

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PUD No. 1 of Snohomish County)
City of Everett)

Project No. 2157-122

ORDER APPROVING WILDLIFE HABITAT MANAGEMENT PLAN SUPPLEMENT
FOR THE SPADA LAKE TRACT
(Issued April 18, 1997)

On February 3, 1997, PUD No. 1 of Snohomish County and the City of Everett (licensees) filed a wildlife habitat management plan supplement for the Spada Lake Tract for the Henry M. Jackson Project. The plan was filed to supplement the wildlife habitat management plan which was approved by Order Approving With Modification Revised Wildlife Habitat Management Plan (WHMP), issued May 19, 1989. The Henry M. Jackson Project is located on the Sultan River in Snohomish County, Washington.

The licensees and the U.S. Forest Service (FS) completed a land exchange on February 28, 1991. The licensees obtained approximately 3,487 acres of land from the FS beneath and adjacent to Spada Lake. Approximately 1,549 of these acres were required to be incorporated into the WHMP (all lands above elevation 1,460). In addition, 197 acres from the Washington Department of Natural Resources (WDNR) are also incorporated into this supplemental plan.

The goals of the supplemental WHMP are to preserve water quality, preserve and enhance old growth, riparian, and wetland habitats, manage second growth forest primarily, and to consider aesthetics in planning and implementation of the supplemental plan. The supplemental plan describes the management area and the various habitats and vegetation cover types located within that area. Habitat management objectives, enhancement methods, and management prescriptions were outlined for a 10-year period. This supplemental plan is an evolving plan and will be updated every 10 years. The results of monitoring and any changes to the supplemental plan will be filed with the reports required by the May 1989 WHMP.

The supplemental plan was prepared in cooperation with the U.S. Fish and Wildlife Service (FWS), the Washington Department of Fish and Wildlife (WDFW), the WDNR, and the Tulalip Indian Tribes. Comments were received on the plan from the WDNR, the Tribes, and the FWS in letters dated April 15, 22, and 30, 1996, respectively. The agencies' comments were adequately addressed in the supplemental plan.

The licensee's wildlife habitat management plan supplement for the Spada Lake Tract supports the requirements of the approved WHMP and should provide adequate habitat management for the new lands added to the project; this plan should be approved.

DC-A-5

Project No. 2157-122

-2-

The Director orders:

(A) The wildlife habitat management plan supplement for the Spada Lake Tract, filed on February 3, 1997, is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR §385.713.

Kevin P. Madden

Kevin P. Madden
Acting Director
Office of Hydropower Licensing

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Bret
also to Engman

P.U.D. No. 1 of Snohomish County)
and the City of Everett) Project No. 2157-117

ORDER APPROVING ANNUAL REPORT ON WILDLIFE HABITAT
MANAGEMENT PROGRAM AND REQUIRING FUTURE ANNUAL REPORTS
(Issued September 27, 1996)

On May 2, 1996, P.U.D. No. 1 of Snohomish County and the City of Everett (licensees) filed the 1995 Annual Report for the Henry M. Jackson Project Wildlife Habitat Management Program pursuant to Ordering Paragraph (B) of the Order Approving with Modification Revised Wildlife Habitat Plan, issued May 19, 1989 and amended February 9, 1996. The Henry M. Jackson Project is located on the Sultan River in Snohomish County, Washington. 1/

Paragraph (B) requires that an annual report containing the information listed in section 4.11.4 of the revised wildlife habitat management plan be submitted to the Commission. The February 9, 1996 order required the annual reports on Phase I be filed through 1996 and 5-year reports on Phase II be filed beginning in 2001. 2/

The filed report contained a description of the work completed in 1995, a cumulative summary of the work completed under the wildlife habitat management plan, and a description of work planned for 1996.

In a letter dated April 30, 1996, the U.S. Fish and Wildlife Service (FWS) requested the annual reports continue to be filed because the implementation of the wildlife improvement measures still need refining. The filing also included notes from a meeting held December 13, 1995. At this meeting the Washington Department of Fish and Wildlife (WDFW) also requested a continuation of the annual reports. The licensee did not respond to this comment.

Previous annual report filings have been valuable in monitoring implementation of the wildlife habitat management program and providing results of consultation between the agencies and licensee to resolve differences that have surfaced during implementation. Since further refinements of the plan are

1/ 25 FPC pg 1,160 (1961).

2/ Order Amending Order Revising Filing Dates for Future Progress Reports on Wildlife Habitat Management Program, 74 FERC ¶ 62,066.

likely, extending 2 years would be held for monitoring this extensive plan's implementation. The 5-year reports on Phase II should still be filed beginning in 2001.

The 1995 Annual Report for the Jackson Project Wildlife Habitat Management Program satisfies the requirements of Ordering Paragraph (B) of the Order Approving with Modification Revised Wildlife Habitat Plan, issued May 19, 1989 and amended February 9, 1996. This report should be approved as amended below.

The Director order:

(A) The final 1995 Annual Report for the Henry M. Jackson Project Wildlife Habitat Management Program, filed pursuant to Ordering Paragraph (B) of the Order Approving with Modification Revised Wildlife Habitat Plan, issued May 19, 1989 and amended February 9, 1996, is approved.

(B) Annual reports for the Henry M. Jackson Project Wildlife Habitat Management Program shall be filed with the Commission by April 30, 1997 and 1998. Each report shall contain information listed in section 4.11.4 of the revised wildlife management plan filed on May 25, 1988, and shall contain comments from the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Washington Department of Fish and Wildlife, and the Tulalip Tribes.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.

Joseph A. Morgan
J. Mark Robinson
Director, Division of Project
Compliance and Administration

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Engman*

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

P.U.D. No 1 of Snohomish)
County and City of Everett)

Project No. 2157-109
and -118

ORDER MODIFYING AND APPROVING FINAL OPERATING PLAN AND
RECOMMENDATIONS FOR CONTINUED MONITORING

(Issued July 23, 1996)

P.U.D. No. 1 of Snohomish County and City of Everett (licensees) filed for Commission approval, on April 30, 1996, a final reservoir operating plan (ROP) for the Henry M. Jackson Project. This plan is required by ordering paragraph (A) of the Order Approving and Modifying Revised Reservoir Operating Plan, issued on March 19, 1992. 1/ On September 29 and October 2 and 5, 1995, the licensees filed separate reports concerning the effects of project operation on aquatic resources. 2/ These reports are required by article 55 of the license and the Settlement Agreement (SA). 3/ The project is located on the Sultan River, in Snohomish County, Washington.

BACKGROUND

On June 16, 1961, the Commission issued a license for the Henry M. Jackson Project. The license was amended in the Order Amending License and Providing for Hearing, issued on October 16, 1981, to allow for the raising of Culmback Dam, enlarging Spada Lake, and constructing a new powerhouse. The amended license included article 57 that required the licensees and the U.S. Army Corps of Engineers (Corps) to enter into an agreement regarding the level of flood control to be provided at the project. An interim ROP was approved in the Order Approving Interim Operating Plan and Amending Article 57, issued on August 15, 1984. Ordering paragraph (B) of the Commission's August 15 order required the licensees to continue consultation with the resource agencies, tribes, and the Corps and develop a revised ROP to

- 1/ 58 FERC ¶ 62,224.
- 2/ These reports included the steelhead fishability report, the final report on aquatic resources studies, and the gravel quantity and quality study, filed on September 29 and October 2 and October 5, 1995, respectively.
- 3/ Article 55 was added to the license in the Order Amending License and Providing for Hearing, issued on October 16, 1981. Article 55 was amended in the Order Granting Extension of Time, issued on March 17, 1987. The SA was approved in the Order Approving Uncontested Settlements and Amending License, issued on February 9, 1983.

DC-A-5

Project No. 2157-109 and -118 -2-

include information on the effects of the plan on project flow discharges and on energy production, and comments from the agencies and tribes.

The revised ROP was approved in the Order Approving and Modifying Revised Reservoir Operating Plan, issued on March 19, 1992. Included in the revised ROP were provisions to evaluate the effectiveness of the revised ROP in protecting aquatic resources over a five-year period, in coordination with the Washington Department of Fish and Wildlife (WDFW), U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and the Tulalip Tribes (Tribes). Upon evaluation of the revised ROP, the licensees were to develop a final ROP, to include comments from the agencies and Tribes. If the proposed final ROP differed from the revised ROP, the licensees were to request written comments from the Corps regarding any potential concerns related to flood control.

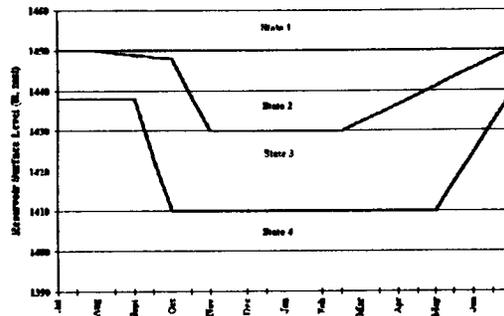
In the October 16, 1981 order amending license, articles 53 through 56 were included to require the licensees to continue consultation with the resource agencies and Tribes. Article 55 of the project license requires the licensees to evaluate the effects of project operations on the migration, spawning, and rearing of resident and anadromous trout and salmon populations, to include an evaluation of the fish berm and associated powerhouse tailrace structures; address the steelhead sport fishery at the project; and evaluate ramping rates. These evaluations are also required by the SA.

Article 55 further requires the licensees to develop a final report which includes recommendations on any additional measures needed, if any, to protect aquatic resources of the Sultan River. The report is to include comments from the WDFW, FWS, NMFS, and Tribes. The licensees' September 29 and October 2 and 5, 1995, reports are submitted to fulfill the requirements of article 55.

LICENSEES' PROPOSED FINAL OPERATING PLAN

The licensees propose to operate the project using the same rule curves as approved in the Order Approving and Modifying Revised Reservoir Operating Plan, issued on March 19, 1992 (see Figure 1). As described in the March 19 order, the project operates at maximum capacity at the higher reservoir levels of states 1 and 2. In the intermediate reservoir level of state 3, the project can generate power at the discretion of the project operator. When the reservoir level falls into state 4, Spada Lake is lowered only for the City of Everett's water supply needs and releases of minimum flows for fishery resource protection. The licensees state the proposed final operating plan does not alter operating procedures specific to flood control previously agreed to by the Corps and as required by article 57 of the license.

FIGURE 1: HENRY M. JACKSON PROJECT RULE CURVES



A. Minimum Flows

The licensees propose to maintain minimum flows as required by ordering paragraph (A) of the Order Approving Uncontested Settlements and Amending License, issued on February 9, 1983. ^{4/} The licensees plan to provide the WDFW, NMFS, FWS, and the Tribes annual reports for the diversion dam and power plant streamflow gaging stations. In the event the required minimum flow is not released, the incident will be reported to the agencies within 10 days of its occurrence, or within 10 days of the date the data become available indicating a flow deficiency. Within 30 days, the licensees plan to submit their report and any agency comments received to the Commission.

B. Maximum Controlled Flow Releases

During the chinook and pink salmon spawning period (September 15 to October 15), the licensees plan to avoid increasing flows above 400 cfs. If controlled flows are above 400 cfs, or if reservoir water storage moves into State 2, the licensees plan to consult with WDFW, FWS, and the Tribes to identify an appropriate operating strategy based upon current biological information which will protect spawning and incubation.

^{4/} See page 5 of the Uncontested Offer of Settlement-Joint Agencies, dated March 24, 1982.

If the reservoir enters State 4 during the incubation period for chinook, coho, pink, chum, and steelhead (October through July), the licensees will assess the viability of incubation at the required minimum flow and consult with WDFW, FWS, and Tribes to develop an operating strategy to protect incubation.

During the steelhead fishing season (December-February), if flows exceed 700 cfs for 14 days (14-day significant flow period), the licensees plan to reduce flows from the powerhouse to provide an instream flow of 700 cfs or less for a 36-hour period over the weekend following any 14-day significant flow period. The licensees stated that a flow reduction would not be implemented if flows still exceeded 700 cfs even with reduction of powerhouse discharge to 100 cfs. Further, the water surface level of Spada Lake must be below elevation 1435.0 feet mean sea level (msl) with decreasing inflow to the reservoir. If reduced flow releases from Spada Lake are proposed, the licensees plan to notify the Corps at least 72 hours in advance.

C. Downramping Rate Schedule

The licensees plan to limit project-related flow changes as established in the Order Approving Ramping Rates, issued on October 8, 1991. ^{5/} At flows above 750 cfs, the licensees stated that most low-gradient stranding areas at the project are inundated. Between 750-600 cfs, flows into certain side channels cease, resulting in a potential for stranding if downramping occurs rapidly. The situation may be exacerbated if downramping follows an extended period of high flow. During the fry period (March 1 to October 31), if the river flow prior to downramping has exceeded 1,000 cfs for more than 72 hours, the licensees propose to limit downramping just above 750 cfs for at least 6 hours of daylight and one overnight period to allow fry entering the side channels to distribute to safe areas.

D. Water Temperature

The licensees propose to operate the water withdrawal structure at Spada Lake to maintain water temperatures downstream of the diversion dam, to the fullest extent possible, at the daily mean of water temperatures at the diversion dam from 1969 through 1979, while also remaining within the recorded daily minimum and maximum water temperature range. Deviations from this range that last for more than one monitoring period (24-hour period) will be reported to WDFW, NMFS, FWS, and the Tribes.

Annual reports on water temperature will be provided to the WDFW, NMFS, FWS, and the Tribes by April 15 of each year. These reports, along with agency comments, if any, will be submitted

^{5/} 57 FERC ¶ 62,006.

annually to the Commission by June 1. Further, two annual reports will be provided to the WDFW covering the period from eggs first in the gravel to first fry out of the gravel for both Chinook salmon and winter-run steelhead trout. These reports will be used by WDFW to calculate water temperature units, fry emergence, and the consequent shift in the downramping rate to slower rates.

