
ROCK ISLAND MAJOR LICENSE

Project No. 943

Issued January 18, 1989

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Martha O. Hesse, Chairman;
Charles G. Stalon, Charles A. Trabandt,
Elizabeth Anne Moler and Jerry J. Langdon.

Public Utility District No. 1) Project No. 943-002
of Chelan County, Washington) Docket No. E-9569-000

ORDER ON REMAND ISSUING LICENSE (Major) AND
APPROVING SETTLEMENT AGREEMENT

(Issued January 18, 1989)

In this proceeding the Commission is asked to approve a settlement agreement that resolves a long-standing controversy involving impacts to juvenile anadromous fish on the Columbia River by the Rock Island Project No. 943 and to issue a new license for the project to the Public Utility District No. 1 of Chelan County, Washington (licensee or PUD), consistent with the decision of the Ninth Circuit Court of Appeals in Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466 (9th Cir. 1984) (Yakima). In view of the length and complexity of this proceeding, we review the settlement, the environmental impact statement, and various licensing matters in some detail.

Background

The Rock Island Project No. 943 is located on the Columbia River, near Wenatchee, Washington, in Chelan and Douglas Counties, about 450 miles from the Pacific Ocean. 1/ The project is a run-of-the-river hydroelectric facility with a total installed generating capacity of 622.5 MW. The project is connected to the PUD's power distribution system, the Bonneville Power

1/ Rock Island is one of five hydropower projects operating under four licenses issued by the Commission along the middle portion of the Columbia River. In ascending order on the river they are: Priest Rapids Dam and Wanapum Dam (Project No. 2114), licensed to P.U.D. No. 2 of Grant County, Washington; Rock Island Dam; Rocky Reach Dam (Project No. 2145), licensed to P.U.D. No. 1 of Chelan County, Washington; and Wells Dam (Project No. 2149), licensed to P.U.D. No. 1 of Douglas County, Washington.

23-1

Administration's (BPA) transmission grid, and the Puget Sound Power and Light Company's (Puget) distribution system. 2/

The Commission issued the initial license for the project in 1930, 3/ and the project was completed in 1933. In 1974 the Commission approved an amendment of the license to construct a second powerhouse containing eight 51.3 MW tube-type generating units and to modify the existing dam to permit the reservoir to be raised 6.1 feet. 4/ No significant changes to the project have occurred since that time.

The Rock Island Project consists of: (1) a 135-foot high and 2,524-foot long concrete gravity dam; (2) a 1,800-acre and 20-mile long reservoir, providing 130,000 acre-feet of gross storage; (3) the left bank powerhouse having a total installed capacity of 212.1 MW; (4) the right bank powerhouse having a total installed capacity of 410.4 MW; (5) six 115-kV transmission lines; and (6) appurtenant facilities. A more detailed project description is contained in ordering paragraph (B).

History of this Proceeding

On January 18, 1977, the licensee filed, pursuant to the Federal Power Act (FPA), an application for a new license for the Rock Island Project. 5/ Public notice of the application was published, and comments were received from interested federal, state, and local agencies and other entities and individuals. The Washington State Department of Fisheries (WDF), Washington State Department of Game (WDG), and the National Marine Fisheries Service (NMFS) were granted intervention.

On December 4 and 26, 1978, these agencies, together with the Oregon Department of Fish and Wildlife and the Confederated Tribes and Bands of the Yakima Indian Nation (Tribes), filed petitions asking the Commission to modify the operation of the Rock Island

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- 2/ Under a long-term contract the licensee sells much of the power produced by the Rock Island Project to Puget for use within Puget's service area in King County, Washington.
- 3/ Tenth Annual Report of the Federal Power Commission 229 (1930).
- 4/ 51 F.P.C. 1141 (1974).
- 5/ The Washington Department of Ecology issued water quality certification for the project in accordance with Section 401(a) of the Federal Water Pollution Control Act, 33 U.S.C. § 1341(a).

Project as well as the other licensed projects on the mid-Columbia River, or in the alternative to institute a proceeding to consider their requests. The petitioners claimed that commercial, Indian, and sport fisheries had suffered severe losses over the years due to the construction and operation of these projects. They sought certain minimum flows and spills and other modifications to the projects to protect juvenile salmon migrating downstream each spring.

On March 7, 1979, the Commission consolidated the petitions with a complaint filed by Washington Department of Fisheries involving Priest Rapids Dam and set the entire matter for hearing. 6/ 7/ The parties reached first a one-year interim settlement governing fish protection measures at all five dams and then a five-year interim settlement through 1984. The interim agreement provided for spill, hatchery compensation, and studies to improve fish protection and was approved by the Commission on March 20, 1980. 8/

On May 13, 1981, the Director, Office of Electric Power Regulation (Director), issued a new license to the PUD for the Rock Island Project. 9/ The Director deferred action on the intervenors' requested fish and wildlife mitigation measures pending their resolution in the above-referenced hearing process. He also required the licensee to submit a revised Exhibit S, Fish and Wildlife Report, based on pre- and post-flooding studies being conducted at the project as a result of the prior approval of the new powerhouse and raising of the reservoir. 10/ The Commission denied appeals 11/ and requests for rehearing 12/ of the order issuing the license.

6/ 6 FERC ¶ 61,210 (1979).

7/ See P.U.D. No. 1 of Grant County, Washington, 45 FERC ¶ 61,401 (1988), regarding the conclusion of the complaint phase of the consolidated proceeding.

8/ 10 FERC ¶ 61,257 (1980).

9/ 14 FERC ¶ 62,187 (1981).

10/ See note 4, supra. The licensee filed the Exhibit S on May 29, 1984.

11/ 19 FERC ¶ 61,223 (1982).

12/ 21 FERC ¶ 61,264 (1982).

The Secretary of Commerce, on behalf of NMFS, and the Tribes filed petitions for review of the relicensing orders in the Ninth Circuit Court of Appeals. On June 7, 1984, the court granted the petitions and set aside the Commission orders. 13/ The court held, *inter alia*, that the Commission may not defer consideration of a project's impacts on the fishery resources, and possible mitigation thereof, until after a license is issued. Instead, the Commission must evaluate the impacts and decide upon proper mitigation measures before issuing the license. 14/ The court also required that an environmental impact statement be prepared on the relicensing of the Rock Island Project. On April 4, 1985, after the Supreme Court denied the licensee's petition for certiorari, the Commission issued an annual license for Project No. 943, to be renewed until such time as the relicensing proceeding is completed.

During the pendency of judicial review, the 5-year interim settlement neared expiration, and the parties negotiated and filed on March 29, 1985, a stipulation outlining another interim program of studies and fisheries protection measures for 1985 through 1987. The stipulation included all mid-Columbia projects except Rock Island and was accepted by the presiding administrative law judge. 15 Following a pre-hearing conference in Seattle, Washington, concerning Rock Island, the presiding administrative law judge accepted, over the objection of the fishery agencies and Tribes, the PUD's proposal for operating in the spring of 1985.

A hearing was held to determine the licensee's responsibilities for 1986 and 1987 with respect to Project No. 943. Active participants in the hearing were the PUD, Puget, NMFS, WDF, WDG, the Tribes, the National Wildlife Federation (NWF), 16/ and the Commission staff. The Northwest Power Planning Council (Council) also was represented at the hearing and filed a brief with the presiding judge. 17/

13/ See Yakima, *supra*.

14/ *Id.* at 472-73.

15/ See 34 FERC ¶ 63,044 (1986) at p. 65,165.

16/ NWF filed a motion to intervene in the proceeding on November 29, 1984, which was granted on January 10, 1985.

17/ The Council filed a motion for limited intervention on February 4, 1983, which was granted at a prehearing conference on February 15, 1983.

An initial decision with regard to Project No. 943 was issued on January 31, 1986. 18/ The presiding judge made certain findings of fact and conclusions of law with respect to project impacts, interim protection measures, and additional studies to be conducted to evaluate long-term fisheries protection and compensation measures. Exceptions to the initial decision were filed and remain pending before the Commission. 19/ During the pendency of the appeal of the exceptions to the initial decision, the licensee agreed to provide interim spill protection for downstream migrants and to initiate a logical sequence of studies of mechanical bypass systems at the project in accordance with the initial decision. A mid-Columbia Coordination Committee (MCCC) continued to function to administer the stipulation and interim programs. 20/

After these hearings were concluded, the parties continued negotiations on a potential long-term settlement agreement for the Rock Island Project. The instant agreement was finally reached on January 26, 1987, circulated for signatures, and filed on May 4, 1987. Commission staff filed comments in support of the settlement agreement on May 26, 1987. The U.S. Department of the Interior, Bureau of Indian Affairs, by letter dated May 14, 1987, concluded that the settlement agreement does not require approval of the Secretary of the Interior under 25 U.S.C. § 81. 21/ On May 26, 1987, the Council commented in support of the settlement agreement and invited the parties to submit to the Council an application to amend the Columbia River Basin Fish and Wildlife Program 22/ in order to reconcile the minor differences between them. 23/ On June 3, 1987, the presiding administrative law judge certified the

18/ 34 FERC ¶ 63,044 (1985).

