

5 1994

2

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

City of Seattle, Washington

Project No. 2959-047  
Washington

OCT

ORDER APPROVING AND MODIFYING WETLANDS MITIGATION PLAN

(Issued September 29, 1994)

On August 9, 1994, the City of Seattle, Washington, licensee for the Tolt River-South Fork Project, filed a wetland mitigation plan. The plan is required by our Order Amending License and Revising Annual Charges issued June 9, 1994.<sup>1</sup> The project is located on the South Fork Tolt River, a tributary to the Snoqualmie River, near the City of Carnation, in King County, Washington.

Background

On May 9, 1994, the licensee filed an application to change project features. We reviewed the application and issued an environmental assessment<sup>2</sup> (EA) which analyzed the application's environmental impacts. Our EA concluded that approving the application would not constitute a major federal action significantly affecting the quality of the human environment.

We approved the application in our June 9 Order Amending License and Revising Annual Charges. One of the approved changes was the addition of a buttress structure to the downstream side of the Regulating Basin's South Dam. The buttress is necessary to reduce the risk of dam failure during a severe earthquake.

The new buttress will impact 0.08 acre of wetlands (called wetland E in the application). Consequently, our EA recommended wetlands mitigation. Our June 9 order approving the application required the licensee to file, for Commission approval, a wetland mitigation plan. The licensee filed that plan.

The Licensee's Wetland Mitigation Plan

The licensee proposes out-of-kind mitigation. Their plan is to remove a natural barrier on Stossel Creek (a tributary of the Tolt River) which has blocked upstream migration of coho salmon

<sup>1</sup> An errata notice modifying this order was also issued June 9, 1994.

<sup>2</sup> Environmental Assessment, Application for Amendment of License, Change in Project Features, dated June 2, 1994. This document can be obtained in the Commission's files for this project.

and steelhead trout for several years. During migration, fish accumulate below the barrier and end up spawning in crowded conditions. Spawning success is reduced because of limited habitat and superimposed redds. To correct the problem, an existing side channel around the barrier would be improved by removing rock and placing log or timber weirs at intervals to provide steps and pools. Fish would be able to pass around the barrier, using the side channel, and continue upstream to spawn where more habitat is available.

Consultation

As required by our June 9 order, the licensee consulted with the U.S. Fish and Wildlife Service (FWS) and the Washington Department of Fish and Wildlife (WDFW). Both agencies approved the licensee's wetland mitigation plan by letters dated August 10 and August 5, 1994, respectively.

Modifications

The licensee expects to have finished their work on Stossel Creek by the end of summer 1995. So we can track the licensee's progress in implementing their plan, we are requiring the licensee to file a report by August 31, 1995, describing all completed work and giving a schedule for any work still incomplete. The Commission will reserve the right to require additional monitoring reports should they be necessary.

Additional Wetland Impacts

In their plan, the licensee says they identified additional wetland impacts not previously known and not included in the mitigation plan described above. The licensee says that a 0.07-acre wetland, designated as wetland K, will be impacted by construction of the new river return system. The river return system is a series of structural modifications to the project's energy dissipation structure authorized in our June 9 order.

The licensee says that because their mitigation plan does not include mitigation for wetland K, they intend to supplement the mitigation plan to account for wetland K. The licensee has conceptual plans for their supplement which would restore a group of nearby wetlands impacted by a temporary construction road. These wetlands would be restored after the road is no longer needed, in about mid-1996. The licensee discussed these plans (for the supplement) with the FWS and WDFW.

The licensee should file their wetland supplement for Commission approval because impacts to wetland K are not covered in the existing plan approved by this order. The licensee should continue consulting with the FWS and WDFW while developing the supplement. This order requires the licensee to file the above

supplement by December 31, 1995. This due date gives the licensee ample time to consult with the agencies and develop the supplement.

With our modifications, the licensee's wetland mitigation plan should be approved. The Commission should reserve the right to require additional wetland mitigation and to make changes to the wetland mitigation plan and any supplements.

The Director orders:

(A) The licensee's wetland mitigation plan filed August 9, 1994, as modified by paragraphs (B) and (C) below, is approved.

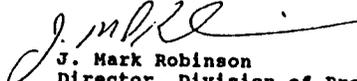
(B) The licensee shall file a report, by August 31, 1995, describing their progress in removing the fish barrier on Stossel Creek contained in their wetland mitigation plan. The report shall describe all completed work and shall give a schedule for any work not completed. The Commission reserves the right to require additional wetlands mitigation, to require additional monitoring reports, and to make changes to the wetland mitigation plan.

(C) The licensee shall file, for Commission approval, by December 31, 1995, a supplement to their wetland mitigation plan. The supplement shall describe the licensee's mitigation measures for wetland K impacted by construction of the project's river return system. The supplement shall also include monitoring provisions and provisions for filing monitoring reports with the Commission.

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

The Commission reserves the right to require changes to the supplement. Upon Commission approval, the licensee shall implement the supplement, including any changes required by the Commission.

(D) 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

### Installed Capacity

The installed capacity would be changed from 15,000 kilowatts (kW) to 16,700 kW. Hydraulic capacity would not be changed.

### Buttress Structure

A rockfill buttress would be added to the downstream side of the Regulating Basin's South Dam. The buttress is necessary to reduce the risk of a dam failure during an extreme earthquake event. About 35,000 cubic yards of material would be used to create the buttress. It would occupy almost an acre of land. About 10,000 cubic yards of clean gravel would be placed as a drain layer between the existing dam and the buttress structure.

### Access Road

A new access road would be built to the relocated switchyard. The access road would be about 600 feet long.

### River Return System

When excess flows are present, water from the tailrace flows through a conduit to an energy dissipation structure where it's returned to the river. The City wishes to modify the energy dissipation structure to include a weir chamber, weir, and apron leading to the river. The modifications are designed to prevent returned water from attracting migrating fish which could hinder migration.

### Diversion Conduit

The diversion conduit which conveys water from the powerhouse to the Regulating Basin would be increased from 6 to 8 feet in diameter. In addition, water would enter the Regulating Basin through the City's existing inlet structure. A new inlet structure would not be built.

### Sediment Detention Pond

A permanent sediment detention pond would be built southwest of the powerhouse. It would have the capacity to hold 40,000 cubic feet of water. During construction, the pond would be used to "clean" sediment laden water. As a permanent feature, it would be used during the life of the project for storm water control and to settle sediment carried in storm water surges.

#### 2. No action alternative

No action would result in denial of the amendment. The City would be required to construct the project as licensed.

### D. CONSULTATION

As a member of the Tolt Fisheries Advisory Committee (TFAC), the City has met regularly with resource agencies to discuss project construction. TFAC members include:

- the City of Seattle, Washington;
- the National Marine Fisheries Service (NMFS);
- the Tulalip Tribes (Tulalip);
- the U.S. Fish and Wildlife Service (FWS); and
- the Washington Department of Fish and Wildlife (WDFW).

All of the TFAC members have agreed to the proposed changes. The FWS requests wetlands mitigation for wetlands removed by construction of the buttress structure (letter dated April 28, 1994). This issue is discussed in the issues and recommendations section.

In addition, the City consulted with the State Historic Preservation Officer (SHPO). The SHPO concludes that construction should have no effect on cultural resources. This issue is discussed in the issues and recommendations section.

### E. AFFECTED ENVIRONMENT<sup>1</sup>

The project lies in northeastern King County at the western margin of Washington's Cascade Mountains. It's approximately eight miles Northeast of Carnation midway between the town of Gold Bar and Snoqualmie Falls. Project elevations range from about 1,600 feet at the upstream eastern end of the pipeline, about 760 feet at the powerhouse, and about 340 feet at the downstream western end of the project.

The upstream eastern end of the project is at the mouth of a mountain valley where the project dam and reservoir are located. West of the dam and reservoir, the South Fork Tolt River cuts through plains of glacially-deposited till and outwash material.

The area is mostly forested except for the pipeline right-of-way which is planted with grass. There is no old-growth forest; all of the surrounding lands are commercially timbered. Some small areas of rock outcropping occur, mostly at the upper reaches of the project.

As mentioned above, industrial activities in the project vicinity include commercial forestry and water supply. Development is limited to logging roads, water supply, and transmission facilities.

<sup>1</sup> This information is from the City's Erosion and Sediment Control Plan filed April 1, 1993.

## F. ENVIRONMENTAL IMPACTS

### 1. The proposed action

The environmental impacts of the City's proposed changes are summarized below.

#### Penstock

About 900 feet of the project's penstock would be relocated about 300 feet to the north. The licensed location for this segment of penstock is along a ridge immediately adjacent to and above the river. The change was requested by TFAC members who were concerned that construction of this segment could introduce large amounts of sediment into the river. The penstock's proposed new location is away from the river through a forested area that has been partially cleared.

This minor rerouting of the penstock should significantly reduce the risk of introducing sediment to the river; the proposed new route has environmental benefits.

In addition, the City intends to use (for the entire penstock) 68-inch outside diameter instead of 69-inch inside diameter pipe. No environmental impacts are expected from this proposed change.

#### Turbine, Powerhouse, and Switchyard

No environmental impacts are expected from these proposed changes. The switchyard would still result in approximately the same amount of land disturbance; it would be located on the southwest side instead of the powerhouse's north side.

#### Installed Capacity

No environmental impacts are expected. The project's hydraulic capacity will not change.

#### Buttress Structure

A rockfill buttress would be added to the downstream side of the Regulating Basin's South Dam. Just under one acre of land would be permanently impacted, about half of which is a palustrine emergent scrub/shrub wetland. This wetland is already partially disturbed, most likely from original dam construction (see issues and recommendations section).

#### Access Road

The new access road to the switchyard would be an upgrade of

an existing 4-wheel drive unimproved road about 600 feet long. Some minor grading has already been done.

Improvement of the existing 4-wheel drive road should not have significant environmental impacts.

#### River Return System

Modifying the energy dissipation structure to include a weir chamber, weir, and apron leading to the river was another TFAC recommendation. The proposed modifications should reduce the risk of attracting migrating fish to the point of discharge where excess flows are returned to the river. These modifications are environmentally beneficial.

#### Diversion Conduit

Enlarging the diversion conduit from 6 to 8 feet is not expected to have any environmental impacts.

#### Sediment Detention Pond

The proposed sediment detention pond would be an additional land disturbing feature. However, its function is to settle any sediment laden water prior to returning this water to the river. It would also be used to control storm water runoff during the life of the project. As such, the pond should be environmental beneficial.

### 2. No action alternative

No action would require the application's denial. The benefits of relocating the penstock, modifying the energy dissipation structure, and construction of the sediment detention pond would not be gained.

## G. ISSUES AND RECOMMENDATIONS

#### Wetlands

The City's proposed amendment application would impact about half an acre of wetlands, most of it from construction of the proposed buttress structure. An additional one-half acre of wetlands would be impacted by construction of the remaining (licensed) project features. To satisfy King County and Washington State wetlands mitigation requirements, the City prepared a report, a preliminary wetlands mitigation plan, and a "final" wetlands mitigation plan to mitigate for all wetlands impacts (about an acre total). These plans are listed below:

Wetlands Study and Addendum of the South Fork Tolt River Hydroelectric Project Pipeline Route, King

County, Washington - dated November 1993;

- Wetland Mitigation Design Basis Memorandum - dated November 1993; and
- Proposed Out-Of-Kind Wetland Mitigation Plan, South Fork Tolt River Hydroelectric Project - dated May 6, 1994.

In the City's wetlands mitigation plan dated May 6, 1994, the City proposes to add an addendum which would propose specific mitigation for the one-half acre of wetlands lost by construction of the buttress structure. The addendum would be added to the May 6 plan after consultation with the U.S. Army Corps of Engineers.

This addendum should be filed for Commission approval as a discrete plan to mitigate for wetlands impacted by the proposed buttress structure. It appears from the City's above reports, that the buttress structure is the only feature in the amendment application which would cause permanent wetlands losses.

#### Cultural Resources

Prior to licensing, the City performed a cultural resources survey of the proposed penstock, diversion conduit, river return conduit, and powerhouse locations. Six archaeological artifacts and two historical structures were identified. Even with these identifications, the project was determined not to have an adverse impact on cultural resources.

Of the City's proposed changes, only the revised penstock, new access road, and the buttress structure are located outside the original survey area. Of these features, the new access road and the buttress structure are located in previously disturbed areas.

Since the revised penstock would be outside the surveyed area and has the potential to disturb any unknown cultural resources, the City surveyed the proposed new route. No significant cultural resources were found. By letter dated April 22, 1994, the SHPO concurred with that finding.

Should the City discover any previously unknown archaeological resources during construction, article 28 requires the City to stop all work and consult with the SHPO to develop a mitigation plan for the protection of significant archaeological or historical resources.

#### **H. RECOMMENDED ALTERNATIVE AND CONCLUSIONS**

The recommended alternative is the proposed action, approval

of the City's application for amendment of license. The application includes proposals which reduce the project's environmental impacts, including: (1) a reduced risk of sedimentation in the river and (2) reduced attraction flows where excess water is returned to the river. The application would have minor impacts to wetlands. We recommend that any order approving the amendment application require a plan to mitigate wetlands impacted by construction of the buttress structure.

Approval of the application would not constitute a major federal action significantly affecting the quality of the human environment.

**Prepared by Steve Hocking: Environmental Protection Specialist**

**FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426**

**OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300**



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES  
PERMIT NO. 100  
WASHINGTON, DC  
JUN 13 1984  
U.S. POSTAGE

*Robert*

P-2959 101864  
ROBERT TURNER DIRECTOR  
WASHINGTON DEPT. OF FISH & WILDLIFE  
1111 WASHINGTON STREET, S.E.  
P. O. BOX 43155  
OLYMPIA, WA 98504-3155

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

-2-

City of Seattle, Washington

Project No. 2959-045  
Washington

ORDER AMENDING LICENSE AND REVISING ANNUAL CHARGES

(Issued June 09, 1994)

On May 9, 1994, the City of Seattle, Washington, licensee, filed an application to amend its license to revise the features as a result of final design changes, for the Tolt River-South Fork Project, FERC No. 2959.

Project

On March 29, 1984, the Commission issued a license<sup>1</sup> for construction, operation, and maintenance of the Tolt River-South Fork Project. The project includes a powerhouse containing one 23,000-horsepower (hp) vertical shaft Pelton turbine connected to a 15,000-kW generator. The authorized installed capacity is 20,000 hp (15,000 kW).

Amendment

In the filing, the licensee indicated that during 1982 and 1991, modifications to the project's authorized features were made to reflect current design standards, to increase the cost effectiveness, and to implement the environmental requirements for the project. The major changes include:

- Relocation within the project boundary, of the lower 900 feet of the penstock,
- Configuration of the turbine-generator unit (from vertical to horizontal), size and orientation of the powerhouse, and relocation of the switchyard within the project boundary,
- Rating capacities of the turbine-generator unit. The turbine's capacity changed from 23,000 hp to 22,273 hp, and the generator's capacity changed from 15,000 kW to 16,800 kW. The change in rating capacities does not affect the project's hydraulic capacity. The installed capacity will be 22,273 hp (16,700 kW), the capacity of the turbine,
- Construction of a buttress fill on the downstream side of the existing South Dam for seismic upgrade,

<sup>1</sup> 26 FERC ¶ 61,406.

- A new access road from the left abutment of the South Dam to the new switchyard location, and
- A permanent sediment/detention pond.

Consultation

The licensee consulted with the following agencies:

- The National Marine Fisheries Service,
- The State Historic Preservation Officer,
- The Washington Department of Fish and Wildlife (WDFW),
- The U.S. Fish and Wildlife Service (FWS), and
- The Tulalip Tribes.

All of the agencies (including the Tulalip Tribes) have agreed to the proposed changes. The FWS requests wetlands mitigation for wetlands removed by construction of the buttress structure. This issue is discussed below.

Environmental Review

The Commission issued an environmental assessment (EA) for the application which is attached to this order. In summary, the EA found that the application would have beneficial or only minor adverse effects. The EA concludes that approval of the application would not result in a major federal action significantly affecting the quality of the human environment.<sup>2</sup> The EA makes one recommendation for wetlands mitigation as discussed below.

Wetlands Mitigation

Construction of the proposed buttress structure would permanently remove about one-half acre of wetlands. Our EA attached to this order recommends mitigation for this loss. The FWS, in their letter dated April 28, 1994, recommends mitigation for this loss.

The licensee intends to add an addendum to their wetlands mitigation plan submitted to King County and Washington State which would mitigate wetlands impacted by the buttress structure. As discussed in the EA, this order requires the

<sup>2</sup> Environmental Assessment for the Tolt River - South Fork Project, FERC No. 2959. This document may be found in the Commission's public files associated with this proceeding.

licensee to file this addendum as an individual plan for Commission approval. The licensee should consult with the FWS and the WDFW prior to filing the plan for Commission approval.

**Revised Exhibits**

In the filing, the licensee submitted a revised exhibit A in part, and exhibit F and G drawings for the Commission's approval. The revised exhibits show the project's modifications. The revised exhibits conform to the Commission's rules and regulations.

**Conclusion**

The change in installed capacity, increasing from 20,000 horsepower to 22,273 horsepower, will amend the annual charge effective the date of commencement of construction. Within 30 days following the start of construction, the licensee is required to file with the Commission a report that indicates the start date of construction.

This change in installed capacity does not materially affect the Commission's determination that the Tolt River-South Fork Project is best adapted to a comprehensive plan for the waterway.

**The Director orders:**

(A) The license for the Tolt River-South Fork Project, FERC No. 2959, is amended as provided by this order, effective the first day of the month in which this order is issued.

(B) The revised exhibit A filed on May 9, 1994, is approved and made a part of the license, superseding, in part, the current exhibit A.

