

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Tacoma

Project No. 2016-081

ORDER MODIFYING AND APPROVING FISH MONITORING PLAN PURSUANT
TO ARTICLE 15

(Issued December 2, 2004)

On July 19, 2004, the City of Tacoma (Tacoma Power, or licensee) filed its Fish Monitoring Plan pursuant to article 15 of the license¹ for the Cowlitz River Project (FERC No. 2016). The project, consisting of the Mayfield and Mossyrock developments, is located on the Cowlitz River, in Lewis County, Washington.

LICENSE REQUIREMENTS

Article 15 requires the licensee, within one year of license issuance, to develop and submit a monitoring plan to evaluate the effects of the instream flow requirements, including pulsing or channel maintenance flow, upon fish in the Cowlitz River. The plan is required to be developed in consultation with the Fisheries Technical Committee (FTC) provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NOAA Fisheries), Washington Department of Fish and Wildlife (WDFW), and the Washington Department of Ecology (WDOE). When a draft plan has been prepared, it is required to be provided to all affected agencies and Tribes for 30-day review and comment. The licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. If the licensee does not adopt a recommendation, the filing is required to include the licensee's reasons, based on project-specific information.

LICENSEE'S PLAN

The licensee divided its monitoring plan into four sections, which are described below in detail: (1) channel forming process; (2) spring and fall chinook spawning monitoring; (3) downstream migrant transport flow evaluation; and (4) distribution of rearing salmonid populations.

¹ 98 FERC ¶ 61, 274

Channel forming process

In the lower Cowlitz River, fixed point photo monitoring, aerial photo monitoring, and mapping techniques will be used to observe and track the channel changes of the Cowlitz River from River Mile (RM) 50 downstream to RM 20. Existing photo data sets from re-licensing studies and 2003 aerial flights will serve as a baseline. Future photo data sets will be collected at 32 sites² (16 fixed point, and 16 aerial) following sustained high flow events. Regardless of flow events, all records and photo data sets will be repeated in years 3 and 8 to develop a semi-decadal report of conditions. The photo data set will also be repeated after a "post-Cowlitz River Project" 5-year flow event of 34,600 cubic feet per second (cfs).

Spring and fall chinook spawning monitoring

Carcass sampling and coded wire tag recovery efforts will begin on September 1, annually. Boat surveys to recover chinook carcasses will occur on the Cowlitz River from the Barrier Dam to the mouth of the Toutle River. Carcasses will be sampled for origin (hatchery vs. wild), race (spring vs. fall), sex, age, and length. Snouts will be collected from all chinook identified with coded wire tags.

Spring and fall chinook aerial spawning surveys will occur annually to monitor natural spawning populations and identify high quality habitat areas in the Cowlitz River from the Barrier Dam downstream to the mouth of the Toutle River. Data collected will include adult fish and redd distributions. Flights will begin mid-September, and occur every other week until aerial observations are impaired by high water (usually late November).

Chum salmon spawning surveys will occur concurrently with the chinook spawning surveys to monitor natural spawning populations of chum in the lower Cowlitz downstream to the mouth of the Toutle. Data collected will include adult fish and redd distribution, and run timing based on spawning and abundance estimates. Data collected from aerial surveys will be augmented with walking surveys on the lower Cowlitz River, including some tributary mouths, to enumerate and monitor redds, and to collect samples for stock analysis.

Spring and fall chinook redd surveys will occur annually. Surveys for potential redd dewatering and adult distribution of natural spawning chinook populations will take place by foot in the main channel of the Cowlitz River at RM 42.4, side channel site at RM 42.5³, and side channel site at RM 47. Data collected during the redd surveys will

² See licensee's application, filed July 19, 2004, for a list of the sites.

³ Pending approval by the Cowlitz Fisheries Technical Committee (FTC).

include redd counts, adult counts, selected redd pit depth, tail spill area, overall redd length and width, and river flow levels.

Downstream migrant transport flow evaluation

The licensee proposes, in year 2, to document the survival and travel times to the Columbia River of natural origin and hatchery-origin downstream migrant juvenile salmonids released from the Cowlitz Salmon Hatchery (CSH) or from the stress relief ponds (SRP) at the CSH. This information will be used to evaluate weekly (March through June) fish transport flows below Mayfield Dam in order to maximize the downstream transport rate and minimize exposure to predation and disease. The study will use thirty unmarked coho, thirty unmarked steelhead, and thirty unmarked chinook out-migrants collected from the Cowlitz Fall juvenile fish collection facility, and thirty marked coho, thirty marked steelhead, and thirty marked chinook out-migrants collected from the CSH. All fish will be implanted with a radio transmitter and released from the SRP outfall at the CSH in groups starting in mid-May and continuing to mid-June.

A data logger receiver will continuously monitor the reach downstream of the SRP outlet from River Mile 49.5. This will determine the time and date that each tagged fish first entered the Cowlitz River and left the Barrier Dam boat ramp area (BDA). A second data logger receiver will monitor the Cowlitz River at the Longview water intake (LWI) at RM 5.2. This will determine the survival rate and travel time required to migrate from the SRP to the mouth of the Cowlitz. A boat will be used to intermittently track radio-tagged fish after the first release in order to determine the fate of all tagged fish. When a tagged fish is detected, its location in the river will be recorded on a U.S. Geological Survey topographic map.

Fish travel times will be determined for three distinct periods: (1) the time spent at the BDA to measure when the fish began to actively migrate downstream; (2) BDA to LWI to quantify fish travel time from the BDA to the LWI; and (3) the total time in the Cowlitz to determine the time the migrates were exposed to the Cowlitz River environment. Fish survival will be determined by the presence of a tagged fish at the LWI station.

Distribution of rearing salmonid populations

The licensee proposes to determine the distribution of rearing salmonids in the lower Cowlitz River by seining for juvenile fall chinook above the mouth of the Toutle River. To develop survival estimates of natural-origin fall chinook, unmarked chinook will be wire tagged and released back into the river at the collection site, or a nearby location. Additionally, observations and study results will be analyzed in support of license article 11 (Fish Habitat Fund) to preserve and protect essential juvenile salmonid

habitat in the lower Cowlitz River in order to recognize the highest quality habitats and increase the priority of those sites for protection.