19/ As noted, the settlement under consideration would resolve these issues.

20/ The MCCC consists of representatives of the licensee, power purchasers, fisheries agencies, and Indian Tribes.

21/ This section of the United States Code regulates contracts with Indian Tribes or Indians and provides certain limitations that apply to the execution of such contracts or other agreements

22/ See 16 U.S.C. § 839b(h) (1982).

23/ The Council subsequently amended the Program to incorporate the settlement agreement. See 52 Fed. Reg. 32981 (September 1, 1987).

uncontested offer of settlement to the Commission pursuant to Rule 602 of the Commission's Rules of Practice and Procedure. 24/

The Settlement Agreement

Unlike prior agreements in this proceeding, the instant agreement provides a comprehensive and long-term resolution of the anadromous fish issues at the Rock Island Project. The agreement would be the basis for issuance of a new license and termination of the mid-Columbia Proceeding (Docket No. E-9569, et al.) for this project. The term of the agreement commenced on the date of execution by all parties thereto and runs until the expiration of the new license to be issued in the remanded proceeding, plus the term of any annual license which may be issued thereafter. (Section A.3.)

The agreement establishes licensee obligations with respect to juvenile downstream migrant bypass facilities, juvenile fish passage through spill, hatchery compensation for fish losses, and fish ladder operation for the first thirteen years of the term of the agreement. (Section A.1.) Thereafter, any party may initiate negotiations or file a petition to modify the terms and conditions or to replace the agreement in whole or in part. (Section A.4.) The parties have also agreed to continue to implement the agreement until the modification or other relief sought becomes effective by operation of law. (Section A.5.b.) Accordingly, in the absence of any such negotiation or petition for modification, the agreement will remain in effect for the term of the new license and any annual license which may be issued thereafter.

The agreement includes a dispute resolution mechanism concerning compliance. (Section A.6.) The parties would first attempt to solve any problems under the agreement by referral to the Rock Island Coordinating Committee (Committee). 25/ If the Committee cannot resolve the dispute and if the amount in controversy is \$325,000 or more, the dispute may be referred to the Commission pursuant to its Rules of Practice and Procedure. If the Committee cannot resolve the dispute and if the amount in controversy is less than \$325,000, any party may request expedited review, which would entail asking the Commission to refer the matter to the presiding administrative law judge in the mid-

24/ 18 C.F.R. § 385.602 (1988).

25/ The Committee is composed of one technical representative of each party to the agreement. Besides dispute resolution, the Committee will be used as the primary means of consultation and coordination between the licensee and the fishery agencies and Tribes. (Section G.)

Columbia proceeding or referring the matter to a third party. Any decision by the judge or a third party would be effective upon issuance and subject to de novo Commission review. 26/

The settlement agreement provides for the licensee to carry out measures at the project which are designed to provide adequate protection and full compensation for project-induced losses to the fishery at least through the end of the thirteen-year initial period. The following is a summary of the licensee's obligations.

The PUD has agreed to fund and carry out a research and development program at each powerhouse to develop a workable mechanical juvenile bypass system 27/ that will safely guide the migrating juvenile salmon and steelhead around the turbines. The current schedule provides for a design by 1991 for powerhouse No. 1 and by 1992 for powerhouse No. 2. If the design, as shown by a prototype, successfully guides at least fifty percent (50%) of the fish around the dam, the PUD will be obligated to build and install a complete bypass system for that powerhouse (within specific limitations of cost, safety, and loss of generating capacity). Once installed, the licensee will maintain and operate the system. The capital cost estimate for installation of the bypass system (exclusive of modeling, prototypes, and testing) is \$17.9 million at powerhouse No. 1 and \$7.7 million at powerhouse No. 2 (both in 1986 dollars). (Section B.)

As an interim fish protection measure, the licensee will spill a specified percentage of the daily average flow in the spring, extending over eighty percent of the migration period. The percentage of water spilled in the spring will be reduced when the new hatchery specified in the agreement is completed. In addition, the licensee will conduct a summer spill evaluation in 1987 and will implement a summer spill program in 1988 if certain effectiveness criteria are met. If a bypass system is installed at both powerhouses, all spill will stop. If the Fishery Conservation Account specified in the agreement is established, then all subsequent spill must be purchased by the fishery agencies and Tribes using the credit made available through the account. (Section D.)

An annual credit known as the "Fisheries Conservation Account" will be established either at the request of the fishery agencies and Tribes or following installation of a bypass system at one but

26/ We discuss this process further, infra, at pp. 10-11.

27/ A bypass system is a system for deflection, collection and routing of juvenile salmonids past operating powerhouse generating units.

not the other of the powerhouses, whichever occurs first. Upon establishment of the account, the licensee's obligation to fund and carry out the bypass research and development program under Section B of the agreement, and to provide spill, stops. All further bypass development studies and spill must be paid for out of the account. If no bypass systems are installed when the account is established, the annual account credit is \$ 1,000,000 (1986 dollars). If a bypass system is installed at the second powerhouse only, the account credit is \$600,000 (1986 dollars). The account will continue until either the agreement is modified or bypass systems are installed at both powerhouses. (Section C.)

The licensee will build a central hatchery facility and satellite facilities capable of rearing 250,000 pounds of salmon and 30,000 pounds of steelhead annually. The central facility will be located on the licensee's property adjacent to the east bank of Rocky Reach Dam and within the project boundary for Project No. 2145. The satellite facilities for outplanting the yearlings will be located on the Wenatchee, Methow, and Okanogan River systems. Subject to interim Commission approval, the hatchery design and construction will take place during 1987 and 1988. ^{28/} Consistent with the Supplement Agreement between the fishery agencies and Tribes, WDF and WDG will operate the hatchery facilities, and the licensee will pay the operation and maintenance expenses. The agreement also provides that hatchery compensation will be adjusted to reflect the results of project-related mortality studies, and also to account for increases in the run size in the future. (Section E.)

The licensee agrees to spend up to \$650,000 (1986 dollars) to modify the existing adult fish ladders on the right and left banks at the Rock Island Project and to provide extra water if necessary to bring them into compliance with fishery agency operating criteria. ^{29/}

The fishery agencies and the Tribes agree to support the expeditious issuance of a new 40-year license to the PUD for the Rock Island Project, incorporating the settlement agreement as a special article thereof. The fishery agencies and the Tribes agree to waive all claims to any additional measures or compensation from the date of the commencement of the mid-Columbia Proceeding (March 7, 1979) to the year 2000. The fishery agencies and the Tribes also agree not to seek or support any additional or different measures at Rock Island until the year 2000. In addition, the fishery agencies and the Tribes have stipulated that the

^{28/} See 39 FERC ¶ 62,258 (1987).

^{29/} See 42 FERC ¶ 62,082 (1988).

performance of the licensee's obligations under the agreement will constitute compliance with the Northwest Power Planning Council's 1984 Fish and Wildlife Program, adequate fish protection, and full compensation for all losses caused by the project until the year 2000. 30/ The parties agree to the termination of the Mid-Columbia proceeding insofar as it pertains to the Rock Island Project. The fisheries agencies and the Tribes further agree to refrain from requesting any additional measures pertaining to fishery issues until the expiration of the thirteen-year initial period. (Section H.)

As discussed in more detail below, the staff determined in its final environmental impact statement (EIS) that the proposed settlement agreement would probably allow full compensation for present and future smolt mortality at the Rock Island Project. The settlement agreement will therefore resolve, with respect to the Rock Island Project, the issues set for hearing in 1979 as a result of the pleadings filed by the resource agencies in this docket and in Docket No. E-9569. 31/

Because of its connection to the relicensing of the project and the need to prepare an EIS thereon pursuant to the Yakima decision, this settlement agreement has undergone unusual public scrutiny since it was filed with the Commission on May 4, 1987. Not only is it the result of many years of discussions, studies, tests, hearings, and negotiations, but it has also been available in the public arena for thorough evaluation for nearly two

30/ Section A.9 of the settlement agreement expressly supersedes certain anadromous fish measures which the licensee had proposed in the Exhibit S filed with the Commission on May 29, 1984. The anadromous fish measures which are not expressly superseded by the agreement and the resident fish and wildlife measures set forth in the Exhibit S continue to form a part of the fish and wildlife program which the licensee considers appropriate to support the relicensing of the project.