(C) Paragraph (B)(2) of the license is revised in part, to read:

Project works consisting of: (a) the 200-foot-high, 980-foot-long earthfill South Fork Tolt Dam, located at River Mile 10, with a crest elevation of 1775 feet (msl), and equipped with a morning glory-type spillway with ring gate, sluiceways and multiple-level water supply intake impoundment; (b) a 1,030-acre reservoir, with a storage capacity of 56,000 acre-feet; (c) an existing 54-inch diameter stub; (d) a 25,200-foot long, 68-inch outside diameter welded steel pipeline, lined, coated, wrapped, and installed in a trench; (e) an indoor powerhouse containing one horizontal shaft Pelton turbine with two nozzles, rated at 22,273 horsepower at a net head of 891 feet with a synchronous speed of 300 rpm, connected

to a three-phase generator rated at 18,667 kVA, 13.8 kV and 80°C temperature rise, 16,800 kW at 0.9 p.f.; (f) a tailrace; (g) a 96-inch diameter diversion conduit; (h) an existing regulating basin formed by two small dikes and impounding 882 acre-feet; (i) a 4-foot diameter river return conduit and energy dissipating structure; (j) generator lead; (k) a switchyard with a 15,000/20,000 kVA, 13.8-115 kV, three-phase step-up transformer; (l) powerhouse, switchyard and river return access road system; (m) powerhouse sediment/detention pond; (n) an 8.4-mile-long, 115 kV transmission line; and (o) appurtenant facilities.

(D) Within 30 days following the start of construction, the licensee shall file a report that indicates the start date of construction. The report shall address the start of both the construction of the project's civil works and the manufacture of the turbine/generator units. The report shall also include supporting documentation relating to the start of construction that includes: (a) written documentation of all works performed since the start of construction, (b) photographs of work completed, (c) contractor's progress reports, and (d) any other supporting documentation relevant to the start of construction. The date of commencement of construction will be used to amend license article 36 for the purpose of assessing annual charges for the revised installed capacity. The licensee must file eight copies of this report with the Commission and submit one courtesy copy to the Portland Regional Office.

(E) Within 60 days from the date of this order, the licensee shall file, for Commission approval, a wetlands mitigation plan to mitigate wetlands impacted by construction of the buttress structure on the downstream side of the Regulating Basin's South Dam. This plan shall give the actual amount of wetlands impacted and shall contain monitoring provisions (if necessary) and provisions for filing monitoring reports with the Commission.

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

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

(F) The following revised exhibit F and G drawings are approved and made a part of the license:

<u>Exhibit</u>	<u>FERC No.</u>	<u>Title</u>	<u>Superseding</u>
F-9.1	2959-24	Proposed Pipeline Plan & Profile	2959-9
F-10.1	2959-25	Proposed Pipeline	2959-10
F-11.1	2959-26	Proposed Powerhouse General Plan	2959-11
F-12.1	2959-27	Proposed Powerhouse Plan & Sections	2959-12
F-13.1A	2959-28	Proposed River Return Flow Structure	2959-13
F-13.1B	2959-29	Proposed Diversion Conduit	.....
G-5.1	2959-30	Project Boundary Regulating Basin and Powerhouse	2959-21

(G) Within 90 days of the date of issuance of this order, the licensee shall file an original and two duplicate aperture cards of the approved drawings. The original should be reproduced on silver or gelatin 35mm microfilm. The duplicates are copies of the originals made on Diazo-type microfilm. All microfilm should be mounted on Type D (3 1/4" x 7 3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2959-24 through 2959-30) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number should be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC exhibit (i.e., F, and G), Drawing Title, and date of this order should be typed on the upper left corner of each aperture card.

The original and one duplicate set of aperture cards should be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards should be filed with the Commission's Portland Regional Office.

(H) 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

ENVIRONMENTAL ASSESSMENT  
APPLICATION FOR AMENDMENT OF LICENSE  
CHANGE IN PROJECT FEATURES

TOLT RIVER - SOUTH FORK HYDROELECTRIC PROJECT

FERC PROJECT NO. 2959-045

WASHINGTON

Federal Energy Regulatory Commission  
Office of Hydropower Licensing  
Division of Project Compliance and Administration  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

June 2, 1994

ENVIRONMENTAL ASSESSMENT

Project Name: Tolt River - South Fork

FERC No. 2959-045

A. APPLICATION

1. Application: Amendment of License
2. Date filed: May 9, 1994
3. Applicant: City of Seattle, Washington
4. Water body: South Fork Tolt River
5. Nearest Town: Carnation
6. County & state: King County, Washington

B. PURPOSE AND NEED FOR ACTION

The City of Seattle, Washington (City), licensee for the Tolt River - South Fork Project, applied for an amendment of license to change project features. The City says their proposed changes are necessary to bring the project up to current design standards, to make the project more cost effective, and to reduce the project's environmental impacts.

C. PROPOSED ACTION AND ALTERNATIVES

1. Description of the proposed action

The licensee proposes the following changes.

Penstock

The City would relocate the lower most segment of penstock where it enters the powerhouse. About 900 feet of penstock would be moved about 300 feet away from its licensed location. The new location would run the penstock closer to the powerhouse access road and further from the river.

Instead of using a 69-inch inside diameter penstock, the City would install a 68-inch outside diameter penstock.

Turbine, Powerhouse, and Switchyard

The project's turbine would have a vertical instead of a horizontal orientation. In addition, the powerhouse would be slightly smaller, and the project's switchyard would be moved from the north to the southwest side of the powerhouse.

48 FEREC 61,067

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

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

The City of Seattle, Washington ) Project No. 2959-019

ORDER ON REHEARING REQUESTS, APPROVING  
SETTLEMENT AGREEMENT, AND LIFTING STAY

(Issued July 20, 1989)

By order issued March 29, 1984, <sup>1/</sup> the Commission issued a license to the City of Seattle, Washington (Seattle), for the 15 MW South Fork Tolt River Project No. 2959, to be located at an existing dam and reservoir located on the South Fork Tolt River within the Snohomish River Basin in King County, Washington, and operated by Seattle for municipal and industrial water supply. Timely requests for rehearing of the license order were filed by a number of parties to the proceeding. <sup>2/</sup>

Article 25 of the 1984 license established interim minimum flow requirements and required Seattle to consult with FWS, NMFS, Washington Fisheries, Washington Wildlife, and the Tulalip Tribes to determine the flow release regime needed to ensure the protection and enhancement of fishery and wildlife resources affected by the project, and to submit the recommended regime to the Commission for approval. Article 27 of the 1984 license established interim ramping rates and required Seattle to consult with the same agencies and Tribes to determine any changes in the ramping rates or other project operations or facilities for the protection of the fishery resources, to be submitted to the Commission for approval.

The rehearing requests focused primarily on the need to provide adequate long-term provisions for flows and habitat

<sup>1/</sup> 26 FEREC ¶ 61,406 (1984).

<sup>2/</sup> Washington Department of Fisheries (Washington Fisheries), Washington Department of Game (renamed Washington Department of Wildlife (Washington Wildlife)), Tulalip Tribes of Washington, National Marine Fisheries Service (NMFS), U.S. Department of the Interior (Interior) (collectively, "agencies"), and Seattle.

Project No. 2959-019

-2-

restoration. <sup>3/</sup> The agencies recommended that license conditions for Project No. 2959 should include specific provisions for: (1) a long-term flow regime, approved by state and federal fish and wildlife agencies and the Tulalip Tribes, based on the best available data and optimum habitat utilization; (2) long-term ramping rates (water level fluctuations below the dam) which will prevent stranding of juvenile fish and dewatering of redds (spawning nests); (3) project construction measures to prevent the triggering of landslide activity; (4) erosion and sediment control requirements approved in advance of construction by state and federal fish and wildlife agencies and the Tulalip Tribes; and (5) a project monitoring program to determine the adequacy of conditions (1)-(4).

On July 5, 1984, we stayed the license for Project No. 2959 pending further environmental review, in light of the licensee's admission that its application contained data that was erroneous. <sup>4/</sup> We also included Project No. 2959 in the cumulative environmental impact analysis that the Commission undertook with respect to a number of license applications for projects proposed to be located in the Snohomish River Basin. <sup>5/</sup> A final environmental impact statement (FEIS) on the Snohomish River Basin project proposals was issued in June 1987. <sup>6/</sup> In our order making findings on the results of the Snohomish FEIS, we deferred action on Project No. 2959, on the basis of Seattle's statement that the parties were nearing a settlement agreement on the appropriate minimum flows from the project and on reduction of sedimentation impacts. <sup>7/</sup>

On October 28, 1988, Seattle filed a settlement agreement (Agreement) between it, Washington Fisheries, Washington Wildlife, the Tulalip Tribes, NMFS, and FWS. The Agreement establishes minimum flows from the project, preliminary ramping

<sup>3/</sup> The South Fork Tolt River contains valuable populations of, and supportive habitat for, anadromous fish. Steelhead trout are the most abundant, with winter-run steelhead the dominant species. Coho, chinook, chum, and pink salmon spawn in the mainstem of the river.

<sup>4/</sup> See 28 FEREC ¶ 61,015 (1984).

<sup>5/</sup> See Notice of Request for Comments, 30 FEREC ¶ 61,069 (1985).

<sup>6/</sup> Final Environmental Impact Statement, Snohomish River Basin, Docket No. EL85-19-101, Washington, D.C., Federal Energy Regulatory Commission, Office of Hydropower Licensing, June 1987.

<sup>7/</sup> See 44 FEREC ¶ 61,181 at p. 61,649 (1988).

ngman  
8-1-89

rates, an outline for pre- and post-project studies, and provisions for completing the project's erosion and sediment control plan. The Agreement also specifies measures that Seattle will take on behalf of the protection, mitigation, and restoration of the South Fork Tolt River anadromous fishery resources. The parties ask that the Agreement be incorporated into the license for Project No. 2959. <sup>8/</sup> If the license is conditioned upon compliance with the Agreement, the parties state that they will no longer challenge the issuance of a license on the basis of fishery issues.

We have reviewed the Agreement and conclude that its inclusion in the license would be in the public interest. However, in light of our ongoing authority and responsibilities under Section 10(a)(1) of the Federal Power Act (FPA), certain changes in project operation pursuant to the Agreement will require prior Commission approval.

#### DISCUSSION

##### Minimum Flows

Section B.2 of the Agreement addresses instream flows and minimum flows released from the project dam. The flows are geared for steelhead trout, the predominant species in the river. The Agreement's instream flows are the same as those recommended in the FEIS. <sup>9/</sup> Seattle shall also maintain minimum releases from the dam via the fish flow release valve of at least 25 cubic feet per second (cfs) between November 1 and January 31, and at least 30 cfs between February 1 and October 31. <sup>10/</sup>

The Agreement provides that the agencies will allow Seattle to reduce the flows to a lesser, "critical flow" level if certain specified circumstances occur. However, since the parties request that the Agreement be incorporated in the project license, and since the Commission is responsible for enforcing license conditions, the Commission must be notified whenever the licensee reduces the flow downstream of the dam pursuant to Section B.3. Such notification should include the reasons for

<sup>8/</sup> The Agreement provides that specified of its provisions will remain in effect, even if Seattle does not retain a license for hydropower development at its water supply project. See Section G.8 of the Agreement.

<sup>9/</sup> FEIS at p. 4-10.

<sup>10/</sup> The Agreement also contains minimum flow provisions that would govern in the event that Seattle constructs filtration facilities to use additional reservoir storage.

reducing the flows and how the reasons conform to the criteria set out in Section B.3(b) of the Agreement. Seattle shall serve a copy of its notification upon the agencies. If the agencies disagree with the reduction of the flows, they should notify the Commission for a resolution. Seattle must also file with the Commission a copy of the semi-annual reports to be compiled and provided to the agencies pursuant to Sections B.4 and B.7 of the Agreement, in order that the Commission may monitor Seattle's compliance therewith.

##### Ramping Rates

Sections D.1 and D.2 of the Agreement address ramping rates. <sup>11/</sup> The Agreement provides for downramping at 150 cfs/hour until flow at a U.S. Geological Survey gage located 1.6 miles downstream from South Fork Tolt Reservoir reaches 100 cfs, at which point the downramping rate will be reduced to 50 cfs/hour. These rates are similar to the rates imposed by Article 27 of the license and endorsed by the FEIS. <sup>12/</sup> The Agreement also requires Seattle to undertake an investigation of the effects of the specified downramping rates, as well as slower and faster rates. The Agreement calls for Seattle to submit its study results to the agencies and to negotiate with them any appropriate adjustments to the ramping rates to eliminate any significant impacts to the fishery resources. In light of the Commission's authority and responsibilities under Section 10(a) of the FPA, Seattle must submit any proposed changes to the project ramping rates to the Commission for its prior approval.

##### Sedimentation and Erosion Control

Section E.2(d) of the Agreement requires Seattle to submit an erosion and sediment control plan for the agencies' review and approval. <sup>13/</sup> In addition, we require that Seattle file its proposed plan with the Commission for approval at least 90 days before starting any project-related land-clearing, land-disturbing, or spoil-producing activities.

<sup>11/</sup> Rapid reduction in water levels could strand adult and juvenile fish in the channel downstream of the powerhouse.

<sup>12/</sup> FEIS at p. 4-11.

<sup>13/</sup> Diversions of flow from the bypass reach could reduce the sediment-flushing capacity of the stream, which may result in increased sedimentation of the streambed. The FEIS concluded that Seattle's erosion, slope stability, and sedimentation control plan should be further developed, in consultation with the agencies. FEIS at pp. 4-3 through 4-6.

Other Studies

Sections E.2 and E.3 of the Agreement also provide that Seattle will conduct a variety of other studies during the license term. These include water temperature and sediment monitoring, salmon and steelhead surveys, and a gravel depletion study. A copy of interim and final reports on these studies must be filed with the Commission. In accordance with Section E.1(b), final reports shall include comments and recommendations from the agencies. If the study results indicate that changes in project design or operation are necessary to minimize adverse project impacts on fishery resources, Seattle shall submit for Commission approval its proposals and a schedule for implementing such proposals.

Dispute Resolution Procedures

Section A.4 of the Agreement includes a dispute resolution mechanism concerning compliance with the Agreement. The parties would first attempt to resolve a dispute by referring it to the Tolt Fishery Advisory Committee. <sup>14/</sup> If the Committee cannot resolve the dispute, a party may refer the dispute to the Commission for resolution. <sup>15/</sup>

As we have noted in two other recent orders approving settlement agreements with provisions for referral of disputes to the Commission, we anticipate referring most such disputes to the Commission's Division of Project Compliance and Administration within the Office of Hydropower Licensing. <sup>16/</sup> Under delegated authority, the Office and Division may act on specified types of

- <sup>14/</sup> The Committee is composed of one representative of each party to the agreement. Besides its role in dispute resolution, the Committee will serve as the primary means of consultation and coordination among the licensee and the fishery agencies and Tribes. See Section F of the Agreement.
- <sup>15/</sup> Prior to referral to the Commission, any party may refer the dispute to a mutually agreeable third party for decision. However, the decision of the arbitrator shall be nonbinding and subject to de novo Commission review. See Section A.4(b).
- <sup>16/</sup> See Public Utility District No. 2 of Grant County, Washington, 45 FERC ¶ 61,401 (1988), and Public Utility District No. 1 of Chelan County, Washington, 46 FERC ¶ 61,033 (1989).

filings related to compliance matters. The initial staff decision is subject to de novo review by the Commission. <sup>17/</sup>

Any resolution by the Committee or a third party pursuant to Section A.4 that entails a change in the terms of the license or in the operation of the project shall result in the filing of an appropriate application therefor by Seattle as soon as practicable after the dispute is resolved.

Finally, we note that our approval of this Agreement does not affect the Commission's authority, as reserved in various articles of the license, to require, after notice and opportunity for hearing, alterations to project facilities or operations that may be warranted by changed circumstances. We intend that any such reserved authority would be exercised only after full consideration of the benefit sought to be achieved thereby as balanced against the possibility that as a consequence the settlement could be voided, thus eliminating the benefits obtained thereunder. <sup>18/</sup> If any party voids the agreement, the licensee shall, within 30 days, inform the Commission in writing.

Miscellaneous

Paragraph G.9 of the Agreement provides that, in the event that a developer other than Seattle builds or operates a hydroelectric facility using the South Fork Tolt Dam and Reservoir, such a facility shall be operated as a baseload, non-peaking generation facility; be subordinate to Seattle's municipal and industrial water supply needs and follow Seattle Water Department's operating regime; and include engineering features similar to those specified in the license application for this project. Because the Agreement is being made a part of the license for Project No. 2959, that Agreement, as modified herein, becomes a condition of the license. Thus, if the Commission approves a transfer of the license, all the license conditions are binding on the new licensee. However, if the license is surrendered or otherwise terminated and a license is subsequently issued to a different entity, then the Agreement would not automatically bind that entity. Of course, the parties could negotiate similar terms with that entity or could request

- <sup>17/</sup> In order that the Commission is kept informed about compliance matters related to the Agreement, we are requiring that Seattle file a report within 30 days of any violation of, or compliance disputes under, the Agreement.
- <sup>18/</sup> See 45 FERC ¶61,401 at p. 62,260 and 46 FERC ¶ 61,033 at p. 61,198.

that the Commission include the Agreement's terms in any new license issued. 19/

Department of Ecology Rehearing Request

The Washington Department of Ecology (Washington Ecology) also filed a request for rehearing of our license order, but is not a signatory to the settlement agreement. In its request for rehearing, Washington Ecology argued that Seattle has not been granted a state water right permit for the project, and that it would be a violation of Sections 9 and 27 of the FPA for the Commission to issue a license where the licensee had not previously obtained a state water rights permit for the project. However, the Commission has consistently held that obtaining water rights necessary for a project is not a prerequisite for licensing. 20/

The agency also argued that the minimum flows in the license are contrary to those previously set by Washington Ecology in the water rights permit issued for the existing water supply project, and in addition are wrong in that they were derived from a study that is erroneous. The agency's argument regarding consistency with minimum flows prescribed in the water rights permit is not well taken. See Rock Creek Limited Partnership, 38 FERC ¶ 61,240 (1987), rehearing denied, 41 FERC ¶ 61,198 (1987), affirmed, State of California v. FERC, 9th Cir. No. 87-7538 ( June 6, 1989). The errors in Seattle's study have been acknowledged, and the settlement agreement has arrived at minimum flows which are based on better information and are agreed to by the state and federal fish and wildlife agencies. We believe that the minimum flows that we are approving herein meet Washington Ecology's objections on rehearing. We will therefore grant its rehearing request in part and deny it in part.

The Commission orders:

(A) The Settlement Agreement between the City of Seattle, Washington, the National Marine Fisheries Service, the Washington Department of Wildlife, the Washington Department of Fisheries, the U.S. Department of the Interior, and the Tulalip Tribes of

19/ The Commission takes into account the current operating regime of an existing facility when it issues a license at that facility to an entity other than the existing owner/operator.