E. Release Valves at Culmback Dam

The licensees plan to test the valves at Culmback Dam periodically to assure proper operation. The accumulated sediment will also be flushed as necessary to prevent blockage. At a minimum, the valves will be operated annually. Valve operations will be scheduled to coincide with the falling hydrograph of a spill at Culmback Dam. The licensees stated that the valves may be used to expedite refilling of the spillway tunnel pool after inspection or repairs. For this operation, the valves will be opened and closed quickly which will allow the discharge to be contained in the spillway tunnel pool. Therefore, no measurable flow changes will be evident in the river downstream. For any extended operation of the valves that may have an effect on the quality or quantity of flow, except in emergency situations, the licensees plan to consult with the agencies regarding the appropriate timing for such operations.

F. Additional Operating Criteria

The licensees propose to include the following operating criteria for the release of water from Spada Lake, according to the following order of priority:

1. Maintain minimum flows and provide municipal water supply to the City of Everett;
2. Minimum storage level in Lake Chaplain must not be violated;
3. Minimum storage level in Spada Lake can be violated only to meet minimum flows and/or water demand for the City of Everett;
4. Storage of water in Spada Lake has priority over storage in Lake Chaplain.

The licensees state the maintenance of minimum flows and municipal water supply will take priority over hydropower generation. In the event that municipal and industrial water supply cannot be met, the licensees plan to initiate water conservation measures and other water demand reduction strategies prior to consultation with the agencies regarding a reduction in flow releases.

G. Summer Lake Level

The licensees plan to maintain the water surface elevation of Spada Lake as high as possible (1,450 feet msl maximum) during the summer season (from June 15 to Labor Day). The licensees stated that the actual elevations attained will depend on the snowpack, snowmelt, water demand, and the form and timing of spring precipitation.

H. Power Generation Limit

The licensees state that the physical limit for safe operation of the project is elevation 1,380 feet msl. This limit is based on the 15-foot height of the tunnel from invert elevation 1,360 feet msl plus an additional 5-foot buffer to avoid water vortices which could introduce air into the water conveyance system.

LICENSEES' ARTICLE 55 PROPOSALS

Required ramping rates for the project were established in the Order Approving Ramping Rates, issued on October 8, 1991, as discussed above. The licensees state appropriate fish passage was established in the Commission's Order Approving Mitigative Plan, issued on March 27, 1991. ^{6/} The licensees plan to continue to monitor and evaluate ramping rates and fish passage at the project, and continue to cooperate with WDFW in conducting annual spawning surveys at the project.

Regarding steelhead fishability, the licensees state an agreement was reached with WDFW for improved public access to the Sultan River. This included the purchase and development of five public access sites to the Sultan River upstream and downstream of the powerhouse. The licensees state they have improved site access road(s), parking, and trail conditions at these locations. When requested by NMFS, the licensees also plan to provide Sultan River information on the NMFS Steelheader's Hotline. Further, the licensees plan to alter power operation under certain conditions, as proposed in the licensees' final operating plan (discussed above) to improve winter-run steelhead fishability in the Sultan River.

Based upon the results of the gravel quality and quantity study, the licensees state that the current composition of gravels is adequate and provides suitable conditions for egg and alevin survival. Scour monitors were installed in 1989 and are monitored annually during the low flow period of August through September. The licensees plan to continue this monitoring to

^{6/} 54 FERC ¶ 62,201.

further evaluate flushing flow threshold values. Further, the licensees propose to conduct gravel quality monitoring after a period of six years without flushing flows. In the event that streambed sediment quality declines to unacceptable levels, the licensees plan to consult with the agencies regarding a flow release from Culmback Dam in efforts to improve sediment quality.

AGENCY COMMENTS

A. Proposed Final Operating Plan

The WDFW, FWS, and Tribes provided comments on the proposed plan in letters dated March 26, March 28, and April 12, 1996, respectively.

The WDFW and the Tribes expressed concern over the availability of streamflow information from the powerhouse gage on a real-time basis. The WDFW stated records from the diversion dam are available through the Geostationary Operation Environmental Satellites (GOES) system, but the powerhouse gage is not on this system. The WDFW and Tribes recommended the licensees add the powerhouse gage to the GOES system to facilitate obtaining flow records from this location.

The WDFW and Tribes also recommended the licensees establish flow downramp criteria for locations upstream of the powerhouse. The WDFW, however, recognized the complexity of this issue and recommended it be addressed in the continuing refinement of the project's operating plan.

The WDFW stated the plan indicates municipal water supply and instream flows are "co-first priority", but then states that if municipal and industrial water demands cannot be met, reduced instream flows may be proposed. The WDFW stated that a reduction of instream flows below minimum levels, in order to serve municipal water demand, is inconsistent with the license.

The Tribes agreed with the WDFW that instream flows necessary to meet fisheries and water quality needs must take priority over municipal and industrial water demands. The Tribes stated they have retained their right to fish, hunt, and gather at their usual and accustomed fishing areas, through the Treaty of Point Elliot, and this right would be meaningless if the fishery resources are reduced in number by inadequate instream flows. The Tribes stated they reserve their right to take whatever action is necessary in order to protect their treaty rights from harm caused by the project.

The FWS indicated that operation of the project under the revised operating plan was an improvement over the preceding period with regard to reducing project-related flow fluctuations. Given that changes may be necessary in the future, the FWS agreed

with the licensees' inclusion of a provision to revise the plan if it fails to meet project scenarios or expectations.

The FWS stated that its favorable evaluation of the proposed plan is based on the expectation that the licensees' efforts to work with the FWS will continue in the future. The FWS stated acceptance of the plan should not be taken to infer that the plan alone is sufficient to protect environmental resources. Coordination and a willingness to work together to resolve future problems will continue to be necessary.

Included in the licensees' proposed plan was a response to agency comments. Regarding the development of ramping rates at the diversion dam, as recommended by the WDFW and Tribes, the licensees propose to submit a draft downramping rate schedule for the diversion dam to the FWS, WDFW, NMFS, and Tribes by December 31, 1996. The licensee plans to file any final proposal as a request to amend the final operating plan with the Commission by March 31, 1997.

Regarding the WDFW and Tribes' concerns regarding co-priority of instream flow requirements and water supply demand, the licensees stated that in the development of the final operating plan, the licensees, the WDFW, FWS, and NMFS agreed to a shared top priority between municipal water supply and instream flows for fishery resources. However, the WDFW and the Tribes now disagree with shared priority. The City of Everett stated their unwillingness to further condition its rights to water from the Sultan River, as would be implied by anything less than co-first priority with fisheries in any operating plan for the project.

The licensees stated that during the development of the operating plan, it was demonstrated via hydrologic modelling that Sultan Basin water supplies were adequate to maintain the flows stipulated in the SA and to provide for current and projected demands for domestic and industrial needs. The licensees stated that designation of co-first priority means that both municipal water supply and fisheries must consider sharing a water shortage if and when it occurs. The proposed plan does not propose that considerations of instream flow reduction will be a routine occurrence. Prior to and as part of such a proposal, the City of Everett plans to implement reasonable conservation measures to reduce water demand.

Further, the licensees stated the Washington Department of Ecology, in granting the project operating water rights, conditioned those rights to maintaining minimum instream flows per the SA. The City of Everett's municipal water rights, however, predate the SA's instream flow requirements. Rather than assigning municipal water supply first priority, the

licensees propose co-priority affirming their commitment to fulfill instream flow obligations at all times, as far as practicable. The licensees understand that protection and maintenance of instream flows for fish is a matter of substantial significance to the Tulalip Tribes.

B. Article 55 Proposals

The WDFW, NMFS, and the Tulalip Tribes did not comment on the licensee's recommended measures. By letter dated September 27, 1995, the FWS provided comments on the licensees' proposed measures for continued gravel quality and quantity monitoring.

The FWS concurs that no mitigative action for gravel quality appears necessary at this time. The FWS did, however, express concern over the licensees' proposal to monitor gravel quality following the next flushing flow or after a period of six years without a flushing flow. The FWS stated that six years may be too long a period between monitoring under some circumstances and a shorter interval may be more appropriate. The FWS stated that the licensees' proposal is acceptable provided it is acknowledged that, if circumstances occur that may affect gravel quality, i.e., landslides, the interval between monitoring periods would be appropriately shortened.

By letter dated December 5, 1995, the licensee agreed that if natural events occur or further analysis indicates that the health of the river may be a risk, the gravel quality sampling schedule will be altered.

DISCUSSION

A. Proposed Final Operating Plan

The licensees' proposed final operating plan reiterates specific operating provisions, i.e., ramping rates and minimum flows, that have been established in previous Commission orders and is comparable to the approved revised ROP. The licensees propose to retain the same rule curves and continue to operate the project as it has been operated in the past five years. The licensees' continued control of flow releases during the fall salmon spawning and steelhead fishing seasons should further protect fishery resources and enhance recreational fishing.

The licensees agree to provide for real-time data retrieval at the powerhouse gage by including this gage on the GOES system, as recommended by the Tribes and WDFW. This should provide the agencies and Tribes easier access to flow records at this location. Further, the agreed upon evaluation of downramping criteria at the diversion dam should provide the licensees,

agencies, and Tribes with additional information to be used to further protect the fishery resources of the Sultan River.

The proposed final operating plan includes operating criteria in order of priority which establishes a co-priority between instream flow requirements and the City of Everett's water supply demand. The WDFW and the Tribes recommend that instream flow requirements have first priority.

Similar operating criteria were proposed by the licensees in the interim and revised ROPs filed with the Commission. Upon Commission approval of these plans, the prioritized operating criteria were excluded from the interim ROP and from the revised ROP. ^{7/} As discussed in the Order Approving and Modifying Revised Reservoir Operating Plan, issued on March 19, 1992, if conflicts on the use of water releases at the project occur in the future, the licensees, agencies, and the Tribes may petition the Commission for an amendment of the minimum flow requirements. Therefore, the licensees' proposed prioritized operating criteria need not be approved.

The licensees' proposed plan includes a schedule for submitting the annual reports on water temperature to the agencies and the Commission, as required by the SA. Submitting these reports to the agencies provides the agencies an opportunity to review the effects of project operation on water temperature. Therefore, the licensees should continue to submit annual reports to the agencies and Tribes.

In the past, the licensees provided a number of annual water temperature reports to the Commission. ^{8/} These reports indicated that, in general, water temperatures are maintained within the historical range, to the extent practicable. The licensees attempt to control water temperatures at the project by using the movable panels on the selective withdrawal structure at Culmback Dam. Temperature control is only possible when the reservoir is thermally stratified. Given the licensees have demonstrated that, in general, water temperatures are maintained within the accepted range, continuing to provide annual reports to the Commission is not necessary.

The licensees' proposed final ROP, with the modifications discussed, should be approved.

^{7/} See ordering paragraph (C) of the August 15, 1984 order (28 FERC ¶ 62,215) and ordering paragraph (B) of the March 19, 1992 order.

^{8/} For example, see the Sultan River Temperature Study Annual Reports Nos. 9 and 10, filed with the Commission on May 23, 1994, and May 30, 1995, respectively.

B. Article 55 Proposals

The licensees' final report addresses those items required by article 55 and the SA. The licensees indicate that monitoring compliance with the established ramping rates will continue as required by the license. Further, the licensees state that annual spawning surveys will continue to be conducted in cooperation with WDFW.

The five access sites to improve steelhead fishability, located upstream and downstream of the powerhouse, were approved as part of the licensees' recreation plan. ^{2/} This improved public access, combined with providing information to the Steelheader's Hotline and modifying operations during the winter steelhead fishing season, as proposed in the final operating plan, should enhance recreational fishing at the project.

The final report on gravel quantity and quality, in general, indicated textural composition of sediment was similar throughout the 10-year study period. However, the licensees plan to continue to monitor gravel quantity and quality to determine if flow modifications due to project operations result in the degradation of streambed habitat downstream of the project and to evaluate when modifications to project operations may be necessary. The licensees plan to evaluate the scour monitors annually. Further, the licensees plan to monitor gravel quality after six years (or less, if events occur that may alter streambed quality, as recommended by FWS) without a flushing flow. These additional measures, along with continued consultation with the agencies, should allow the licensees to adequately evaluate streambed quality in the project area.

The licensees' proposals for continued monitoring, as required by article 55, should be approved.

The Director orders:

(A) The licensees' final operating plan, filed on April 30, 1996, as modified in paragraph (B), is approved.

(B) The operating criteria priorities included in the April 30, 1996 filing are not included as part of the final operating plan.

(C) The licensees' proposed recommendations for continued monitoring, filed on September 29 and October 2 and 5, 1995, are approved.

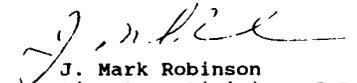
^{2/} See Order Approving Revised Recreational Use Plan with Modification, issued December 5, 1994 (69 FERC ¶ 62,188).

(D) Unless otherwise directed in this order, the licensee shall file an original and eight copies of any filing required by this order with:

The Secretary
Federal Energy Regulatory Commission
Mail Code: DPCA, HL-21.1
888 First Street, NE
Washington, DC 20426

In addition, the licensees shall serve copies of these filings on any entity specified in this order to be consulted on matters related to these filings. Proof of service on these entities shall accompany the filings with the Commission.

(E) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days from the date of issuance of this order, pursuant to 18 CFR § 385.713.


J. Mark Robinson
Director, Division of Project
Compliance and Administration



STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE

16018 Mill Creek Boulevard • Mill Creek, Washington 98012 • (206) 775-1311 FAX (206) 338-1066

14 May 1996

Mr. Craig Thompson
Asst. General Manager
Water Resources
2320 California St.
Everett, WA 98203

SUBJECT: FERC 2157; Jackson Hydroelectric Project Phase II

Dear Mr. Thompson:

You are aware that mitigation terms of the above referenced license stipulate that up to ten creel surveys are to be conducted on the Spada Lake fishery to help evaluate impacts of the raising of Culmback Dam in 1984. To date six surveys have been conducted between 1985 and 1992, inclusive.