Reporting Schedule

The licensee proposes to file an interim report, with the Commission, on the impacts of Tacoma Power's instream flow schedule on fish resources of the lower Cowlitz River by December 31, of year 5, following the Commission's approval of the plan. A final report will be filed with the Commission in year 10, including agency comments and responses to agency comments.

AGENCY COMMENTS

On June 10, 2004, the licensee submitted a draft plan, as required by article 15, to the WDFW, WDOE, NOAA Fisheries, FWS, Yakama Nation, and the Cowlitz Indian Tribe. No comments were received by the licensee on the final draft of the plan.

On October 4, 2004, the WDFW submitted comments to the Commission, recommending a few clarifications and modifications regarding the plan. On November 5, 2004, Tacoma Power filed their response with the Commission addressing WDFW's comments. WDFW's comments and Tacoma Power's responses are as follows.

Comment 1: Under the channel forming process section, the timing and flows when the fixed-point photographs will be taken should be specified. WDFW recommends that the photographs be taken at a relatively low flow, as late in the year as possible to allow some leaf fall.

Response 1: Tacoma Power and WDFW conduct aerial over-flights of the lower Cowlitz annually from September through November. The Plan included 2003 photos and a 2004 photo documentation schedule. All photo data sets will be repeated in year 3 and 8 of the license. All fixed-point photographs would be taken during the fall over-flight time period, and aerial photographs would be augmented with ground photographs as needed. Minimum flows increase on the Cowlitz after October 1 and flows remain variable after that date. It would be difficult to impossible to coordinate flights at specific flows due to weather and scheduling restriction for the over-flights. Photo documentation will be collected on all flights, as possible, through November.

Comment 2: WDFW indicated that the plan states "the photo data set would be repeated after a 'post-Cowlitz River Project' 5-year flow event of 34,600 cfs...". WDFW requests that the Commission verify that Tacoma Power's intent is to repeat the photo data set any year during the license period after such a flow. They suggest

that Tacoma Power insert "or higher" after "34,600 cfs." As with the other fixed photographs, the post-high flow photos should be taken at a low flow. The study will be for the purpose of evaluating high flow events and their effectiveness at rejuvenating the channel. WDFW questions what criteria will be used for this evaluation.

Response 2: To clarify, Tacoma Power will repeat the aerial and ground photo data sets after any year where discharges in excess of 34,000 cfs occur, as measured at the U.S. Geological Survey Cowlitz River below the Mayfield Dam gauge, during the life of the license. Aerial and ground surveys will be conducted after the river flow has returned to the range of mean monthly flows. The river channel will be mapped from Mayfield Dam to the mouth of the Toutle River to evaluate the channel migration routes. This information will be provided to the members of the FTC for their information and use.

Comment 3: WDFW proposed that a 6th objective be added to the plan to read "Evaluate the potential of weekly fish transport flows, identified in the Cowlitz River Hydroelectric Project Settlement Agreement, to have the negative effect of prematurely forcing wild salmon fry, particularly wild fall chinook from preferred rearing habitat in the Lower Cowlitz River downstream of the Barrier Dam". WDFW states that they have observed that an increase in river discharge in other systems, such as the North Fork Lewis River, (also a regulated river) can force fry from preferred habitat.

Response 3: The plan for weekly springtime transport flows on the Cowlitz River was introduced by the technical advisor to the conservation groups and was supported by the WDOE and the WDFW during the relicensing process as a benefit to fish. The concept is based upon mimicking the natural springtime hydrograph of increasing flows in the lower river from either snowmelt or localized run-off from rain. The weekly pulse flows that can be 120 percent of the preceding 5-day flows with an 8,000 cfs cap, are both less than the springtime pre-Project flows and well within the range of natural variability of flows on the lower Cowlitz River. Due to the low gradient of the lower Cowlitz River and the existence of significant side channel and off-channel habitats, weekly springtime pulse flows of the magnitude proposed from Mayfield Dam have more potential to create additional preferred rearing habitat rather than moving fry out of the habitat.

Comment 4: WDFW stated that under the spring and fall chinook spawning monitoring plan for the lower Cowlitz River section, the carcass sampling and coded wire tag recovery, as well as other surveys listed in this section, are currently coordinated with WDFW. Coordination with WDFW should continue and should be mentioned in the plan.

Response 4: Tacoma Power stated that it currently funds the WDFW for evaluation activities associated with the Cowlitz River hatcheries and the lower Cowlitz River. Tacoma Power added that all annual work plans for these tasks will be submitted to the Cowlitz FTC for approval in the future. In addition, all survey and fishery resource data collection efforts will continue to be coordinated with the WDFW and the FTC. All coded wire tag recovery efforts will be done consistent with the Pacific Coast-wide protocols established by the Regional Mark Processing Center operated by the Pacific States Marine Fisheries Commission.

Comment 5: Stranding of juvenile and adult salmon have been identified as a serious concern for flow reduction at the Cowlitz Project. Stranding should be monitored at potential stranding areas to be identified in consultation with WDFW any time flows will be reduced.

Response 5: Significant numbers of small juvenile salmon that might be stranded by lower Cowlitz River flow reduction are present only in the springtime. Springtime flow reductions from Mayfield Dam are limited to nighttime hours to minimize this risk and to offer a balance between protection for the fish resources and limitation on hydroelectric operations. Site-specific and incident-specific juvenile fish stranding surveys will be conducted.

Comment 6: Under the downstream migrant transport flow evaluation section, detection of tagged smolts at BDA and LWI should be assessed at different flows. Flow is likely to affect detection of smolts with higher detection at lower flows, potentially affecting conclusions. Standard approaches for flow sensitivity of detection rates are available and should be incorporated into the plan and studied in consultation with WDFW.

Response 6: The Downstream Migrant Transport Flow Evaluation study is planned for the spring and early summer periods when the flows are variable. Based upon the studies conducted during the relicensing of the Cowlitz Project, tagged fish releases will occur weekly for a two-month period. During this time the flows are highly likely to be variable and the tagged fish will experience a range of flows. The annual work plan for this evaluation task will be submitted to the FTC for approval. All survey and fishery resource data collection efforts will continue to be coordinated with the FTC and the WDFW.