20/ See, e.g., City of Santa Clara, California, 20 FERC ¶ 61,257 (1982), reh'g denied, 22 FERC ¶ 61,121 (1983); State of California Department of Water Resources, 18 FERC ¶ 61,056 (1982).

Washington, which was filed in this proceeding on October 28, 1988, and is attached to this order, is approved, subject to the terms of the text of this order, and its terms and provisions are incorporated into the license for Project No. 2959 with the same force and effect as if set forth fully in the March 29, 1984 order issuing license for Project No. 2959. The provisions of Paragraph B.2 regarding minimum flows supersede Article 25 of the license. The provisions of Paragraph D.2 supersede Article 27 of the license.

(B) The requests for rehearing filed by the Washington Department of Fisheries, the Washington Department of Game (renamed the Washington Department of Wildlife), the Tulalip Tribes of Washington, the National Marine Fisheries Service, and the U.S. Department of the Interior are dismissed.

(C) The request for rehearing filed by the Washington Department of Ecology is denied as to its arguments under Sections 9 and 27 of the Federal Power Act and is granted in all other respects.

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

(2) Whenever a dispute arises under Paragraph A.4 of the Settlement Agreement that is resolved without referral to the Commission, Seattle shall, within 30 days, file with the Commission, and send a copy to the Regional Office, a report containing an explanation of the dispute and the nature of the resolution.

(E) The stay of the license for Project No. 2959 is lifted.

By the Commission.

( S E A L )

*Lois D. Cashell*

Lois D. Cashell,  
Secretary.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

THE CITY OF SEATTLE, WASHINGTON

SOUTH FORK TOLT RIVER  
HYDROELECTRIC PROJECT

PROJECT NO. 2959

SETTLEMENT AGREEMENT

This Settlement Agreement is entered into this 26<sup>th</sup> day of October, 1988, by the City of Seattle (the City) acting by and through the Superintendent of City Light and the Superintendent of Water, the Washington Department of Fisheries, the Washington Department of Wildlife, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Tulalip Tribes of Washington. For purposes of this Settlement Agreement, the above entities are referred to as "Party" or collectively as "Parties". The parties other than the City of Seattle are referred to as the "the Agencies". The South Fork Tolt River Hydroelectric Project is referred to as the "Project".

A. GENERAL

1. Purpose and Scope

(a) This Settlement Agreement establishes the City's obligations to provide minimum flows; to provide and adjust ramping rates; to implement a new flow schedule in the event

of water supply filtration; and to conduct pre- and post-Project studies including additional habitat improvement measures for the South Fork Tolt River. This Settlement Agreement also establishes the Agencies' obligations in support of this Settlement Agreement.

(b) It is the intent of the Parties that this Settlement Agreement shall resolve the agencies objections to a license issuance for the Project.

(c) The Parties intend that this Settlement Agreement be incorporated into the new license for the Project and enforceable/by FERC as a special article thereof.

(d) The physical and biological resource inventories and studies prepared by the City or its consultants during the course of the licensing process, and through consultation with the Agencies and Tribes, comply with those study requirements outlined in the Washington Department of Fisheries Snohomish River Basin Guidelines. These Guidelines, now referred to as the Hydroelectric Assessment Guidelines, were originally designed to assess those impacts which would cause and contribute to cumulative impacts in the Snohomish River Basin. They are now being used for other river basins in the State of Washington.

The Project presents an unusual situation in that it involves an existing dam and reservoir. Therefore, immediate opportunities exist to mitigate existing impacts by improving flows, as well as mitigating anticipated hydroelectric project impacts. Existing and anticipated Project impacts on aquatic resources which were identified through studies, and which

could be fully addressed prior to Project licensing, have been mitigated. Other identified fisheries impacts, which could not be measured or assessed prior to Project construction, will be studied and mitigated under provisions of this Settlement Agreement.

(e) It is the intent of the Parties that this Settlement Agreement (as executed or as it may be modified pursuant to Section A.3) shall fulfill all the City's fisheries mitigation obligations for anticipated impacts during the term of the Settlement Agreement for both the Project and the existing municipal and industrial water supply facility, including any future water filtration facility.

(f) It is further agreed that nothing in this Settlement Agreement precludes the Agencies from seeking mitigation for unanticipated impacts related to either the existing water supply facility or the Project. An example would be slides affecting the river.

## 2. Duration

(a) The Seattle Water Department agrees to implement the flows contained herein upon execution of this Settlement Agreement. The Parties recognize that the Seattle Water Department will be seeking approval from the Washington State Department of Ecology in order to continue to maintain said flows.

(b) Except as specifically noted herein all other terms of this Settlement Agreement shall commence on the date of execution by all parties subject to the approval by the

Commission as necessary. It shall continue for the term of the new license to be issued for the Project, plus the term of any annual licenses.

(c) In the event the Project is not licensed or constructed, the term of this Settlement Agreement shall be consistent with the term of the City's water right but subject to reevaluation and renegotiation 50 years from the date of execution by all Parties.

## 3. Modifications to the Settlement Agreement

(a) Nothing in this Settlement Agreement affects the ability of the Parties to invoke reopener provisions included in any license issued for the Project.

(b) Any Party may request all other Parties to commence negotiations to change, add to, or modify this Settlement Agreement. Any modification subject to FERC approval will be implemented immediately upon such approval. Modifications not requiring FERC approval will be implemented upon agreement by the Parties. No Party shall file a petition with FERC to modify this Settlement Agreement without first presenting the proposed modification to all Parties and allowing a reasonable opportunity to negotiate it in no case less than 90 days.

(c) Notwithstanding any request for modification under this subsection, the Parties will continue to implement this Settlement Agreement until the relief sought becomes effective by operation of law, unless otherwise agreed or ordered.

#### 4. Resolution of Disputes

(a) Any dispute among the Parties concerning compliance with this Settlement Agreement shall first be referred to the Tolt Fishery Advisory Committee (TFAC) for consideration. The TFAC Committee shall be composed of one representative each from City of Seattle, the hydroproject developer/operator, the Washington Department of Fisheries, the Washington Department of Wildlife, the Tulalip Tribes, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The TFAC shall convene as soon as practicable following a written request by any Party. All decisions of the TFAC must be by consensus of all TFAC representatives. In the event the Committee cannot resolve the dispute within one hundred and twenty (120) days after its first meeting on said dispute, the TFAC will give notice of its failure to resolve the dispute to all Parties. Thereafter, the issue in dispute may be referred to the FERC for resolution pursuant to the FERC's Rules of Practice and Procedure.

(b) Upon request by any Party, any dispute not resolved by consensus of the TFAC shall, prior to referral to the FERC be submitted to a mutually agreeable third party for decision, pursuant to procedures established by the Parties. The arbitrator shall develop a written record of the proceedings, including all submissions by the parties. The decision of the arbitrator shall be nonbinding and subject to de novo FERC review. The record of the arbitration proceedings may be submitted to FERC by any Party unless otherwise agreed.

#### B. MINIMUM INSTREAM FLOW REGIMES FOR THE SOUTH FORK TOLT RIVER

##### 1. Introduction

(a) The Parties agree that an instream flow regime plays a key role in the preservation of anadromous fish habitat. The Parties further agree that steelhead trout are the predominant species targeted for instream flows under this Settlement Agreement, although other salmonid species will benefit from these flows.

(b) Achievement of the Agencies' fishery protection and improvement objectives depend on continual provision of adequate flows. Normal flows (as specified in subsection B.2(b)) are the minimum instream flows necessary to achieve a level of improvement consistent with the Agencies' objectives in these negotiations. It is anticipated that lower flows will occur in unusual drought conditions and these flows may result in reduced production. Fishery losses from reduced flows may occur gradually and accumulate over time, as when rearing fish are stressed by such flows, or losses may occur suddenly when redds (spawning nests) are exposed by lowered water levels. Higher flows during the spawning period may force fish to locate redds at higher locations in the stream channel. If flows during the incubation season are significantly lower, the chance of redd exposure is greatly increased. Exposure should be avoided at all times, but it is particularly lethal during the period when pre-emergent alevins are in the redds. Therefore, during the salmon and steelhead incubation period (September through July), to be determined more specifically by field observations, flow reduction should be avoided to the greatest extent possible.

2. Instream Flows

(a) The City shall provide the minimum instream flows (in cubic feet per second) as set forth in this section. Normal flows are defined as the minimum instream flows necessary to achieve a level of improvement consistent with the Agencies' objectives in these negotiations. A Critical flow occurrence is defined as any time when flows are reduced to the Critical flows as specified in the Instream Flow Schedule in accordance with the criteria listed in subsection B.3. Critical flows are based on a one-in-ten year frequency of occurrence.

(b) Instream Flow Schedule

	Jan	Feb	Mar	Apr	May	Jun	Jul	Jul	Aug	Sep	Oct	Nov	Dec
							1-15	16-31					
Normal	45	50	53	53	53	53	53	53	53	53	53	45	45
Critical	30	36	36	36	36	36	36	30	30	30	30	30	30

(c) Minimum Flows Released at South Fork Tolt Dam

The City shall maintain minimum releases from the dam via the fish flow release valve of at least 25 cfs between November 1 and January 31, and at least 30 cfs between February 1 and October 31. It is understood that this requirement may result in flows higher than the Normal Flows listed in subsection B.2(b). When criteria in subsections B.3(b)-1 through B.3(b)-4 have been met, the minimum release from the fish valve may be reduced to as low

as 20 cfs provided that Critical Flows continue to meet the levels in subsection B.2(b).

3. Reductions in Normal Flows

(a) The Agencies will allow the City to reduce Normal flows to the level of Critical flows provided all the criteria in subsection B.3(b)-1 through B.3(b)-4 have been met.

(b) Criteria

(1) The reservoir storage is below the critical storage rule curve as shown in Exhibit A (attached and incorporated here by reference).

(2) The reservoir inflow for the antecedent 30-day period as measured at U. S. Geological Survey (USGS) gage 12147600 is equal to or less than the flow as shown in Exhibit B (attached and incorporated here by reference).

(3) The Seattle Water Department has implemented Stage II, Summer and/or Fall Water Shortage Response Plan, whichever is appropriate, and the corresponding Public Information Strategies, prior to requesting reduction to Critical flows. Critical flows will be terminated and Normal flows resumed after 15 days of implementation unless the Water Department has implemented the Water System Management actions of Stage III for the Summer and/or Fall Water Shortage Response Plan. Critical flows will be terminated and Normal flows resumed after 45 days of implementation unless the Water Department has fully

implemented the appropriate Public Information Strategies of Stage III. The Water Shortage Response Plan is attached as Exhibit C and incorporated here by reference.

The Seattle Water Department's 1985 Conservation Plan includes as an appendix to the Water Shortage Response Plan a Public Information Strategy (Appendix I to Exhibit C) which specifies target audiences, goals, and public information activities for each stage of the Water Shortage Response Plan. As part of its measures to notify the public under Appendix I, the Seattle Water Department will describe the potential water supply problem, conservation measures recommended to be taken by all municipal and industrial consumers, and the consequences to fish if actions to reduce water demand are not taken.

The Seattle Water Department agrees to develop and submit to the Mayor and City Council, as part of the Department's next proposed Comprehensive Plan, legislation superseding Ordinance 106418 enabling the Department to implement and enforce mandatory water use restrictions in times of extreme water supply shortages. Such legislation would authorize the Superintendent of Water to implement specific plans for reductions in all outdoor and indoor residential, commercial and industrial water use and to establish appropriate incentives, such as but not limited to special rates, during an extreme water shortage.

The City agrees that any legislation passed by the City Council and signed by the Mayor which incorporates stricter water conservation measures, will concurrently amend subsection B.3(b)-3 of this Settlement Agreement.

(4) At least five working days before a reduction to Critical flows the Seattle Water Department must have contacted by telephone and/or consulted with each Agencies designated representative, and notified and consulted with the Department of Ecology. On the day such notice is given, the Seattle Water Department shall submit, in writing, the information provided to the Agencies by telephone, which shall include documentation of the City's compliance with the criteria in subsection B.3(b)-1 through B.3(b)-3. Said submission shall be sent via a form of communication by which delivery is generally accomplished within 24 hours. If the Seattle Water Department is unable to reach any of the designated Agency representatives by telephone, that representative shall be deemed to have been given notice of the intention to reduce flows upon the transmission of the written submission referred to above. Consultation shall include the discussion of alternatives such as scheduling, additional conservation measures, and intermediate flows. At the request of any Party, consultation may reoccur as often as necessary but no less than at the end of 10 days and 40 days of reduced flows to ensure that the criteria in subsection B.3(b)-1 through B.3(b)-3 continue to be met. The Agencies agree to provide the Seattle Water Department a list of Agency representatives, including addresses and telephone numbers, which will be updated by the Agencies in January of each year. If any Agency is given the opportunity to participate and they choose for any reason not to do so, the reduction in flows will not be delayed.

#### 4. Revisions to the Critical Storage Rule Curves

All Parties agree that the standard for instream flow reductions from Normal flows to Critical flows is for a

frequency that does not exceed a one-in-ten year occurrence. To meet this standard, the City developed reservoir storage and inflow rule curves by using a computer model to simulate the actual reservoir operations. That operation study was based upon 58 years (October 1929 through September 1986) of monthly flow records for the South Fork Tolt River at USGS gage No. 12148000. Exhibit D defines the model's operational assumptions and details the results of this computer simulation.

The City will develop semi-annual reports of its actual diversions for the two reporting periods which are designated as between January 1 to June 30 and July 1 to December 31. These semi-annual reports will be provided to the Agencies on September 30 for the first reporting period and on March 31 for the second reporting period. The information contained in these semi-annual reports will be used by the Agencies to evaluate the City's compliance with the standard for instream flow reductions and with the terms of this Settlement Agreement. It will also provide a basis for determining whether or not the City's operation of the project is in accordance with the operational assumptions of the computer model, particularly water consumption. In the reports, records of actual diversion will be compared to the firm yield as defined in Exhibit D. In the event of a Critical flow occurrence during the reporting period the semi-annual report will include documentation evidencing whether or not the Critical flow occurrence was the result of actions by the City which violated the model's operational assumptions.

The rule curves, set forth in Exhibits A and B, will be revised as necessary, in accordance with subsection A.3 of

this Settlement Agreement, to meet the standard for instream flow reductions if the City's actual operations of the project violates the model's operational (i.e. non-inflow) assumptions as defined in Exhibit D of this Settlement Agreement.

Any Party to this Settlement Agreement may seek revision of the rule curves based on new inflow (i.e. non-operational) information, provided the request to revise is based upon an additional 20 years of inflow data collected after 1988.

#### 5. Restoration of Flows

The City can continue to provide Critical flows as shown in subsection B.2 only as long as the criteria in subsection B.3(b)-1, B.3(b)-3, and B.3(b)-4 continue to be met, unless the Agencies agree to extend the period of reduced flow to protect a specific life stage. It is mutually agreed that a stabilized flow regime during this period is more beneficial than a flow cycling up and down. It is also the City's intent to refill the South Fork Tolt Reservoir and return to Normal flows as quickly as possible.

#### 6. Measuring Locations For Instream Flow, Reservoir Inflow, And Reservoir Elevation

(a) The measuring point for the minimum instream flows in subsection B.2(b) will be the USGS gage No. 12148000 located at latitude 47°41'22", longitude 121°35'44", in SW 1/4 SW 1/4 Sec. 31, T.26N, R.9E, King County, Hydrologic Unit 17110010, on left bank 0.1 mi (0.2 km) upstream from private road bridge, 1.6 mi (2.6 km) downstream from South Fork Tolt

Reservoir, 9.8 mi (15.8 km) northeast of Carnation, and at river mile 6.8 (10.9 km) on the South Fork Tolt River. The gage will be maintained with instrumentation to allow for real-time and historic data acquisition via remote satellite telemetry.

(b) The measuring point for determining reservoir inflows, as required by subsection B.4 to allow reduction to Critical flows, will be USGS gage No. 12147600 located at latitude 47°42'25", longitude 121°35'56" in NE 1/4 SW 1/4 Sec. 25, T.26N, R.9E, King County Hydrologic Unit 17110010, on left bank 0.6 mi (1.0 km) upstream from Phelps Creek, 8.1 mi (13.0 km) south of Index, and at mile 12.9 (20.8 km) on the South Fork Tolt River. The gage will be maintained with instrumentation to allow for real-time and historical data acquisition via remote satellite telemetry.

(c) The measuring point for minimum flows released at the South Fork Tolt Dam will be at the fish water release valve during normal operation. During spill or maintenance the minimum instream flows will be measured at the dam water release flume. During spill or maintenance the minimum instream flows will be measured using one of two different methods. When the dam water release valve is being used an acoustic flow meter will monitor flow. When the dam water release valve can not be used due to maintenance, spill will be measured using a temporary staff gage below the dam. The temporary gage will be installed and stage measured one day prior to maintenance. During the maintenance period the spill will be managed so that the pre-maintenance stage is equalled or exceeded. Maintenance interrupting the use of the flow release valve will occur rarely and would typically last for only a few days at a time.

(d) South Fork Tolt Reservoir elevation will be measured at a site determined by USGS and will be maintained with instrumentation to allow for real-time and historic data acquisition via remote satellite telemetry.

#### 7. Flow and Reservoir Elevation Records

The City will record and make available to the Agencies complete flow records (in cubic feet per second) and/or reservoir elevations on a daily basis for the following six locations:

- a. the fish water release valve or the dam water release flume,
- b. USGS gage No. 12148000,
- c. USGS gage No. 12148300,
- d. USGS gage No. 12147600,
- e. the City's water supply diversion gage located at the South Fork Tolt reregulation basin, and
- f. the South Fork Tolt Reservoir Elevation gage (to be sited by USGS)

The City will also provide to the Agencies, on a semi-annual basis, provisional USGS or equivalent daily flow records for USGS gage 12148000 and the South Fork Tolt Dam and a written explanation of any instream flow deficiencies that have occurred within the period. The water year is based on January 1 to December 31. The City will make best efforts to submit the semi-annual reports within ninety (90) days of the January 1 to June 30 and the July 1 to December 31 reporting periods. The City will contact by telephone the Agencies as

soon as any instream flow deficiencies occur or are discovered. The Seattle Water Department will make every effort to have the measurement locations fully operational within one year of the effective date of this Settlement Agreement. Frequency and detail of flow record reports may be modified by mutual agreement.