The technical information provided by these surveys has been very helpful in assessing the effects of the enlargement of Spada Lake, both in terms of increasing recreational fishing opportunity, and in measuring effects on the fish population. However, the Washington State Department of Fish & Wildlife (WDFW) now believes more critical information to be in the area of the life history, or biological details of the fish population, and less in the measurement of the number of anglers and angler-hours on the lake.

WDFW biologists have determined that the best information to set the long term management direction for the fishery needs to include detail on the age and timing of juvenile trout entry into the reservoir from its tributaries, the overall abundance of the various trout age classes in the lake, and the relationship between trout diet and a parasite endemic to lowland lakes in Washington, but which may be limiting the age and size of trout in Spada Lake, particularly rainbows.

Since trout size and abundance are closely linked to angler satisfaction and their use of Spada Lake, an additional creel survey was conducted in 1995 to bring our knowledge of current use patterns up to date. This survey included an opinion poll which was administered to all anglers as they were checked when leaving the basin. Data analysis is underway. This poll will determine the

Craig Thompson
Page Two
14 May 1996

users' attitudes toward a select list of fishery management options which will help WDFW set the long term fishery regulations structure for Spada.

We have included a copy of the current research plan for 1995-97 for your perusal if you desire additional details. This work plan has an associated estimated total cost of about \$63,600. Portions of this cost are in-kind hours by Snohomish County PUD No. 1 (PUD) and WDFW staff. The principal objective of this work will be to answer several critical questions about the reservoir's fishery in terms of fish abundance, age structure, and anglers' ability to harvest fish of a preferred size in their preferred manner.

It is WDFW's intent to complete the analyses of impacts associated with Spada Lake Phase II through completion of the proposed studies in 1995-97, plus one possible follow-up creel survey of a more limited nature in 1998 or 1999. The original license agreement (Exhibit S) specified that up to ten creel surveys would form the basis for determining whether or not WDFW's goal of a self-sustaining wild race of trout and resultant fishery in Spada Lake had been achieved. It is now our intent to redirect costs associated with three of the remaining creel surveys.

Both PUD staff and WDFW staff are in agreement on the purposes and scope of the proposed research in 1995-97 and the planned completion of fishery regulation changes (if any), and recognize that the 1995-97 field studies may not necessarily indicate a clear need for any further regulation changes or a follow-up creel survey.

WDFW Proposals

We (WDFW) propose to use the biological studies and final creel survey (if any) to define a long term fishery management program consistent with protection of drinking water quality. This program proposal may include regulation of the number, size, and species of fish stocked (if any) in the reservoir, and locations of the reservoir or tributary streams open to the taking of game fish. Adjustments to the existing sport fishery regulations for Spada Lake, if any, will be in accord with Federal Energy Regulatory Commission (FERC) License Article 44 for the Jackson project (then Sultan River Project), as amended by FERC Order Amending License and Providing for Hearing issued October 16, 1981.

Craig Thompson
Page Three
14 May 1996

As a final major element, the biological studies and final creel survey (if any) will constitute the final component of mitigation of the effects of the raising of Culmback Dam on the fishery of Spada Lake, and effects on the native trout populations of the upper Sultan River under Exhibit S, FERC License Article 53.

As always, we will protect water quality during field work on or around Spada Lake.

WDFW Expectations

We understand that the PUD will fund the biological and limnological studies outlined in the attached Spada Lake Fishery Investigations (1995-96) work plan, and contribute staff time and resources as a cooperative effort.

Should we deem it necessary, the PUD will fund one final, additional creel survey of a limited nature (partial season, and/or diminished level of statistical accuracy) one to two years after completion of proposed biological studies on the reservoir and its tributaries.

WDFW anticipates that the City of Everett (City) will participate in the proposed sampling work on Spada Lake and its tributaries so long as water quality protection rules and regulations are fully complied with, with the understanding that prior to commencement of field work, a water quality protection plan will be prepared cooperatively and agreed to among the WDFW, PUD, and City.

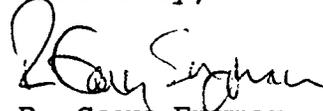
Finally, we understand that the City will fund and participate in the limnological studies, provided the scope of work and sampling protocols are mutually agreeable.

Upon completion of the proposed studies and the development of any proposed changes in the current fishery management program for Spada Lake, all three parties (WDFW, City, PUD) will agree to the proposed changes prior to implementation or presentation to the public or other agencies.

Craig Thompson
Page Four
14 May 1996

We look forward to the cooperative studies planned for next year, and are excited about the long term fishery potential of Spada Lake. We are anxious to proceed with implementation of the work plan, so a letter from the City/PUD confirming and agreeing with the terms of this letter as soon as possible will be greatly appreciated.

Sincerely,



R. Gary Engman
Habitat Mitigation Biologist

Enclosure
cc: Mudd
Phillips
Pfeifer

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Snohomish County PUD No. 1 and
the City of Everett, Washington

Project No. 2157-058
Washington

ORDER APPROVING REVISED RECREATIONAL USE PLAN WITH MODIFICATION
(Issued December 5, 1994)

On May 20, 1991, Snohomish County PUD No. 1 (PUD), co-licensee for the Sultan River Project, filed a revised recreational use plan as required by article 52 of the project license.¹ Article 52 was revised by the Commission by Order Approving Interim Recreation Plan and Amending License Article dated February 9, 1987 (1987 Order).

Background:

Article 52 requires the licensees, after consultation with the United States Forest Service (USFS) and various state resource agencies, to prepare and file for Commission approval a

¹ By letter dated December 30, 1992, the Mayor of the City of Everett, Washington (Everett) notified the Commission that the PUD, co-licensee with Everett for Project No. 2157, no longer represents Everett concerning the project. Everett stated that, despite the co-licensee's earlier agreement that the PUD would represent Everett in regulatory matters, the PUD's repeated unilateral actions under the license, without prior consultation with Everett, required Everett to now disavow all PUD communications and filings with the Commission, except those accompanied by express Everett authorization. Everett also requested that the Commission send separate copies of all Commission notices and correspondence. By letter dated June 30, 1993, J. Mark Robinson, Director, Division of Project Compliance and Administration, informed Everett that, despite its request, it was jointly and severally liable to fulfill all statutory and regulatory obligations under their license, regardless of their agreements or disputes concerning the project. Therefore, regardless of who represents Everett before the Commission, the Commission must and will look to either or both licensees to fulfill license requirements. With respect to Everett's request for separate correspondence, Everett was informed that, until a different party is jointly designated by Everett and PUD to receive correspondence, the Commission would continue to send correspondence to the PUD.

DC-A-3

revised recreational use plan for the project. The revised plan shall include a description of each recreation site developed since the issuance of the project's Order Amending License dated October 16, 1981, including the type of facilities provided at each site; a description of any proposed recreational development; a description of public access to the Sultan River upstream and downstream of the project powerhouse; and a drawing showing the location of each developed and proposed site. Comments from the consulted agencies shall be included in the filing.

The 1987 Order approved an interim recreation plan for the project. The Commission's order discusses the licensees' previous plans to provide additional day-use recreation facilities at the project and the concerns of the USFS that overnight camping be provided at the project.² Further, the order states that the licensees and the USFS undertook negotiations in an effort to resolve the issue and subsequently decided that an interim recreation plan would be developed to allow construction of all agreed upon recreational facilities. It was decided that the issue of overnight camping facilities be resolved at a later date.

The Proposed Recreation Plan:

The licensees' revised plan contains the items required by article 52. The revised plan describes recreational development similar and comparable to that stipulated in the approved interim recreation plan. Specifically, the licensees describe eight recreation sites developed at the project. These sites contain day use facilities, including boat launching areas, picnic areas,

² Pursuant to article 44, the licensees have restricted certain public uses, notably overnight camping, shoreline fishing, and the use of boats and motors at the reservoir to protect raw water quality. Article 44 of the project's license states that the public may have access for purposes of hunting and fishing in all lands and waters within the project boundaries excepting those areas in the vicinity of Lake Chaplain and the existing diversion dams which are presently closed to public access by licensees for protection of public health. In order to protect the public health, the licensees may close specific areas within the project boundaries to public access, and impose regulations controlling conduct of persons on said property. In addition, article 44 states, the licensees may reserve for public access such portions of the project waters and lands and project facilities as may be necessary for the protection of life and property.

trails, scenic overlooks, interpretive signs and parking lots. Further, the licensees describe five public access sites developed along the Sultan River upstream and downstream of the project powerhouse. Most of the public access sites contain a parking area and access trail. In addition, the revised plan contains various policies concerning public access and use of project property for recreational purposes and several drawings showing the developed recreation facilities. The licensees intend to operate and maintain the developed recreation sites and public access sites and propose no future recreation development. The revised plan, as submitted, does not provide for overnight camping, and the licensees disagree on the necessity of providing overnight camping.

In addition, the revised plan describes specific actions taken by the licensees in coordination with the USFS to resolve conflicts between the two entities relating to recreational use at the project. Specifically, the licensees describe various creel surveys conducted at Spada Lake in cooperation with the Washington Department of Wildlife (WDW) to monitor recreational activity at the lake and its efforts to negotiate specific land exchanges with the USFS and the Washington Department of Natural Resources (WDNR) involving lands owned by the licensees in the Sultan Basin. The licensees reported to staff that they completed the land exchanges identified in their proposed plan in 1991 and that the project boundary has not changed as a result of the land exchanges.³

Agency Comments:

The WDNR, WDW, USFS, the Washington State Parks and Recreation Commission (WSPRC), and the Washington Department of Health (WDOH) all provided comments at the early stages of the development of the recreation plan.⁴ The WDNR, WSPRC, and WDOH

³ In its December 22, 1992, filing, the PUD submitted a deed, dated February 26, 1991, which conveyed USFS land within the project's boundary to the PUD. This conveyance was part of a series of land exchanges between the PUD and the USFS and WDNR. The land exchange relinquished the USFS of any land holdings within project boundaries.

⁴ The USFS, by letter dated January 23, 1991, states that it supports and agrees with the majority of objectives and standards identified in the licensees' proposed plan and provides specific recommendations on the proposal. The proposed plan incorporates some of the USFS's recommendations and contains provisions that adequately address concerns expressed by the USFS in other recommendations. The USFS commented in a

also provided comments later when overnight camping was the remaining issue to be resolved. The agencies comments follow.

By letters dated November 21, 1990 and April 5, 1991, the WDNR and the WDW suggested minor language revisions for specific portions of the proposed plan. The revised language better defines the licensees' management practices for public recreational use at the project. The WDW specifically wanted the licensees to codify that the creel surveys would be the primary method to assess the fishery status or concerns regarding operational impacts. The filed plan contains the recommended revised language.

By letter dated January 24, 1994, the WDNR states that it has no specific objection to overnight camping in the basin, but it is concerned that a significant increase in public use of the basin could result in an increased potential for damage of department facilities and assets, as well as natural resources. The WDNR concluded that, if the project's final recreation plan would result in damage to facilities or natural resources, it would like to work out an acceptable mitigation plan with the licensees.

By letter dated November 4, 1993, the WSPRC commented on the development of overnight camping facilities. The WSPRC supports the idea of overnight camping at Wallace Falls State Park (one of the developed sites of the project), and states that expansion of the trail head facilities must be included in the discussion of expanding park trails and development of back country camping at Wallace Lake. In addition, the WSPRC states that any development of additional trail facilities and camping cannot be made exclusive of additional parking.

By letters dated December 1, 1993 and May 3, 1994, the WDOH commented on overnight camping at the project. The WDOH's December 1, 1993, letter states that the WDOH does not support more intensive recreational use in the Sultan River basin. The WDOH's May 3, 1994, letter states that the WDOH opposes

December 19, 1993, letter that its land exchange with the PUD in 1991 resulted in the USFS not having jurisdiction over lands within the project area. The USFS further states that, although the basin offers many opportunities for a variety of recreational experiences and developments, the final selection of what will be provided should rest with the agencies and interests directly affected or having jurisdiction over project area lands.

activities in watersheds which may degrade source water quality. The WDOH contends that increased human activities in a system's watershed could lead to deterioration in source water quality, including increased levels of pathogens such as giardia and cryptosporidium.

By letter dated July 26, 1994, the PUD states that no decision should be made on a recreation plan and overnight camping without additional public involvement. The PUD contends that, before the recreation plan is adopted and the issue of overnight camping decided, there should be a thorough review by the public and their elected representatives.

On October 31, 1994, Everett filed a response to the PUD's July 26, 1994 letter. Everett affirms its position and urges the Commission to approve the proposed recreation plan as filed, without allowing overnight camping. Everett states that the PUD's July 26, 1994 request was made without prior consultation and without the knowledge of Everett. In addition, Everett contends that prior agreements require the water quality of Spada Lake be the top priority of the licensees. Since existing agreements do not provide for overnight camping and overnight camping represents a real risk to the water quality of Spada Lake, Everett requests that the Commission approve the recreation plan as filed and not allow overnight camping.

Discussion:

On July 26, 1994, the PUD requested that the Commission provide for additional public involvement before deciding on overnight camping and approving the recreation plan. We note that numerous Federal, state, and local agencies representing different public interests in health, fish and wildlife, and recreation commented on the plan and made recommendations. Accordingly, we feel that an adequate amount of time has been provided to allow for public involvement.

As indicated, the project's interim recreation plan was approved by the 1987 Order. The proposed revised plan, filed on May 20, 1991, provides for the necessary recreation and safety requirements of Spada Lake and the Sultan Basin.

The conflict about overnight camping is the only remaining issue to be resolved in the recreation plan. The PUD and WSPRC support the use of project lands for overnight camping, but Everett is opposed. The WDNR and WDOH express concerns about more intensive use of recreational facilities negatively impacting the natural resources of the Sultan Basin and Spada Lake.

Everett provides four reasons in support of its opposition to overnight camping: (1) there currently are adequate camping

facilities in the region to address the current demand, and the need for overnight camping in the Sultan Basin is not immediate; (2) overnight camping in the Sultan Basin would interfere with a recovery zone for grizzly bear currently under evaluation but not implemented; (3) increased recreational development around Spada Lake could conflict with the wildlife habitat management plan; and (4) more intensive use of recreational activities will jeopardize the water quality of the reservoir. Everett contends that it is necessary to protect public drinking water supplies because of increasingly strict regulations under the Federal Safe Drinking Water Act.