31/ Still to be resolved are fish passage issues at Project Nos. 2114, 2145, and 2149. Negotiations are continuing among the parties for long-term agreements at these projects, and meanwhile they operate under renewable annual stipulations approved by the presiding administrative law judge.

years. ^{32/} During this time, no problem or opposition to it has surfaced.

We believe the settlement agreement is in the public interest, and we will adopt it. It properly balances the continued operation of the project and its generation of low-cost electric power with a effective, long-term program for protection, mitigation, and enhancement of the fish and wildlife resources affected by the project. Together with staff's recommended mitigation measures for recreation, archeological, and historic resources, the settlement agreement appears to provide for an optimum utilization of the water resources of the Columbia River and project environs.

However, one aspect of the settlement does require clarification. As noted, Section A.6 of the agreement provides that, if the Rock Island Coordinating Committee cannot resolve a dispute among the signatories and if the amount in controversy is under \$325,000, then any party may request the Commission to refer the dispute to the presiding administrative law judge in the mid-Columbia Proceeding, Docket No. E-9569, for expedited review. As we noted in the order approving a settlement agreement among many of these same parties with a similar dispute resolution mechanism, ^{33/} we have recently created a Division of Project Compliance and Administration within the Office of Hydropower Licensing in order to ensure prompt compliance with license terms and conditions. Under delegation of authority from the Commission, the Office and Division have authority to act on specified types of filings related to compliance matters. Therefore, whenever under Section A.6 of the agreement the signatories request the Commission to refer a dispute to the presiding judge in the mid-Columbia proceeding, the Commission will in most cases refer the dispute to this Division. However, the Commission will use its best efforts to resolve any dispute within the time frames set forth in the agreement. In appropriate circumstances, such as where there are material facts in dispute, we may refer a matter to an

^{32/} In addition to its wide circulation for public review and comment as a part of the draft and final EIS in this proceeding, the settlement agreement was also subject to a public notice and comment proceeding before the Pacific Northwest Power Planning Council as part of the Council's process to amend the Columbia River Fish and Wildlife Program to incorporate the terms of the settlement therein. The Council held public hearings on the proposal in Washington, Oregon, Idaho and Montana in June and July, 1987, before amending the program and supporting the settlement agreement. See pages 6-7, 26 of this order.

^{33/} See footnote 7, *supra*.

administrative law judge. In either event, the initial staff decision is subject to de novo review by the Commission. 34/

We emphasize that any resolution by the Coordinating Committee, or a third party, pursuant to Section A.6 that contemplates a change in the license or in the operation of the project thereunder shall result in the filing of an appropriate application therefor by the licensee as soon as practicable after the dispute is resolved.

Finally, we note that, as with the Vernita Bar phase settlement approved on December 9, 1988, approval of this settlement does not affect the Commission's authority, as reserved in various articles of this license, to require, after notice and opportunity for hearing, alterations to project facilities or operations that may be warranted by changed circumstances. We intend any such reserved authority would be exercised only after full consideration of the benefit sought to be achieved thereby as balanced against the possibility that as a consequence the settlement could be voided, thereby eliminating the benefits obtained thereunder. If any party voids the agreement, the licensee shall, within 30 days, so inform the Commission in writing.

Environmental Impact Statement

On November 12, 1986, a notice of intent to prepare an environmental impact statement (EIS) was issued. Scoping meetings were held in Olympia and Wenatchee, Washington. Two scoping documents were prepared by the staff as part of the scoping process. The first was circulated to enable federal, state and local resource agencies and other interested parties to effectively participate in and contribute to the process. The second was prepared and released later to provide the public with a refined presentation and discussion of significant issues by the staff after the initial public and agency input. A draft EIS was circulated for comment in September 1987. All comments were carefully considered, and corrections and revisions were incorporated into the final EIS which was issued in July 1988.

The staff examined five alternative actions: (1) continued operation of the existing project, with supplemental hatchery releases of juvenile fish to partially compensate for mortality at

34/ In order to keep our staff informed on compliance matters related to the settlement agreement, we are requiring that the licensee file a report within 30 days of any violation of, or compliance disputes under, the settlement agreement explaining the circumstances.

the dam; (2) various operating and design alternatives identified by the staff that would improve survival of juvenile and adult fish passing the dam, e.g., various daily spill regimes and installation of fish bypass screens (with a range of assumed guidance efficiencies); (3) fishery mitigation concepts embodied in the instant settlement agreement; (4) a no-action alternative consisting of either denial of a new license or issuance of a non-power license, which in either case would result in cessation of power production at the project; and (5) a coal-fired, steam-electric plant that would likely be required in the long term if the no-action alternative was implemented. The environmental impacts of each alternative were considered together with possible mitigation and enhancement efforts.

The significant environmental impacts of the project as originally proposed for relicensing by the PUD would include continued mortality to downstream migrants at present levels and replacing some of the wild stocks lost with a lesser number of hatchery-produced fish. The cost of project power to Puget would increase by about one percent above Puget's 1986 project power cost. Finally, the project would result in the unmitigated loss of about 145 acres of riparian and upland habitat plus 80 acres of orchard, a long-term net loss of terrestrial wildlife habitat ranging from a minimum of 145 acres to a maximum of 382 acres, and increased human disturbance and loss of habitat for the bald eagle. ^{35/}

Implementation of the no-action alternative, which could involve either the denial of a new license for the project or the issuance of a non-power license, would mostly lead to the eventual development of another electrical power generating source, such as a coal-fired powerplant similar to that proposed for the Creston, Washington, site. Potential significant impacts of such a facility include using about 1,800 acres of land already dedicated to another use, consuming an annual average of 5.2 billion gallons of alluvial groundwater during operation, and temporary and localized increases in erosion-induced turbidity and sedimentation in local streams during construction. In addition, such a plant would consume about 132 million tons of coal during the operational life of the plant and release oxides of carbon, nitrogen and sulfur into the atmosphere as a result of coal combustion. There would be about 1500 acres of land disturbed for mining of coal and dedication of about 1,000 acres for fly ash disposal during the project's lifetime. There would also be visual impacts from cooling tower vapor plumes, from tall combustion stacks with visible emission plumes, and from the generally massive plant

^{35/} See final EIS Sections 2.1, 3.1, 4.1, 4.4 and 5.1.1.

structures. Finally, there would be major socioeconomic impacts to any local community. 36/

The operating alternative evaluated was increasing spill over the dam at Rock Island. This could reduce mortality to downstream migrants below ten percent, but at least thirty percent of the available flow would have to be spilled instead of being used to generate. For this reason spill is expensive, but it does reduce losses to valuable wild stocks. This alternative would, because it leaves the existing project intact, result in the unmitigated loss of about 145 acres of riparian and upland habitat, 80 acres of orchard, a long-term net loss of terrestrial wildlife habitat on 145 to 382 acres, and increased human disturbance to, and loss of habitat for, the bald eagle. 37/

The structural alternative evaluated was use of bypass screens to divert downstream migrants away from turbine intakes, which is a widely accepted method for reducing mortality at hydropower projects. The staff concluded that bypass is the most effective mitigation measure available to protect migrants, and the protection is available throughout the migration season for all species at all river flows. In addition, bypass does not reduce generation. However, to date bypass has not been fully demonstrated to be technically feasible for Powerhouse No. 2 at Rock Island. Because this alternative would also leave the existing project intact, it would result in the same terrestrial impacts noted above in the discussion of spill. 38/

The final alternative evaluated is that contained in the settlement agreement. The settlement attempts to reduce losses to migrants at the dam, beginning with the most effective means first and utilizing less effective measures as secondary options (bypass if feasible, or spill if bypass infeasible). Actual total project mortality would be measured after losses of juvenile migrants have been reduced. Lost fish would be replaced in the manner least disruptive to the genetic integrity of existing wild stocks. The staff determined that the settlement agreement would effectively accomplish a 100 percent compensation for impacts to salmon and steelhead migrants. Under the twenty percent spring spill scenario, the commercial value of the Rock Island fishery could increase by \$13 to \$29 thousand and the sport value could increase by \$18 to \$63 thousand. Under the bypass system scenario (both

36/ See final EIS Sections 2.2.1, 2.2.2, 3.2.1, 3.2.2, 4.2.1, 4.2.2, 4.4 and 5.1.2.1.

37/ See final EIS Section 2.2.3.3, 3.2.3, 4.2.3, 4.4 and 5.1.2.2.