**C. FUTURE WATER FILTRATION INSTREAM FLOW SCHEDULE**

In the event the City institutes or constructs filtration facilities which are intended to or operate to utilize additional use of potential reservoir storage between elevations 1660 and 1730 feet, the City agrees to implement the following new instream flow schedule:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Jul	Aug	Sep	Oct	Nov	Dec
							1-15	16-31					
Normal	45	54	61	67	69	60	60	60	61	56	53	45	45
Critical	30	36	36	36	36	36	36	30	30	30	30	30	30

The above flow schedule, expressed in cubic feet per second, and the rule curve associated with the future water filtration instream flow schedule will replace the flows under subsection B.2(b) and be implemented immediately upon operation of the filtration facilities. All other provisions of this Settlement Agreement will remain the same.

**D. DOWNRAMPING RATES, ENERGY DISSIPATING STRUCTURE, AND PROVISIONS FOR PROJECT SHUTDOWN**

**1. South Fork Tolt River Dam Downramping Rates**

The Seattle Water Department will implement the following downramping rates at the South Fork Tolt River Dam as measured at USGS gage 1214800 promptly after this Settlement Agreement is signed.

150 cfs/hour until flow from the dam reaches 100 cfs, then switch down-ramping rate to 50 cfs/hour. From a total flow of 250 cfs or less, flow reduction rates will be implemented in stages and with no fewer than four equal increments per hour.

**2. Project Downramping Rates**

Recognizing that instantaneous flow fluctuations in the South Fork Tolt River would be harmful to fisheries habitat, the Project will not be operated in a load-following mode that would result in regular instantaneous flow fluctuations. Project operation shall be restricted to a flow stable mode that is typical of a base load plant with minimal downramping.

When downramping occurs, the following preliminary downramping rates will be implemented. Flow reductions in compliance with these rates are to occur as a continuous, linear reduction.

Downramping will be measured at USGS gage 121483000

150 cfs/hour until flow at gage 121483000 reaches 100 cfs then reduce downramping rate to 50 cfs per hour

In consultation with the Agencies, the City shall conduct an investigation of the effects of Project downramping on the fishery resources of the South Fork Tolt River. The City agrees to provide the funds for this study, up to but not to exceed \$100,000. This study will examine ramp rates both slower and faster than those listed in this section. The City shall, within three years after the initial date of commercial operation of the Project, file a report with the Agencies on its findings and recommended Project ramping rates. The City, in negotiation with the Agencies, will decrease the downramping rates if studies show that the preliminary rates listed in this Section have significant impacts to fishery resources. Conversely, in negotiation with the Agencies, the City will be permitted to increase downramping rates if the studies show no significant impacts to the fishery resources.

### 3. Energy-Dissipating Structure

An energy-dissipating structure of gravel-filled gabions will be constructed at the Project outfall on the South Fork Tolt River. This structure will disperse the return flow through the gabions, and is intended to prevent fish attraction to the outfall, resulting in no adverse effect on upstream migration. To insure proper configuration of the structure, the Agencies will participate in the design process prior to agreement on final design specifications.

### 4. Provisions for Project Shutdown

The Project will be utilizing a Pelton turbine. In the event of Project shutdown, flow through the powerhouse will not be interrupted because the Pelton turbine is designed to continuously by-pass the operational flow. When the governor senses an overspeed condition, deflectors automatically engage to train the jets of water from the nozzles away from the turbine wheel buckets and into the steelined turbine pit area (where the energy is dissipated). The needle valves on the nozzles will continue to operate to maintain the pre-shutdown flows into either the City's water supply system or the return flow.

### E. PRE- AND POST-PROJECT STUDIES

#### 1. General

(a) The management objective for the Snohomish River Basin, which includes the South Fork Tolt River, is maximum sustained yield based on natural production and no net loss of existing or potential habitat and production values. Preservation of existing habitat and restoration of suboptimum habitat are priorities. A major component of habitat preservation and restoration is maintenance of the instream flows presented in section B. Restoration efforts also involve repair of damaged habitat. Consistent with this management objective, the City shall consult and cooperate with the Agencies for the purpose of jointly developing, implementing, and analyzing studies which will be used in developing remedial actions or recommendations, other than instream flows, for the benefit of fishery resources in the South Fork Tolt River.

will be performed by either the Washington Department of Wildlife, the Washington Department of Fisheries, or the Tulalip Tribes. In the event that the Washington Department of Wildlife, the Washington Department of Fisheries, or the Tulalip Tribes elect not to conduct the surveys, the City shall select and fund other entities to perform them, provided that their costs are equal to or less than the dollar amounts agreed to in subsections E2.C(1) and E2.C(2). In addition, the City agrees not to deduct any costs for its own administrative time from these amounts.

(4) The entity undertaking the surveys shall notify the City approximately one week prior to the commencement of the surveys and one week after completion of the surveys. In addition, the entity undertaking the surveys shall submit annually to the City a brief letter report describing survey results within three months after completion of the surveys.

(d) Erosion Control: An Erosion and Sediment Control Plan (ESCP) for Project construction will be submitted to the Agencies for review and approval within eighteen months of execution of this Settlement Agreement. The Agencies will receive two months to review ESCP. Following this initial review period, a completed ESCP will be submitted to the Agencies for final review and approval six months before the initiation of Project construction. Should any Agency choose not to participate in the review of the ESCP the City may submit the completed, final ESCP without approval of that Agency. To insure compliance with the final ESCP, an environmental monitor with stop-work authority will be retained and present during the construction period.

### 3. Restoration Studies:

(a) Gravel Analysis: The City agrees to conduct a study as soon as conditions permit after the effective date of this Settlement Agreement to determine whether the South Fork Tolt River has a significant depletion of spawning gravel and whether additional rearing habitat can be provided through restoration of existing habitat or creation of new habitat. The City agrees to provide the funds for this study, up to but not to exceed \$75,000. A scope of work for this study is outlined in Exhibit E (attached). A depletion will be considered significant if the Parties agree that the amount of gravel present provides less than optimal habitat. If any such depletion exists and if increasing gravel availability will improve habitat, the City agrees to spend a maximum of \$271,000 to fund measures subject to the general study provisions in Exhibit E, Task 3. Although the improvement of spawning habitat is emphasized, if all Parties agree, other enhancement or restoration measures such as improvement or creation of rearing habitat, or native brood stock enhancement may be pursued provided these measures do not exceed the \$271,000 allocated for restoration.

(b) Sediment Catch Basin: Within eighteen months of the effective date of this Settlement Agreement, the City will enlarge and maintain the sediment catch basin, just upstream of Spring 6 measurement weir, on the slope north of the South Fork Tolt Dam.

F. COORDINATION

1. General

All aspects of study planning, implementation, and coordination with other ongoing studies shall be subject to the unanimous agreement of the Tolt Fisheries Advisory Committee (TFAC) [see subsection A.4(a)], which shall meet as frequently as study requirements dictate. Within one month of the effective date of this Settlement Agreement, each Party shall designate in writing to all other members of TFAC a contact person or persons. The designated contact person(s) will be responsible for coordinating that Party's prompt response to questions, requests for information, follow-up to compliance reports, etc.

G. MISCELLANEOUS

1. Permits and Approvals

The Agencies will cooperate with and assist the City in obtaining the necessary permits and approvals for conducting studies or constructing the Project and filtration plant. Certain construction-related mitigation measures may be required as specific conditions of such permits and approvals.

2. Data Access

All Parties will have open mutual access to all relevant data, reports, information, etc., pertaining to fisheries, fisheries harvest and escapement, streamflow,

municipal and industrial water use, or future power generation on the South Fork Tolt River.

3. Emergency Conditions

Nothing in this Settlement Agreement shall constrain the City from taking action to respond to emergency conditions, including mechanical failure, transmission line failure, floods, landslides, or acts of God. At the conclusion of the emergency conditions, the City will promptly return to an operation schedule in compliance with the terms of this Settlement Agreement.

4. Settlement Agreement Contingent on Approval

It is expressly agreed by all Parties that this Settlement Agreement shall be submitted to FERC as a unit and any material modification of its terms, approval of less than the entire Settlement Agreement, or addition of material terms by FERC shall make this Settlement Agreement voidable at the option of any Party.

5. No Prejudice

Neither FERC approval nor any Party's execution of this Settlement Agreement shall constitute approval or admission of, or precedent regarding, any principle, fact, or issue in any FERC proceeding.

6. No Waiver

The Parties agree that nothing herein is intended to waive any Tribal rights including but not limited to fishing and other water-related rights except as expressly agreed to herein. Any modification to this Settlement Agreement or assertion of any such rights as to this project shall be in accordance with subsection A.3. This shall not preclude the Tulalip Tribes or other Parties to this Settlement Agreement from seeking a modification based upon any fishing or water-related rights, judicial review of the modification decision or any remedies for noncompliance.

7. Harvest Management

Commercial and recreational harvest of salmon and steelhead produced in the Snohomish River Basin will continue under a framework of various laws, regulations, and treaties. One purpose of the harvest levels established under this framework is to reach escapement goals established for salmon and steelhead in the Snohomish River Basin, including the South Fork Tolt River.

8. Settlement Agreement Implementation without Project Construction

The City shall fund and implement all elements and conditions contained within this Settlement Agreement, including the specified instream flows, regardless of whether the City or any other developer builds a hydroelectric facility. In the event that no hydroelectric facility is built, the Parties agree that subsections D.2 (Project

Downramping Rates), D.3 (Energy Dissipating Structure), D.4 (Provisions For Project Shutdown), E.2(a) (Temperature Monitoring), and E.2(d) (Erosion and Sediment Control Plan) of this Settlement Agreement become irrelevant and therefore shall be null and void.

9. Generic Hydroelectric Facility Requirements

In the event that a developer other than the City builds or operates a hydroelectric facility using the South Fork Tolt Dam and reservoir, such a hydroelectric facility shall:

(a) be operated as a baseload, non-peaking generation facility.

(b) be subordinate to the City's municipal and industrial water supply needs and follow Seattle Water Department's operating regime.

(c) include engineering features the similar to those specified in the license application for the Project.

(d) not absolve the City's responsibility to fund and implement all elements and conditions contained within this Settlement Agreement including instream flows, studies, and other measures.

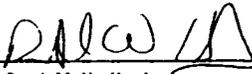
IN WITNESS WHEREOF, the City has caused this Settlement Agreement to be executed by its Superintendent of Water and Superintendent of Light pursuant to Ordinance No. 107000 and the Agencies have executed the same pursuant to applicable legal authorities.

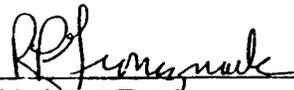
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Respectfully submitted,

Dated: OCTOBER 26, 1988.

THE CITY OF SEATTLE

By:   
Randall W. Hardy  
Superintendent of City Light

By:   
\_\_\_\_\_  
Superintendent of Water

Address for Notice:

Seattle City Light  
1015 Third Avenue  
Seattle, WA 98104

Seattle Water Department  
821 Second Avenue  
Seattle, WA 98104

Dated: September 28, 1988.

NATIONAL MARINE FISHERIES SERVICE,  
in its own capacity as  
delegate for the United States  
Department of Commerce

By: Roland A. Schmitt  
Roland A. Schmitt  
Regional Director, Northwest Region

Address for Notice:

F. Lorraine Bodt  
NOAA, Office of General Counsel (GCNW)  
7500 Sand Point Way N.E., BIN (C15700)  
Seattle, WA 98115

Jon R. Linveg  
National Marine Fisheries Service  
7500 Sandpoint Way N.E. BIN C-15700  
Seattle, WA 98115

Dated: October 12, 1988.

TULALIP TRIBES OF WASHINGTON

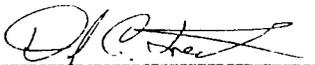
By: Herman A. Williams, Sr.  
Herman A. Williams, Sr.  
Chairman

Address for notice:

Tulalip Tribes of Washington  
6700 Totem Beach Road  
Marysville, WA 98270

Dated: October 5, 1988.

U. S. FISH AND WILDLIFE SERVICE

By: 

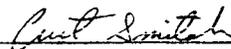
David C. Frederick  
Field Supervisor, U.S. Fish and Wildlife Service

Address for Notice:

U. S. Fish and Wildlife Service  
2625 Parkmont Lane S.W., B-3  
Olympia, WA 98502

Dated: 10/6, 1988

STATE OF WASHINGTON, acting by and through  
the Washington Department of Wildlife

By: 

CURT SMITCH  
Director, Department of Wildlife

Address for Notice:

Department of Wildlife  
600 N. Capitol Way, CJ-11  
Olympia, WA 98504

R. Gary Engman  
Department of Wildlife  
Region 4  
1601B Mill Creek Blvd.  
Mill Creek, WA 98012

Dated: October 2, 1988

STATE OF WASHINGTON, acting by and through  
the Washington Department of Fisheries

By: *Joseph Blum*  
for JOSEPH BLUM  
Director, Department of Fisheries

Address for Notice:

Department of Fisheries  
115 General Administration Building, AX-11  
Olympia, WA 98504

EXHIBIT A

CRITICAL STORAGE RULE CURVE <sup>1/</sup>

MONTH	CRITICAL STORAGE (Acre-Feet)		ELEVATION (FEET)	
	<u>At 1730</u>	<u>At 1660 <sup>2/</sup></u>	<u>At 1730</u>	<u>At 1660 <sup>2/</sup></u>
January	31,000	14,900	1734.6	1707.8
February	35,300	24,900	1739.7	1726.4
March	35,300	23,700	1739.7	1724.6
April	41,600	24,250	1746.6	1725.5
May	42,500	29,000	1747.6	1732.0
June	47,700	31,600	1752.9	1735.5
July	47,000	31,000	1752.2	1734.2
August	41,400	26,800	1746.4	1729.1
September	34,500	20,600	1738.7	1719.5
October	32,600	19,300	1736.5	1717.2
November	31,000	12,000	1734.6	1700.9
December	29,300	15,600	1732.4	1709.7

<sup>1/</sup> Values are for the first of each month.

<sup>2/</sup> With Filtration

MINIMUM INDEX STREAMFLOW SWITCHING LEVEL

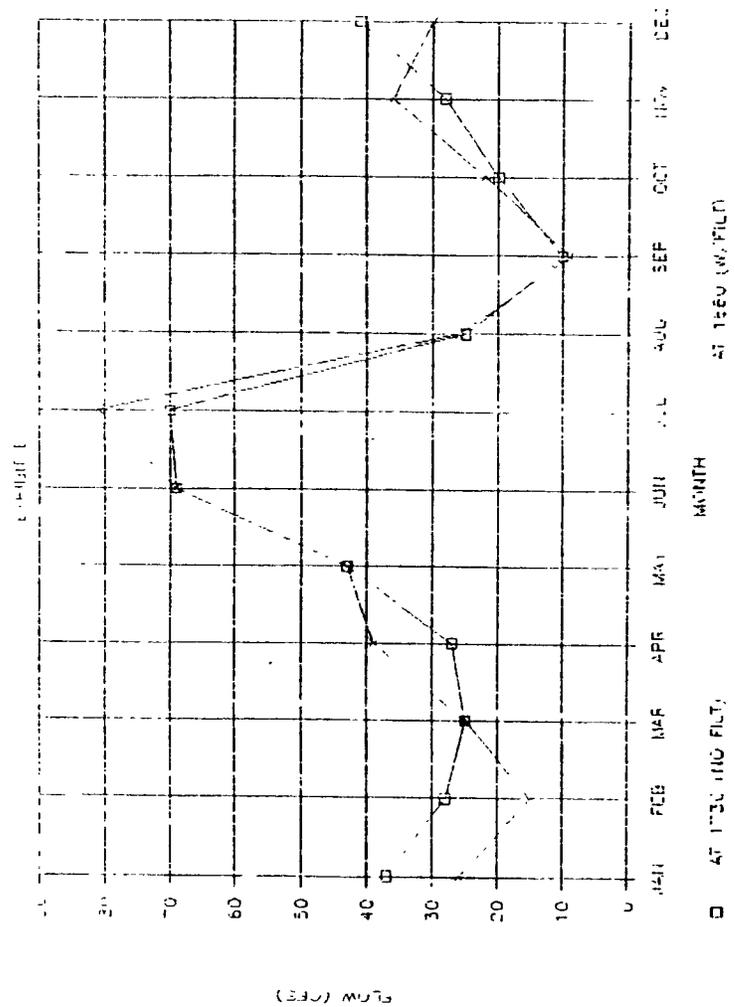


EXHIBIT B

INDEX STREAMFLOW (IN CFS) SWITCHING LEVELS <sup>1/</sup>

MONTH	At 1730	At 1660 <sup>2/</sup>
January	37	26
February	28	15
March	25	25
April	27	39
May	43	43
June	69	69
July	70	81
August	25	26
September	10	9
October	20	22
November	28	16
December	41	30

<sup>1/</sup> Values are compared to previous 30-day averages from USGS gage 1476 to determine switching to critical.  
<sup>2/</sup> With Filtration

EXHIBIT C

WATER CONSERVATION PLAN

WATER SHORTAGE RESPONSE PLAN

The "Emergency Conservation Plan" in the 1980 COMPLAN was the first formal presentation of SWD's water shortage response plan. It consists of five consecutive stages, each one more restrictive than the preceding one. Actions called for in the various stages ranged from cutting nonessential uses to water rationing.

Neither the 1980 Emergency Conservation Plan nor the 1985 Water Shortage Response Plan is designed to be used in the event of a water shortage caused by a major disruption in treatment, transmission of water, or other type of disaster. Shortages resulting from these types of operational emergencies are addressed by SWD's Emergency Response Plan (see 1980 COMPLAN). In order to differentiate between the two types of emergency efforts, the multi-staged plan for drought conditions has been renamed the Water Shortage Response Plan (WSRP).

The 1985 WSRP is a refinement of the basic, sound structure of the 1980 Emergency Conservation Plan. The recommended WSRP contains separate plans to address summer and fall water shortage scenarios (see Tables 1 and 2). For additional information see Volume VI of the 1985 Comprehensive Water Supply Plan.