In support of overnight camping on project lands, the PUD states that it recognizes its obligation to provide overnight camping to the general public under license article 52, as a requirement for development of the project. In addition, the PUD points out that it has spent \$2 million in public funds to construct eight day-use recreation sites in the Sultan Basin, but the success of these facilities has been disappointing because of minimal public use. The PUD wants to develop alternative forms of recreation to stimulate additional public participation. They contend that overnight camping will do this. The USFS states that overnight campers pose no more of a threat to water quality than day-use campers, because they tend to be more conscientious about their activities.

Everett notes that there are adequate camping facilities in the region to address the current demand, and the need for overnight camping in the Sultan Basin is not immediate. Thus, the demand for overnight camping in the Sultan Basin is essentially nonexistent. Even the PUD concedes that, although it has spent approximately \$2 million to construct recreation sites in the Sultan Basin, public use of and demand for recreation facilities in the Sultan Basin have been minimal.

The PUD concurs that there are other public parks along a state highway near project lands which are more convenient and have easier access than Spada Lake. Also, the PUD agrees that access to Spada Lake requires approximately 20 miles of additional driving along local mountain roads. The PUD concedes that usage of public facilities is related to convenience and access, and that overnight camping at Spada Lake could not compete because of the disadvantage of its location.

Our view is that the PUD has not demonstrated the demand for overnight camping in the Sultan Basin warrants such activity at this time. Both Everett and the PUD indicate that other, more convenient recreation facilities exist in the area. Moreover, despite the PUD's \$2 million expenditure to build day-use recreation facilities in the Sultan Basin, use of these facilities has been minimal. Given the legitimate concerns Everett and the WDOH have raised about adverse environmental

impacts to the Sultan Basin and the lack of demand for the existing recreation facilities in the Sultan Basin, we feel that overnight camping should not be permitted at this time.

As the PUD notes in its August 1, 1994 submittal, the populations of Snohomish County and Camano Island are growing and so are their recreation needs. The PUD states that the population of Snohomish County and Camano Island has increased from 360,900 to 507,900 over the past decade, and is expected to rise to 714,244 by the year 2012. Although additional recreation opportunity may not currently be in demand, as the populations increase in the affected counties, the demand for additional recreation opportunities (*i.e.*, overnight camping) may be necessary. Therefore, we will reserve the right to revisit the recreation plan, including the issue of overnight camping, if the demand for recreational opportunities and the impacts to the Sultan Basin and Spada Lake environment warrant such action.

The proposed recreation plan, as modified, provides needed recreational opportunities and adequate safety measures. Accordingly, we are accepting for filing the licensees' revised recreation plan with modification and rejecting the PUD's request for overnight camping.

The Director orders:

(A) The licensees' revised recreation use plan, as filed on May 20, 1991, and required by article 52 of the project license, is approved.

(B) The Commission reserves the right to require changes to the recreation plan, including requiring overnight camping.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.


J. Mark Robinson
Director, Division of Project
Compliance and Administration

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

-2-

Snohomish County Public Utility
District No. 1

Project No. 2157-045
Washington

ORDER APPROVING MITIGATIVE PLAN

(Issued March 27, 1991)

On July 25, 1990, the Snohomish County Public Utility District No. 1 (licensee) filed and supplemented on December 10, 1990, a final report of the Adult Fish Passage (Powerhouse Berm) Study for the Henry M. Jackson (Sultan River) Project, FERC No. 2157. The study plan was approved by order dated August 22, 1984. The plan was required by article 55 of the order amending license dated October 16, 1981, and the Uncontested Offer of Settlement - Joint Agencies, approved by order dated February 9, 1983.

The objective of the study was to determine whether the powerhouse berm facilitates successful upstream migration of anadromous fish and whether entry into powerhouse draft tube outlets causes injury to anadromous fish. The licensee was to conduct the study in consultation with the Joint Agencies (JA - Washington Departments of Fisheries and Wildlife, Fish and Wildlife Service, National Marine Fisheries Service, and Tulalip Tribe) to determine jointly any additional measures needed to facilitate upstream migration. Such determinations were to be included in a final report to be filed for Commission approval no later than 6 months after completion of the study. The final report was to include agency comments and recommendations designed to mitigate project impacts upon fishery resources identified by the study. The licensee was to implement jointly determined remedial actions and recommendations within 6 months after submission of a final report.

The study results to date show that adult chinook salmon, coho salmon, and steelhead are able to migrate upstream of the powerhouse over the fish passage berm and that entry into the powerhouse draft tube outlets is not frequent and does not result in injury. Initial spawning distribution studies of chinook salmon showed decreasing escapement after the project was constructed; however, the 1988 survey had the highest number of fish observed and the highest proportion of fish above the powerhouse of any previous year. Although observations were limited, the coho spawning surveys and snorkeling observations made on the 1984 coho run indicated that they could successfully migrate past the powerhouse. Spawning distribution surveys of winter-run steelhead showed no evidence of any problem with either upstream migration or distribution. Summer-run steelhead observations were limited, but they also indicated that fish

successfully used the fish berm passageway and distributed themselves throughout the Sultan River from the mouth to the Everett Diversion Dam.

The JA, in letters dated from April, 1986, through February, 1990, stated that, in general, the studies and the final report were satisfactory. The JA did have a concern that under certain flow conditions not occurring during the seven years of study, adult fish could enter the draft tube outlets and be injured or killed.

The JA and the licensee developed a mitigative plan to address the JA concerns. The licensee agreed to provide screening of the canals if later operational experience and mitigation studies show the need for it. The licensee also agreed to continue visual monitoring of the tailrace area, particularly during the fall salmon spawning migratory period and the upriver steelhead spawning run. If passage problems are observed, the licensee would immediately notify the JA, and mitigative action would be considered during subsequent licensee/JA field observations and consultations.

The licensee further stated that it would maintain the fish passage berm, subject to JA consultation, so that it continues to be effective in attracting fish and aiding their upstream migration. The licensee intends to continue participating in a cooperative effort with the WDF on the annual fall salmon spawner survey in the Sultan River. The licensee would also include information on adult fish passage past the powerhouse and the fish passage berm in its annual reports on Jackson Project operations required by license article 57.

While the study results indicate successful migration of salmon and steelhead past the powerhouse, different flows could result in different hydraulics. Conditions during the study included powerhouse flows greater than 50 percent of the total river flow, but in future years powerhouse flows could exceed river flow by a larger amount. Fish could be attracted into draft tube outlets. The mitigative plan developed by the licensee and the JA would ensure successful upstream migration of adult salmonids past the powerhouse.

The fish passage final report partially fulfills the requirements of the order, issued August 22, 1984, approving anadromous fish mitigation study plans. Under the conditions studied to date, the fish berm provides attraction flows for adult salmon and steelhead and allows them to successfully migrate upstream. To ensure continued success, the mitigative plan included in the July 25, 1990, filing should be approved.

The Director orders:

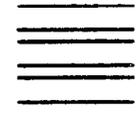
(A) The mitigative plan developed jointly by the licensee and the JA, included in the final report filed on July 25, 1990, and supplemented on December 10, 1990, is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

Joseph D. Meyer
J. Mark Robinson
Director, Division of Project
Compliance and Administration

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Comments from Consulted Agencies

The U.S. Fish and Wildlife Service, the U.S. Forest Service, and the Washington Department of Wildlife (formerly the Washington Department of Game) by letters dated February 12, February 16, and March 1, 1988, respectively, generally concur with the plan.

On September 16, 1988, the Tulalip Tribes (Tribes) issued a letter objecting to the revised plan based on the issue of "open and unclaimed" status for mitigation lands. The Tribes say that the lands inundated by the project enjoyed "open and unclaimed" status and were thus subject to the Tribes' reserved hunting rights under the Treaty of Point Elliott. Further, the Tribes state that adequate mitigation for project impacts upon the Tribes' reserved treaty hunting rights requires that substitute lands provided as mitigation also enjoy such "open and unclaimed" status. The Tribes were opposed to the Commission approving the revised plan because the "open and unclaimed" status issue had not been resolved.

The Tribes conditionally withdrew their objection to the revised plan on March 6, 1989. The Tribes re-evaluated the "open and unclaimed" status issue and determined that the resolution of such issue does not lie with the Commission. The Tribes say, however, that the withdrawal of this objection is not to be construed as approval or acceptance of the revised plan.

Progress Reports

The licensees propose to file annual progress reports for Phase I (through 1995) and every 5 years thereafter (beginning in the year 2000, and in 2005, 2010, etc. until the year 2060). Detailed information to be included in the reports is listed in section 4.11.4 of the licensees' revised plan. These reports will allow the Commission the opportunity to evaluate the success of the wildlife habitat management plan. The licensees, however, have not specified the dates to file its reports. Therefore, specific reporting dates will be required.

Implementation of the plan, with the modifications described herein, would provide adequate protection and enhancement of terrestrial resources in the project area.

The Director orders:

(A) The revised wildlife habitat management plan filed on May 25, 1988, as modified by paragraph (B), is approved.

Public Utility District No. 1
of Snohomish County and
City of Everett, Washington

Project No. 2157-027
Washington

ORDER APPROVING WITH MODIFICATION REVISED WILDLIFE
HABITAT MANAGEMENT PLAN

(Issued May 19, 1989)

On May 25, 1988, Public Utility District No. 1 of Snohomish County and the City of Everett, Washington, licensees for the Sultan River (Henry M. Jackson) Project, filed a revised wildlife habitat management plan as required by ordering paragraph B of the August 22, 1984, order approving aquatic resources mitigative plan and requiring revised terrestrial resources mitigative plan. The revised wildlife habitat management plan (revised plan) was required to protect and enhance terrestrial resources in the Sultan River Project area (project area). The revised plan was required to include, but not be limited to: (1) identification of the type of habitat to be used for replacement; (2) a determination of the location and number of acres of habitat to be used for replacement; (3) a schedule of implementation; and (4) a monitoring program to determine the effectiveness of the mitigative measures. Further, agency comments on the adequacy of the plan were required.

Description of Revised Plan

The revised plan provides for the acquisition and management of 5,223 acres of land representing 12 habitat types and distributed among 5 tracts within the project area. The revised plan also specifies detailed wildlife habitat enhancement methods that include: (1) managing forest vegetation; (2) developing wetland and streamside buffer zones; (3) managing dead trees (snags) and downed-trees; (4) managing rights-of-ways; and (5) developing artificial nesting islands and boxes for waterfowl, and osprey nest structures.

The licensees propose to implement the revised plan in two phases. Phase I will be implemented from 1988 through 1995; Phase II from 1996 through 2060. Phase I will involve the construction of physical improvements (i.e., nest boxes and nesting islands) and the initiation of long-term management programs. Phase II will consist of ongoing management and monitoring of the lands. The licensees provide for a two-level monitoring program during Phase II consisting of (1) direct supervision of plan implementation, and (2) follow-up monitoring of habitat features to verify the desired results of the plan.

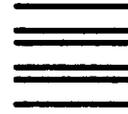
(B) The licensees shall file with the Commission their annual reports on Phase I and their 5-year progress reports on Phase II of the revised wildlife habitat management plan. Each report shall contain the information listed in section 4.11.4 of the revised wildlife management plan filed on May 25, 1988, and shall contain comments from the U. S. Forest Service, U.S. Fish and Wildlife Service, the Washington Department of Wildlife, and the Tulalip Tribes. A progress report shall be filed yearly by December 31 from 1989 through 1995, and at 5-year intervals beginning in the year 2000 and continuing through 2060 (i.e., 2005, 2010, 2015, etc). The Commission reserves the right to require modifications to the plan and the reporting requirements.

(C) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.


J. Mark Robinson
Director, Division of Project
Compliance and Administration



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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of
Snohomish County, Washington
City of Everett, Washington

Project No. 2157-011

ORDER APPROVING INTERIM RECREATION PLAN AND AMENDING LICENSE ARTICLE

(Issued February 9, 1987)

On October 2, 1986, the Public Utility District No. 1 of Snohomish County and the City of Everett, Washington, licensees for the Sultan River Project, filed an Addendum Interim Recreation Plan and Progress Report for the revised Exhibit R presently pending before the Commission.

Background

Spada Lake, the project reservoir, serves as the primary water source for the City of Everett (City). The project is located on power site lands administered by the Forest Service (FS). Pursuant to Article 44 of the license, the licensees have restricted certain public uses, notably overnight camping, shoreline fishing, and the use of boats and motors at the reservoir to protect raw water quality. On July 6, 1978, the licensees filed an amendment to license to raise the elevation of the reservoir and to install hydroelectric generating capacity. The Exhibit R included in the application proposed, among other things, to replace day-use facilities that would be inundated, to improve access to the Sultan River downstream of the powerhouse, and to cooperate with the State of Washington in off-site development of intensive-use recreational facilities at nearby Wallace Lake in lieu of such facilities at Spada Lake. The Exhibit R was approved by the Order Amending License and Providing for Hearing issued October 16, 1981.

Revised Exhibit R

At the time the order was issued, the City had plans to construct a water filtration facility. Article 52 was added to the license to require the licensees to provide an amendment to the approved Exhibit R should such a facility permit reconsideration of the public use restrictions at Spada Lake.

The licensees filed a revised Exhibit R on December 20, 1982. The revised exhibit proposed additional day-use facilities at Spada Lake and the removal of restrictions on shoreline fishing and boats with electric motors. Because of water quality concerns, restrictions on overnight camping, and roads and trails near the reservoir remained in effect. In addition, the licensees proposed to develop access to about 3.7 miles of the Sultan River between the water supply diversion dam and the downstream powerhouse in lieu of the previously approved fishing access downstream of the powerhouse.