DISCUSSION

The licensee's plan adequately addresses the majority of the comments filed by the WDFW. The only exception was comment 3, in which WDFW suggested evaluating the potential that weekly transport flows may have to prematurely force wild salmon fry from rearing habitat downstream of Barrier Dam. Tacoma Power responded by stating that the plan for transport flows were introduced into the project operations by the technical advisor to the conservation groups, and was supported by the WDOE and WDFW. They further state that due to the low gradient of the Cowlitz River the proposed weekly flows have the potential to create additional preferred rearing habitat rather than moving fry out of the habitat. Tacoma Power's justification appears to be fundamentally sound. Therefore the licensee should incorporate the weekly flows as proposed, and if any changes are needed they should be discussed and proposed within the 5 year monitoring report, or sooner, as needed.

The licensee does not specify if the interim report filed with the Commission will also be filed with the affected agencies for review and comments. The licensee should file the interim report with the Commission and the affected agencies. This report should be filed with the Commission by December 31, 2009 (year 5), and include agency comments, and the licensee's responses to agency comments. The final report, as proposed by the licensee, should be filed by December 31, 2014 (year 10).

On July 9, 2004, the Commission issued *Order Amending New License*⁴ for the Cowlitz Project in response to a biological opinion filed by NOAA Fisheries. According to article 402 of the amended license, the fish monitoring plan is required to include measures to thoroughly investigate the effects of project operations on anadromous fish redd abandonment and dewatering, and entrapment and stranding of juvenile and adult fish. The licensee should add these provisions to their monitoring plan.

The licensee's Fish Monitoring Plan should successfully evaluate the effects of the instream flow requirements upon the fish of the Cowlitz River. The plan contains all the provisions required under article 15, and therefore, as modified, should be approved.

⁴ 108 FERC ¶ 61,031.

The Director Orders:

(A) The Fish Monitoring Plan, filed July 19, 2004, pursuant to license article 15, for the Cowlitz River Project, as modified by paragraph (B) and (C), is approved.

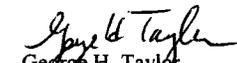
(B) The licensee shall file an interim monitoring report with the Commission, WDFW, WDOE, NOAA Fisheries, FWS, Yakama Nation, and the Cowlitz Indian Tribe. This report should be filed with the Commission by December 31, 2009, and include agency comments, and the licensee's responses to agency comments. The licensee shall allow the agencies 30 days to comment. The final report, as proposed by the licensee, shall be filed by December 31, 2014.

(C) Pursuant to amended license article 402, the licensee shall add provisions to their fish monitoring plan to investigate the effects of project operations on anadromous fish redd abandonment and dewatering, and entrapment and stranding of juvenile and adult fish.

(D) The licensee shall file an original and seven copies of any filing required by this order with:

The Secretary
Federal Energy Regulatory Commission
Mail Code: DHAC, PJ-12.3
888 First Street, N.E.
Washington, D.C. 20426

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


George H. Taylor
Chief, Biological Resources Branch
Division of Hydropower Administration
and Compliance

109 FERC ¶ 62,086

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Tacoma

Project No. 2016-082

ORDER APPROVING LARGE WOODY DEBRIS PLAN PURSUANT TO
SETTLEMENT AGREEMENT LICENSE ARTICLE 9

(Issued November 10, 2004)

On July 15, 2004, the City of Tacoma (licensee) filed a Large Woody Debris Plan pursuant to Article 9 in Appendix A of the Order Approving Settlement and Issuing New license for the Cowlitz River Project, issued March 13, 2002.¹ By letter issued September 26, 2003, the Commission established the effective and issuance date of the new license for compliance purposes as July 18, 2003, the date of the Order Denying Rehearing and Lifting Stay.² The Cowlitz River Project consisting of the Mayfield and Mossyrock developments is located on the Cowlitz River, in Lewis County, Washington.

LICENSE REQUIREMENTS

Article 9 requires the licensee to file, for Commission approval, within one year of license issuance a plan to continue to make large woody debris (LWD) available for fish habitat restoration projects in the Cowlitz River basin. The LWD plan is required to include: (a) a description of the source of LWD to be made available; (b) measures for transporting LWD within the Cowlitz River basin; (c) guidelines for the use and disbursement of LWD for restoration projects giving first priority to projects within the lower basin, second priority to upper basin projects and third priority to projects outside the basin; and (d) provisions for storage of LWD and for disposal of unused debris.

The LWD plan is required to be prepared in consultation with the Fisheries Technical Committee (FTC) provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife (WDFW), U.S. Forest Service (USFS), and the Washington Department of Ecology. The draft plan shall be provided to the affected agencies and Tribes for a 30 day comment and review period. The licensee shall include with the plan documentation of consultation and copies of comments and recommendations. If the licensee does not adopt a recommendation, the plan shall include the licensee's reasons based on project-specific information. The Commission reserves the right to require changes to the plan. The plan shall be implemented upon Commission approval including any required changes.

¹ 98 FERC ¶ 61,274

² 104 FERC ¶ 61,092

Project No 2016-082

LICENSEE'S PLAN

Consistent with the objectives of the Settlement Agreement regarding protection and enhancement of salmonid stocks and in consideration of public safety the licensee proposes a plan that provides for the management and placement of LWD that accumulates in the project impoundments, Mayfield Lake and Riffe Lake. For this plan LWD is wood that is a minimum of 20 feet long and 10 inches in diameter. The LWD removed from Mayfield Lake and suitable for placement in the Cowlitz River will be placed annually below the ordinary high water line downstream of Mayfield Lake below the Barrier Dam, two potential sites have been identified. The annual goal for placement of suitable LWD is approximately 600 lineal feet, the amount estimated to be available annually. Placement of LWD downstream of Barrier Dam would be conducted ideally during low flow to allow higher flows to re-distribute this material. As LWD becomes available it would be stored for placement downstream of the Barrier Dam during those years in which no suitable LWD is available.

The LWD from Riffe Lake available and suitable for habitat enhancement projects would be stored above ordinary high water line at Riffe Lake and would be made available for Cowlitz River basin watershed projects. Vehicles would be loaded with LWD at Mayfield and Riffe Lakes for transport to habitat enhancement project sites. Information on all stored LWD that is suitable for habitat enhancement projects would be included in the annual Hydropower Compliance Management Plan report required to be filed with the Commission. This report would be provided to the resource agencies and the Tribes.