38/ Id.

powerhouses), the commercial value of the Rock Island fishery could increase by \$115 to \$380 thousand and the sport value by \$73 to \$348 thousand. Finally, under the hatchery scenario, the commercial value of the Rock Island fishery could increase by \$716 to \$748 thousand and the sport fishery by \$339 to \$531 thousand. The staff estimated that the settlement agreement would increase the project power cost to Puget by 9 to 16 percent above the utility's 1986 cost, depending on the fish mitigation and compensation scenario assumed. This alternative would have the same terrestrial impacts as those above that left the existing project intact. 39/

The final EIS recommends relicensing the Rock Island Project with implementation of the fish mitigation measures specified in the settlement agreement. The staff's analyses strongly indicate that the PUD's initial proposal for project operation and fishery mitigation under relicensing would, through proposed hatchery releases without any measures to reduce losses at the dam, continue to contribute to declines (and possible extinction) of important and irreplaceable wild stocks of salmon and steelhead. Additionally, the proposed hatchery compensation plan would not mitigate mortality at the project and would not be consistent with the massive regional effort to protect and enhance the anadromous fishery in the Columbia River Basin. The PUD's initially proposed project operation and fishery mitigation plan would not meet the stipulations and goals of the Council's most recent Fish and Wildlife Program, which guides regional fishery planning efforts through coordinated planning input by all fishery management agencies.

The staff's quantitative evaluation of various fishery mitigation strategies strongly indicates that substantial increases in fish survival could probably be achieved at the Rock Island Project. Implementation of mechanical fish bypass facilities and/or increased project spills during periods of the year when migrants pass the dam (spring and summer) could conceivably and realistically reduce mortality by several percentage points.

Some questions exist regarding the technical feasibility of bypass screens at Rock Island in terms of the level of effectiveness that they could achieve at the second powerhouse. The staff's modeling of bypass and spill as alternatives, however, suggests (assuming that certain bypass efficiencies could be achieved) that substantial reductions in losses could be realized at the Rock Island Project. Additional compensation could be achieved with hatchery releases up to levels equal to the

39/ See final EIS Sections 2.2.3.4, 3.2.3, 4.2.3, 4.4, and 5.1.2.2.

difference between the numbers of fish that could be saved through reduced mortality associated with bypass and spill and the total number of fish killed at the project.

The settlement agreement defines a two-phased hatchery compensation program that would establish and guide production and release of juvenile fish to avoid or minimize adverse impacts to wild stocks and adjust hatchery compensation based on measured project mortalities (to be determined as part of the second phase). Hatchery releases under this carefully guided program, and with the benefit of additional studies to minimize effects of additional hatchery releases, would be less likely to threaten populations of existing wild stocks of anadromous fish.

As noted above, the staff evaluated the settlement agreement as a design and operating alternative. The staff concluded that the mitigation concept in the settlement agreement is fully consistent with the results and conclusions of the staff's quantitative analysis of various individual mitigation strategies. The concept, which includes installation of fish bypass facilities and/or implementation of spring and possibly summer spill, with hatchery releases of juveniles (pursuant to results of genetics and outplanting studies) to make up the rest of the loss not mitigated by bypass or spill, would probably allow full compensation for present and future mortality at the Rock Island Project.

The staff also agrees with the necessity of conducting additional studies, as specified in the settlement agreement, regarding juvenile mortality at the project and the feasibility and effectiveness of specific mechanical bypass systems for the project. The reasons include the existing level of uncertainty concerning fish mortality and bypass effectiveness, the cost of such mitigation, and the potential environmental consequences of ineffective mitigation. Hence, the staff believes that additional studies, as proposed in the settlement agreement, are fully justified and necessary.

The staff's fishery and economic analyses set forth in the final EIS indicate that very substantial increases in the total numbers of juvenile migrants passing the Rock Island Project could be achieved by implementing the provisions of the settlement agreement, and that this increased survival would (assuming implementation of fishery mitigation plans for other mainstem dams) result in increases to the commercial and sport value of the Columbia River salmon and steelhead fishery. This benefit would accrue at the expense of an increased cost of power delivered to Puget, which purchases the majority of electricity produced by the Rock Island Project.

While increases in the cost of power are considered significant by the staff, they must be weighed against the benefits of increased valuation of the Columbia River commercial and sport fishery. Given the present depressed state of most of the Columbia River anadromous fish stocks and the goal of the Council to double the size of the present anadromous fishery, the staff believes that the fishery benefits that would accrue as a result of operation under stipulations of the settlement agreement (in concert with other planned improvements in fish passage facilities at downstream dams) justify the increased capital and operating costs of the specific improvements required to produce the benefits.

The staff concluded in the final EIS that wildlife mitigation implemented to date or planned would not fully compensate for habitat lost as a result of inundation related to operation of the second powerhouse. This conclusion is based in part on the staff's belief that effectiveness of the wildlife mitigation proposed for the Wenatchee River recreational sites would be substantially and negatively affected by the recreational development planned by the licensee for the same areas. The staff indicated in Section 4.1.4.2 of the final EIS that the best mitigation, solely from the wildlife perspective, for in-kind compensation of the lost habitat would be to devote the Wenatchee River confluence recreational sites to wildlife mitigation only, *i.e.*, that no recreational development take place at either the north or south confluence sites. This conclusion is based principally on the premise that the most desirable mitigation is in-kind replacement of habitat within the general area where it was lost. The staff believes, however, that both wildlife mitigation and recreational development are important in the area and that both can be achieved.

During the scoping process for the EIS, federal, state, and local recreational interests in the state of Washington urged the Commission to refrain from recommendations or action that would alter the existing recreational plans previously authorized by the Commission. In view of this public interest, but also in consideration of the staff's mitigation conclusions above, the staff recommended that, in lieu of foregoing development of the Wenatchee River recreational sites for wildlife mitigation as was suggested in Section 4.1.4.2., the licensee develop offsite lands for the purpose of compensation of lost habitat and as general wildlife enhancement.

Specifically, the staff recommended that, for the life of the new Rock Island license, the licensee maintain and enhance as wildlife habitat the approximately 1,000 acres of land (the so-called Water District lands owned by the PUD) identified under the Wildlife Habitat Mitigation subsection of Section 4.1.4.2 as the third alternative. Because this land is already under the ownership

of the PUD, there would be no significant cost to the PUD's county rate payers or major outside power purchasers. Additionally, maintenance of the land as wildlife habitat would be consistent with present use of the land as a water supply area for the PUD's water district.

In summary, the staff concluded in the final EIS that relicensing the Rock Island Project with the fishery mitigation identified in the settlement agreement and with the wildlife mitigation discussed above would provide a continued source of economical, safe, and reliable electric power for the region, with a high probability of fully mitigating existing and future fish losses at the dam and replacement of lost wildlife habitat. The mitigation concepts in the settlement agreement are based upon proven strategies. Based upon the staff's modeling studies, recommendation of these strategies in the settlement agreement is consistent with the staff's conclusions regarding their probable effectiveness (given certain assumptions) if implemented at the Rock Island Project.

We have reviewed the final EIS and concur with its recommendations. We believe that the document complies with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality's implementing regulations, and our own regulations under NEPA. 40/ Based on the record in this proceeding, including the final EIS, we are including in the new license conditions that will implement staff's recommendations in the final EIS. For fisheries matters these include, among other things: (1) notifying the Commission's Office of Hydropower Licensing (OHL) and the Portland Regional Office (PRO) of all meetings of the Rock Island Coordinating Committee, (2) filing an annual report outlining accomplishments of the previous year and a schedule of goals for the coming year, (3) filing the results of all studies and tests with the Commission, (4) filing for Commission approval functional design drawings of any juvenile fish bypass systems, any fish hatcheries or satellite facilities, and any fish ladders that may result from implementation of the settlement agreement, and (5) filing as-built drawings with the Commission within six months after construction or modification of any bypass systems, hatcheries, or fish ladders.

With respect to wildlife concerns, the license requires the preparation of a wildlife management plan that should (1) identify all enhancement opportunities for areas under consideration for wildlife mitigation or enhancement, (2) describe in detail site-specific mitigation or enhancement measures to provide maximum replacement of riparian wildlife habitats, and (3) outline

40/ 18 C.F.R. Part 380 (1988).

mitigation/enhancement goals and specific plans for any studies or monitoring programs needed to achieve these goals.

In order to ensure that there is no impact to the bald eagle -- a federally listed threatened species -- the license requires that (1) heavy construction activities at certain sites be limited from December 1 to March 1, (2) shoreline hiking trails be placed a significant distance from eagle perch trees, and (3) large trees and snags along the perimeter of the reservoir not be removed. The license also requires the preparation and implementation of a plan to monitor the effect on the bald eagle of recreational use of project lands and waters.