The FS provided a report pursuant to Section 4(e) of the Federal Power Act, dated June 8, 1983, indicating that the revised Exhibit R should not be approved and that optimum recreational development including overnight camping should be provided at Spada Lake. The FS indicated that restrictions on public use amounted to exclusive use of federal lands for watershed purposes contrary to FS multiple use policy. As a result, the licensees undertook negotiations with the FS in an attempt to resolve the issue. In order to provide needed recreational facilities as quickly as possible in the cases where no disagreement existed, the licensees, in concert with the FS, filed a joint statement on cooperative efforts to resolve the conflict along with a strategy for resolving disagreements on March 28, 1986. The proposed resolution includes a land exchange program that would allow the FS to transfer ownership of the small discontinuous parcels in the power site withdrawal that constitute the remaining FS lands in the Spada Lake vicinity in exchange for lands that would consolidate FS holdings elsewhere, and development of an interim recreation plan that would allow construction of replacement recreational facilities and other day-use facilities. Creel censuses would be used to monitor recreational activity generated by the trout fishery at Spada Lake. The issue of overnight facilities, roads, and trails would be resolved at a latter date.

Interim Recreation Plan

On October 2, 1986, the licensees filed an Addendum Interim Recreation Plan and Progress Report (interim plan) to implement the recreational development agreed to by the licensees and the FS. The interim plan proposes to proceed with development similar in nature to that proposed in both the approved Exhibit R and the proposed revisions to the Exhibit R. However, the locations have undergone revision as a result of continuing consultations. The interim plan includes the development of three boat launching sites; two with ramps. The sites would include other day-use facilities including picnic tables, cooking and sanitary facilities, and parking areas. Two additional unimproved boat launching sites would remain temporarily available for the near future. Three scenic overlooks would be developed, including two relocations.

In addition, public access to the Sultan River downstream of the dam would be revised to eliminate one proposed access off the Diversion Dam Road. The interim recreation plan would provide needed recreational facilities and it is being approved herein.

Disposition of Recreational Development Proposals Before the Commission

There are currently two different recreational development proposals before the Commission; the revised Exhibit R filed December 20, 1982, and the Addendum Interim Recreation Plan filed October 2, 1986. However, based on the agreement with the FS, the revised Exhibit R cannot be implemented. Accordingly, the revised Exhibit R is being dismissed, and Article 52 is being revised to require the filing of a revised plan no later than December 31, 1990, the schedule established in the interim plan.

Agency Comments

Comments on the interim recreation plan were provided by the Washington State Parks and Recreation Commission, the Washington Department of Social and Health Services, the Washington Department of Fish and Game, and the Washington Department of Natural Resources. The agencies generally agreed with the need to implement public access measures as soon as possible, but were concerned that the plans were not sufficiently detailed to allow meaningful comments. All of the recreational development proposals filed with the Commission are conceptual in nature and have insufficient detail to provide for site development. The licensees are being required to develop more detailed plans in consultation with the appropriate agencies.

Sultan River Access

Proposals for access to the Sultan River downstream of the dam have been revised continuously. The approved Exhibit R requires development of access downstream of the powerhouse. The Commission approved an Uncontested Offer of Settlement-Joint Agencies and Addendum on February 9, and April 13, 1983, that among other things, required the licensees to improve public access to the Sultan River upstream of the powerhouse. The revised Exhibit R proposed to provide access to the Sultan River between the water supply diversion dam and downstream powerhouse in lieu of the access proposed in the approved Exhibit R. The interim plan proposes to downscale the access proposed in the revised Exhibit R. There appears to be a need for development of public access to the Sultan River both upstream and downstream of the powerhouse. The licensees are being required to review access plans in consultation with the appropriate agencies and to provide access to the Sultan River in the revised recreational development plan.

Environmental Impacts

Approval of the interim recreation plan will not result in any major construction activities not previously considered in the Order Amending License, or significantly alter project structures or operation. Implementation of the interim recreational development proposals will result in enhanced public access to project lands and water. Thus, approval of the interim recreation plan will not constitute a major federal action significantly affecting the quality of the human environment.

It is ordered that:

(A) The Addendum Interim Recreation Plan, filed October 2, 1986, is approved. The licensees shall, within 1 year from the date of issuance of this order and annually thereafter, file with the Commission a report on activities with respect to the interim recreation plan and other recreational matters at the project. Copies of the reports shall be served on the agencies required to be consulted in paragraph (C) of this order at the same time the reports are filed with the Commission.

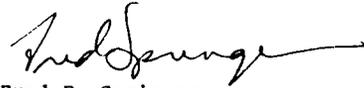
(B) The revised Exhibit R, filed December 20, 1982, is dismissed.

(C) The licensees, in consultation with the Forest Service, the State of Washington Departments of Social and Health Services, Natural Resources, and Game, and the Washington Parks and Recreation Commission, shall develop final plans to implement the measures in the interim recreation plan approved herein. Within 2 years from the date of issuance of this order, the licensees shall file with the Commission as-built drawings that show the locations of the facilities and the types of facilities provided. The comments of the consulted agencies on the adequacy of the facilities provided shall be included in the filing.

(D) Article 52 of the license is revised as follows:

Article 52. The licensees shall, after consultations with the Forest Service, the State of Washington Departments of Social and Health Services, Natural Resources, and Game, and the Washington Parks and Recreation Commission, prepare a revised recreational use plan for the project. The revised plan shall be filed for approval with the Commission no later than December 31, 1990. The revised plan shall include a description of each recreation site developed since the issuance of the Order Amending License (issued October 16, 1981), including the types of facilities provided at each site; any proposed recreational development; and a drawing that shows the location of each developed and proposed site. The revised plan shall also include a description of public access to the Sultan River both upstream and downstream of the project powerhouse. The comments of the consulted agencies shall be included in the filing.

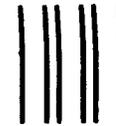
(E) This order is issued under the authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

A handwritten signature in cursive script, appearing to read "Fred Springer", with a long horizontal flourish extending to the right.

Fred E. Springer
Director, Division of
Project Management

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

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Public Utility District No. 1
of Snohomish County and
City of Everett, Washington

Project No. 2157

ORDER APPROVING AQUATIC RESOURCES MITIGATIVE PLAN AND
REQUIRING REVISED TERRESTRIAL RESOURCES MITIGATIVE PLAN

(Issued August 22, 1984)

The Public Utility District No. 1 of Snohomish County and the City of Everett, Washington (Licensees) filed for Commission approval on February 9, 1983, a revised Exhibit S for the Sultan River Project, FERC No. 2157, 1/ pursuant to Article 53 of the Commission Order Amending License issued on October 16, 1981.

The Licensees, at the time the Commission Order Amending License was issued, were negotiating with the state and Federal fish and wildlife agencies, and Tulalip Tribes (Tribes), in regard to aquatic and terrestrial mitigative measures required to protect and enhance these resources during the construction and operation of the amended Sultan River Project. Several of the mitigative measures were close to finalization, although not yet totally agreed to. Thus, Article 53 was included in the amended license, requiring the Licensees to continue negotiations with the resource agencies and Tribes, and to file a revised Exhibit S detailing the proposed mitigative and enhancement measures.

1/ Authority to act on this matter is delegated to the Director, Office of Hydropower Licensing, under §375.314 of the Commission's regulations, FERC Statutes and Regulations, §28,544, RM 84-18-000, issued July 13, 1984, .01 49 F.R. 29369 (July 20, 1984). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. §385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313 (a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

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Aquatic Resources

Long-term mitigative measures proposed in the Exhibit S to protect and enhance water quality and fisheries resources include: (1) provision of instream flows at specific points in the Sultan River; (2) operation of a multilevel intake structure in Spada Lake, the project reservoir; (3) installation of a berm near the powerhouse to facilitate fish passage past the powerhouse; (4) provision of trashrack slots on the powerhouse draft tubes; (5) implementation of a powerhouse ramping rate; (6) stocking of steelhead smolt in the lower Sultan River; (7) stocking of rainbow trout in Spada Lake; and (8) pre- and post-project construction studies to determine the success of the proposed mitigative measures.

Many of the above measures are the same as those agreed to by the Licensees in a Settlement Agreement with the joint resource agencies, approved by the Commission on February 9, and April 13, 1983. Signatories to the Settlement Agreement include: the National Marine Fisheries Service (NMFS), U.S. Department of the Interior (Interior), Washington Departments of Fisheries and Game (WDF, WDG), the Tribes, and the Licensees. The Settlement Agreement, however, contains measures primarily for the protection and enhancement of the salmon and steelhead resources downstream of the City of Everett diversion dam, and does not address resident fish populations upstream of the dam or in Spada Lake.

The revised Exhibit S as described above, includes measures to protect and enhance the reservoir fishery, and a monitoring program to determine the success of these measures. Agency letters of comment on the proposed aquatic mitigative plan indicate general acceptance of the plan. The U.S. Forest Service (USFS), however, does not indicate acceptance of the plan. One additional measure recommended by the USFS is the installation of fish passage facilities at the City of Everett diversion dam to allow anadromous fishes access to habitat above the dam. The Licensees do not propose this measure in the revised Exhibit S.

The aquatic resources mitigative plan outlined in the revised Exhibit S would adequately protect and enhance aquatic resources in the Sultan River. It does not appear warranted, however, to require construction of fish passage facilities at the diversion dam at this time. The state and Federal fishery agencies responsible for management of the anadromous fish resources have apparently also concluded that fish passage is not immediately needed. These agencies signed the Settlement Agreement that provides only a minimum maintenance flow of 20 cubic feet per second (cfs) between Culmback Dam and the diversion dam, and does not contain a provision for fish passage over the diversion dam. A minimum flow release of 20 cfs would not provide sufficient habitat to support anadromous

fish populations above the diversion dam. Further, water quality would not be suitable to enhance fish production in the reach. Flow releases are made through a low-level outlet structure, which withdraws cold and occasionally turbid waters from the lower depths of Spada Lake. Coldwater releases during the summer growth period of fishes would likely retard growth, and minimize any benefits of providing additional rearing habitat in the reach above the diversion dam. It is concluded that fish passage facilities are not needed, and the aquatic mitigative plan outlined in the revised Exhibit S should be approved as proposed by the Licensees and agreed to by the agencies.

Terrestrial Resources

The terrestrial resources mitigative plan included in the revised Exhibit S, does not fully comply with the intent of Article 53, which requires an overall plan that not only mitigates project impacts on wildlife resources, but also enhances those resources.

The revised Exhibit S reports on the Licensee's extensive baseline inventory, the detailed Habitat Evaluation Procedures (HEP) studies and analysis, the lengthy agency consultation process, and outlines a mitigative plan for terrestrial resources. The proposed plan has two parts: the "preservation element" and the "increased carrying capacity element". The objective of the preservation element is to secure long-term protection for 420 acres of habitat in the Sultan River Basin, including 230 acres of old-growth coniferous forest. The increased carrying capacity element seeks to enhance wildlife habitat by: (1) increasing available browse by using commercial thinning, small clearcuts, and other habitat manipulations; (2) managing riparian areas using annual seedings of shorelines, thinning of conifers, and creating snags; and (3) managing pipeline rights-of-way for diversity, edge effect, and browse production.

The mitigative plan, as presented, is not developed to the point that a complete analysis can be made concerning its adequacy. It does not appear, however, that the preservation of 420 acres of old-growth coniferous forest, riparian forest, wetlands, and clearcuts, and wildlife enhancement on an undetermined amount of additional acreage would fully compensate for the approximately 1,300 acres impacted as a result of the development authorized by the amended license. When the impact of the facilities authorized by the original license, and the requirement for enhancement of wildlife resources (Article 53) are considered, the adequacy of the plan appears more in doubt.

The USFS, Interior, and WDG commented on the mitigative plan by letters filed December 27, 1983; June 20, 1983, and June 29, 1983; and June 3, 1983, respectively. These agencies discuss significant problems with the mitigative plan, principally the following:

1. the objectives and methods of the plan lack specific detail;
2. the amount of mitigation claimed by the increased carrying capacity elements cannot be substantiated;
3. the overall plan falls short of mitigating the projects' impact on the Sultan River Basin; and
4. the plan lacks any assurance that the landowners and managing agencies are willing to enter into long-term agreements with the Licensee to commit their lands to be used for the mitigative plan.

The agencies indicate that they could not accept the current mitigative plan and suggest that consultation continue so that an adequate mitigative plan can be submitted for Commission approval. The terrestrial resources mitigative plan, as filed, does not comply with the intent of the requirements of Article 53. Therefore, the Licensees should file a revised terrestrial mitigative plan fully describing the specific elements outlined in Section 6.4.4 of the revised Exhibit S, and addressing the deficiencies listed above and cited by the natural resource agencies in their letters to the Commission.

Environmental Impacts

Approval of the aquatic resources mitigative plan would not result in any major construction activities, or significantly alter project structures or operation. Implementation of the plan would result in beneficial impacts on the aquatic habitat and fishery resources of the Sultan River. Thus, approval of this plan will not constitute a major Federal action significantly affecting the quality of the human environment.

It is ordered that:

- (A) The aquatic resources mitigative plan described on pages 6-7 through 6-22 of the revised Exhibit S, filed on February 9, 1983, is approved.
- (B) Licensee shall, after consultation with the Washington Department of Game, the U.S. Fish and Wildlife Service, the U.S. Forest Service, and the Tulalip Tribes, file for Commission approval, within 1 year of the date of this order, a revised terrestrial resources mitigative plan to protect

and enhance terrestrial resources in the Sultan Project area. The plan shall include, but not be limited to: (1) identification of the type of habitat to be used for replacement; (2) a determination of the location and number of acres of habitat to be used for replacement; (3) a schedule of implementation; and (4) a monitoring program to determine the effectiveness of the mitigative measures. Documentation of agency consultation on the mitigative plan, and agency comments on the adequacy of the plan, shall be included in the filing.