Excess LWD above the 600 lineal feet from Mayfield Lake would be made available for Cowlitz River basin watershed projects and secondly for enhancement projects out of the Cowlitz River basin. Excess LWD from Riffe Lake would be made available for habitat enhancement projects out of the Cowlitz River basin. The licensee would contact the WDFW and the USFS regarding the placement of excess LWD in other habitat projects. If these agencies cannot use the excess LWD, then it would be disposed of properly. Further, wood would be properly disposed that does not meet the criteria for LWD from Mayfield and Riffe Lakes.

The licensee's plan provides schedules for reporting to the Commission, resource agencies and Tribes on activities regarding the management of LWD at the project including volumes of LWD available and transported to enhancement sites and the monitoring and evaluation of the effectiveness of the placement of LWD particularly in the lower Cowlitz River. Any safety complaints from boating recreationists related to LWD placement and movement would be documented in these reports. Implementation of the LWD plan would commence upon Commission approval of the plan and receipt of the necessary permits.

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RESOURCE AGENCY CONSULTATION

The licensee's filing includes a record of consultation on the LWD plan with the resource agencies and Tribes. By letter dated May 7, 2004, the licensee sent a draft plan to these entities, allowing 30 days for comment. The WDFW responded by letter dated June 11, 2004, expressing concerns that the plan did not satisfy the requirements of the Hydraulic Project Approval permit issued to the licensee. Subsequent to this letter the licensee participated in a series of discussions with the WDFW to resolve the WDFW's concerns. As a result of these discussions the licensee revised the LWD plan, and on July 12, 2004, the WDFW issued a letter of concurrence.

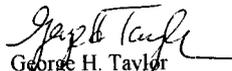
DISCUSSION AND CONCLUSION

The licensee's LWD plan is consistent with the requirements of Article 9 of the Settlement Agreement and should contribute to the enhancement of salmonid habitat in the Cowlitz River watershed as well as habitat enhancement projects out side the watershed. The licensee's plan should be approved.

The Director orders.

(A) The LWD plan filed on July 15, 2004, pursuant to Article 9 of the Order Approving Settlement and Issuing New License issued March 13, 2002, and the Order Denying Rehearing and Lifting Stay issued July 18, 2003, is approved.

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


George H. Taylor
Chief, Biological Resources Branch
Division of Hydropower Administration
and Compliance

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON D.C. 20426

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HABITAT PROGRAM

108 FERC ¶ 62,079

Project No. 2016-066

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Tacoma

Project No. 2016-066

ORDER APPROVING GRAVEL AUGMENTATION PLAN PURSUANT TO
SETTLEMENT AGREEMENT LICENSE ARTICLE 10

(Issued July 26, 2004)

On March 17, 2004, the City of Tacoma (licensee) filed a Gravel Augmentation Plan, pursuant to article 10 contained in Appendix A of the Order Approving Settlement and Issuing New License for the Cowlitz River Project, issued on March 13, 2002.¹ The Project is located on the Cowlitz River, in Lewis County, Washington.

Article 10 requires the licensee to file, for Commission approval, a plan to augment spawning gravel below the Barrier Dam to enhance salmonid spawning habitat. The gravel augmentation plan shall include plans to monitor and evaluate the effectiveness of gravel augmentation and a plan for the discontinuation of gravel augmentation if Barrier Dam is breached. The gravel augmentation plan shall be prepared in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, the Washington Department of Ecology and the Tribes for review and comment.

PROPOSED PLAN

The licensee will assess current bed armoring conditions from the Barrier Dam to River Mile 40. A baseline survey and report that will update the findings from the relicensing study will be prepared. A target reach and monitoring locations will be identified. The licensee will use native cobble and gravels from immediately upstream of Barrier Dam to reduce bed armoring in the reach below the dam. The licensee proposes an annual dredging amount of 500 cubic yards. The material will be placed in a pier extending out into the flow. These piers will be slowly eroded at higher flows and transported downstream.

¹ 98 FERC ¶ 61,274

If Barrier Dam is planned to be breached, the licensee will submit a study plan in advance of the breaching to monitor the post-breach adequacy of gravel supplies and mitigate for any identified gravel shortfalls in the affected reach.

To monitor the site, substrate samples will be collected at identified gravel sampling sites during the baseline study and then at two year intervals within the target reach for a period of ten years. The degree of bed armoring will be calculated as the difference in mean grain size between the layers. A baseline report will include conclusions regarding the target reach. Follow-up reports will be made at years 5 and 10 and will include determinations on the effectiveness of the initial program of placing 500 cubic yards of gravels in creating the desired benefits or if the program should be discontinued or expanded. All reports will include consultation with the required resource agencies prior to filing with the Commission.

The baseline survey, report, and first year gravel placement will occur in August of year one following the Commission's approval of the plan, and upon acquiring all necessary permits. An interim report to the Commission will be filed by December 31 of year five of the program and a final report with conclusions will be filed with the Commission in year ten.

AGENCY CONSULTATION

A draft of the Gravel Augmentation Plan was sent to the Fisheries Technical Committee and Tribes on January 21, 2004. A display discussing the proposed plan was made available to the public at an Open House on February 5, 2004. No comments were received on the plan.

RECOMMENDATIONS AND CONCLUSIONS

The licensee does not state whether the baseline report will be filed with the Commission. The licensee should file the baseline report with the Commission by December 31, 2004. The five-year interim and ten-year reports, and any proposed changes to the Gravel Augmentation Plan, should be filed for Commission approval. All of the reports should include documentation of agency and tribal consultation.

The licensee is reminded that article 417 of the Order Amending New License², issued July 9, 2004, requires the licensee to develop best management plans in consultation with NOAA Fisheries. These best management plans require Commission approval, prior to implementing the Gravel Augmentation Plan.

² 108 FERC ¶ 61,031

The filed Gravel Augmentation Plan should help enhance salmon spawning habitat. The filed plan satisfies the requirements of article 10 contained in Appendix A of the Order Approving Settlement and Issuing New License for the Cowlitz River Project; this plan should be approved, as modified.