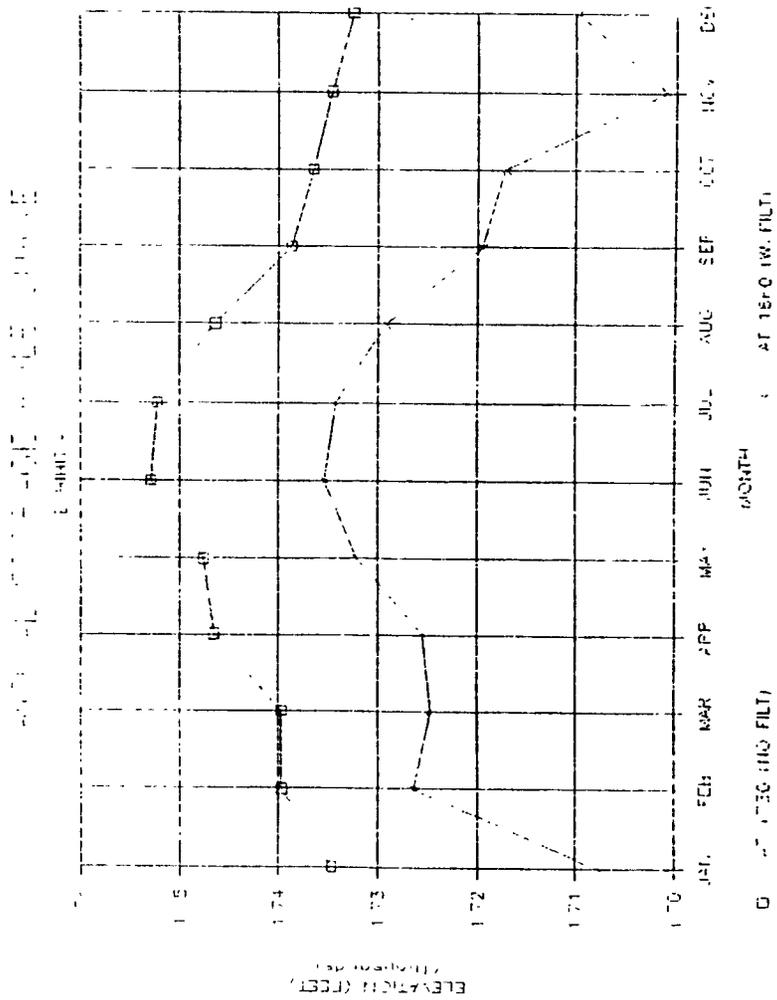


TABLE 1 : SUMMER SHORTAGE RESPONSE PLAN

( ) = MGD Savings

ACTIVITY	Stage				
	I	II	III	IV	V
I. Water System management Actions					
A. Stream Flow					
o Maintain normal flow	X				
o Negotiated reduction in stream flows		X			
o Reduce flow to critical			X	X	X
B. Water Use Controlled by SWD					
o Eliminate non-essential uses for system operation	X (1.0)	X (1.0)	X (1.0)	X (1.0)	X (1.0)
o Cut flow to Green Lake by half	X (2.0)	X (2.0)			
o Cut flow to Green Lake completely			X (4.0)	X (4.0)	X (4.0)
o Cut amenity type uses			X	X	X
o Cut City uses, i.e. parks, irrigation, etc.			X	X	X
C. System Operation					
o Pressure reduced due to low levels in regulating basins					X
II. Customer Conservation Actions					
A. No specific actions	X				
B. General voluntary conservation	X*	X	X		
C. Outdoor Use					
o Voluntary use reduction - all classes of customers		X (4.7)			
o Mandatory use reduction - all classes of customers			X (15.0)	X (7.5)	X
D. Indoor Use					
o Voluntary use reduction - residential				X (5.0)	
o Voluntary use reduction - commercial				X (3.6)	
E. Rationing					
o Rationing all customers					X (52.4)
III. ESTIMATED SAVINGS IN MGD	3.0	7.7	20.0	21.1	57.4

\*Ongoing Long-Term Conservation Program

TABLE 2 : FALL SHORTAGE RESPONSE PLAN

( ) = MGD Savings

ACTIVITY	Stage				
	I	II	III	IV	V
I. Water System Management Actions					
A. Stream Flow					
o Maintain normal flow	X				
o Negotiated reduction in stream flows		=			
o Reduce flow to critical			X	X	X
B. Water Use Controlled by SWD					
o Eliminate non-essential uses	X (1.0)	X (1.0)	X (1.0)	X (1.0)	X (1.0)
o Cut flow to Green Lake by half	X (2.0)				
o Cut flow to Green Lake completely		X (4.0)	X (4.0)	X (4.0)	X (4.0)
o Cut amenity type uses			X	X	X
o Cut City uses, i.e. parks, irrigation, etc.			X	X	X
C. System Operation					
o Pressure reduced due to low levels in regulating basins					X
II. Customer Conservation Actions					
A. No specific actions	X				
B. General voluntary conservation	X*	X			
C. Outdoor Use					
o Voluntary use reduction - all classes		X (2.4)	X (1.2)		
o Mandatory use reduction - all classes				X	X
D. Indoor Use					
o Voluntary use reduction - residential			X (5.0)	X (16.0)	
o Voluntary use reduction - commercial				X (3.6)	
E. Rationing					
o Rationing all customers					X (52.4)
III. ESTIMATED SAVINGS IN MGD	3.0	7.4	11.2	24.6	57.4

Ongoing Long Term Conservation Program

Exhibits D and E omitted from printing

1. AVID

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

THE CITY OF SEATTLE, WASHINGTON

SOUTH FORK TOLT RIVER  
HYDROELECTRIC PROJECT

PROJECT NO. 2959

MODIFICATION NUMBER 1

TO THE

SETTLEMENT AGREEMENT

This Modification to the South Fork Tolt River Hydroelectric Project Settlement Agreement dated October 26, 1988 is entered into this \_\_\_\_ day of \_\_\_\_\_ by and through the Superintendent of City Light and the Superintendent of Water, the Washington Department of Fisheries, the Washington Department of Wildlife, the Washington Department of Ecology, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Tulalip Tribes of Washington.

Modification Number 1 changes Section D.1 of the Settlement Agreement. The new language is as follows.

D. DOWNRAMPING RATES, ENERGY DISSIPATING STRUCTURE, AND PROVISIONS FOR PROJECT SHUTDOWN

D.1 South Fork Tolt River Dam Downramping Rates

Whenever the South Fork Tolt reservoir elevation is above 1762.0 feet, water spills over the morning glory spillway and cannot be controlled by mechanical devices. Therefore, reductions in flow will only occur naturally until the top of the spillway is reached at elevation 1762.0 feet. At or below this elevation, mechanical devices control the flow released from the dam which allow reductions in flow to occur at predetermined rates (i.e. downramping rates). Therefore, the following downramping rates will be implemented at the dam by the Seattle Water Department whenever the South Fork Tolt reservoir elevation is at or below 1762.0 feet:

150 cfs/hour at the dam until flow at USGS gage No. 1214800 reaches 100 cfs, then switch downramping rate to 50 cfs/hour at the dam. From a total flow of 250 cfs or less, as measured at the gage, flow reduction rates will be implemented in stages and with no fewer than four equal increments per hour.

Dated: \_\_\_\_\_, 1990

STATE OF WASHINGTON, acting by and through  
the Washington Department of Wildlife

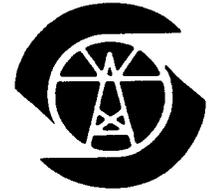
By:   
CURT SMITCH  
Director, Department of Wildlife

Address for Notice:

Department of Wildlife  
600 N. Capital Way, CJ-11  
Olympia, WA 98504

R. Gary Engman  
Department of Wildlife  
Region 4  
16018 Mill Creek Blvd  
Mill Creek, WA 98012

# Seattle City Light



M. J. Macdonald Acting Superintendent  
Norman B. Rice, Mayor

March 4, 1992

RECEIVED

MAR 3 9 1992

DIRECTOR'S OFFICE  
DEPARTMENT OF WILDLIFE

Ms. Patricia McLane  
Washington State Department of Wildlife  
600 Capital Way North  
Olympia, WA 98501-1091

Dear Patricia:

South Fork Tolt Hydroelectric Project No. 2959 Steelhead  
Spawning Surveys

The intent of this correspondence is to confirm the Washington State Department of Wildlife's agreement to conduct the steelhead spawning surveys on the South Fork Tolt River as described in Section E.2(c)(2) the South Fork Tolt Settlement Agreement (Agreement) dated October 26, 1988.

The City of Seattle will provide the funds for these surveys, up to \$4,100 in 1987 dollars adjusted for inflation as described in provision E.1(c) of the Agreement. These payments will be made annually to the Washington State Department of Wildlife after the City receives the annual letter report called for in the Agreement.

If in the future the Washington State Department of Wildlife choose to discontinue these surveys the City asks that you provide us with six months notice.

Ms. Patricia McLane  
Page 2  
March 4, 1992

Please confirm your understanding of this arrangement with your signature on the signature block provided and return this letter to me. If you have any questions regarding this matter please contact David Pflug at (206) 386-4574.

Very truly yours,

  
Kirvil Skinnarland, Director  
Environmental Affairs Division

DP:jf

cc: Gary Engman, WDW  
Mark Hunter, WDF  
Kurt Nelson, Tulalip Tribes

Confirmed by:

  
Patricia McLane, Assistant Director  
Field Operations and Management Services  
Washington State Department of Wildlife

3/19/92  
Date

CURT SMITCH  
Director



STATE OF WASHINGTON  
DEPARTMENT OF WILDLIFE

16018 Mill Creek Blvd., Mill Creek, WA 98012

Tel. (206) 775-1311

*Agreement  
without  
Appendices  
Signed  
copy on  
shelf*

September 26, 1988

TO: Gary Fenton, Hydropower Coordinator  
FROM: R. Gary Engman, Habitat Program Manager  
SUBJECT: TOLT RIVER SETTLEMENT AGREEMENT

*Engman*

Attached is the completed South Fork Tolt River Hydroelectric Project Settlement Agreement. I am forwarding it to you for Director signature. It is also being presented to Seattle City Light, Seattle Water Department, Fisheries, National Marine Fisheries Service, U.S. Fish and Wildlife Service and Tulalip Tribes for their signature. The attached xerox copy is for your information. Please have the Director sign the separate, original signature page (which Bill Frymire has) and return only it to Dave Pflug, Seattle City Light (address attached). This original along with signature pages of all other parties will be inserted into the master original which will be submitted to FERC. We will receive copies of the fully executed agreement for our files and records.

This agreement is the product of many months effort by all parties. I believe it is a major step toward developing a cooperative approach among development and natural resource interests for the benefit of Tolt River fisheries resource. It will result in important restoration and resource protection. Most benefitted, because they are the dominant resource, will be wild runs of both summer and winter steelhead. This agreement will be a model for other, ongoing settlement issues. In summary, notable features are:

1. Significantly improved instream flows that will be further improved when means to use additional reservoir storage are provided.
2. Specific procedures to deal with critical water resource shortages such as during droughts. The Tolt project provides about one-third of Seattle's municipal water needs and this agreement spells out procedures for water management and coordination when water shortages occur.
3. Mutually agreed procedures and conditions for development of hydroelectric potential of this project. Federal Energy Regulatory Commission will incorporate this agreement into the project license.

Tolt River Settlement Agreement  
September 26, 1988  
Page 2

4. The City of Seattle will fund long-term actions to provide further protection and restoration to Tolt River fisheries resources. Various monitoring studies will occur in connection with development and operation of the hydroelectric project. Additionally, the City will fund steelhead and salmon spawning surveys on South Fork Tolt as well as an analysis of spawning habitat quality and quantity. If deficiencies are identified, mitigation efforts will be planned and implemented.

If there are any questions, contact me or Assistant Attorney General, Bill Frymire. (Please contact Bill for the original signature page.)

RGE:kh

Attachment

cc: Bill Frymire  
Joan Keller  
Ted Muller

Your  
Seattle  
City Light

Randall W. Hardy, Superintendent  
Charles Royer, Mayor



SEP 23 1988

September 23, 1988

South Fork Tolt Technical and Legal Advisory Members

Enclosed is the completed South Fork Tolt Hydroelectric Project Settlement Agreement. This Agreement reflects the combined efforts of all those involved over many months, from both a technical and legal standpoint. This agreement has been revised many times during the negotiation process and presently reflects your combined inputs from negotiation and review of the agreement. Final revisions have been made and reviewed and the Settlement Agreement is now being submitted to you for approval and signature.

This Settlement Agreement must be submitted to the FERC in October of 1988. Because time is running short, we ask that you make every effort to expedite the approval and signature process. Retain the enclosed Settlement Agreement for your records and return to Seattle City Light your signed signature page(s) from the Settlement Agreement. We will insert the signature pages from all Parties into a "master" copy of the Settlement Agreement which will then be sent to the FERC. A copy of the Settlement Agreement with the completed signature pages will then be mailed to you at the same time that the FERC copy is mailed in October.

We ask that you return your signature pages by October 2, 1988. Please send them to David Pflug at the following address:

David Pflug  
Seattle City Light  
Environmental Affairs Division  
1015 Third Avenue, Room 922  
Seattle, WA 98104

If you have any questions regarding this matter please call David Pflug at (206) 684-3692.

Sincerely,

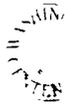
Lynn Davison, Director  
Environmental Affairs Division

DP:er

Enclosures

cc: D. Parkinson, Seattle Water Department  
P. Olsen, Seattle Water Department

CURT SMITH  
Director



STATE OF WASHINGTON  
DEPARTMENT OF WILDLIFE

600 North Capitol Way GF-11 • Olympia, Washington 98504-0091 • (206) 753-5700

October 7, 1988

David Pflug  
Seattle City Light  
Environmental Affairs Division  
1015 Third Avenue  
Seattle, Washington 98104

Dear Mr. Pflug:

Attached are two copies of the signed signature pages for the South Fork Tolt Agreement for Department of Wildlife and the Attorney General Office.

Mr. Engman asked that they be sent to you.

Sincerely,

A handwritten signature in cursive script that reads "James G. Fenton".

James G. Fenton  
Regulatory Services  
Habitat Management Division

JGF:mjf  
Enclosures

Dated: 10/6, 1988

STATE OF WASHINGTON, acting by and through  
the Washington Department of Wildlife

By: Curt Smith  
CURT SMITCH  
Director, Department of Wildlife

Address for Notice:

Department of Wildlife  
600 N. Capitol Way, CJ-11  
Olympia, WA 98504

R. Gary Engman  
Department of Wildlife  
Region 4  
16018 Mill Creek Blvd.  
Mill Creek, WA 98012

Dated: October 4, 1988.

WASHINGTON DEPARTMENT OF FISHERIES,  
AND WASHINGTON DEPARTMENT OF WILDLIFE

By: William C. Frymi

WILLIAM C. FRYMIRE  
Assistant Attorney General  
Attorney for Washington State  
Department of Fisheries  
Department of Wildlife  
Office of the Attorney General  
7th Floor, Highway Licenses Bldg. PB-73  
Olympia, WA 98504

EXHIBIT A

CRITICAL STORAGE RULE CURVE 1/

MONTH	CRITICAL STORAGE (Acre-Feet)		ELEVATION (FEET)	
	<u>At 1730</u>	<u>At 1660</u> <u>2/</u>	<u>At 1730</u>	<u>At 1660</u> <u>2/</u>
January	31,000	14,800	1734.6	1707.8
February	35,300	24,900	1739.7	1726.4
March	35,300	23,700	1739.7	1724.6
April	41,600	24,250	1746.6	1725.5
May	42,500	29,000	1747.6	1732.0
June	47,700	31,600	1752.9	1735.5
July	47,000	31,000	1752.2	1734.2
August	41,400	26,800	1746.4	1729.1
September	34,500	20,600	1738.7	1719.5
October	32,600	19,300	1736.5	1717.2
November	31,000	12,000	1734.6	1700.9
December	29,300	15,600	1732.4	1709.7

1/ Values are for the first of each month.

2/ With Filtration

EXHIBIT B

INDEX STREAMFLOW (IN CFS) SWITCHING LEVELS 1/

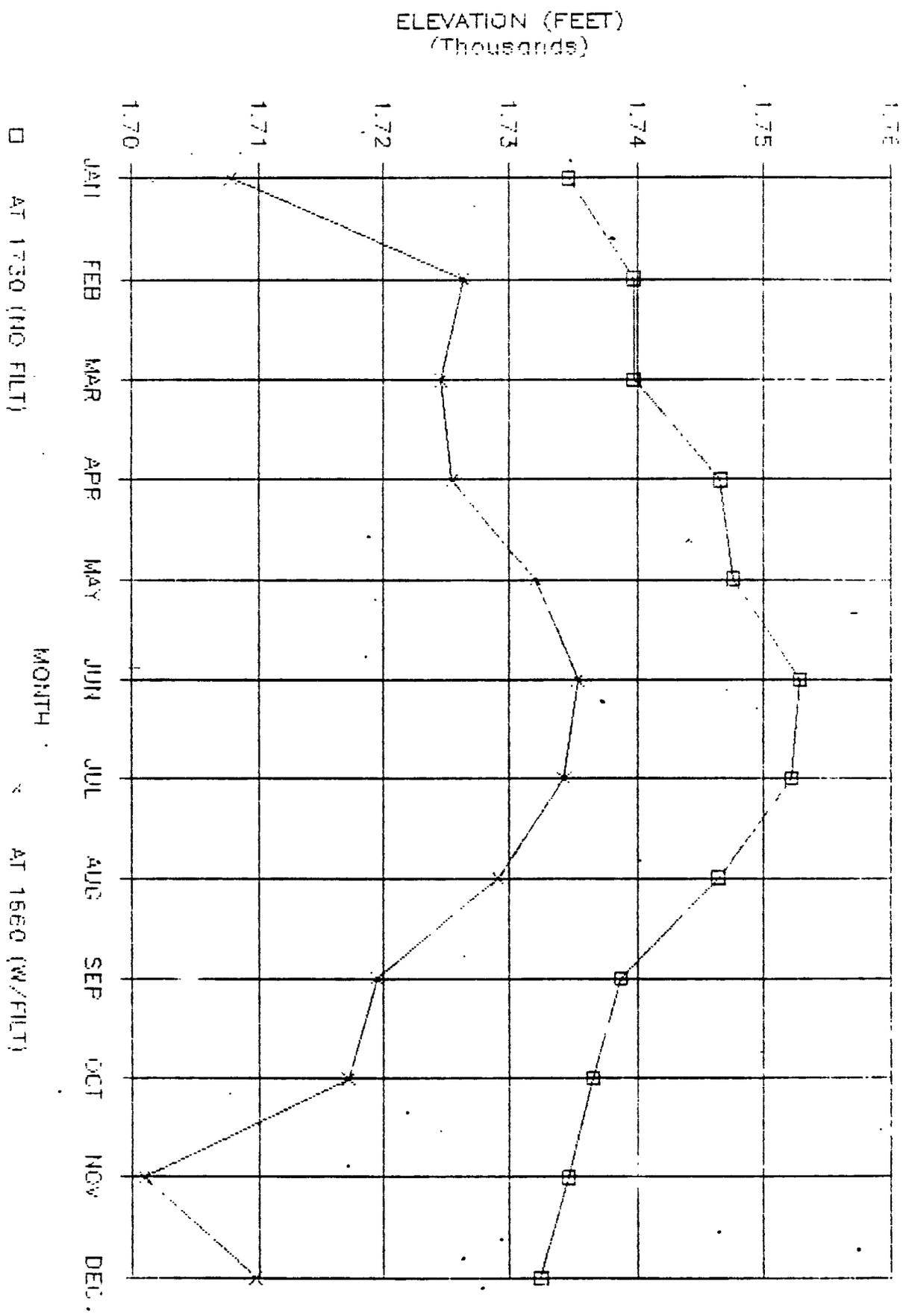
MONTH	<u>At 1730</u>	<u>At 1660</u> <u>2/</u>
January	37	26
February	28	15
March	25	25
April	27	39
May	43	43
June	69	69
July	70	81
August	25	26
September	10	9
October	20	22
November	28	36
December	41	30

1/ Values are compared to previous 30-day averages from USGS gage 1476 to determine switching to critical.