- (C) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 1.7(d) of the Commission's regulations, 18 CFR 1.7(d) (1980).


for
Quentin A. Edson
Director, Office of
Hydropower Licensing

Sultan River Project

FERC PROJECT NO. 2157

EXHIBIT S (REVISED)

Fisheries and Wildlife Impacts and Mitigation Plan

**PUBLIC UTILITY DISTRICT NO. 1
SNOHOMISH COUNTY, WASHINGTON
AND CITY OF EVERETT**

January 1983

6.3 LONG-TERM AQUATIC MITIGATION

6.3.1 Introduction

For the most part, measures to mitigate long-term aquatic impacts of project operation have already been finalized in consultation with federal and state fish and wildlife agencies. This mitigation is specifically described in an Uncontested Offer of Settlement signed by the Licensee and agencies in February 1982 and submitted to the FERC in April 1982 for approval action.

The long-term aquatic mitigation plan presented herein is based on the assumption that the project will be operated primarily to maximize power production, within the constraints of Everett's water supply needs and minimum instream (fishery) flows. The mitigation plan has been designed to address environmental impacts of this power mode of operation.

6.3.2 Aquatic Mitigation Plan

Project impacts on aquatic ecosystems in Spada Lake and the Sultan River will result primarily from changes in the pattern of lake level and streamflow fluctuations. These alterations and their associated effects were anticipated early in the project planning phase, and certain project features were added to mitigate adverse impacts on aquatic ecosystems (see Section 6.1). Specific mitigation features in the Licensee's Application for Amended License (submitted in July 1979) included a fishwater return pipeline that would tap off the Lake Chaplain pipeline and discharge at RM 7.1, providing flow releases to sustain downstream spawning and rearing areas; an instream berm opposite the powerhouse site to concentrate attraction flows for upstream-migrating fish; a minimum flow regime to sustain the resident fishery downstream of Culmback Dam and the anadromous fishery in the lower Sultan River; and a generally more stable flow regime resulting from power operation.

As a result of consultation with resource agencies since July 1979, some of these project features have been modified and others have been added. In addition, the Licensee has agreed to conduct several studies to

determine actual impacts of project operation and possible remedial measures, if needed, to mitigate such impacts. Elements of the long-term aquatic mitigation plan are:

- o Fishwater return facilities
- o Minimum instream flow
- o Multilevel reservoir intake structure
- o Fish attraction berm at powerhouse
- o Trashrack slots for powerhouse draft tubes
- o Ramping rate
- o Planting of steelhead smolts below diversion dam
- o Settlement agreement with Tulalip Tribes
- o Planting of rainbow trout in Spada Lake
- o Pre- and post-project construction studies

Fishwater Return Facilities. The Licensee originally proposed to construct a 42-inch-diameter pipeline that would tap off the Lake Chaplain pipeline and discharge into the Sultan River above Horseshoe Bend at RM 7.1. Return flows were to be such that minimum river flows measured at the Chaplain Creek gauging station would range between 100 cfs and 175 cfs, in accordance with the minimum flow schedule proposed in the License Application.

State and federal fisheries agencies and the Tulalip Tribes recommended that fishwater be returned to the diversion dam (RM 9.7) instead of the location proposed by the Licensee. Anadromous fish use the Sultan River as far upstream as the diversion dam. The then proposed minimum flow of 30 cfs at the diversion dam was considered sufficient to sustain present levels of anadromous fish production.

The Licensee acknowledged in the License Application that use of the existing Everett diversion tunnel as a fishwater return conduit would be an economical alternative to the proposed fishwater return pipeline.

Until the quality of Everett's water supply was protected with a filtration plant, however, it was important that the City of Everett retain its ability to divert water from the Sultan River to Lake Chaplain through the tunnel during periods when local inflow to the river below Culmback Dam is less turbid than water in Spada Lake. Use of the diversion tunnel as a fishwater return conduit therefore depended on construction of a filtration plant by the City.

Water quality modeling studies of the enlarged reservoir indicated that temperature and turbidity regimes will be substantially altered in comparison to existing regimes as a result of Stage II operation (PUD, 1981a). The results of the studies showed that turbidity can be expected to persist in the enlarged reservoir over a longer time period than the levels presently occurring in the existing reservoir. Based on the study results, the District offered to participate financially with the City of Everett in constructing a water filtration plant. With a filtration plant, the originally proposed fishwater return pipeline was eliminated as a project feature. Instead, the Lake Chaplain pipeline will connect with an existing diversion tunnel, as a permanent project feature. The tunnel will be backflowed to provide fishwater return flows to the diversion dam.

However, the project design also permits use of the tunnel in its current mode of operation in the event of an unexpected interruption of water supply through the water and power facilities. In such an emergency condition, releases will be made from Culmback Dam to ensure the continued supply of water to Lake Chaplain and to satisfy minimum flow requirements within the Sultan River.

Licensee substantially altered the originally proposed design for returning fish flows to the Sultan River. These changes necessitated construction of a water filtration plant by the City which construction was accomplished through a \$8.2 million contribution from the District. These changes also resulted in substantial additional costs.

Minimum Instream Flows. Minimum flow releases from Culmback Dam and the fishwater return facilities are necessary to sustain the resident and anadromous fisheries of the Sultan River. Based upon agency consultations, the amended license application proposed return flows measured at the Chaplain Creek Gaging Station to range between 100 cfs and 175 cfs. The following minimum flow schedule was proposed in the License Application (submitted in 1979):

- o A 20 cfs minimum at Culmback Dam (all year)
- o A 30 cfs minimum at the diversion dam, with minimum seasonal flows (measured at the Chaplain Creek gauge) as follows:

Nov 15 - Jan 15	100 cfs
Jan 15 - Feb 1	increasing to 175 cfs
Feb 1 - May 1	175 cfs
May 1 - May 15	decreasing to 100 cfs
May 15 - Sep 1	100 cfs
Sep 1 - Sep 15	increasing to 175 cfs
Sep 15 - Nov 1	175 cfs
Nov 1 - Nov 15	decreasing to 100 cfs

This flow schedule was revised from the 100/150 cfs flow schedule contained in the draft SEPA EIS, based on the WDF 1978 flow study (WDF, 1978).

During 1980 and 1981, meetings were held with the "Joint Agencies" (WDG, WDF, FWS, NMFS and the Tulalip Tribes) to review flow studies and evaluate the originally proposed (1979) minimum flow regime. Representatives of the DOE also attended some of the meetings. A negotiated flow agreement, reported to the FERC on August 28, 1981, included the following elements.

MINIMUM FLOW BETWEEN CULMBACK DAM AND DIVERSION DAM: Following a meeting held on January 14, 1981, the Joint Agencies acknowledged that water released from the outlet at Culmback Dam would be drawn from the deeper portions of the enlarged reservoir and would therefore be colder than either present releases or streamflows before Culmback Dam was built. If releases were as large as required for successful spawning and rearing, stream temperatures would be substantially lowered, thereby seriously impairing the growth and survival of steelhead and salmon both above and below the diversion dam. Such releases would also be costly because of lost power generation and the need to construct a special outlet for temperature-controlled releases. Based on these factors, the Agencies agreed that natural salmon and steelhead production above the diversion dam is neither economically nor environmentally feasible under project conditions, and that restoration of steelhead runs between the diversion dam and Culmback Dam should be accomplished by alternative means. A minimum year-round release of 20 cfs from Culmback Dam was accepted by the Joint Agencies.

MINIMUM FLOW BETWEEN DIVERSION DAM AND POWERHOUSE: Between the diversion dam and the powerhouse, flows will be regulated to enhance the freshwater life stages of chinook and coho salmon and steelhead trout. The Licensee and the Joint Agencies agreed that the point of measurement of the Sultan River flows will be moved upstream from the current point (USGS Chaplain Creek gauging station) to a new gauging station to be established immediately below the diversion dam. Originally proposed minimum flow releases were altered to correspond more closely to flow requirements for various salmon and steelhead freshwater life stages. The following minimum flow requirements (as measured at the diversion dam) were agreed on by the Licensee and the Joint Agencies:

Nov 1 - Jan 15	95 cfs
Jan 16 - Feb 28	150 cfs
Mar 1 - Jun 15	175 cfs
Jun 16 - Sep 14	95 cfs

Sep 15 - Sep 21 145 cfs

Sep 22 - Oct 31 155 cfs

MINIMUM FLOW BELOW POWERHOUSE. The Joint Agencies also expressed concern about minimum flows downstream from the powerhouse during periods when it was not in operation. The concern was that the wider stream channel below the powerhouse would need more water than the narrower stream channel above the powerhouse. The Licensee and Joint Agencies agreed that a minimum flow of 165 cfs will be maintained below the powerhouse for the period June 16 through September 14 and that a minimum flow of 200 cfs will be maintained below the powerhouse for the remainder of the year. A new gauging station will be constructed by the Licensee in the immediate vicinity below the powerhouse to measure flows.

Multi-Level Intake Structure. Results of the Licensee's temperature and turbidity simulation studies indicate that water temperatures in the Sultan River below the powerhouse would be generally lower than historical temperatures from about May through September of each year (PUD, 1981a). According to Licensee's fisheries studies which were reviewed with fish and wildlife agencies, lower water temperatures would inhibit growth of anadromous fish and substantially reduce their survival rate. Consequently, the Licensee has agreed to construct an adjustable surface withdrawal intake structure, providing water temperatures nearly equivalent to existing conditions. Specifically, the intake structure will be operated so that the temperature of combined fishwater return flows and river flows passing the diversion dam will approximate to the fullest extent possible, the monthly mean of temperatures recorded at the diversion dam for years 1969-1979, and also remain within the recorded minimum-maximum temperature range. The Licensee has also agreed to notify the Joint Agencies of deviations from the minimum-maximum temperature range whenever such deviations occur for more than one monitoring period (to be defined with the Joint Agencies prior to project operation).

Fish Attraction Berm at the Powerhouse. Because powerhouse discharges may be large relative to streamflow immediately upstream of the powerhouse during some times of the year, upstream-migrating fish may be attracted to the tailrace channels instead of continuing upstream. This condition could occur if the velocity of the flows from upstream of the powerhouse were too low to be detected by migrating fish. Although energy is substantially dissipated by reaction-type turbines, in the absence of a strong flow from upstream, fish could be attracted to the powerhouse discharge because of its sheer volume. This potential problem will be resolved by constructing a rock gabion berm opposite the powerhouse to force all upstream flows through a slot and past the tailrace at a velocity significantly higher than that of the powerhouse discharge. Anadromous fish should sense the higher velocity and continue their upstream migration.

The Licensee and Joint Agencies have agreed that the basic weir structure should be constructed of rock gabions. However, the slot will be formed and constructed of reinforced concrete and the gabions will be buttressed, both upstream and downstream, with heavy riprap.

Trashrack Slots for Powerhouse Draft Tubes. The Joint Agencies expressed concern that adult salmonids may enter the powerhouse draft tubes, where water velocities will be low. They recommended that draft tube outlets be designed to allow for future installation and maintenance of adult salmonid barrier racks, if the results of operation field studies indicate that these racks are required. The Licensee has included slots in the draft tube design to allow placement of trashracks should they be necessary.

Ramping Rate. "Ramping rate" refers to the rate at which the river level below the powerhouse will change as power production at the powerhouse increases and decreases. The Licensee and Joint Agencies have agreed that the powerhouse will be operated at a ramping rate no greater than 6 inches per hour, as measured at the powerhouse. This rate is based on the understanding that the project will not be operated in a peaking mode.

The Licensee has also agreed to conduct a study to determine whether and under what operating conditions a slower ramping rate is appropriate. In addition, if further operational changes are proposed to include peaking, the maximum ramping rate of 6 inches per hour may not be acceptable and a slower rate may be necessary.

Planting of Steelhead Smolts at Diversion Dam. Since natural salmon and steelhead production above the diversion dam is neither economically nor environmentally feasible under project conditions, the Joint Agencies requested that a hatchery stocking program be implemented by the Licensee. The program would involve planting steelhead smolts at the diversion dam in sufficient numbers to ensure an adult population equivalent to that which might have been produced under natural conditions above the diversion dam.

Based on further agency consultation, the Licensee agreed, upon commencement of project operation and annually thereafter, to pay production costs for 30,000 steelhead to be produced at an existing WDG facility and replanted in the Snohomish Basin. The WDG will submit annual budget proposals for the program to the Licensee prior to August 1 of each year. After the first annual proposal, the WDG will submit a report to the Licensee on the preceding year's program including allocated costs, location of smolt plants, and Sultan River catch records. The production program will be managed in cooperation with the Tulalip Tribes.

Settlement Agreement with Tulalip Tribes. In addition to the steelhead smolt planting program, the Tulalip Tribes requested additional compensation for lost salmon habitat above the diversion dam. A comprehensive settlement amounting to \$1,000,000 was concluded by the Licensee and Tulalip Tribes as compensation for the lost habitat during Stage I and II of the project. As noted in Section 12.5 of the Settlement Agreement, the \$1.1 million is to be used by the Tribe to "replenish and/or supplement anadromous fishery of the Sultan River, Snohomish River system and/or Puget Sound."

Planting of Trout in Spada Lake. Since its formation in 1965, Spada Lake has provided a fishery originating from stocks of hatchery fish, as well as native rainbow and cutthroat trout derived from upper basin tributaries. WDG has stocked the reservoir annually (except 1978, 1980-82) with rainbow ranging in size from 35 to 600 per pound and in number from 25,000 to 174,000 (Table 6-1). These fish were largely surplus from other hatchery programs and not all reared to a size calculated to produce good returns. The rainbow trout fishery appears to be partially dependent on hatchery releases as evidenced by the decline in the 1980 rainbow catch.

Fish production in the enlarged reservoir is expected to at least temporarily increase as food production increases. Greater shoreline or littoral area, more lake area, and higher nutrient levels should combine to increase benthic and plankton production. The anticipated increase may be short-term, lasting 4 to 6 years after inundation, if it is primarily related to nutrients. As nutrient levels typically subside through time, fish production may also decline. If production is related more to increased littoral and surface areas, it may exceed pre-inundation levels on a long-term basis. However, the loss of some spawning areas in reservoir tributaries could negate to some extent those factors benefiting food production.