The license also contains conditions to mitigate other project impacts which, although not expected to be significant, are nevertheless important. Project operation results in mortality to Canada goose goslings that are swept over the spillway. Increased spill in May could increase gosling mortality. ^{41/} The licensee will be required to monitor this population to quantify the degree of mortality. Based on the results of the study, the licensee must develop appropriate mitigative measures, such as enhancing upstream nesting habitat. The licensee has proposed to install 60 wood duck nest structures. In order to ensure that they serve their intended purposes, the license requires a study to evaluate the effectiveness of the program and a plan to implement measures to improve wood duck production in the project area.

Recreational development and project maintenance activities could affect rare plant species if they exist in the project area. The license requires a survey to be conducted and the results to be filed within six months from the date of issuance of this order. Any area that would likely be affected by recreational development and use and by project maintenance activities, such as transmission right-of-way management, must be surveyed.

Finally, although no significant impacts to cultural resources are expected from relicensing, continued project operation could affect archeological sites listed in or eligible for inclusion in the National Register of Historic Places. ^{42/} The PUD has prepared a draft cultural resources management plan to avoid or mitigate impacts to the sites. The plan has been reviewed by the Washington State Historic Preservation Officer (SHPO) and the Colville Tribes. The license requires the plan to be completed after further consultation with the SHPO, the Colville Tribes, and the Advisory Council on Historic Preservation (ACHP). The PUD must also file a

^{41/} See final EIS at pages 4-14 to 4-16.

^{42/} See final EIS Section 4.1.8.

report containing the results of investigations identified in the plan, any necessary revisions to the plan, and copies of letters from the SHPO, ACHP, and Colville Tribes accepting the report. The project also has the potential to affect archeological and historic sites not previously identified. Events associated with continued operation, such as erosion along the reservoir shoreline, have the potential to uncover buried sites. The license requires the implementation of measures to avoid or minimize impacts to any such sites.

Pacific Northwest Power Planning and Conservation Act

Under Section 4(h) of the Pacific Northwest Power Planning and Conservation Act (PNPPCA), the Northwest Power Planning Council (Council) developed the Columbia River Basin Fish and Wildlife Program (Program) to protect, mitigate and enhance fish and wildlife resources associated with the development and operation of hydroelectric projects within the Columbia River Basin. Section 4(h) further states that appropriate agencies shall take into account, to the fullest extent practicable, the Program adopted under the PNPPCA. 43/

As noted previously, in August 1987, the Council adopted amendments to the Program that incorporate the settlement agreement. The license is therefore in compliance with the Program. Further, we are reserving the authority in this license to require future alterations in project structures and operation in order to take into account, to the fullest extent practicable, the applicable provisions of the Program.

Comprehensive Plans

Section 10(a)(2) of the FPA 44/ 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. The Commission has provided an interpretation of comprehensive plans under Section 10(a)(2). 45/ We reviewed five comprehensive plans

43/ See notes 22 and 23, supra.

44/ 16 U.S.C. § 803(a)(2) (1986).

45/ Order No. 481-A, 53 Fed. Reg. 15,802 (May 4, 1988), III FERC Stats. & Regs. ¶ 30,811 (1988).

that address various aspects of waterway management in relation to the proposed project. 46/ No conflicts were found.

Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j) of the FPA 47/ requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies for the protection, mitigation, and enhancement of fish and wildlife. In the final EIS for the Rock Island Project, the staff addresses the concerns of the federal and state fish and wildlife agencies and makes recommendations consistent with those of the agencies. By virtue of our approval of the settlement agreement herein, with which all the relevant fish and wildlife agencies have concurred, and our adoption of license articles that implement the recommendations in the final EIS, we conclude that there are no unresolved fish and wildlife issues remaining in this proceeding.

Consumption Efficiency Improvement Program

Section 10(a)(2)(C) of the FPA 48/ requires that the Commission, in considering license applications submitted by an applicant primarily engaged in the generation or sale of electric power, consider the electricity consumption efficiency improvement programs of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve

46/ Northwest Conservation and Electric Power Plan, 1986, Columbia River Basin Fish and Wildlife Program, 1987, as amended, Northwest Power Planning Council; Columbia River Fish Management Plan, 1987, State of Washington, State of Oregon, State of Idaho, Confederated Tribes of the Warm Springs Reservation, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and Confederated Tribes and Bands of the Yakima Indian Nation; Final environmental impact statement and fishery management plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1978, March 1978, Department of Commerce; Eighth amendment to the fishery management plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1978, January 1988, Pacific Fishery Management Council; Hood Canal salmon management plan, October 1985, Washington Department for Fisheries, Point No Point Treaty Council, U.S. Fish and Wildlife Service.

47/ 16 U.S.C. § 803(j) (1986).

48/ 16 U.S.C. § 803(a)(2)(C) (1986).

electricity costs effectively, taking into account the published policies, restrictions, and requirements of relevant state regulatory authorities applicable to the applicant. Since the PUD is primarily engaged in the generation and sale of electric power, this application comes under the scope of Section 10(a)(2)(C).

The PUD is not subject to any regulatory authority requiring adherence to defined conservation or load management programs. The PUD's efforts to promote energy conservation programs and energy use efficiency have been voluntary and are of long standing. As early as the mid-1950's, the PUD initiated programs to inform its consumers about the most efficient and economic use of electric heating and air conditioning, home and business conservation measures, and new electrical products and their use. As early as the 1960's the PUD sponsored the Gold Medallion Home Program, which established residential standards for insulation in Chelan County.

In 1980, the PUD offered its customers a more sophisticated energy analysis program that helped the PUD qualify for various federal programs, comply with new federal standards, and meet the newly emerging interest in conservation programs. The PUD's ongoing and planned activities to promote energy use efficiency improvement include programs to improve hot water heating efficiency, help consumers improve the efficiency of electricity use in the home, initiate home energy loan programs, facilitate low-income weatherization, and disseminate energy information to consumers in the residential and commercial sectors. The PUD also participated in BPA's Short-term Energy Buy Back and the Super Good Cents programs, completed programs to meet federal guidelines for Commercial and Apartment Conservation Services, and initiated an energy and demand reduction program in the tree-fruit cold storage industry. Finally, the PUD initiated programs to improve the generation, distribution, and efficiency of street lighting on the PUD system.

In light of these facts, the Commission concludes that Chelan has made and is continuing to make a good-faith effort to reduce the consumption of electricity on its power system.

Section 15(a) of the Federal Power Act

Section 15(a) of the FPA ^{49/} requires the Commission to consider in writing a number of factors in acting on applications for new license following the expiration of existing licenses.

1. The plans and abilities of the applicant to comply with the articles, terms, and conditions of any license issued to

^{49/} 16 U.S.C. 808(a) (1986).

it and with other provisions of Part I of the Act (Section 15(a)(2)(A))

We have reviewed the license application and the PUD's past record of compliance with the existing license to determine the PUD's ability to comply with the articles, terms, and conditions of any license issued to it and with other applicable provisions to this part of the FPA. The PUD has satisfactorily complied with the terms and conditions of the existing license since it was issued, and we believe that the PUD would be able to satisfy fully the conditions of this new license.

2. The plans of the applicant to manage, operate, and maintain the project safely (Section 15(a)(2)(B))

We have reviewed the PUD's plans to manage, operate and maintain the project safely. The PUD proposes no change in project operation that would adversely affect project safety. Based on review of the specific information provided by the PUD on the aspects of the project that affect public safety and on a review of project records, we conclude that the PUD's plans are adequate.

Pursuant to Part 12 of our regulations, on May 11, 1983, the PUD filed an emergency action plan (EAP), which was approved on June 2, 1983, has submitted the required independent-consultant safety inspection reports, and has complied with the recommendations from its consultants and from our Regional Office.

The PUD has shown a regard for public safety by installing boating safety barriers at the reservoir, placing fencing around transformers, water control facilities, and other potentially dangerous equipment, and notifying the public of potentially hazardous conditions that may result from the operations of the hydroelectric facilities.

No fatalities have been experienced at the project, and the last employee lost-time accident occurred in 1986.

Based on the PUD's safety-compliance record, we conclude that the PUD can be expected to cooperate with the Commission's requests and to comply fully with the terms and conditions of any new license issued for the project.

3. The plans and abilities of the applicant to operate and maintain the project in a manner most likely to provide efficient and reliable electric service (Section 15(a)(2)(C))

A review of the PUD's past operation record shows that the project has been and is being operated in an efficient and reliable manner.

In accordance with the Pacific Northwest Coordination Agreement and the Mid-Columbia Hourly Coordination Agreement, the project is operated in coordination with the other projects in the Columbia River Basin to maximize the economic utilization of the water power resource.