The Director orders:

(A) The Gravel Augmentation Plan, filed March 17, 2004, pursuant to article 10 contained in Appendix A of the Order Approving Settlement and Issuing New License, issued, on March 13, 2002, for the Cowlitz River Project, as modified by paragraph (B), is approved.

(B) The baseline study report shall be filed with the Commission by December 31, 2004. The five-year interim report and the ten-year comprehensive report shall be filed with the Commission by December 31 of year five and year ten of the study, respectively. The reports shall include for approval, any recommendations for changes to the Gravel Augmentation Plan. The reports shall be sent to the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, the Washington Department of Ecology and the Tribes for review and comment. The licensee shall include with the report documentation of agency consultation, copies of comments and recommendations, and specific descriptions of how the agencies' and Tribes' comments are accommodated by the report. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site specific information.

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

George H. Taylor
George H. Taylor
Chief, Biological Resources Branch
Division of Hydropower Administration
and Compliance



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WASHINGTON D.C. 20426

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George H. Taylor

P-2016

DIRECTOR
Washington Dept. of Fish & Wildlife
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Olympia, WA 98504-0001



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108 FERC ¶ 61,031
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FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

City of Tacoma, Washington

Project No. 2016-071

ORDER AMENDING NEW LICENSE

(Issued July 9, 2004)

1. In this order, we amend the new license for the 462-megawatt Cowlitz River Project No. 2016 in response to a biological opinion for continued operation and maintenance of the project, filed by the National Marine Fisheries Service (NOAA Fisheries). The amendment includes conditions to protect several species of fish listed as threatened under the Endangered Species Act (ESA).

I. Background

2. The Commission approved a settlement agreement and issued a new license for the Cowlitz Project on March 13, 2002.¹ To accommodate a state-issued stay of the water quality certification for the project, the Commission issued the new license with an effective date of April 12, 2002, and later stayed the new license in response to the state's extension of the stay pending completion of the certification appeal. On July 18, 2003, the Commission issued an order denying rehearing and lifting the stay.² Several parties filed petitions for judicial review, and the case is currently pending before the U.S. Court of Appeals for the Ninth Circuit.³

¹ 98 FERC ¶ 61,274 (2002). The project is located on the Cowlitz River in Lewis County, and in part on lands within the Gifford Pinchott National Forest.

² 104 FERC ¶ 61,092 (2003).

³ Cowlitz Indian Tribe *et al.* v. FERC, No. 03-73225 (9th Cir. filed Sept. 10, 2003).

Project No. 2016-071

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3. When we issued the new license in March 2002, the Commission staff had already completed consultation pursuant to section 7 of the ESA with the U.S. Fish and Wildlife Service (FWS), but had not yet received a biological opinion from NOAA Fisheries. Staff was still awaiting a biological opinion when we issued our rehearing decision in July 2003. On December 19, 2003, NOAA Fisheries filed a draft biological opinion for comment with the Commission. Anticipating that a final biological opinion would soon be filed, the Commission staff filed with the court a motion for leave to amend the new license as needed to implement the final biological opinion.⁴ NOAA Fisheries filed its final biological opinion on March 25, 2004, and the court granted the motion for leave to amend on April 26, 2004. Thus, we are now in a position to amend the new license to include appropriate provisions to protect the listed fish species.

II. Discussion

4. Under section 7 of the ESA, the Commission must ensure, in consultation with NOAA Fisheries or FWS, as appropriate, that its proposed action is not likely to jeopardize the continued existence of any listed species, or destroy or adversely modify any designated critical habitat for those species. As noted, we issued our relicensing and rehearing decisions before completing formal consultation with NOAA Fisheries. As a result, NOAA Fisheries has defined the proposed action as continued operation and maintenance of the Cowlitz Project under the terms and conditions of the new license. NOAA Fisheries finds that the proposed action is not likely to jeopardize the continued existence of the listed species (Lower Columbia River Chinook salmon, Lower Columbia River steelhead, and Columbia River chum salmon, all of which are listed as threatened). There is currently no critical habitat designated for these species.

5. Under section 9 of the ESA and regulations issued under section 4(d) of that act, no person may take any individual member of a threatened or endangered species. A "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Incidental take is defined as a taking that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Incidental taking is authorized, but only if it is in compliance with the terms and conditions of an incidental take statement included in a biological opinion. To ensure that any incidental taking will be authorized, NOAA Fisheries has identified reasonable and prudent measures to avoid or minimize incidental taking, as well as terms and conditions to implement those measures.

⁴ Under section 313(b) of the Federal Power Act (FPA), the Court of Appeals has exclusive jurisdiction to affirm, modify, or set aside a Commission order after the record has been filed with the reviewing court. However, any party may request that the court grant the Commission leave to take additional evidence and modify its findings. *See* 18 U.S.C. § 825(b).

6. In Article 408 of the new license, we reserved our authority to require the licensee to take whatever action we deem necessary as a result of NOAA Fisheries' biological opinion. In Article 401 of the license, we required that, in addition to the requirements of the settlement agreement, all plans regarding fish passage must also be submitted to the Commission for approval. We further required that any license conditions that contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. These requirements apply to any plans or changes required by the incidental take conditions as well. The anticipated amount of incidental taking, reasonable and prudent measures to minimize taking, and terms and conditions to implement the reasonable and prudent measures are addressed below.

7. As discussed in our order approving the settlement and issuing a new license, compliance with the terms of the settlement agreement is required by both the Forest Service's mandatory conditions under section 4(e) of the FPA and Ecology's water quality certification under section 401 of the Clean Water Act. In addition, the mandatory fishway prescriptions of Interior and Commerce under section 18 of the FPA are essentially the same as Articles 1, 2, and 3 of the settlement agreement. Ordering paragraph D of our order issuing a new license states that the license is subject to the settlement agreement conditions set forth in Appendix A to that order. Similarly, ordering paragraphs E, F, and G, respectively, state that the license is subject to the Forest Service's section 4(e) conditions in Appendix B, Ecology's water quality certification conditions in Appendix C, and Interior's and Commerce's section 18 fishway prescriptions in Appendix D.