Although fish production may increase temporarily, success of the fishery is more closely associated with density of fish in the larger reservoir. Because the existing fishery is partially dependent on hatchery fish, maintaining present catches per unit effort may inevitably require continued stocking. Because hatchery fish have not been released into Spada Lake since 1979, the rainbow trout population may be declining. To take advantage of the anticipated productive conditions of the enlarged reservoir, 300,000 rainbow trout fingerlings (250-300 per pound) will be released each year in the late spring or early summer of 1984, 1985, and 1986. These fish are expected to grow quickly and form a good base for the future fishery, including natural production.

Table 6-1

SPADA LAKE PLANTING RECORDS FROM WASHINGTON DEPARTMENT OF GAME

<u>Date</u>	<u>Species</u>	<u>Number</u>	<u>Size</u>
82	---	No plant	---
81	---	No plant	---
80	--	No plant	---
7/79	RB(a)	116,400	69/1b
78		No plant	
5/77	RB	124,900	150-250/1b
4/77	RB	35,200	220/1b
5/76	RB	15,100	130-140/1b
6/75	RB	25,500	170/1b
9/74	RB	13,860	77/1b
6/74	RB	81,100	300-500/1b
5/74	RB	15,000	125/1b
6/73	RB	23,680	160/1b
6/73	RB	76,440	210/1b
6/72	RB	41,515	95/1b
5/72	RB	50,200	100/1b
5/71	RB	69,305	65-170/1b
6/70	RB	33,600	700/1b
6/70	RB	65,250	450/1b
5/70	RB	25,110	155/1b
6/69	RB	100,750	325/1b
5/69	RB	25,088	128/1b
6/68	RB	25,000	50/1b
7/67	RB	74,520	54/1b
8/66	RB	60,000	36/1b
6/66	CT(b)	14,000	600/1b
6/66	RB	21,770	137/1b
8/65	RB	35,000	35/1b
6/65	RB	38,850	35/1b
6/65	RB	100,000	103/1b

(a) RB = Rainbow Trout
 (b) CT = Cutthroat Trout

CT total = 14,000

Source: PUD, 1982.

22 planted 14 years of 13 years 1965-1982

To evaluate the fishery, creel censuses will be conducted by the Licensee. Prior to taking these censuses, procedures will be agreed upon with WDG. Following inundation (early 1984), the censuses will be conducted for three consecutive seasons (through 1986) to evaluate the short-term quality (catch-per-effort) of the fishery. Results of the censuses (1984-1986) will form the basis for determining whether hatchery fish are required to maintain the catch-per-effort within an agreed upon range. If it is determined during the census-taking period that the catch has significantly improved, hatchery releases will be either eliminated or reduced to a mutually agreed upon number.

Hatchery fish will be released in Williamson Creek and will be provided by WDG or private hatcheries. Existing WDG hatchery fisheries could not accommodate the total needs of a fingerling release program at Spada Lake and would require supplemental numbers from elsewhere. If fingerlings have to be purchased from a private hatchery, WDG would have to approve brood stocks and standards in which fish were reared. As presently scheduled, resident fish mitigation activities at Spada Lake would cease after 1986 with completion of a final report to the agencies and the FERC.

Pre- and Post-Construction Studies. In addition to the long-term aquatic mitigation measures described above, the Licensee and Joint Agencies have agreed to consult and cooperate for the purpose of jointly developing and implementing studies, and analyzing data to determine the effects of project operation on fishery resources. The results of these studies will be used to develop remedial actions or recommendations for the benefit of the fishery resources.

The Licensee will file detailed study plans for FERC approval within 6 months prior to operation of the project, except as otherwise noted below. If the parties cannot agree on study methods and parameters, the Licensee may submit proposed study plans to the FERC for approval, modification, or disapproval. The Licensee will conduct the studies

within the established time frames and consult and cooperate with the Joint Agencies to determine jointly any appropriate remedial actions. Such determinations shall be included in final reports to be filed for FERC approval no later than 6 months after completion of the respective studies. The final reports will include agency comments and recommendations designed to mitigate project impacts upon fishery resources identified by the studies.

The Licensee will implement jointly determined remedial actions and recommendations within 6 months after submission of a final report. If the parties are unable to agree on joint recommendations the Licensee will implement agency recommendations within six months subject to disapproval or modification by the FERC.

The Licensee will develop, conduct, and analyze the following studies:

a. Steelhead Fishability: A study will be conducted to assess whether the recreational steelhead fishery effort and catch in the Sultan River below the powerhouse is impaired as the result of project operations.

Such study will be conducted during the winter season following initial project operation and may require an additional year of study upon demonstration of good cause for such an extension.

If study results indicate that a significant reduction of the steelhead fishery is caused by project operation, Licensee will develop appropriate remedial or mitigative measures that may include but will not be limited to additional fishing access, additional planting of steelhead smolts, or reduced operation during weekend daylight hours.

b. Studies to Determine Short-Term and Long-Term Impacts of Sedimentation, Gravel Compaction, and Spawning Gravel Reduction in the Sultan River Due to Construction and Operation of the Project:

For sediment analysis, an initial study has been conducted to determine the percentage of fines in spawning gravel from the Diversion Dam to Skykomish River confluence. Preconstruction sampling of spawning gravels was performed in May 1982. A report summarizing the results of this

sampling is currently being prepared. This sampling effort will be done again upon completion of construction but prior to project operation, and again three years after initial project operation. If project construction or operation causes a significant buildup of fines and causes adverse effects at critical life stages of anadromous fish, the Licensee and the Joint Agencies will jointly determine appropriate remedial measures.

For gravel analysis, a study will be conducted to determine whether project operation causes significant depletion of spawning gravels in the Sultan River from the diversion dam to the confluence with the Skykomish River. Baseline data will be gathered prior to initial project operation. After three years and again after ten years of project operation, the Licensee and Joint Agencies will jointly determine whether and the extent to which project operation has caused significant depletion of spawning gravels. If any such depletion has occurred, the Licensee will fund a gravel placement program subject to reasonable jointly determined locations, methods, cost and timing for such gravel placement.

c. Ramping Rate. A study will be conducted to determine whether and under what operating conditions a ramping rate slower than 6 inches per hour is appropriate to avoid adverse impacts upon critical life stages of anadromous fish (e.g., spawning, emergence and rearing). The study will be conducted over one season following initial project operation and may require an additional year of study upon demonstration of good cause for such extension.

If results of the study indicate adverse impacts, the Joint Agencies will develop and Licensee will immediately implement appropriate slower ramping rates.

d. Fish Passage. Studies will be conducted to determine whether the powerhouse berm facilitates successful upstream migration of anadromous fish and whether entry into powerhouse draft tube outlets causes injury to such anadromous fish.

e. River Temperatures. A study will be made of river temperatures based upon continuous monitoring by thermograph at a point below the diversion dam where return flows are fully mixed with stream flows. Annual reports of temperature studies will be provided to the FERC and to the Joint Agencies.

6.4 TERRESTRIAL PROTECTION, PRESERVATION, ENHANCEMENT, AND MITIGATION

6.4.1 Introduction

This section discusses that portion of Licensee's overall fish and wildlife mitigation and enhancement plan which pertains to long-term terrestrial mitigation. The section describes Licensee's previous commitments to achieving terrestrial mitigation in project design and construction, states Licensee's basis for development of a mitigation plan, summarizes consultations with resource agencies in evaluating mitigation options, and presents Licensee's proposed program for long-term mitigation of terrestrial impacts.

Project effects on terrestrial wildlife were initially considered prior to 1961; the wildlife agencies were intervenors in the Stage I licensing process. An agreement between the Licensee and WDG was subsequently executed on February 10, 1961 in which the "...Licensee agrees to pay the State of Washington Department of Game the total collective sum of not to exceed \$2,000.00 for the purpose of making a study to determine the loss of or damage, if any, to game areas which will result from the construction of the Project." Twenty-four months were allowed for the study. The compensation for loss or damage to the game areas was not to exceed \$5,000.00. This Game Agreement became the basis of Article 33 of the original License, dated June 16, 1961, which states "The Licensees shall cooperate with the Washington Department of Fisheries, Washington Department of Game, and the U.S. Fish and Wildlife Service in the development of proper fish and wildlife management plans for all Project facilities". Although never implemented, the agreement between the Licensee and WDG did establish a value of the Stage I terrestrial habitat impacts.

In February 1982 a report, contracted by the Licensee, was produced by the WDG, entitled "Fish and Wildlife Resource Studies, Sultan River Project, Stage II, Final Report." This report presents detailed baseline aquatic and terrestrial population studies and a terrestrial Habitat Evaluation Procedures (HEP) analysis. Since that time, a series of

consultations has been held with the FWS, USFS, WDG, and DNR to identify and discuss areas of concern and to develop the basis for a long-term mitigation plan. During these consultations, the fish and wildlife agencies stated their preference for in-kind and in-basin habitat replacement. The overall plan reflects this standard, but also takes land use, financial and institutional constraints into account. The plan includes all habitat types recommended by the agencies.

Sections 6.4.2 and 6.4.3 describe the overall preservation, protection, enhancement, and mitigation measures to be implemented over the 75-year period of this plan. These sections were developed in consultation with the resource agencies and apply the policies included in the CEQ Regulations implementing NEPA (40 CFR 1500.2) and the FWS Mitigation Policy (46 FR 15.7645, January 23, 1981). Impacts on the terrestrial environment discussed previously (Section 5.2) occurred over a 20-year period with the major alteration of habitat occurring in 1962-1963. Traditional methods could not possibly measure impacts over this period. Accordingly, Licensee agreed that HEP would be the least subjective method (Section 5.3). However, HEP results are but one factor when considering Licensee overall efforts to mitigate project impacts.

The Licensee has developed, as discussed in Section 6.4.4 below, a plan to offset to the extent practicable habitat losses resulting from Stage I and II development. Licensee believes that this proposal, combined with the measures discussed in Section 6.4.2, will achieve a reasonable level of protection and preservation for the terrestrial resources.

6.4.2 Preservation, Protection, and Enhancement Measures Proposed by Applicant

Preservation, protection, and enhancement measures for terrestrial wildlife have been a major consideration in all phases of project planning and design. For example, the right-of-way alignments avoid areas of critical habitat, and the power conduit right-of-way bypasses the major portion of the Marsh Creek wetlands. The Lake Chaplain pipeline alignment was designed to reduce impacts to Chaplain Creek

marsh. The transmission line alignment follows existing road right-of-ways, to the maximum extent feasible.

Many of the plans and other material developed for the project and to support the Project Permit Acquisition Program include measures offsetting potential adverse effects to the terrestrial environment. Construction mitigation measures are presented in coordinated plans developed by the Licensee (PUD, 1981b, 1981c, 1981d) as discussed in Section 6.2. The combination of measures proposed in these plans constitutes the Licensee's overall construction mitigation program. Measures included in the USFS Memorandum of Understanding, Fish and Wildlife Resources Studies, the Uncontested Offer of Settlement, and the three construction mitigation plans will also, directly or indirectly, provide long-term benefits to fish and wildlife resources.

Construction Mitigation Plan for Aquatic and Terrestrial Wildlife (CMPATW). Site-specific mitigation measures covering such activities as clearing, construction in wetlands, revegetation, waste disposal, and use of pesticides are contained in the CMPATW. An Environmental Monitoring Supervisor (EMS) was retained by the Licensee as a project construction staff member to oversee implementation of these environmental protection activities throughout the construction period.

The CMPATW requires rehabilitation of disturbed areas by means of terrain preparation and revegetation by hydroseeding on steeper slopes. Revegetation in other areas will be accomplished by allowing native species to reestablish, by hydroseeding, or, as in the case of Cascade, Marsh, and Chaplain Creeks, by replanting native riparian species.

At the Marsh Creek wetlands crossing, the temporary berm used for power conduit installation will be removed to water surface elevation. The stream channel will be reformed, spawning gravels in the channel will be placed, and native riparian shrubs will be planted immediately. At Chaplain Creek Marsh, the barrier between the marsh and the road being

constructed will be widened. The entire disturbed area will be replanted with native riparian species for wildlife benefit. These construction mitigation measures should ensure the early return of the disturbed areas to their former productivity.

The reservoir clearing program has been staged over a 2-year period to retain the more productive wildlife habitats an additional year, thereby allowing some larger animals to disperse to adjacent habitat. Selected trees have been left standing to become snags, providing nesting and/or perch sites for raptors and other birds. A 10-foot elevation "leave strip" between the 1,440 and 1,450 contours will not be cleared. Proposed reservoir operation calls for temporary inundation of this strip during a few weeks each spring, allowing the strip to become riparian in character around much of the lake shoreline. Die-back vegetation may have to be cleared and removed later at additional expense to the Licensee.

Erosion, Sedimentation, and Slope Stability Control Plan (ESSSCP), November 1981. This plan, which was prepared by the Licensee, establishes mitigative measures for treating and rehabilitating construction areas to avoid significant topsoil loss, slope failure, and sedimentation in existing watercourses. These measures provide significant protection for important wildlife habitat areas and the riparian vegetative zone. In addition, areas disturbed during construction will revegetate more rapidly because of these stabilization measures.

To reduce the level of soil disturbance, the Licensee cleared approximately 35 percent of the Stage II inundation area, using handclearing methods. Clearing equipment limitations were imposed to protect soils and reduce turbidity and sedimentation. These practices will protect the soils and understory vegetation, reducing turbidity and sedimentation. This approach is particularly advantageous to maintaining prime fawning area during the first year of construction and providing wildlife dispersal corridors.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

McC. S. ...
C. ...
5-22-82

Approved by FERC
on 2/9/83 & 4/13/83
see FERC order
dated 2/9/87
2157-011 p. 3
herein DM

In the Matter of:)
PUBLIC UTILITY DISTRICT NO. 1) PROJECT NO. 2157
OF SNOHOMISH COUNTY and CITY)
OF EVERETT)

UNCONTESTED OFFER OF SETTLEMENT - JOINT AGENCIES

I

UNDERSTANDINGS

1. Upon application for amended license for Project No. 2157 by the District and City (hereinafter Licensee) the following state and federal agencies and tribal entity, intervened to raise issues concerning protection mitigation and enhancement of Sultan River Aquatic resources: U.S. Department of Interior, National Marine Fisheries Service, Washington Departments of Fisheries and Game, and the Tulalip Tribes of Washington (hereinafter called Joint Agencies). Licensee and Joint Agencies thereafter engaged in continuous discussions to resolve identified conflicts between said project and Sultan River aquatic resources. Licensees and Tulalip Tribes engaged in separate discussions regarding project impacts on Treaty of Point Elliott fishing rights.