2/ With Filtration

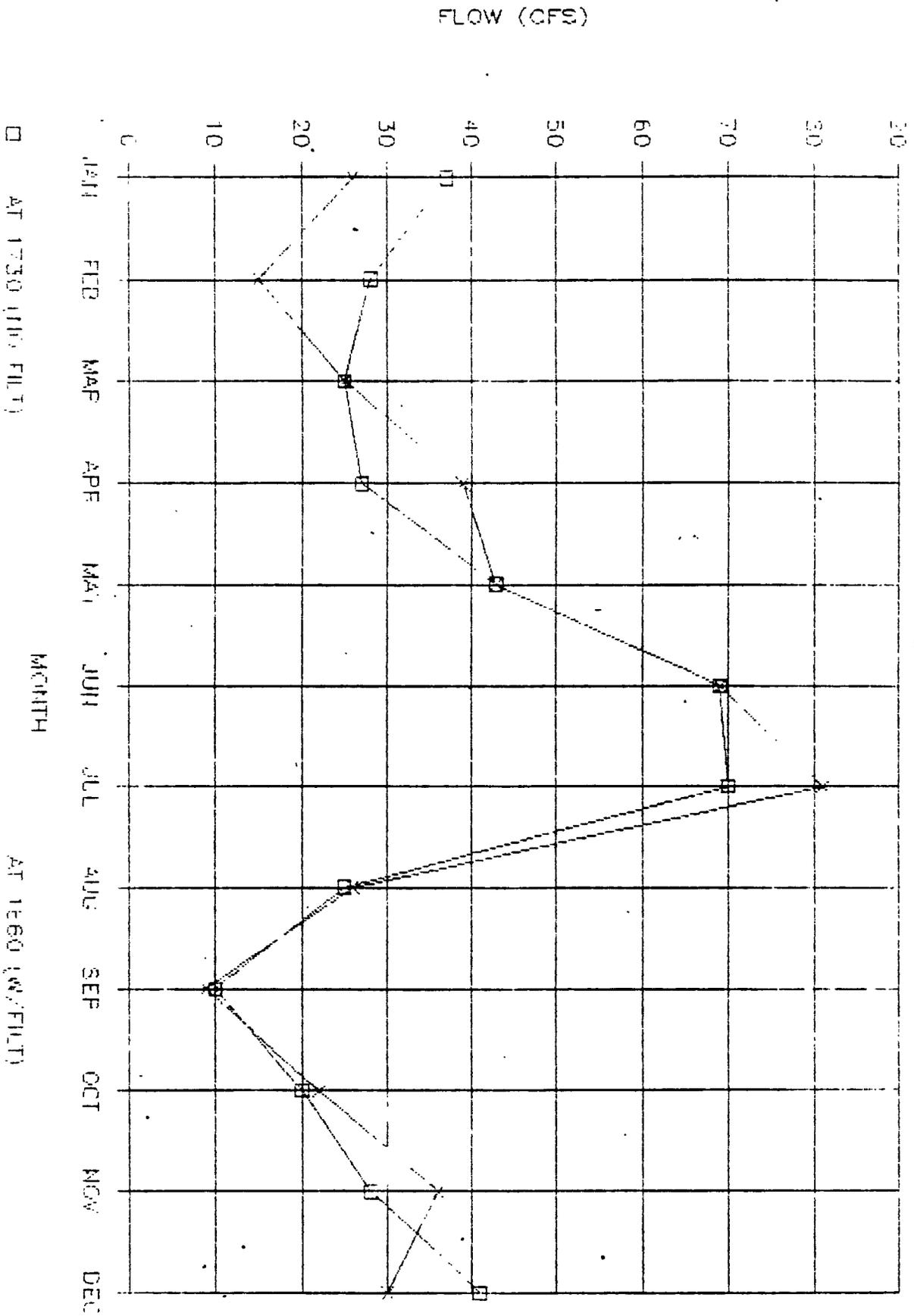
# CENTRAL TTP PAGE FULF CURVE

EXHIBIT A



# 11000 - STREAM FLOW SWITCHING LEVELS

EXHIBIT E



## EXHIBIT C

### WATER CONSERVATION PLAN

#### WATER SHORTAGE RESPONSE PLAN

The "Emergency Conservation Plan" in the 1980 COMPLAN was the first formal presentation of SWD's water shortage response plan. It consists of five consecutive stages, each one more restrictive than the preceding one. Actions called for in the various stages ranged from cutting nonessential uses to water rationing.

Neither the 1980 Emergency Conservation Plan nor the 1985 Water Shortage Response Plan is designed to be used in the event of a water shortage caused by a major disruption in treatment, transmission of water, or other type of disaster. Shortages resulting from these types of operational emergencies are addressed by SWD's Emergency Response Plan (see 1980 COMPLAN). In order to differentiate between the two types of emergency efforts, the multi-staged plan for drought conditions has been renamed the Water Shortage Response Plan (WSRP).

The 1985 WSRP is a refinement of the basic, sound structure of the 1980 Emergency Conservation Plan. The recommended WSRP contains separate plans to address summer and fall water shortage scenarios (see Tables 1 and 2): For additional information see Volume VI of the 1985 Comprehensive Water Supply Plan.

## EXHIBIT D

### ASSUMPTIONS FOR MODELING OF THE SOUTH FORK TOLT RIVER PROJECT

To assist in the development of an instream flow Settlement Agreement for the South Fork Tolt River between the City and the Agencies, the Seattle Water Department's Water Resource Management Model (WRMM) was used to model the monthly operations of the South Fork Tolt River Project, including the reservoir, penstock, powerhouse, and the South Fork Tolt River from the upstream gage 12148000, the measuring point for the minimum instream flows. A historical record of flows from 1929 to 1986 was used. A number of assumptions were necessary to provide a basis for the simulation. Major modeling assumptions not presented elsewhere in the Settlement Agreement are listed below.

1. The maximum controlled reservoir pool was defined by the spillway crest level and was assumed to be E1 1765 from March through August and E1 1754 from October through January. The maximum end-of-month level for February and September was assumed to be E1 1762.
2. It was assumed that the reservoir would be operated to provide 9,060 acre-feet of flood control storage above E1 1754 from October through January.
3. The simulation was conducted once with a minimum pool of E1 1730 (without filtration) and was repeated with a minimum pool of E1 1660 (with filtration).
4. The average annual water supply demand was assumed to be 52 mgd (without filtration) and 63 mgd (with filtration). The demand patterns are shown in Table D-1. It is understood that actual water supply demands will vary from year to year.
5. The penstock capacity was assumed to be 300 cfs.

Modeling done by Seattle Water Department.

TABLE D-1

WRMM MONTHLY WATER SUPPLY DEMAND PATTERNS<sup>1</sup>

	Without Filtration		With Filtration	
	<u>(cfs)</u>	<u>(mgd)</u>	<u>(cfs)</u>	<u>(mgd)</u>
October	68.4	44.2	82.9	53.6
November	68.4	44.2	82.9	53.6
December	68.4	44.2	82.9	53.6
January	68.4	44.2	82.9	53.6
February	68.4	44.2	82.9	53.6
March	68.4	44.2	82.9	53.6
April	68.4	44.2	82.9	53.6
May	80.4	52.0	97.5	63.0
June	96.5	62.4	117.0	75.6
July	116.6	75.4	141.4	91.4
August	112.6	72.8	136.4	88.2
September	80.4	52.0	97.5	63.0

<sup>1</sup> Firm yield model assumption: 52 mgd, South Fork Tolt;  
116 mgd, Cedar River

## DESCRIPTION OF OUTPUT VARIABLES

### South Fork Tolt Reservoir:

- QIN = Inflow to South Fork Tolt Reservoir (cfs); from Table 12 in Morrison-Knudson November 1987 report to SWD
- STORE = End of month storage (100's of acre-ft)
- QSPL = Reservoir spill (cfs)
- QSPK = Penstock diversion (cfs)
- QFG = Flow at fish gate release valve (cfs)
- QRR = Total reservoir release (cfs)

### South Fork Tolt Control Point (at gauge 1480):

- QIN = Inflow between South Fork Tolt Reservoir and gauge 1480 (cfs); from Table 13 in Morrison-Knudson November 1987 report to SWD
- QMIN = Minimum instream flow requirement at gauge 1480 (cfs)
- QNF = Computed natural flow at gauge 1480 (cfs)
- QREG = Actual flow at gauge 1480 (cfs)
- SHQ = Instream flow shortage (cfs) ( $QMIN - QREG$ )

### Regulating Basin:

- QGW = Not used at this time
- QDIV = Target diversion from the regulating basin to Seattle (cfs)
- QACT = Actual diversion from the regulating basin to Seattle (cfs)
- QREG = Quantity of hydropower water returned to the river (cfs)
- SHQ = Water supply shortage (cfs) ( $QDIV - QACT$ )

SWD  
JC:se  
8-12-88  
ER52.3.1

## DATA INPUT DECK DESCRIPTION

<u>CARD</u>	<u>DESCRIPTION</u>
-------------	--------------------

TI-T3	Job Title Cards
-------	-----------------

J1	First Job Card
----	----------------

<u>Field</u>	<u>Description</u>
1	Number of years in simulation
2	First year of simulation
3	Indicator for single reservoir system
4	Indicator for yield study
5	Number of basins in the system
6	Not applicable to Tolt system

J2	Output Option Card
----	--------------------

<u>Field</u>	<u>Description</u>
1	Indicator for standard output of monthly inflow.
2	Indicator for statistical summary option
3	Indicator for diagnostic printout
4	Number of entries in storage/area/elevation table
5	Indicator for priority of M&I diversion

J3	Simulation Time Interval
----	--------------------------

<u>Field</u>	<u>Description</u>
1	First month of simulation
2	Last month of simulation
3	Number of time steps in a month
4	The month number of the first period of supplied data in each year

J4	Month Names
----	-------------

J5	Number of Days in Each Month
----	------------------------------

J6	Inches of Evaporation in Each Month
----	-------------------------------------

J7	River Basin Name
----	------------------

CP	Control Point Specification
----	-----------------------------

CARD      DESCRIPTION

<u>Field</u>	<u>Description</u>
1	Control point number
2	Control point number of next downstream control point
3	Indicator for standard output printout for this control point
4	Indicator for type of flow
5	Linkage index number
6	Indicator for first CP card

ID      Control Point Identification

<u>Field</u>	<u>Description</u>
1	Annual average diversion requirement at this control point (MGD)
2	Indicator for normal low flow requirement
3	Indicator for critical low flow requirement
4	Indicator for inflow entry
5	Indicator for diversion requirement
6	Control point name
7	River basin name in which control point is located
8	Indicator for upstream reservoir
9	Indicator for statistical summary

R1      Reservoir Card

<u>Field</u>	<u>Description</u>
1	Ratio of net reservoir evaporation at this reservoir to index operation
2	Initial storage (ac-ft)
3	Maximum storage capacity (ac-ft)
4	Hydraulic head (ft) to be used in calculating hydropower
5	Penstock capacity (cfs)
6	Index number of the first link in this single reservoir system
7	Index number of the last link in this single reservoir system
8	Indicator for type of reservoir

RS      Reservoir Storages

<u>Field</u>	<u>Description</u>
1-10	Reservoir storage capacities (ac-ft) corresponding to elevations specified on RE card

<u>CARD</u>	<u>DESCRIPTION</u>						
RA	Reservoir Areas						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1-10</td> <td>Reservoir surface areas (acres) corresponding to elevations specified on RE card</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1-10	Reservoir surface areas (acres) corresponding to elevations specified on RE card		
<u>Field</u>	<u>Description</u>						
1-10	Reservoir surface areas (acres) corresponding to elevations specified on RE card						
RE	Reservoir Elevations						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1-10</td> <td>Reservoir elevations (ft) for which storage/area relationships are given</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1-10	Reservoir elevations (ft) for which storage/area relationships are given		
<u>Field</u>	<u>Description</u>						
1-10	Reservoir elevations (ft) for which storage/area relationships are given						
RF	Maximum Reservoir Elevations						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1-12</td> <td>Maximum reservoir elevation (ft) at end-of-month for each of 12 months</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1-12	Maximum reservoir elevation (ft) at end-of-month for each of 12 months		
<u>Field</u>	<u>Description</u>						
1-12	Maximum reservoir elevation (ft) at end-of-month for each of 12 months						
RM	Minimum Reservoir Elevations						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1-12</td> <td>Minimum reservoir elevation (ft) at end-of-month for each of 12 months</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1-12	Minimum reservoir elevation (ft) at end-of-month for each of 12 months		
<u>Field</u>	<u>Description</u>						
1-12	Minimum reservoir elevation (ft) at end-of-month for each of 12 months						
SC	Critical Reservoir Storage Levels						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1-12</td> <td>Storage level (ac-ft) below which critical minimum flow requirements are triggered</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1-12	Storage level (ac-ft) below which critical minimum flow requirements are triggered		
<u>Field</u>	<u>Description</u>						
1-12	Storage level (ac-ft) below which critical minimum flow requirements are triggered						
EC	Reference Reservoir Storage Elevations for the Downstream Groundwater Source (not used in this system)						
FU	Not Used in This System						
FC	Not Used in This System						
RP	Not Used in This System						
SW	Low Flow Switching Indicators						
	<table border="0"> <tr> <td><u>Field</u></td> <td><u>Description</u></td> </tr> <tr> <td>1</td> <td>Type of low flow switching mechanism</td> </tr> <tr> <td>2-4</td> <td>Indicators, not used when Field 1 = 2</td> </tr> </table>	<u>Field</u>	<u>Description</u>	1	Type of low flow switching mechanism	2-4	Indicators, not used when Field 1 = 2
<u>Field</u>	<u>Description</u>						
1	Type of low flow switching mechanism						
2-4	Indicators, not used when Field 1 = 2						

CARD      DESCRIPTION

QN      Normal Flow Requirements

Field                      Description

1-12      Normal minimum instream flows (cfs) for months October through September

QC      Critical Flow Requirements

Field                      Description

1-12      Critical minimum instream flows (cfs) for months October through September

QF      Index Streamflow Switching Levels

Field                      Description

1-12      Index streamflow switching levels (cfs) for months October through September (first and third set ignored)

DV      Monthly Demand Coefficients

Field                      Description

1-12      Monthly demand coefficients (ratio between monthly demand and annual average demand) for months October through September

GW      Monthly Groundwater Pumping Capacity (not used)

ED      Indicator for End of Input File

JC:se  
8-12-88  
ER52.2.4

BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C.

THE CITY OF SEATTLE, WASHINGTON

SOUTH FORK TOLT RIVER  
HYDROELECTRIC PROJECT

PROJECT NO. 2959

SUBMISSION OF SETTLEMENT AGREEMENT  
FOR THE SOUTH FORK TOLT RIVER

Pursuant to Section 385.602 of the Commission's Rules of Practice and Procedure, the following Parties submit the attached Settlement Agreement: The City of Seattle, Washington, acting through the Departments of Water and Light (the City); the Washington Department of Fisheries, the Washington Department of Wildlife, the Tulalip Tribes of Washington, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service (the Agencies).

EXPLANATORY STATEMENT

The South Fork Tolt River is located in the Snohomish River Basin, Washington. It contains valuable populations of and supportive habitat for anadromous fish. In 1957 the City, following negotiations with the Washington Department of Fisheries and the Washington Department of Game [now the Department of Wildlife], was granted the Surface Water and

Storage Permit No. 10602 and Reservoir Permit R-206 which defined minimum flow requirements for the South Fork Tolt River. In 1963, the City constructed a dam and reservoir on the South Fork Tolt River for municipal and industrial water supply. On June 6, 1983 the City applied to the Department of Ecology for a change of use and point of diversion for the purpose of adding hydroelectric generation to Surface Water and Storage Permit No. 10602 and Reservoir Permit R-206. The applied for changes would permit hydropower generation for the City's currently held rights that are limited to only that quantity of surface and stored waters beneficially put in use for municipal water supply purposes. The use of waters diverted and stored for municipal water supply and/or hydropower generation, if granted by Ecology, would be subject to the conditions of this Settlement Agreement so long as the Settlement Agreement is in effect. The potential quantity of water that can be used for these purposes is 280 cfs and up to 57,800 acre/feet annually.