8. NOAA Fisheries states that the terms and conditions of the incidental take statement "all constitute no more than a minor change in the proposed action because they provide details on more general license and/or Settlement Agreement conditions."⁵ Although incidental take conditions are not technically mandatory in that we are not legally required to include them in the license without modification, they do exert a powerful coercive effect. Any taking that is not in compliance with the incidental take conditions is a violation of the ESA and can be subject to civil and criminal penalties. Therefore, our practice has been to include these conditions in our licenses, either as license articles or as an ordering paragraph with an appendix, and to make minor, non-substantive changes to them as necessary for clarity. We agree that most of the incidental take conditions either provide more detail to the terms of the settlement agreement or add conditions that are consistent with it. However, as discussed below, condition 1(a) makes a substantive change to the approach taken in the settlement agreement, and condition 2 states that the Commission must modify specific settlement articles to include additional

⁵ Biological Opinion at 9-3.

requirements regarding flow changes. While we have no authority to modify the settlement agreement or to reduce any mandatory conditions in a license, we do have authority to amend the license to add provisions that are supplemental to or more stringent than the mandatory conditions. Therefore, we have amended the license to include these conditions.

9. As discussed in the biological opinion, NOAA Fisheries anticipates that the proposed action will cause "more than a negligible amount" of incidental taking of the listed species, in the form of adult harm caused by handling of fish during trap-and-haul operations and delay or injury of adult and juvenile fish during passage at project dams. NOAA Fisheries states that it is unable to quantify the amount of incidental take of individual fish or incubating eggs resulting from project operation. The one exception is for fish passage survival from the Upper Cowlitz River through the project; this is expected to continue at current levels for the next three years, and then to reach 75-95 percent as required by the license and the settlement agreement. NOAA Fisheries finds that the level of anticipated take is not likely to jeopardize the continued existence of the listed species.⁶

10. NOAA Fisheries specifies five reasonable and prudent measures (RPMs) to minimize taking, and states that activities that are consistent with these measures do not require further site-specific consultation. The RPMs are general, and are designed to be implemented by the five more specific terms and conditions of the incidental take statement.

11. RPM 1 requires that Tacoma minimize the likelihood of incidental taking by following all of the items in the license (through the settlement agreement) relating to anadromous fish. RPM 2 discusses the reserved authority in the license (through Articles 15 and 16 of the settlement agreement) to modify the flow regime, as well as the possibility that flow fluctuations may adversely affect fish. However, RPM 2 does not specify any particular measures to minimize incidental taking. RPM 3 requires that Tacoma develop a plan, with NOAA Fisheries' approval, to minimize the likelihood of incidental taking from handling anadromous fish during trap-and-haul operations. RPM 4 requires that Tacoma use adaptive management to ensure that reestablishment of listed fish is occurring at a level needed to avoid jeopardy and to reduce fish mortality to meet the objectives of a viable population of spring chinook salmon and a contributing population of steelhead. RPM 5 requires that Tacoma minimize the likelihood of incidental taking from construction activities in or near watercourses by restricting instream work to recommended time periods, implementing pollution and erosion control measures, and avoiding or replacing lost riparian and instream functions.

⁶ *Id.* at 9-1 to 9-2.

12. To implement these RPMs, NOAA Fisheries specifies five terms and conditions, many of which are quite detailed.⁷ Condition 1 requires Tacoma to follow all license articles and the associated settlement agreement, particularly those that relate to salmon, their habitat, and implementation of those measures, including adaptive management measures. The license already requires this, so no change is needed to implement it. However, condition 1 then states that these requirements include, but are not limited to, eight "key provisions" that NOAA Fisheries designates (a) through (h). These provisions generally track the articles of the settlement agreement, with some minor additions or changes.

13. Some of the more detailed provisions of the incidental take conditions require the development of new plans, to be filed within one or two years of license issuance. Where appropriate, we have added new license articles to address these plans. Because the new license was issued in April 2002 and stayed until July 2003, we have adjusted these time periods, as necessary, to provide that the plans must be filed within one or two years of the issuance of this order amending the new license. For plans already required by the license, the existing time periods remain in effect.⁸

14. Condition 1(a) of the incidental take statement requires passage performance standards for downstream passage at Mossyrock Dam to be 95 percent survival, or at least 75 percent survival with the best available technology, within three years of issuance of the biological opinion. For downstream passage at Mayfield Dam, Condition 1(a) requires 95 percent survival without specifying any particular time period. Article 2 of the settlement agreement includes provisions for downstream passage at Mayfield and Mossyrock but does not require that these passage performance standards be met. The settlement agreement allows more time for adaptive management and monitoring to determine the effectiveness of the measures. Thus, if the passage performance standards cannot be met at Mossyrock within three years, this condition would leave no avenue for further measures or modifications without reinitiating consultation. Although we have no

⁷ *Id.* at 9-3 through 9-17. Page 9-3 of the biological opinion includes a single reference to a condition 6. This reference appears to be a typographical error, because the biological opinion sets forth only five incidental take conditions that correspond to the five reasonable and prudent measures.

⁸ In response to the licensee's request, the Commission staff clarified that, because the new license was stayed until July 18, 2003, that date would be used as both the effective date and the issuance date of the new license for compliance purposes. See letter from Hossein Ildari, Office of Energy Projects, FERC, to Donald H. Clarke dated September 26, 2003.

authority to amend the settlement agreement, we can amend the license to add provisions that are more stringent. Therefore, we have amended Article 401 of the license to include these performance standards.

15. Condition 1(b) of the incidental take statement requires that Tacoma release specified minimum flows below Mayfield Dam at different times throughout the year. This condition essentially tracks article 13 of the settlement agreement, with two minor changes. For the period from August 15 through September 30, both the settlement agreement and the incidental take condition require that flows below Mayfield Dam must be a minimum of 2,000 cfs. If releases below Mayfield exceed 5,000 cfs for a five-day period, flows may not be decreased below 5,000 cfs until after a spawning survey is conducted to determine whether redds are present. Condition 1(b) of the incidental take statement makes a minor correction to the location of this spawning survey; that is, the survey must be conducted in key side channel areas at river miles 42.5 and 47 instead of at river miles 42 and 42.5, as specified in article 13 of the settlement agreement. NOAA Fisheries notes that this is a correction that the licensee provided to the Fisheries Technical Committee. We have amended Article 402 of the license to reflect this correction.