Whenever possible, the PUD has modernized the project to increase project capacity, efficiency, and reliability. The original project included four generating units. Six additional units were installed in 1951; in 1979, the addition of a new powerhouse containing eight bulb-turbine units was completed. Over the period of license, the PUD has upgraded and replaced worn and damaged equipment when necessary to ensure reliable project operation.

We conclude that if the PUD were to receive a new license, it would continue to operate the project in an efficient and reliable manner.

4. The need of the applicant, over the short and long terms, for the electricity generated by the project to serve its customers (Section 15(a)(2)(D)) 50/

Power from the Rock Island Project is an integral part of the PUD's short- and long-term plans to serve the needs of its customers at the lowest reasonable cost. In planning hydroelectric resource acquisition and development, the PUD designed hydroelectric projects to make full use of available water resources at the project sites and to capture economies of scale in pursuing comprehensive development of a site. As a result, the PUD has developed resources to provide service to its local retail customers and to sell power at wholesale to a number of regional utilities.

The PUD established regional markets for its project power through the negotiation of long-term contracts with utilities in the northwest. A substantial portion of the electricity generated by the Rock Island Project is sold by the PUD at wholesale to the Puget Sound Power and Light Company (Puget) under a long-term power sales contract. By the terms of the contract, the PUD is entitled to annually increasing withdrawals of capacity from the first Rock Island powerhouse until the total withdrawal reaches 50 percent of the total capacity on July 1, 1999. After that time, the withdrawal remains at 50 percent until the contract expires in 2012. Beginning on July 1, 2000, the PUD will also have a contractual right to exercise an option for annually increasing

50/ See also Section 1.2 of the final EIS.

withdrawals from the second project powerhouse up to a maximum of 50 percent.

The PUD's other sources of power include similar withdrawal arrangements for the Rocky Reach Project No. 2145 51/ and the Lake Chelan Project No. 637, 52/ and a one-percent share in the Columbia Storage Power Exchange (CSPE). The CSPE contract provides an annually diminishing amount of capacity and energy that is to terminate in 2003. Under the terms of the Columbia River Treaty, the PUD is required to return one half of the benefits from upstream storage development to Canada. This Canadian entitlement allocation decreases until 1995 and then increases as additional upstream projects are compensated under terms of the treaty. Because of the large electrical heating component of the PUD's load, winter loads can not be served entirely from the PUD's share of its resources.

The generation at the PUD's project is governed by water released from upstream federal storage dams. These winter water releases are not sufficient to supply the PUD's high winter electric requirements, and the PUD's net remaining capacity and energy requirements are met by power purchases from BPA and by the PUD's conservation programs. Such purchases are projected to be required by the PUD through 2012. The PUD considers projections of power purchases beyond 2012 to be beyond a reasonable horizon of certainty, and we concur with that assessment.

Puget is an investor-owned utility that depends heavily on Rock Island power output. The project contributes about 14 percent of Puget's available peak resources and about 32 percent of the total hydroelectric production used to meet Puget's load requirements. Both capacity and energy deficits are projected to occur on Puget's system as early as the 1988-1989 operating year. Should the PUD not receive a new license for the project, winter energy deficits on the PUD system and both capacity and energy deficits on the Puget system will be increased by the loss of the project power. The cost of alternative sources of power to replace the relatively low cost of project power would be higher for both the PUD and for Puget. The customers of both would be adversely affected by loss of the project output.

Additional conservation and load management measures, beyond those already considered in the respective forecasts, were determined by both systems to be inadequate as replacement for project power on both quality and cost bases. Purchased power is

51/ 18 F.P.C. 25 (1957).

52/ 15 FERC ¶ 62,168 (1981).

considered to be the most likely alternative to be pursued by both the PUD and Puget in both the short and long terms. Because the region is expected to have a resource deficit again sometime in the mid- to late-1990's, power purchases from BPA are also considered to be less than comparable to project power, BPA contracts being subject to cutoff on essentially 5 years' notice. Even though alternative cost analyses assume power available for a number of years at a cost equal to BPA's forecast of its new resource rate, the PUD sees no assurance of such availability and does not consider such purchases as a suitable substitute for project power. The PUD estimates that the additional costs to its retail customers associated with purchases of BPA power in lieu of Rock Island power would be about \$240 per customer per year in 1988, and \$464 per customer per year in 2011.

We conclude that the PUD has a need for the project power in the short and long term, and that the loss of project power and the subsequent transfer of the PUD's and Puget's load requirements to BPA would increase BPA's load requirements and costs and would contribute to increasing rates for BPA customers, in addition to increasing the costs for the PUD's and Puget's customers.

5. The applicant's existing and planned transmission services
(Section 15(A)(2)(E))

The two project powerhouses are electrically connected with an interconnected transmission system through six 115-kV transmission lines that join the McKenzie-Valhalla substation 115-kV buses. If a new license is issued to the PUD or to another utility, no changes are likely in the transmission services provided by the transmission facilities. In either case, the transmission lines could be used to deliver power to the PUD's customers or to wheel project power to other areas. If the PUD is not issued a new license and a new licensee chooses to wheel power over the federal system from the Valhalla substation, the PUD's unlicensed transmission from Valhalla would have to undergo minimal changes to accommodate transmission from other power sources owned by the PUD.

Issuance of a nonpower license would require major modification of the PUD and adjacent utility transmission facilities. Major problems, arising from limited transformation capacity of the area's 115-kV transmission network, would follow from the absence of all project power. With project power unavailable, an outage of either substation transformer stepdown capacity or of certain 115-kV transmission lines would produce unacceptable overloading of remaining facilities, and would violate established reliability criteria. In addition to the unacceptable reliability problems, losses and voltage drops would increase and would require additional modification of the transmission service. Transmission modification that might be required in the absence of project power would include an expenditure of \$3 million to

transfer load to the 230-kV network by changing transformation at the Valhalla substation from 115 kV to 230 kV and an expenditure of \$3 million to add 230-kV transmission and transformer stepdown facilities to serve the PUD load centers.

6. Whether the plans of the applicant will be achieved, to the greatest extent possible, in a cost-effective manner (Section 15(a)(2)(F))

Other than the project facilities identified in the settlement agreement, the PUD plans no significant modifications to the project. As noted above, the final EIS concluded, and we agree, that relicensing the project in accordance with the settlement agreement was the preferred alternative based on environmental and economic considerations. We conclude that the project, as constructed and with the modifications to project structures and operations discussed herein, adequately develops the hydropower potential of the site and represents a very economical use of a renewable resource.

Safety of Project Structures

The project is safe against sliding and overturning at normal maximum headwater elevation 614.1 feet, normal tailwater elevation of 571.6 feet (U.S.G.S. datum), plus earthquake loading of 0.1g, and with a flood headwater elevation of 619.5 feet and tailwater elevation of 606.2 feet. For both cases the structures were found to be safe against sliding and overturning.

The largest flood of record at Rock Island was 800,000 cfs in 1894, but the Corps of Engineers estimates that, with regulation from the upstream storage projects, the same flood would now have a peak discharge of 464,000 cubic feet per second (cfs). With Rock Island Reservoir at flood elevation 619.5, the spillway is capable of discharging 960,000 cfs. At this flow, the tailwater surface would be about elevation 606 feet.

The probable maximum flood (PMF) at Chief Joseph Dam with upstream regulation is estimated by the Corps of Engineers to be 1,200,000 cfs. In proportion to the size of the drainage areas, the regulated PMF at Rock Island would be 1,425,000 cfs. At this flow, the Rock Island Reservoir would surcharge to about elevation 632 feet and the tailwater would be at elevation 623 feet. The differential between headwater and tailwater would be about 13.5 feet when discharging the spillway design flood of 960,000 cfs, and about 9.0 feet when discharging 1,425,000. In view of the comparatively small head differential and the insignificant amount of storage that would be released, there would be slight additional hazard to downstream areas in the event of failure of the dam during the occurrence of the PMF.

The Corps of Engineers, in its letter to the licensee dated October 13, 1971, concluded that the spillway capacity is well within acceptable limits for passing major floods, considering the relatively small differential in headwater and tailwater at the project. We conclude that the spillway is adequate.

The Board of Consultants, formed to monitor the construction of the second Rock Island powerhouse, met from May 13 to 15, 1980, for the final review of the engineering and construction of the project. In its final report, the Board recommended that the licensee continue the structural monitoring plan, which provides for monitoring of dam alignment and settlement, uplift, relief drains both for flows and pressures, post-tensioned anchors, and for regular inspection of the "loose bolting" attachment of the trash racks. Article 301 requires the licensee to continue the structural monitoring plan.