On June 6, 1983 the City also applied for the right to generate hydropower from waters legally diverted and stored under existing rights, but not currently utilized for municipal water supply purposes. During periods of low water consumption, particularly in the winter months, municipal water supply needs remain at relatively stable and low levels. Waters stored during these periods exceed municipal needs and the City has applied for a surface water right, S1-24421, that would allow use of these surplus waters for hydropower generation. The use of the water solely for hydropower generation, if granted by Ecology, would be subject to the conditions of this Settlement Agreement so long as the Settlement Agreement is in effect. The application requests rights for up to 245 cfs for hydropower purposes.

In 1979, the City applied for a preliminary permit for hydropower development at the existing dam and reservoir. In response, the Washington Department of Fisheries, Washington Department of Wildlife, the Tulalip Tribes, and the National Marine Fisheries Service intervened in the preliminary permit proceeding, requesting that the City undertake studies to identify all project impacts and develop necessary mitigation measures prior to application for license. The Federal Energy Regulatory Commission (FERC) issued a preliminary permit for the South Fork Tolt River Hydroelectric Project No. 2959 (the Project) on August 1, 1980.

At public hearings held by the City Light Department in Carnation and Seattle in August 1980 and January 1981, citizens voiced concerns not only about the Project, but also concerns related to the City's past and possible future actions in the Tolt watershed. In response to these concerns, the City Council passed Resolution 26525 on March 9, 1981, which directed that fisheries resource studies be conducted on the Tolt River system to identify limiting factors to fish production. The Resolution also directed the City Light Department and the Water Department to form a representative advisory group composed of federal, state, and tribal fishery interests as well as other interested organizations and individuals, that would develop, evaluate, and implement the fish study.

The University of Washington Fisheries Research Institute (FRI) conducted the "Tolt River Fisheries and Instream Flow Analysis" for the City from 1981 through 1983. The purpose of the study was to investigate the basic biological and physical characteristics of the Tolt River system and from this

ascertain limiting factors influencing salmonid production. Baseline data were collected on the composition and abundance of anadromous salmonids, associated resident fish and macroinvertebrates in the Tolt River system. In addition, an instream flow analysis of salmonid habitat requirements was conducted using the Instream Flow Incremental Methodology (IFIM). This analysis included an evaluation of the potential impact on instream flow needs following development of the Project. The results of the instream flow analysis were intended to provide a basis for re-examining and negotiating water allocations and proposed instream flow alterations in the South Fork Tolt River.

In October 1981 the City filed with FERC an application for license for the Project without all of the study results and mitigation measures for either anadromous fish or wildlife. The Agencies intervened in the proceeding, requesting that the license application include conditions for protection, mitigation and restoration of Tolt River anadromous fishery resources, particularly instream flows and habitat restoration. Wildlife concerns were also raised in these interventions, but will be separately addressed through a standard license article requiring preparation of a wildlife mitigation plan.

The Tolt River Fisheries and Instream Flow Analysis indicated that the instream flows proposed for the Project in the license application, while beneficial for some species, could be detrimental for steelhead spawning and adult holding. The study report presented recommendations for minimum instream flows for the Project but fell short of actually recommending one specific set of minimum flows for the

protection of anadromous fish. In this regard, the final development of the minimum flows was left to negotiation between the City and the Agencies. The study report concluded that modification of existing flows offered the greatest potential for improvement of the South Fork Tolt River fishery resources. It also presented other recommendations for fisheries management and enhancement measures.

On March 29, 1984 the FERC issued a major license to the City for the Project which contained specific instream flow conditions in Article 25. The City filed an application for a rehearing of the March 29, 1984 order issuing a license which included a request for resolving conditions of Article 25, through negotiations with the Agencies. In addition, the Agencies appealed issuance of the license for the Project because they believed the license contained inadequate measures for protection, mitigation, and restoration of fishery resources. The Agencies were particularly concerned about the failure of the license to adequately provide long-term conditions for flows and habitat restoration. On July 5, 1984 FERC issued an order staying the March 29, 1984 order issuing the license to allow the City and Agencies six months to enter into specific negotiations for the purpose of determining a mutually agreeable long-term flow regime for the South Fork Tolt River in lieu of the Article 25 conditions. Since 1984, the City and the Agencies have continued studies, discussions, and negotiations on fishery issues.

The anadromous fish of the Snohomish River Basin, including the South Fork Tolt River, are managed on the basis of natural production. The Agencies' habitat management goal is no net loss of existing or potential habitat or production.

Throughout the negotiations, preservation of existing habitat and restoration of damaged habitat have been priorities for all Parties.

The Agencies have reviewed the Project in light of the Washington Department of Fisheries Snohomish River Basin Guidelines (now referred to as Hydroelectric Assessment Guidelines). With additional field work and data analysis completed in 1986, information has been provided regarding the location of anadromous fish barriers, physical habitat, spawner use, juvenile salmonids, use by fishermen, sediment and bed load conditions, instream flow requirements using the IFIM method, macroinvertebrates and dissolved gasses. Provisions have been made for finalizing an Erosion and Sediment Control Plan (ESCP) in compliance with the Hydroelectric Assessment Guidelines. There will also be an operational demonstration of the project energy dissipating structure prior to start up, again after the first year of operation and then every five years during the life of the project unless waived by the Agencies. Pre- and post-Project studies and other measures comply with the Hydroelectric Assessment Guidelines.

The attached Settlement Agreement is the result of the studies, discussions, and negotiations of fishery issues. It commits the City to provide minimum flows for the South Fork Tolt River, addresses possible future water supply changes, such as filtration, establishes preliminary ramping rates and establishes an outline for pre- and post-project studies. Its provisions are submitted as license conditions for Project No. 2959. However, it also provides measures and commitments by the City for protection, mitigation and restoration of the

South Fork Tolt River anadromous fishery resources in the event that no hydropower project is constructed. None of the Parties to the Settlement Agreement will continue to challenge the issuance of a new license for the Project on the basis of fishery issues, provided that the license is conditioned on compliance with the Settlement Agreement.

This Settlement Agreement, during its term, fulfills all the City's fisheries mitigation obligations for the anticipated impacts of the Project and the existing municipal and industrial water supply project, including a future water filtration facility. The City and the Tulalip Tribes agree that nothing herein is intended to waive any Tribal rights, including but not limited to fishing and other water-related rights or remedies except as expressly agreed to herein. Any modification to this Settlement Agreement or assertion of any such rights or remedies to change the operation of this project shall be in accordance with Section A.3. This shall not preclude the Tulalip Tribes or other Parties to this Settlement Agreement from seeking a modification based upon any fishing or water-related rights, judicial review of the modification decision or any remedies for noncompliance. It is further agreed that nothing in this Settlement Agreement precludes the Tulalip Tribes or other Parties to this Settlement Agreement from seeking mitigation for unanticipated, significant project-related impacts, for example slides affecting the river.

The provisions of this Settlement Agreement are not severable. Any material modification of its terms by FERC could invalidate the entire Settlement Agreement. The record supporting the Settlement Agreement is the record in this

case. Since this Settlement Agreement is not contingent on the development of the hydroelectric project, this Settlement Agreement becomes effective upon the date of execution by all parties.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

26 FERC 161, 406

LICENSE,  
DAM SAFETY,  
ENVIRONMENTAL  
IMPACT,  
FISH AND WILDLIFE

Before Commissioners: Raymond J. O'Connor, Chairman;  
Georgiana Sheldon, J. David Hughes  
and Oliver G. Richard III.

City of Seattle, Washington ) Project No. 2959-002

ORDER ISSUING LICENSE (MAJOR)

(Issued March 29, 1984)

The City of Seattle, Washington ("Applicant"), has filed an application for a license under Part I of the Federal Power Act ("Act") to construct, operate and maintain the Tolt River-South Fork Project No. 2959. The project would be located on the South Fork Tolt River, a tributary to the Snoqualmie River, near the City of Carnation, in King County, Washington.

Notice of the application has been published, and comments have been received from interested federal, state, and local agencies. The Washington Department of Natural Resources ("DNR"), the Washington Department of Ecology ("Ecology"), the Washington Department of Game ("Game"), the Washington Department of Fisheries ("Fisheries"), the National Marine Fisheries Service ("NMFS"), the United States Department of the Interior ("Interior"), and the Tulalip Tribes ("Tribes") were granted intervention. The significant concerns of the intervenors are discussed below.

Request for Cumulative Environmental Impact Analysis

The Tribes requested that Project No. 2959 be included in any cumulative environmental impact assessment conducted on hydroelectric development in the Snohomish River Basin. 1/

The Snohomish River Basin includes the Skykomish River drainage in the northern and eastern part of the basin and the Snoqualmie River drainage in the western and southern part of the basin. The Tolt River is a tributary to the lower Snoqualmie River. Currently, there are 16 license and exemption applications pending in the Snohomish River Basin. There are also two existing licensed projects and one exempted project in the basin. Of these projects, eleven are located in the Skykomish River drainage, with six clustered in the North Fork Skykomish River drainage.

1/ Although Fisheries, Game and NMFS have requested that a cumulative environmental assessment be conducted for the Snohomish River Basin, they have excluded Project No. 2959 from their request for a cumulative assessment.

TU-T

cc: Muller  
Wanger  
4-10-84

Project No. 2959-002

-2-

In the Snoqualmie River drainage, there are five proposed projects, three in the upper Snoqualmie River (above Snoqualmie Falls, 2/ an impassible fish barrier) and two on tributaries of the lower Snoqualmie River, including Project No. 2959. In contrast to the clusters of proposed projects in the Skykomish drainage, the five projects in the Snoqualmie drainage are geographically dispersed.

We have assessed the distribution in the Snohomish River Basin of anadromous fish, which is the resource most likely to be affected by cumulative adverse impacts. Anadromous fish use the lower 7.5 miles of the South Fork Tolt River up to the falls, an impassible fish barrier, which is .5 miles below the South Fork Tolt River Dam. The project would be located at the existing South Fork Tolt River Dam, which was constructed in 1963. The construction and operation of the hydroelectric facilities at the dam, as conditioned by this order, would not likely increase impacts to the existing fishery resources in the basin. We find that the South Fork Tolt River Project would not contribute in combination with other projects in the area to any adverse environmental impacts. 3/ Because we conclude that there is an insufficient interrelationship between Project No. 2959 and other proposals in the Snohomish River Basin, we find that approval of this project need not await resolution of this issue of whether cumulative environmental analysis must be performed on any groups of pending applications proposing hydroelectric developments in the Snohomish River Basin. 4/

PROJECT DESCRIPTION AND OPERATION

A. Description

The proposed Tolt River-South Fork Project would consist of: (1) an existing water supply reservoir with a gross storage capacity of 57,900-acre feet; (2) an existing 200-foot high and 980-foot long earth-fill dam with a morning glory spillway; (3)

2/ The constructed Project No. 2493 is located at Snoqualmie Falls.

3/ The site-specific environmental impacts from construction of the project are discussed below.

4/ Where a number of proposed projects are clustered in one geographical area, we intend to take a hard look at the potential cumulative impacts of these projects. If the impacts from these projects might combine to significantly affect the quality of the human environment, then an environmental assessment or an impact statement will be prepared addressing these impacts.

an existing 54-inch diameter stub connected to a proposed 25,000-foot long and 69-inch diameter steel pipeline; (4) a powerhouse containing one generating unit rated at 15 MW; (5) a tailrace; (6) a 6-foot diameter conduit; (7) an existing regulating basin formed by two small dikes and impounding 882 acre-feet; (8) an energy dissipating structure; (9) a switchyard; (10) an access road; (11) an 8.4-mile long transmission line; and appurtenant facilities. A more detailed project description is contained in ordering paragraph (B).

#### B. Operation

The Tolt-Seattle Water Supply Reservoir primarily operates as a water supply source, although it is also used for flood control and fishery purposes. The Applicant proposes to operate the project as a base-load, run-of-the-river facility. During low flow periods, the Applicant proposes to generate energy by using water diverted for municipal water supply needs. When the reservoir reaches a specified level so that there is excess water above that required for the maintenance of the water supply and minimum flows, extra releases would be made through the water supply pipeline to operate the powerhouse pipeline at capacity. Excess flows would be returned to the Tolt River through an energy-dissipating structure.

The project control systems will be designed so that it will be operated automatically from the City Light Department's Power Control Center in Seattle.

#### JURISDICTION

The project would be located on the South Fork Tolt River, a tributary to the Snoqualmie River, which is a navigable waterway of the United States <sup>5/</sup>, and would affect the interests of interstate or foreign commerce through the generation and transmission of electricity. Therefore, this project is required to be licensed under Section 23(b) of the Federal Power Act.

#### SAFETY AND ADEQUACY

The Applicant's consultant analyzed the South Fork Dam spillway and concluded that it is not able to safely pass floods up to the Probable Maximum Flood ("PMF"). The movable ring gate on top of the spillway crest interferes with the flow over the spillway when the gate is in the raised position. On the other

<sup>5/</sup> See 53 F.P.C. 1657 (May 13, 1975).

hand, when the ring gate is in the lowered position during flood flows, it would be overstressed. Failure of the ring gate in either position, however, could block flows through the spillway tunnel. Accordingly, the ring gate must be removed until adequate spillway capacity is provided. The consultant also analyzed the spillway and intake tower structures for earthquake loading and found that both structures would be overstressed to the point where failure could occur. The consultant also found the floating debris control facilities to be deficient.

We have reviewed the consultant's analyses and conclusions and find them reasonable. Therefore, we include Articles 30, 31, and 32, requiring the Applicant to submit for approval of the Director, Office of Electric Power Regulation, plans and schedules for modifying the project to enable safe passage of a PMF and to provide structural stability of the spillway and intake shafts (towers) for maximum credible earthquake forces.

The consultant also studied the dam embankment, foundation and abutments. Based on our review of these studies, we determined that the embankment and abutment materials are not susceptible to liquefaction and that the dam embankment and abutments have suitable factors of safety against instability under both static and dynamic loading. Moreover, the U.S. Army Corps of Engineers ("Corps") inspected and analyzed the dam under the National Dam Safety Program, and concluded that the reservoir regulating dams were well designed and constructed and that the reservoir had adequate capacity to safely pass all projected flood flows. We find that the project will be safe and adequate subject to the terms and conditions of this order.

#### ECONOMIC FEASIBILITY

The project will operate run-of-river and generate an estimated 7,400 Mwh of energy annually. <sup>6/</sup> The Applicant states that the project energy will be used to meet its system load requirements. The project would be economically feasible compared to the cost of equivalent power from a coal-fueled steam electric plant, which is the least-cost alternative power source. The project would have an estimated annual benefit of \$874,000 over a steam electric plant.

<sup>6/</sup> The proposed project with this average generation will utilize a renewable resource that will save the equivalent of approximately 105,000 barrels of oil or 34,000 tons of coal per year.

ENVIRONMENTAL CONSIDERATIONSA. Need for Fisheries Study

Most of the intervenors commented that the Applicant failed to conduct the fisheries studies required under the preliminary permit, and therefore filed the license application prior to obtaining the necessary information for the application. These intervenors recommended that further processing of the application be suspended pending completion of the fisheries studies.

The Applicant undertook a fishery study in 1981, the purpose of which was to provide information on major fishery issues, including instream flow needs (minimum flows). The Applicant filed a report on these studies with the Commission on August 13, 1983. That report provided sufficient detail on the fishery resources to comply with our regulations. <sup>7/</sup> Consequently, we find that suspension of the application is not warranted.

B. Fishery Resources

The South Fork Tolt River, up to the impassable falls one-half mile downstream from the existing dam, supports small populations of chinook and coho salmon, steelhead trout, and resident cutthroat and rainbow trout. Other resident fishes include longnose dace, sculpins, mountain whitefish, and brook lamprey. The Tolt River also supports a naturally-sustained steelhead run that is supplemented by hatchery stockings by the Department of Game and the Steelhead Trout Club of Washington. The contribution of the South Fork to this catch is not known, although the South Fork is believed to support only a small run.

C. Water Quality

The Seattle Water Department operates the South Fork Tolt River Reservoir which provides about 30 percent of the water supply for the Seattle area. The average water withdrawal from the reservoir is 75 cfs, with ranges from 51 to 96 cfs. The existing minimum instream flow from the dam originally agreed to by the Seattle Water Department and Ecology, is 54 cfs during most of the year, except in June, July, August, and September when it ranges from 35 to 44 cfs. <sup>8/</sup>

<sup>7/</sup> See 18 CFR §4.51(f) (1982).

<sup>8/</sup> The Washington Department of Ecology has issued a water quality certificate in accordance with Section 401 of the Federal Water Pollution Control Act.

The water quality of the South Fork Tolt River and reservoir is excellent, and is classified as "AA" by the Washington Department of Ecology and receives only primary treatment prior to entering the water supply system. Higher turbidity levels occasionally occur in the reservoir during periods of high flow, but usually remain low. Waterborne asbestos fibers are naturally present in the Tolt river Basin, but water quality standards have not yet been established by the U.S. Environmental Protection Agency ("EPA").

Interior, NMFS, Game, and the Tribes have commented that the project's operation would result in a change in the thermal regime of the South Fork and, therefore, would adversely affect the fishery resources. NMFS also has noted that increased turbidity and sedimentation resulting from project construction could adversely affect the Tolt River far downstream from the area of construction.

The Applicant replied that the temperature regime of the South Fork Tolt River would not be adversely affected, since the South Fork Tolt River Dam has a multiple-level intake structure, allowing the blending of water to any desired temperature. The Applicant stated that mitigative measures used during construction, and the fact that most construction activities would occur away from the South Fork Tolt River, would prevent substantial sedimentation or high turbidity levels in the South Fork Tolt River.

We conclude that the thermal regime of the South Fork would not be significantly altered by the proposed project, provided that the Applicant properly blends the temperature through water released by the existing multiple level intake structure of the South Fork Dam. Article 24 of the license requires the Applicant to monitor the water temperature after the project commences operation to ensure that the desired temperatures are maintained. Moreover, we do not believe that there will be significant increases in turbidity or sedimentation from project construction. Substantial sedimentation or turbidity on the South Fork will be prevented because the South Fork will experience little construction activity and, what construction which takes place, will be protected by standard mitigative measures.

D. Minimum Flows

Interior, NMFS, and Tribes, and the Departments of Game and Ecology indicated that the existing minimum flow regime was not sufficient for the long-term protection and enhancement of the existing fishery resources. These intervenors recommended that a license not be issued until the ongoing minimum flow studies are completed and an appropriate flow regime determined.