16. Condition 1(b) of the incidental take statement also makes a minor change to the minimum flow requirements for the period from October 1 through November 20. Both the settlement agreement and the incidental take condition specify that minimum-flow releases below Mayfield Dam must be 3,500 cfs during this period. Items 2 and 3 of the incidental take statement condition include additional requirements to ensure protection of redds established during the period from August 15 through November 20. Article 13 of the settlement agreement includes similar requirements, but only for the period from August 15 through September 30. We have amended Article 402 of the license to reflect this extension of the time period for these requirements.

17. For the period from November 1 through February 28, both the article 13 of the settlement agreement and condition 1(b) of the incidental take statement require that minimum flow releases from Mayfield Dam be maintained at the lesser of: (1) eight inches of river stage height below the highest consecutive five-day average flow during which active spawning occurred; (2) 5,000 cfs; or (3) a lower flow authorized by the fisheries technical committee or agencies based on the results of spawning surveys. Condition 1(b) of the incidental take statement adds NOAA Fisheries as an agency that must approve alternate means of monitoring minimum flows or reductions in minimum flow releases that will not adversely affect downstream salmonid redds. The condition also adds NOAA Fisheries as an agency that must be notified if conditions beyond Tacoma's control require a temporary modification of flows, and an agency that must give prior agreement to temporary deviations from the minimum flow schedule. We have amended Article 402 to reflect these changes. We have also added the Commission as an agency that must be notified of any deviations from the flow schedule.

18. Condition 1(c) of the incidental take statement requires Tacoma to follow the ramping rate restrictions of article 14 of the settlement agreement at flows less than 6,000 cfs. Article 14 of the settlement agreement allows the ramping rates to be modified based on further study and approval by the Fisheries Technical Committee, of which NOAA Fisheries is a member. Condition 1(c) of the incidental take statement requires that NOAA Fisheries approve any such modification of the ramping rates. Because this would change the manner in which the project is operated, the licensee must file an amendment request for Commission approval before implementing the change. We have amended Article 402 of the license to reflect these changes.

19. Condition 1(d) of the incidental take statement requires Tacoma to submit a fish monitoring plan, as required by article 15 of the settlement agreement. Condition 1(d) specifies that the plan shall include a plan to investigate the effects of project operation on anadromous fish redd abandonment and dewatering and entrapment and stranding of juvenile and adult fish. We have amended Article 402 of the license to include this requirement.

20. Both the incidental take statement and article 16 of the settlement agreement require that Tacoma submit a report on implementation of instream flows, describing measures taken to ensure compliance, including a training manual for Tacoma's operations staff and any recommended modifications to operating procedures. Condition 1(e) of the incidental take statement requires that the training manual provide tools, resources, and information to manage flows for flood control, recreation, power generation, and fish survival and health. We have amended Article 402 of the license to include this requirement.

21. Condition 1(f) of the incidental take statement requires Tacoma to develop a plan, within one year of license issuance, in consultation with the Fisheries Technical Committee agencies, to monitor the maintenance and use of side-channel habitat in the Cowlitz River downstream of Mayfield Dam. This condition further provides that, if flow management under the new license is insufficient to maintain the availability and anadromous fish habitat function of these side channels, NOAA Fisheries and Ecology retain the authority to modify the flow constraints or require other measures to preserve side channel habitat and function. This is a new requirement not included in the settlement agreement. We have added a new Article 409 to the license to reflect this requirement. Article 409 requires that the plan be filed within one year of issuance of this license amendment. Article 409 further requires that the Commission must review and approve the plan, and any proposed changes must be the subject of a license amendment application that the Commission must also review and approve.

22. Condition 1(g) of the incidental take statement requires that Tacoma file a water quality monitoring plan for the Lower Cowlitz River. Although the water quality certification covers some aspects of monitoring, it does not require a monitoring plan.

Thus, this is a new requirement. The plan is to be developed in consultation with NOAA Fisheries and Ecology, and must include monitoring of water temperature, dissolved oxygen concentrations and percent saturation, total dissolved gas concentration and percent saturation, total nitrogen and ammonia concentrations, and total and ortho-phosphorus concentrations. The plan is to be filed within six months of issuance of the biological opinion. We have added a new Article 410 to require this plan, which must be filed within six months of issuance of this license amendment.

23. Condition 1(h) of the incidental take statement provides that Tacoma must file a fisheries and hatchery management plan, as required by article 6 of the settlement agreement. This condition tracks article 6, but adds the requirement that the plan include a chum salmon analysis. We have added a new Article 411 to incorporate the requirements of article 6 of the settlement agreement and to include the requirement that the plan include a chum salmon analysis.

24. As noted, Article 408 of the license reserved the Commission's authority to amend the license as needed as a result of the biological opinion. Condition 2 of the incidental take statement invokes this authority to provide that the Commission must modify articles 15 and 16 of the settlement agreement. The amendment is to specify that, if requested by the Commission or Ecology, Tacoma must modify project operations to provide agency-specified stream flows downstream from Mayfield Dam within the time frame specified by the Commission or Ecology, to be not less than 48 hours from the time of the request, and that such flow modifications will remain in effect until superceded by subsequent action of the Commission or Ecology. The condition further specifies that the Commission must notify NOAA Fisheries following initiation of a flow-change action, and that such notification should not be cause to delay implementation of any flow change that the Commission or Ecology has identified as needed. As noted, we have no authority to amend the settlement agreement. However, we have implemented this condition by adding a new Article 412 to the license. We have also provided that the licensee, rather than the Commission, must notify NOAA Fisheries following initiation of a flow change action. If the Commission determines that the change may affect ESA-listed species, the Commission will initiate the appropriate consultation with NOAA Fisheries.

25. Condition 3 of the incidental take statement requires that Tacoma develop a plan, in consultation with the Fisheries Technical Committee, including NOAA Fisheries, and with NOAA Fisheries' approval, that addresses and minimizes harm to anadromous fish during any trap and haul operation. The plan must adhere to specified criteria and be completed and implemented within one year of issuance of the biological opinion. Articles 1 through 3 of the settlement agreement address trap and haul operations, but do not require the specific plan described in Condition 3. We have added a Article 413 to the license to require that Tacoma develop and implement this plan within one year of

issuance of this license amendment. Article 413 also clarifies that the plan must be submitted to the Commission for its review and approval.

