction or ground disturbance that would impact the site's significant archeological attributes. The licensee shall make available funds in a reasonable amount for this and any other cultural resource work at the project 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 or historian shall be consulted to determine the 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. The licensee, after consultation with the Washington State Department of Natural Resources and the Lewis County Parks and Recreation Department, shall design, complete construction of, and provide for public utilization of the First Phase of the Cowlitz Falls Project Recreational Facilities, as described in the approved Exhibit R, prior to commencement of project operation. Further, the licensee, within 6 months following completion of the construction of the First Phase recreation facilities, shall file with the Commission an as-built drawing(s) showing the type and location of the facilities provided; a statement of who will operate and maintain the facilities, including a copy of any agreement signed with an entity(s) to operate and maintain the facilities; a copy of any agreement signed with Champion International Corporation regarding the use of Champion's logging roads; and a copy of any comments from the above-named agencies. The licensee shall, after consultation with the Friends of Whitewater, construct a boat ramp take-out facility at the head of the reservoir on the Cispus River so that boating use of that river will not be interrupted by project construction or operation.

Article 43. The licensee, after consultation with the Washington State Department of Natural Resources and the Lewis County Parks and Recreation Department, and within 1 year from the date of issuance of this license, shall file, for Commission approval, a copy of a detailed management plan for the use of project buffer zone lands, which shall include: (i) a proposed permit system (with a sample permit); (ii) allowable uses for the lands; (iii) any conditions to be specified for such allowable uses; and (iv) procedures for a case-by-case analysis, to be performed by the licensee prior to approval of any permits for use of project lands, to avoid potential conflicts with other usages, such as for public recreation or other project purposes. Copies of any comments received from the above-named agencies shall be filed concurrently with the plan.

Article 44. The licensee shall pay the United States the following annual charges:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 99,000 horsepower.

Article 45. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands

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

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the 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 modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of, project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality 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 marinas; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exihibit 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 submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the submittal 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 paragraphs (c) or (d) of this article:

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

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

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures 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 J 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 resoures, 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 J or K drawings would be filed for approval or 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.

Article 46. The licensee shall operate the Cowlitz Falls Project in a run-of-river mode. Daily variations in the water surface elevation of the reservoir shall not exceed two feet under normal operating conditions. During periods when Project No. 2016's Riffe Reservoir, located immediately downstream, is drawndown below elevation 750 feet mean sea level, the flow below the Cowlitz Falls Dam shall be maintained at a minimum of 1,000 cfs or inflow to the Cowlitz Falls Project reservoir, whichever is less. 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 the Washington State Department of Fisheries and Department of Game.

Article 47. The licensee shall maintain the water surface elevation of the Cowlitz Falls Project Reservoir at an elevation not to exceed 862 feet msl during the period when the discharge of the Cowlitz River, as measured at the Randle Bridge, is less than 15,000 cubic feet per second.

Article 48. The Commission reserves the authority to order, upon its own motion or upon the recommendation of federal or state fish and wildlife agencies or affected Indian Tribes, alterations of project structures and operations to take into account to the fullest extent practicable at each stage of the decision-making process the regional fish and wildlife program developed and amended pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

(F) The motion for summary disposition and denial of license filed on April 17, 1986, in this proceeding, by Catherine Sadler and Norman Sadler is denied as to Catherin Sadler and rejected as improper as to Norman Sadler.

(G) The motion to condition license filed on March 7, 1986, in this proceeding by Friends of Whitewater is granted to the extent indicated herein and denied in all other respects.

(H) The petition for expedited issuance of license filed on April 25, 1986, in this proceeding by the Public Utility District No. 1 of Lewis County, Washington is dismissed as moot.

(I) All other motions or requests filed in this proceeding, to the extent not granted herein, are denied.

(J) This order is final unless an application for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Act. The filing of an application for rehearing 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 an application for rehearing shall constitute acceptance of this license.

By the Commission.

(S E A L)

Kenneth F. Plumb

Kenneth F. Plumb,
Secretary.

Form L-4
(Revised October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

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

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

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

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 United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways 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. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner

as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

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

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

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

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

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee

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

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

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