The latest safety inspection report filed by the independent consultant for the licensee, under Part 12 of the Commission's regulations, stated that the project appears to be in a safe and stable condition. The report noted a small amount of displacement of the north abutment structure, and some siltation of the drains in Powerhouse Number 2. The report recommended that the licensee institute a program for monitoring the displacement of the north abutment structure, and recommended cleaning and monitoring the flow from the foundation drains in Powerhouse Number 2. The licensee submitted its plans for implementing the consultant's recommendations on April 27, 1987. The Commission's Regional Office accepted the plans and indicates that the licensee is making satisfactory progress in implementing them.

The project has been well maintained and is safe and adequate for continued operation.

Comprehensive Development

The project has a total installed capacity of 622.5 MW, ^{53/} with a hydraulic capacity of 220,000 cfs, which is the hydraulic capacity of the Rocky Reach plant located immediately upstream from the Rock Island Project on the Columbia River. The power production of Rock Island depends to a great extent upon the discharge from the upstream plants, since its limited storage capacity is sufficient for pondage regulation only and is not adequate for flood control or regulation of flows from upstream

^{53/} The project, with its average annual generation of 2,780 million kWh, will utilize a renewable resource that will save the equivalent of approximately 4,565,000 barrels of oil or 1,287,000 tons of coal per year.

projects. With the exception of the undeveloped river below Priest Rapids Dam, the entire reach of the Columbia River has been developed for hydroelectric power.

The Columbia River is a navigable waterway. At the present time there is no commercial navigation and no navigational facilities in the vicinity of this reach of the Columbia River. However, an investigation was conducted by hydraulic model test, in coordination with the Seattle District, Corps of Engineers, and the results demonstrated that the potential installation of navigation, locks is compatible with the Rock Island Project. Standard license article 12 reserves authority to the United States to use water in such amount as may be necessary for the purposes of navigation, should the installation of such locks be undertaken by the United States.

There are irrigation facilities utilizing waters from the Rock Island reservoir. The operation of the project has no adverse effect on these installations.

The PUD, as a member of the Western Systems Coordinating Council, the Pacific Northwest Public Power Council, the Northwest Power Pool, and the Pacific Northwest Utilities Conference Committee, is involved in the study and analysis of long-range projection of power loads, generating needs, and means by which those needs can be met through additional facilities.

Based upon a review of agency and public comments filed in this proceeding and on the staff's independent analysis, the Rock Island Project is best adapted to a comprehensive plan for the Columbia River.

License Term

A license will be issued for a period of forty years. Such a term reflects the significant investment in the original license near the end of that license term for a new powerhouse and increased capacity of 212.1 MW. This is consistent with our policy on this issue. 54/

Revised Exhibits

The licensee filed on October 18, 1976, revised Exhibits J and K pursuant to Article 68 of Amendment 17 to the license to show the project boundary around the second powerhouse. Also, the Commission issued on October 19, 1979, an order approving

54/ See, e.g., Montana Power Company, 56 F.P.C. 2008 at 2012 (1976).

Exhibit R, 55/ and issued on July 17, 1980, an order amending license for the Rock Island Project. 56/ Article 302 herein requires the licensee to file a revised Exhibit G to supersede the Exhibits J and K filed October 18, 1976, and to reflect any changes in the project as a result of the orders referenced above.

The Commission orders:

(A) This license is issued to Public Utility District No. 1 of Chelan County, Washington, for a period of 40 years, effective the first day of the month in which this order is issued, to continue to operate and maintain the Rock Island Project No. 943, located in Chelan and Douglas Counties, Washington, on the Columbia River, a navigable waterway of the United States, and occupying lands of the United States under the administration of the U.S. Bureau of Land Management. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as a part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The Rock Island Project No. 943 consists of:

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

<u>Exhibit</u>	<u>FERC No. 943-</u>	<u>Showing</u>
J	225	General Map-Project Area
K-1 to K-25	132 through 156	Detail Map-Project Area
K-S1 to K-S9	157 through 165	Survey Data-Project Area
K-T1	266	Detail Map-Transmission Lines

(2) Project works consisting of:

(a) a concrete gravity dam, about 3,580 feet long, with a gated spillway section 1,184 long containing 31 crest gates; (b) a reservoir extending about 20 miles upstream having a normal maximum forebay elevation 614.1 feet U.S.G.S. and a gross storage capacity of 130,000 acre-feet and a usable storage capacity of 11,000 acre-feet at a maximum reservoir drawdown of 4 feet for power operations; (c) a concrete powerhouse about 870 feet long, integral

55/ 9 FERC ¶ 62,003 (1979).

56/ 12 FERC ¶ 62,032 (1980).

with the dam, containing one 15,000-kW generating unit, three 20,700-kW generating units, and six 22,500-kW generating units (10 units totaling 212.1 MW); (d) a step-up substation on the powerhouse roof; (e) a high-tension switching station on Rock Island; (f) four single-circuit 115-kV transmission lines extending from the switching station for a distance of about two miles to the McKenzie switchyard; (g) a second project powerhouse at the right bank about 465 feet long and 200 feet wide, containing eight 51.3 MW horizontal shaft, bulb-turbine type generation units (8 units totaling 410.4 MW); (h) step-up transformers at the second powerhouse connected to two single-circuit 115-kV transmission lines extending about two miles to the McKenzie-Valhalla substation; (i) three fishways and related fish facilities; and (j) appurtenant facilities.

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

<u>Exhibit L</u>	<u>FERC No. 943-</u>	<u>Titled</u>
1	185	General Plan
2	186	Left Abutment Plan
3	187	First Powerhouse Plan
4	188	First Powerhouse Sections
5	189	First Powerhouse Main One Line Diagram
6	190	Spillway Dam
7	191	Second Powerhouse Plan
8	192	Second Powerhouse Section
9	193	Second Powerhouse Main One Line Diagram
10	194	Right Abutment Plan
13	197	Middle Fishway Sheet 1 of 2
14	198	Middle Fishway Sheet 2 of 2 <u>57/</u>

Exhibit M - "General Description of Equipment," consisting of eleven typed pages filed on May 29, 1980, as part of the application for new license.

57/ By orders issued February 2, 1988, 42 FERC ¶ 62,082, and December 16, 1988, 45 FERC ¶ 62,229, the Director approved modifications to the left bank and right bank fishways and required that as-built drawings be filed within 90 days after construction of the modifications.

Exhibit R - "Recreation Plan for Rock Island Project," consisting of 35 pages of text and 7 drawings (FERC Nos. 943-216 and -217, and -219 through -223) filed March 1, 1978, and approved October 19, 1979.

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

(C) Exhibits J, L, M, and R designated in ordering paragraph (B) above are approved and made a part of the license. Exhibit K is approved to the extent that it shows the general location and nature of the project.

(D) The application for approval of Exhibits J and K filed on October 18, 1976, is dismissed.

(E) This license is also subject to the terms and conditions set forth in Form L-5 (revised October, 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States," attached to and made part of this license. The license is also subject to the following additional articles:

Article 201. The licensee shall pay the United States the following annual charges, effective the first day of the month in which this license is issued:

(a) For the purpose of reimbursing the United States for the cost of administration of Part I of the FPA, 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 830,000 horsepower.

(b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands other than for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The acreage of those lands is tentatively set at 33.53 acres. The Commission reserves the right to adjust this figure at a later date.

(c) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 0.07 acre of its

lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

Article 301. The licensee shall carry out the recommendations for testing and monitoring of the project structures and equipment as set forth in the final report by the Board of Consultants dated May 15, 1980.

Article 302. Within one year from the date of issuance of this order, the licensee shall file for approval revised Exhibit G conforming to the Commission's regulations showing the Rock Island Project No. 943 as constructed.

Article 401. The licensee shall implement the fisheries protection measures outlined in the Sections B through F of the settlement agreement filed with the Commission on May 4, 1987, according to the schedule outlined in the agreement. Further, the licensee shall do the following: (1) notify the Commission's Office of Hydropower Licensing and Portland Regional Office of all meetings of the Rock Island Coordinating Committee; (2) file an annual report not later than January 31 of each year outlining accomplishments of the previous calendar year and a schedule of projected accomplishments for the next year; and (3) file results of all studies and testing with the Commission.

Article 402. The licensee, after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Departments of Fisheries and Wildlife, Oregon Department of Fish and Wildlife, Confederated Tribes and Bands of the Yakima Indian Nation, Confederated Tribes of the Colville Reservation, and Confederated Tribes of the Umatilla Indian Reservation, shall develop functional design drawings of any juvenile fish bypass systems, fish hatcheries or satellite facilities, or fish ladder modifications that may result from implementation of the settlement agreement filed with the Commission on May 4, 1987. The licensee shall file the design drawings for Commission approval at least 90 days prior to the start of construction or modification of any bypass systems, hatcheries, or fish ladders. The Commission reserves the right to require modifications to the functional design drawings. The licensee shall not start construction of the fish protection facilities until the drawings are approved by the Commission. The licensee shall file as-built drawings with the Commission within 6 months after completion of construction or modification of any bypass systems, hatcheries, or fish ladders.