The Applicant originally contended that, since the existing flow regime was controlled by a permit issued by Ecology for the South Fork Water supply project, increased flows for the fishery resources could be provided only after water supply needs were fulfilled. In April 1983, however, the Applicant filed a report entitled "Tolt River Fisheries and Instream Flow Analysis," which provides a detailed analyses of the instream flow needs of the South Fork Tolt River near the proposed project.

We note that under Section 10(a) of the Act, 16 U.S.C. 803(a), we must consider all factors affecting the public interest when licensing a project best adapted to a comprehensive plan improving or developing a waterway. For this reason, we may require a flow regime, balancing the long-term water supply needs of the City of Seattle and the minimum flows necessary to protect and enhance existing fishery resources. We have reviewed the Applicant's 1983 report and find that the QE flows <sup>9/</sup> would provide adequate interim protection of aquatic resources in the South Fork Tolt River. Therefore, we are including Article 25, which establishes interim minimum flow schedules, requires the Applicant to consult with federal and state agencies and the Tribes to determine an appropriate schedule of flow release from the project, and requires the Applicant to file the schedule for Commission approval within six months from the issue date of this license.

#### E. Slide Area

The Tribes and Game both commented that a large landslide about one mile downstream from the dam has had, and may continue to have, adverse impacts on aquatic resources by periodically reducing river flows and by adding large volumes of sediment to the river. The Applicant acknowledged the existence of these concerns, but stated that the Seattle Water Department has and is continually conducting studies in this area. The Applicant further stated that it has continuously monitored and studied the area to determine if there is a hydraulic connection between seepage from the reservoir and the slide area, and to formulate mitigative measures for any future movement of the slide.

It is concluded that movement could again occur at the landslide that may also dam the river and pose a threat to downstream public safety; that monitoring of the landslide area should continue; and that the results of the monitoring should be made available to the Director, Office of Electric Power Regulation and the Commission's Regional Engineer in San Francisco,

<sup>9/</sup> QE is defined as the flows which most effectively maximize stream habitat.

California. Therefore, Article 26 requires the Applicant to continue monitoring the landslide, and the filing of all monitoring data on an annual basis with the Director and the Regional Engineer.

#### F. Flood Control and Ramping Rate

Some of the intervenors commented that any additional South Fork Tolt Reservoir drawdown for flood control could impact on minimum flow releases and should occur only if minimum releases can be achieved. The intervenors also questioned whether the Applicant's proposed ramping rate operations will provide sufficient protection of the existing fishery.

The Applicant's report entitled "Tolt River Fisheries and Instream Flow Analysis" included a discussion and analysis of ramping rates downstream of the proposed discharge point, and contained specific recommendations for ramping rates at several river flow levels.

\*\* Game, Interior, and NMFS commented that the ramping rates expressed in the report would be adequate on an interim basis, but that post-operational studies must be performed to evaluate the effectiveness of these rates and define any needed modifications.

We find that the requirements for minimum flow releases coupled with the ramping rate schedule established will sufficiently protect the aquatic resources during flood control operations. Article 27 requires the Applicant to maintain a scheduled ramping rate, to consult with federal and state agencies and the Tribes in conducting an investigation on the effects of project water level fluctuations on the fishery resources, and to file a report with the agencies and the Tribes, and the Commission, for approval.

#### G. Cultural Resources/Tribal Rights

Interior and the Tribes commented that the Applicant failed to consider the importance of the Tolt River as a usual and accustomed fishing area of the Tulalip Tribes, failed to properly address the potential impacts of the project on the anadromous fishing area utilized by the Tribes, and did not properly consult with Interior's Bureau of Indian Affairs ("BIA").

The Applicant has presented evidence that it consulted with representatives of both the Tribes and the BIA. The Applicant conducted a study, showing that the project area was not extensively used as a fishing site, although the Tolt River does produce fish that are taken in the Indian fisheries on the lower

Snohomish River and Puget Sound. Consequently, the article, to protect and enhance the fishery resources of the Tolt River, will similarly protect the Indian fishery of the Snohomish River.

Although cultural resources would not be adversely affected by construction and operation of the project, 10/ we include Article 28 in this license, requiring cultural resources protection measure in the event of any future construction or development at that project, other than the original project development considered and authorized here.

#### H. Recreation

The South Fork watershed above the existing dam is closed to public access and recreation for the protection of the public water supply. Interior, Game, and King County recommended that because the project watershed is closed to recreational use, the Applicant should develop appropriate off-site recreational facilities. Although the Applicant has met with the federal, state and local recreation agencies, it has not provided specific proposals for recreational development. It appears that some measures should be provided. Therefore, we include Article 29 requiring the Applicant to consult with federal, state, and local agencies to develop a recreational plan for the area in the vicinity of the project, and to file a revised Report on Recreational Resources, for approval.

#### I. Environmental Impacts

Construction of the project facilities would result in the disturbance of about 14 acres of forested or open land, most of which is owned by the Applicant. Additional land would be required for borrow and disposal sites, staging areas, and parking areas. The size or location of these areas is not yet known, but would be primarily on Applicant-owned land. Construction activities could result in increased erosion and associated higher turbidity levels in the South Fork, although erosion-control measures proposed by the Applicant and the relatively short duration of construction (less than 2 years) should minimize impacts on aquatic resources. Most of the area disturbed during construction, and project facilities, such as the pipeline right-of-way, would be revegetated and likely to be utilized again by wildlife.

During certain months, the project operation would result in a decrease in river flows between the dam and powerhouse return-flow line, compared to existing conditions downstream from the

10/ Two historic sites were discovered during the survey, however neither site appears to be eligible for the National Register of Historical Places.

dam. Returning powerhouse flows to the South Fork would cause water level fluctuations as the powerhouse is brought on or off line. Reduced flows and fluctuations could result in adverse impacts on fish populations in the South Fork, although the establishment of appropriate minimum flows and ramping rates, as required by Articles 25 and 27, would minimize these impacts.

The bald eagle, a federally-listed threatened species, has been sighted in the project vicinity, but only as a transient species. The existing project has had no effect on eagles. No threatened or endangered plant species is known to occur in the area. The Report on Fish, Wildlife, and Botanical Resources adequately describes the potential impact of the project, contains several mitigative measures proposed by the Applicant, and is hereby approved. Additional measures provided through license articles will ensure protection of aquatic and terrestrial resources. Therefore, on the basis of the record, including agency and intervenor comments, and staff's independent analyses, including its environmental assessment, 11/ we find that issuance of a license for the project will not constitute a major federal action significantly affecting the quality of the human environment.

#### OTHER ASPECTS OF COMPREHENSIVE DEVELOPMENT

We find that the project, which is not in conflict with any planned development, would make good use of the water of the South Fork Tolt River, and would be best adapted to the comprehensive development of the Snohomish River basin under present conditions and upon compliance with the terms and conditions of the license.

#### The Commission orders:

(A) This license is issued to the City of Seattle, Washington, under Part I of the Federal Power Act ("Act") for a period of 40 years, effective the first day of the month in which this order is issued, for the construction, operation, and maintenance of the Tolt River South Fork Project No. 2959, located in King County, Washington on the Tolt River, and subject to the terms and conditions of the Act which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

11/ Environmental Assessment, South Fork Tolt River Project, FERC Project No. 2959-Washington, Division of Hydropower Licensing, Office of Electric Power Regulation, Federal Energy Regulatory Commission (March 8, 1984). This document is available in the Commission's public files associated with this proceeding.

(B) The Tolt River-South Fork Project No. 2959 consists of:

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

<u>EXHIBIT</u>	<u>FERC NO. 2959-</u>	<u>SHOWING</u>
G-1	17	General Plan & Vicinity Map
G-2	18	Project Boundary - Reservoir
G-3	19	Project Boundary - Pipeline
G-4	20	Project Boundary - Pipeline
G-5	21	Project Boundary - Regulating Basin and Powerhouse
G-6	22	Project Boundary - Transmission Line
G-7	23	Project Boundary - Transmission

(2) Project works consisting of:

(a) the 200-foot high, 980-foot long earthfill South Fork Tolt Dam, located at River Mile 10 and crest elevation 1775 feet msl, and equipped with a morning glory type spillway with ring gate, sluiceways and multiple-level water supply intake impounding; (b) a 1,030-acre reservoir, with a gross storage capacity of 57,900 acre-feet and usable storage capacity of 56,000 acre-feet; (c) an existing 54-inch diameter stub; (d) a 25,000-foot long, 69-inch diameter welded steel pipeline, lined, coated, wrapped and installed in a trench; (e) an indoor powerhouse containing one vertical shaft Pelton turbine with 6 nozzles, rated at 23,000 hp at a net head of 930 feet with a synchronous speed of 450 rpm, connected to a three-phase generator rated at 16,700 kVA, 0.9 pf, 13.8 kV, 15,000 kW; (f) a tailrace; (g) a 6-foot diameter conduit; (h) an existing regulating basin formed by two small dikes, and impounding 882 acre-feet; (i) an energy dissipating structure; (j) generator leads; (k) a switchyard with a 16,700 kVA, 13.8-115 kV, 3-phase step-up transformer; (l) a 300-foot long access road; (m) an 8.4 mile long, 115-kV transmission line; and all other facilities and interests appurtenant to the operation of the project, which are generally shown and described by the following exhibits;

<u>EXHIBIT</u>	<u>FERC NO.</u>	<u>SHOWING</u>
F-1	2959-1	General Plan-Tolt River Dam
F-2	2959-2	Transverse Section of S.F. Tolt River Dam
F-3	2959-3	Transverse Section of S.F. Tolt River Dam
F-4	2959-4	Transverse Sections of S.F. Tolt River Dam
F-5	2959-5	Transverse Sections of S.F. Tolt River Dam
F-6	2959-6	Profiles-Hydraulic Structures
F-7	2959-7	Regulating Basin-Plan
F-8	2959-8	Regulating Basin-Sections & Details, South Dam
F-9	2959-9	Proposed Pipeline-Plan & Profile
F-10	2959-10	Proposed Pipeline-Sections & Details
F-11	2959-11	Proposed Powerhouse-General Plan
F-12	2959-12	Proposed Powerhouse-Plan Sections
F-13	2959-13	Proposed Diversion & River Return flow Structure
F-14	2959-14	Typical One-Line Diagram
F-15	2959-15	Proposed Transmission Line Structures & Details
F-16	2959-16	Powerhouse Site Geology and Seismic Velocity Profile

Exhibit A: Consisting of five pages from page A-6, Section E to page A-10, Section G, entitled "Miscellaneous Mechanical Equipment," "Description of Electric Equipment and System", "Transmission System", and "Switchyard", filed October 9, 1981.

The Report on Fish, Wildlife, and Botanical Resources, consisting of 21 pages of text, 4 figures and 3 tables, filed October 9, 1981.

(3) All of the structures, fixtures, equipment, or facilities used or useful in the maintenance and operation of the project and located within the project boundary area, all portable property employed in connection with the project located within or outside the project boundary, as approved by the Commission, together with all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance of the project.

(C) Exhibits F, G, parts of Exhibit A, and the Reports on Fish, Wildlife, and Botanical Resources.

(D) This license is also subject to the terms and conditions set forth in FERC Form L-11 (revised October 1975) entitled "Terms and Conditions of License for Unconstructed Major Project Affecting the Interests of Interstate or Foreign Commerce" designated as Articles 1 through 23. The license is also subject to the following special articles:

Article 24. Licensee shall, after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, the Tulalip Tribes, and the Washington Departments of Fisheries and Game, conduct a study of the effects of the project and its operation on water temperature as it affects anadromous and resident fishery resources in the South Fork and mainstem Tolt River. Licensee shall, within 2 years after the date of initial commercial operation of the project, file a report on the results of the studies and, for Commission approval, any recommendations for changes in project operations or facilities for the protection of the fishery resources. This filing shall be concurrently provided to the agencies consulted.

Article 25. (a) Licensee shall, for the protection of fish and wildlife resources in the South Fork Tolt River, discharge interim continuous minimum flows according to the following schedule, as measured (in cubic feet per second) at river mile 8.1, immediately downstream of the South Fork Tolt River Dam.

	<u>Month</u>											
	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>
Normal Water Year	107	118	119	108	104	70	44	39	47	61	62	95
Critical Water Year	82	101	75	84	104	54	33	23	34	50	62	95

All releases shall be made according to the "normal water year" schedule, except in a critical water year. A critical water year is defined as a year in which inflow to the reservoir is predicted to be less than or equal to the 90% exceedence value. These interim flows shall be provided pending implementation of flows pursuant to section (b) of this article, but may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Washington Departments of Fisheries and Game.

(b) Licensee shall consult with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, the Tulalip Tribes, and Washington Departments of Fisheries and Game, and based on the results of the Tolt River instream flow study determine the minimum flow release needed at the South Fork Tolt River Project to ensure protection and enhancement of fishery and wildlife resources. Further, Licensee shall, within 6 months from the date of issuance of this license, file for Commission approval recommendations for a minimum flow release from the project.

Article 26. Licensee shall continue to monitor the large landslide and associated seepage located on the right bank of the South Fork Tolt River between 2,400 and 4,400 feet downstream from the South Fork Tolt River Dam. Licensee shall file on an annual basis with the Regional Engineer in San Francisco, California, and the Director, Office of Electric Power Regulation, all monitoring data, analyses, and conclusions regarding the landslide.

Article 27. (a) Licensee shall regulate the flow from the project so as not to exceed the following interim limitations in water level fluctuations (ramping rates) immediately downstream of the project.

<u>At streamflows of:</u>	<u>Ramping rate shall not exceed:</u>
15 to 50 cfs	50 cfs/hour
50 to 100 cfs	100 cfs/hour
100 to 300 cfs	150 cfs/hour
300 cfs and higher	200 cfs/hour

(b) Licensee shall, in consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, the Tulalip Tribes, and the Washington Departments of Fisheries and Game, conduct an investigation of the effects of project water level fluctuations on the fishery resources of the South Fork Tolt River. Licensee shall, within 2 years after the initial date of commercial operation of the project, file a report on its findings

recommended changes in the ramping rate or other project operations or facilities for protection of the fishery resources. This filing shall be concurrently provided to the agencies consulted.

Article 28. The Licensee shall, prior to the commencement of any future construction at the project, consult with the Washington State Historic Preservation Officer (SHPO) about the need for any cultural resource survey and salvage work. The Licensee shall make available funds in a reasonable amount for any such work as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 29. Licensee shall consult with the U.S. Forest Service, National Park Service, Washington State Parks and Recreation Commission, and King County Parks Department, in developing a recreation plan for on-site and off-site facilities in the vicinity of the project, and within 1 year from the date of issuance of this license, file for Commission approval, with copies to the agencies consulted, a revised Report on Recreational Resources.

Article 30. The Licensee shall submit for approval of the Director, Office of Electric Power Regulation, within one year from the issuance date of this order a plan and schedule for performing the necessary remedial work to the spillway structure and ring gate to ensure safe passage of flood flows up to the Probable Maximum Flood. Licensee shall remove the ring gate from the spillway crest within one month from the issuance date of this order or as soon thereafter as is physically possible, and shall not replace it until the structural modifications required by this article are completed.

Article 31. The Licensee shall submit within one year from the issuance date of this order a plan and schedule for strengthening the way tower and intake tower to withstand maximum credible ear. e loading.

Article 32. The Licensee shall submit within one year from the issuance date of this order, plans and specifications for Commission approval of a new log boom structure to control floating debris during flood flows.

Article 33. The Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the contract drawings and specifications for pertinent features of the project such as water retention structures, powerhouse and water conveyance structures, at least 60 days prior to start of construction. The Director, Office of Electric Power Regulation, may require changes in the plans and specifications to ensure a safe and adequate project.

Article 34. The Licensee shall review and approve the design and construction procedures for contractor-design cofferdams and deep excavations prior to the start of construction. The Licensee shall file with the Commission's Regional Engineer and Director, Office of Electric Power Regulation, one copy each of the approved construction drawings and specifications, and a copy of the letter of approval.

Article 35. The Licensee shall commence the construction of the project within two years of the date of issuance of the license, and shall thereafter in good faith and with due diligence prosecute and complete such construction of project works within 5 years of the date of issuance of the license.

Article 36. Licensee shall pay the United States the following annual charge:

(a) For purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with the provisions of its regulations, in effect from time to time. The authorized installed capacity for such purposes is 20,000 horsepower.

Article 37. Licensee, within 6 months following the date of commencement of operation of the project, shall file for approval, as-built Exhibits A, F, and G to show the project as finally constructed and located.

Article 38. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and to convey certain types of use and occupancy, without Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the

poses, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

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

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all

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

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d) (7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

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

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

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

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

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

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

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

rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file an application for rehearing shall constitute acceptance of this license. In acknowledgement of acceptance of this license and its terms and conditions, it shall be signed for the Licensee and returned to the Commission within 60 days from the date this order is issued.

By the Commission.

( S E A L )

*Lois D. Cashell*

Lois D. Cashell,  
Acting Secretary.

Project No. 2959-002

IN TESTIMONY of its acknowledgment of acceptance of  
all of the terms and conditions of this Order,

this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_,  
has caused its corporate name to be signed hereto by

\_\_\_\_\_, its \_\_\_\_\_

President, and its corporate seal to be affixed hereto and

attested by \_\_\_\_\_ its \_\_\_\_\_

Secretary, pursuant to a resolution of its Board of Directors

duly adopted on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, a

certified copy of the record of which is attached hereto.

By \_\_\_\_\_  
President

Attest:

\_\_\_\_\_  
Secretary

(Executed in quadruplicate)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED  
MAJOR PROJECT AFFECTING THE INTERESTS  
OF INTERSTATE OR FOREIGN COMMERCE

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

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

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its

judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

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

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and

across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for

the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

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

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

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

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

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

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

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

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the

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

Article 22. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 23. The set forth in the license impairing any terms Act which are not ex

Habitat Management Division Chief  
Washington State Department of Game  
600 North Capitol Way P-2959  
Olympia, Washington 98504



POSTAGE AND FEES PAID  
FEDERAL ENERGY  
REGULATORY COMMISSION  
FERC 351

FEDERAL ENERGY  
REGULATORY COMMISSION  
WASHINGTON, D.C. 20426  
OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300