2. By Order dated october 16, 1981, the Commission issued a final order amending the license for the Sultan River Project No. 2157 finding that the project as modified by the terms and conditions of the license would be best adapted to the comprehensive development of a waterway and that issuance of the amendments to the

existing license would be in the public interest. Pursuant to the federal Power Act Sections 10(a), 10(g), 308 and 309, and Commission Rules of Practice and Procedure at 18 CFR Part 1, the Commission ordered a hearing to determine what measures, if any, as discussed in its Order should be included in the license to protect or enhance the fishery of the Sultan River, such as, fish passage facilities, hatcheries, flow releases, and other operational constraints. The order further provided that a prehearing conference would be conducted on November 17, 1981 at the Commission's offices in Washington, D.C.

3. On November 17, 1981, a prehearing conference was conducted before Presiding Administrative Law Judge, George P. Lewnes, who, after completion of arguments and submissions pursuant to 18 CFR §1.18(b), set the matter for hearing. The proceedings were continued following indications by the Licensee and Joint Agencies that the parties had obtained a settlement in principle of the matters in controversy.

4. After November 18, 1981, the parties continued with meetings and negotiations to resolve issues raised by the Joint Agencies in the various motions to intervene; in the Tribes' subsequent Motion for Hearing dated July 17, 1981, their Application for Rehearing dated October 26, 1981, and their Supplement to Application for Rehearing; in the Application for Rehearing by National Marine Fisheries Service dated November 12, 1981; in the Commission's Order amending License and Providing for a Hearing dated October 16, 1981; and in the Commission's Final Environmental

Impact Statement (FERC EIS 0015, Sultan River Project--Washington, March, 1981). As a result of these meetings and negotiations, the parties have reached Agreement as further enumerated below; and in the case of Licensee and the Tulalip Tribes, an additional Settlement Agreement has been executed simultaneously herewith, the continued effectiveness of which, and the approval and implementation of which by FERC are conditions of the effectiveness of the Tulalip Tribes' approval of this agreement.

5. Provisions of this agreement respecting settlement between Licensee and the Tulalip Tribes shall not constitute approval of or precedent regarding any principle or issue relating to treaty fishing rights by, or be binding upon, other parties to this agreement.

6. Terms and conditions herein contained, and in the case of Licensee and the Tulalip Tribes as contained in said additional Settlement Agreement between said parties, fulfill the terms and conditions of the Order Amending License for Project 2157, dated October 16, 1981. Terms and conditions herein contained shall be made part of, included in, and be deemed conditions of said Order. In the event that FERC shall at some future time order project modifications which affect this Agreement, Joint Agencies reserve their rights to object to said modifications.

AGREEMENTS

1. Environmental Monitoring Supervisor.

3 - UNCONTESTED OFFER OF SETTLEMENT -
JOINT AGENCIES

Licensee shall retain the services of a qualified individual who shall function as Environmental Monitoring Supervisor (EMS) in consultation with the joint agencies. The EMS shall monitor all construction activity for compliance with mitigation plans, permit conditions and contract specifications related to environmental protection and pollution control.

The EMS shall work jointly with a Water Quality Control Supervisor (WQCS) to monitor all construction activities in and around waterways and wetlands, including clearing, stream diversions, excavation, stream bed restoration, stream bank protection and revegetation. If the EMS identifies a problem adversely affecting fish and wildlife or their habitat, the EMS shall formulate recommendations for field construction managers regarding construction methods, corrective actions and sequences of work. The EMS shall maintain a log of problems and their disposition, recommendations and their disposition, and shall maintain liaison with joint agencies. The EMS log shall be updated for each day of work; shall be maintained at the Licensee's field office at the site and at the Licensee's business office in Everett, Washington; and shall be available for inspection and copying by each of the joint agencies.

Licensee shall comply with mitigation plans, permit conditions, contract specifications and take appropriate corrective action in the shortest possible time after a problem is identified. In the event that EMS recommendations are not implemented, each of the joint agencies shall have the right to seek appropriate relief from FERC.

Licensee shall hold periodic meetings with its field construction managers, monitoring supervisors and representatives from each of the joint agencies to review the status of construction activities.

The authority and responsibility of the EMS is supplemental to, and does not supplant requirements established in accordance with state hydraulics HPA and other permits or Tribal rights.

2. In-Stream Minimum Flow Schedule.

In compliance with the provisions of Article 54 of the Amended License, the Joint Agencies and Licensee mutually agree that the Licensee shall provide for and maintain the following minimum flow releases to protect, mitigate, and in some instances enhance fishery resources.

<u>Dates</u>	<u>Point of Discharge</u>	<u>Minimum Fishery Flow (CFS)</u>
All Year	Culmback Dam	20
11/1 - 1/15	Diversion Dam ¹	95
1/16 - 2/28	"	150
3/1 - 6/15	"	175
6/16 - 9/14	"	95
9/15 - 9/21	"	145
9/22 - 10/31	"	155
6/16 - 9/14	Powerhouse ¹	165
9/15 - 6/15	"	200

¹ Telemetry gauges will be installed immediately below the diversion dam and powerhouse to monitor these flows.

3. Pre and Post Project Construction Studies.

In compliance with provisions of Articles 55, 56 and 60, the Licensee shall consult and cooperate with the Joint Agencies for the purpose of jointly developing, implementing and analyzing studies of project operation on fishery resources of the Sultan River as set forth below. If said parties cannot agree upon the study methods and parameters to be used for each study, the Licensee and any of the joint agencies may submit their proposed study plan to FERC which shall determine the study to be conducted. In turn, the studies will be used to develop remedial actions or recommendations for the benefit of fishery resources.

Licensee shall file detailed study plans for Commission approval within six (6) months prior to operation of the project, except as may be otherwise noted. Further, Licensee shall conduct the studies within time frames set forth below and to consult and cooperate with the joint agencies to determine any appropriate remedial actions. Such determinations shall be included in final reports to be filed for Commission approval no later than six months after completion of the respective studies. Such final reports shall include comments and recommendations from each joint agency designed to mitigate project impacts upon fishery resources identified by studies.

Licensee shall implement jointly determined and joint agencies' remedial actions and recommendations within six months after submission of each final report subject to approval or modification by FERC. If the joint agencies are unable to agree on joint

recommendations Licensee and joint agencies shall submit their respective recommendations to FERC and the Licensee shall implement the recommendation adopted by FERC within six months.

Licensee shall develop, conduct, and analyse the following studies:

a. Steelhead Fishability: A study to assess whether the recreational steelhead fishery effort and catch in the Sultan River below the powerhouse is adversely impaired as the result of project operations.

Such study shall be conducted during the winter season following initial project operation and may require an additional year of study upon demonstration of good cause for such extension.

If study results indicate that a significant reduction of the steelhead fishery is caused by project operation, then Licensee agrees to develop appropriate remedial or mitigative measures which may include but shall not be limited to additional fishing access, additional planting of steelhead smolts or reduced operation during weekend daylight hours.

b. Studies to Determine Short Term and Long Term Impacts of Sedimentation, Gravel Compaction and Spawning Gravel Reduction in the Sultan River Due to Construction and Operation of the Project:

Sediment Analysis - An initial study shall be conducted as soon as Sultan River conditions permit after January 1, 1982, to determine the percentage of fines in spawning gravel from the Diversion Dam to Skykomish River confluence. This percentage shall again be determined upon completion of construction but prior to Project operation, and again three years after initial Project operation. If Project construction or operation causes a significant build-up of fines and/or causes adverse impacts at critical life stages of anadromous fish, Licensee and the joint agencies shall jointly determine appropriate remedial measures. Licensee shall implement such measures within six months after they are jointly determined. If the Licensee and the joint agencies are unable to agree on joint recommendations, Licensee shall implement the joint agency recommendations within six months of such joint agency recommendations subject to disapproval or modification by the Commission.

Gravel Analysis - A study to determine whether

project operation causes significant depletion of spawning gravels in the Sultan River from the Diversion Dam to confluence with the Skykomish River. Baseline data shall be gathered prior to initial Project operation. After three years and again after ten years of Project operation, Licensee and Joint Agencies shall jointly determine whether and the extent to which Project operation has caused significant depletion of spawning gravels. If any such depletion shall have occurred, then Licensee agrees to fund a gravel placement program subject to reasonable jointly determined locations, methods, cost and timing for such gravel placement.

c. Ramping Rate: A study to determine whether and under what operating conditions a ramping rate slower than six inches per hour is appropriate to avoid adverse impacts upon critical life stages of anadromous fish (e.g. spawning, emergence and rearing). Such study shall be conducted over one season following initial project operation and may require an additional year of study upon demonstration of good cause for such extension. If study findings indicate adverse impacts, the joint agencies shall recommend and Licensee shall implement appropriate lower ramping rates immediately notwithstanding any provisions herein to the contrary.

d. Fish Passage: Studies to determine whether the powerhouse berm facilitates successful upstream migration of anadromous fish and whether entry into powerhouse draft tube outlets causes injury to such anadromous fish.

e. River Temperatures: A study of river temperatures based upon continuous monitoring by thermograph at a point below the diversion dam where return flows are fully mixed with stream flows. Annual reports of temperature studies will be provided to the Commission and to the joint agencies by the Licensee.

4. Improved Public Access to Sultan River.

Licensee shall improve public access to the area above the powerhouse once project operation has begun by removing or relocating existing gates inhibiting such access in a manner consistent with public safety.

5. Project Operation-Ramping Rate.

Licensee shall operate the powerhouse at a ramping rate no greater than 0.5 feet per hour as measured at the powerhouse, and at such lower ramping rate as may be determined per paragraph 3c above. If a ramping rate other than permitted by the terms of this agreement, or operation in a peaking mode, is requested by Licensee, the joint agencies and each of them shall have a reserved right to hearing before the Commission on objections to Licensee's request(s) and to seek judicial review of the Commission's determination if contrary to the position advocated by the objecting agency.

6. Project Operation - Water Temperature.

Licensee shall construct a surface withdrawal intake structure at Spada Lake as depicted by Exhibit L, Sheet 42, and contained in Appendix C of FERC Final EIS for Project 2157. Further, Licensee shall operate said intake structure so that the temperature of ~~combined fishwater return flows and river flows passing the diversion dam~~ approximate to the fullest extent possible,² the daily mean of recorded temperatures as recorded at the diversion dam for the years 1969-79, and also remain within the recorded daily minimum-maximum temperature range. Licensee shall notify the joint agencies of deviations from said minimum-maximum temperature range whenever such deviations occur for more than one monitoring period. What constitutes a "monitoring period" shall be jointly agreed upon

² It is understood that meteorological and hydrological conditions may affect reservoir temperatures such that meeting the daily mean temperature standard may be impossible.

by the Licensee and the joint agencies prior to project operation.

7. Flood Control.

As specified by Article 57, Licensee and the Corps of Engineers (COE) shall enter into an agreement providing a reservoir operating rule curve for flood control, if any, and power operations. Any agreement between the Licensee and the COE shall be preceded by a full consultation with the Joint Agencies. Licensee shall make no agreement to provide flood control other than provided by normal Project operation if it would substantially impair the ability to protect, mitigate and enhance anadromous and resident fisheries and wildlife resources. In the event the parties cannot agree on a plan of operation, the Commission reserves the right to specify the rule curve for flood control and power operations taking into consideration all those elements which will maximize the total benefits of Sultan River resources including power, flood control, fish and wildlife, recreational uses and other considerations. If the rule curve proposed by Licensee or COE would include project operation in a peaking mode, or a different ramping rate than specified in paragraph 5 above, or at different minimum flows than specified in paragraph 2 above, the joint agencies and each of them shall have the right to hearing before the Commission on objections to the rule curve proposed and to seek judicial review of the Commission's determination if contrary to the position advocated by the objecting joint agency.

8. Steelhead Planting Program.

Upon commencement of project operation and annually thereafter the Licensee agrees to pay costs for production of 30,000 steelhead smolts, or their equivalent, to be produced at an existing Washington Department of Game facility and replanted in the Snohomish Basin. The Washington Department of Game has agreed to submit annual budget proposals to Licensee for the program prior to August 1 of each year. After the first such annual proposal, the Department of Game shall submit a report to Licensee on the preceding year's program including allocated costs, location of smolt plants and Sultan River catch records.

9. In the event that the Commission shall at some future time order or allow project modifications, or modifications and conditions of project operation, which differ from the terms and conditions herein, the Joint Agencies, and each of them, shall have a reserved right to object to such modifications.

9.1 The Tulalip Tribes of Washington agree to the foregoing terms and conditions only if FERC enters the order described in paragraph 6.2 and its subparagraphs of a separate Settlement Agreement between licensees and the Tribe executed by the Tribe simultaneously herewith; PROVIDED, FURTHER, the Tribe's agreement to the foregoing terms and conditions is contingent upon the ratification by FERC of said separate Settlement Agreement between licensees and the Tribe.

EXECUTED this _____ day of _____, 1982, at _____,

Washington.

Licensees:

PUBLIC UTILITY DISTRICT NO. 1
OF SNOHOMISH COUNTY

By *D. D. Anderson*

CITY OF EVERETT

By _____

Joint Agencies:

NATIONAL MARINE FISHERIES SERVICE

By _____

U.S. DEPARTMENT OF INTERIOR

By _____

WASHINGTON DEPARTMENT OF GAME

By _____

WASHINGTON DEPARTMENT OF FISHERIES

By _____

TULALIP TRIBES OF WASHINGTON, INC.

By *Donald G. ...*