Article 403. The licensee, after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife, and within 1 year from the date of issuance of this license, shall file for Commission approval a wildlife management

plan for the 1,000-acre Water District Lands located west of the city of Wenatchee. The plan shall include: (1) the location of all enhancement opportunities for areas under consideration for mitigation or enhancement; (2) a detailed description of site-specific mitigation or enhancement measures to provide maximum replacement of riparian wildlife habitats; (3) an outline of mitigation/enhancement goals and specific plans for any studies or monitoring programs needed to achieve these goals; (4) an implementation schedule; and (5) provisions for monitoring the success of the mitigative and enhancement measures. Agency comments shall be included with the filing. The Commission reserves the right to require modifications to the plan.

Article 404. The licensee, in order to protect bald eagles at the project, shall: (1) restrict heavy construction (earth-moving, ditching, pile-driving, etc.) at the Wenatchee River Confluence recreational sites from December 1 to March 1; (2) relocate the shoreline hiking trails at the Wenatchee River south bank site a significant distance from eagle perch trees; and (3) avoid the removal of large trees and snags along the perimeter of the reservoir. Within 1 year from the date of issuance of this license, the licensee, after consultation with the U.S. Fish and Wildlife Service, Washington Department of Wildlife, National Park Service, Washington Parks and Recreation Commission, and Washington Interagency Committee on Outdoor Recreation, shall file for Commission approval design drawings of the relocated hiking trails and agency comments of the drawings. The Commission reserves the right to require modifications to the drawings.

Article 405. The licensee, after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife, shall develop a plan to monitor the effect on the bald eagle of recreational use of project lands and waters, including hiking, boating, and fishing. Within 1 year from the date of issuance of this license, the licensee shall file for Commission approval a copy of a monitoring plan, comments from the above-mentioned agencies on the adequacy of the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results of the monitoring shall be submitted to the Commission according to the approved schedule, with the comments from the consulted agencies relating to the results. If the results of the monitoring indicate that additional measures are necessary to protect and enhance the bald eagle population, the licensee shall file, for Commission approval, a schedule for implementing such measures, along with any comments from the above-mentioned agencies on the recommended measures. At the same time, copies of the schedule shall be served upon the agencies consulted.

Article 406. The licensee, after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife, shall develop a plan to monitor the degree of mortality of goslings from operation of the project for a period of 5 years. Within 1 year from the date of issuance of this license, the licensee shall file for Commission approval a copy of a monitoring plan, comments from the above-mentioned agencies on the adequacy of the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results of the monitoring shall be submitted to the Commission according to the approved schedule, with the comments from the consulted agencies relating to the results. If the results of the monitoring indicate that measures are necessary to protect and enhance the Canada goose population, the licensee shall provide, for Commission approval, a schedule for implementing the measures, along with any comments from the above-mentioned agencies on the recommended measures. At the same time, copies of the schedule shall be served upon the agencies consulted. The Commission reserves the right to require measures to protect and enhance the Canada goose population.

Article 407. The licensee, after consultation with the U.S. Fish and Wildlife Service and the Washington Department of Wildlife, shall develop a plan to monitor the use of wood duck nest boxes installed at the project. Within 1 year from the date of issuance of this license, the licensee shall file for Commission approval a copy of a monitoring plan, comments from the above-mentioned agencies on the adequacy of the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results for the monitoring shall be submitted to the Commission according to the approved schedule, with the comments from the consulted agencies relating to the results. If the results of the monitoring indicate that measures are necessary to protect and enhance the wood duck population, the licensee shall provide, for Commission approval, a schedule for implementing the measures, along with any comments from the above-mentioned agencies on the recommended measures. At the same time, copies of the schedule shall be served upon the agencies consulted. The Commission reserves the right to require measures to protect and enhance the wood duck population.

Article 408. The licensee, within 6 months from the date of issuance of the license, shall file the results of a survey of all areas proposed to be disturbed by recreational development or by project operation and maintenance (such as the transmission line

rights-of-way and recreational sites) to determine the location of any rare and sensitive plant species. The plant survey shall be conducted by a qualified botanist during the flowering period. The licensee shall provide for a review of this survey by the U.S. Fish and Wildlife Service and the Washington Department of Wildlife.

If the results of the survey indicate that a rare or sensitive species would be adversely affected, the licensee shall file for Commission approval a mitigative plan to protect the affected species developed after consultation with the resource agencies. Agency comments shall be included in the filing. The Commission reserves the right to require changes to the plan.

Article 409. The licensee, after consultation with the Washington State Historic Preservation Officer (SHPO), the Colville Tribes (Tribes), and the Advisory Council on Historic Preservation (Council), shall complete and implement its cultural resources management plan prepared to avoid and mitigate impacts to archeological sites in the project vicinity listed or eligible for inclusion in the National Register of Historic Places. Within 1 year after the date of issuance of this license, the licensee shall file for Commission approval: (1) a copy of this plan, and (2) either copies of letters from the SHPO, the Tribes, and the Council, or an agreement signed by the licensee, the SHPO, the Tribes, and the Council, indicating that the plan is acceptable and will be implemented in a satisfactory manner. The plan shall adhere to the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. To ensure that the plan is implemented in a satisfactory manner, the licensee shall, within 3 years after the date of issuance of this license, file a report containing: (1) the status and results of cultural resources investigations identified in the plan to avoid, mitigate, and/or monitor the potential for impacts of archeological sites listed or eligible for inclusion in the National Register of Historic Places that are located in the vicinity of the project; (2) any necessary revisions to the plan based on these investigations; and (3) copies of letters from the SHPO, the Tribes, and the Council commenting on the acceptability of the report. The Commission reserves the right to require changes to the plan. The licensee shall make funds available in a reasonable amount for implementation of the plan. If the licensee, the SHPO, the Tribes, and the Council cannot agree on the amount of money to be spent for implementation of the plan, the Commission reserves the right to require the licensee to conduct the necessary work at the licensee's own expense.

Article 410. The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in this license, shall consult with the Washington State Historic Preservation Officer (SHPO) and Colville Tribes (Tribes) and shall file for Commission approval a

cultural resources management plan, prepared by a qualified cultural resources specialist. If the licensee discovers any previously unidentified archeological or historic sites during the course of construction or development of project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the sites, shall consult with the SHPO and the Tribes, and shall file for Commission approval a new cultural resources management plan, prepared by a qualified cultural resources management specialist.

Either management plan shall include the following: (1) a description of each discovered site, indicating whether it is listed or eligible to be listed on the National Register of Historic Places; (2) a description of the potential effect on each discovered site; (3) proposed measures for avoiding or mitigating the 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 site discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 411. The Commission reserves the authority to order, upon its own motion or upon the recommendation of federal and state fish and wildlife agencies, affected Indian Tribes, and the Northwest Power Planning Council, alterations of project structures and operation to take into account to the fullest extent practicable the regional fish and wildlife program developed and amended pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 412. (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 conditions 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; 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 modifications of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been contained; (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. Not 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 as least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d) (7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter to the Director, Office of 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 filing date, requires that 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 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 land conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) 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.

(F) The settlement agreement filed in this proceeding on May 4, 1987, is approved and made a part of the license for Project No. 943.

(G) The Commission approval of the settlement agreement shall not constitute approval of, or precedent regarding, any principle or issue in these or any other proceedings.

(H) The exceptions taken to the initial decision issued January 31, 1986, in this proceeding are dismissed.

(I) (1) Whenever a violation of the settlement agreement occurs, the licensee shall, within 30 days of the occurrence, file with the Commission, and send a copy to the Regional Office, a report containing an explanation of the circumstances surrounding the violation and the licensee's plan to avoid any repetition thereof.

(2) Whenever a dispute arises under Section A.6 of the settlement agreement that is resolved without referral to the Commission, the licensee shall, within 30 days, file with the Commission, and send a copy to the Regional Office, a report containing an explanation of the dispute and the nature of the resolution.

(J) This order is final unless a request for rehearing is filed within 30 days from the date its issuance, as provided in Section 313(a) of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of the order.

By the Commission.

(S E A L)



Linwood A. Watson, Jr.,
Acting Secretary.

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE WATERS
AND LANDS 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 area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, of the Commission; in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights 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 clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

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

Article 27. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 28. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 29. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 30. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 31. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 32. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 33. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 34. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 35. 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 36. 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 37. 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.

23-52