26. Condition 4(a) of the incidental take statement provides that adaptive management will be implemented as described in the analysis of effects of the proposed action in section 6 of the biological opinion. Section 6.3.9 of the biological opinion discusses the adaptive management process in detail. We have added Article 414 to the license to reflect this condition. Article 414 also clarifies that the licensee must file an application for a license amendment before making any changes to project facilities or operation that are not already authorized by the terms of the license.

27. Condition 4(b) of the incidental take statement requires that Tacoma develop a fish passage plan and update it annually, subject to NOAA Fisheries' review and approval. The fish passage plan must include plans for the operation and maintenance of all fish passage facilities, emergency operation of those facilities, protocols for emergencies, a schedule for inspection of facilities to ensure that they are operating within established criteria, reporting of inspection results, and anticipated special operation of the facilities for research. Although the settlement agreement addresses fish passage in article s1 through 3, it does not require a fish passage plan. Thus, this is a new requirement. We have added Article 415 to the license to require this plan. Article 415 also clarifies that the plan must be submitted to the Commission for review and approval.

28. Condition 5 of the incidental take statement requires that, in all proposed actions involving construction in or near waterways, Tacoma must follow a detailed list of construction practices, designated items (a) through (v), to control sediment, disturbance, and other potential detrimental effects to listed salmonids. With the exception of item (u), which is addressed in new license Article 417 discussed below, we have added Article 416 to the license to require compliance with these conditions (reproduced as Appendix E to this order) for all proposed actions involving construction in or near waterways. Article 417 further provides that, before beginning any proposed action involving construction in or near waterways, the licensee must file, for Commission review and approval, a plan showing how these requirements will be implemented for the particular action.

29. Condition 5(u) of the incidental take statement requires that, for large woody debris and gravel placement, Tacoma must develop best management plans, in consultation with NOAA Fisheries, to minimize impacts to listed fish during implementation of the projects. The condition further requires that NOAA Fisheries approve the activity before it may begin. Article 9 of the settlement agreement requires the licensee to file a plan to make large woody debris available for fish habitat restoration projects in the Cowlitz River Basin. Article 10 of the settlement agreement requires the licensee to file a plan to augment spawning gravel below Barrier Dam to enhance salmonid habitat. Both articles require that the plans be submitted to the Commission for

review and approval. We have added Article 417 to the license to clarify that, in preparing the plans required by articles 9 and 10 of the settlement agreement, Tacoma shall also develop best management plans, in consultation with NOAA Fisheries, to minimize impacts to listed fish, and shall obtain the approval of NOAA Fisheries, as well as that of the Commission, before implementing these plans.

The Commission orders:

(A) Articles 401 and 402 of the license are amended to read as follows:

Article 401.

(a) Requirement to File Plans for Commission Approval:

Settlement agreement articles 1, 2 and 3 (Appendix A) require the licensee to prepare plans regarding fish passage in consultation with the Fisheries Technical Committee or the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, and Washington Department of Ecology (FTC or agencies) if the agreement has become void. Water quality certification conditions 1b, 1c, and 1e require the licensee to prepare plans for monitoring effects of instream flow on salmon habitat, dewatering salmon redds, stranding juvenile and adult salmon, and monitoring total dissolved gases associated with spill events. Each such plan shall also be submitted to the Commission for approval. These plans are listed below in the approximate sequence we anticipate they would be filed.

Settlement Article No.	Facility or Activity	Due Date from License Issuance or Otherwise Specified
Article 1	Plan for downstream fish passage and collection facilities and measures at Riffe Lake or Cowlitz Falls (if Lewis County Public Utility District concurs).	6 months
Article 2	Study plan or study results evaluating turbine mortality and the effectiveness of existing louver system at Mayfield Dam.	6 months
Article 3	Plan for studies to evaluate whether criteria for implementing effective upstream volitional passage facilities have been met.	6 months

Settlement Article No.	Facility or Activity	Due Date from License Issuance or Otherwise Specified
Article 1	A plan for further improvements to downstream passage facilities or measures at Riffe Lake or Cowlitz Falls (if Lewis County Public Utility District concurs), based on effectiveness studies and continued monitoring and evaluation of those facilities. As required by condition 1(a), part i, of the incidental take statement, downstream passage performance standards at Mossyrock must be 95 percent survival or at least 75percent survival with best available technology within 3 years of issuance of this order amending license.	18 months from completion of new or modified facilities.
Article 2	Plan for improvements to downstream fish passage at Mayfield Dam.	3 years
Article 2	If 95% FPS has not been achieved at Mayfield Dam, plans to further improve the effectiveness of the facilities or measures, or to substitute other measures.	18 months from completion of downstream passage improvements, with additional plans at 18-month intervals if recommended by FTC.
Article 3	Design and schedule for constructing volitional upstream passage facilities.	In the first annual report that is filed within the first 12 years that indicates that, within the next 3 years or less, volitional passage criteria will be met for (1) any species originating in the Tilton basin and (2) either spring Chinook or late winter steelhead originating above Mossyrock Dam. By the end of year 12, if volitional passage criteria have been or will be met for any salmonid species in

Settlement Article No.	Facility or Activity	Due Date from License Issuance or Otherwise Specified
		the Tilton River by year 15.
Article 3	Plan to abandon volitional upstream fish passage and expend the \$15 million in the fish passage escrow account.	By year 14, if determined by the FTC or agencies and affected tribes that expenditure of escrow funds on additional measures in lieu of volitional passage is necessary and appropriate to achieve natural stock restoration.

Water Quality Condition	Facility or Activity	Due Date from License Issuance or Otherwise Specified
1b	Plan and schedule for study of IHA/RVA methodology	To be determined in consultation with Ecology
1c	Plan and schedule to monitor side channel habitat for Chinook salmon	To be determined in consultation with Ecology
1e	Total dissolved gas Transect Study Plan for each dam	April 1, 2003
1e	Total dissolved gas Preliminary Compliance Schedule for each dam	August 1, 2003

For each plan, the licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. 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 make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in the project operations or facilities, including any changes required by the Commission.

(b) Requirement to File Amendment Applications:

Certain license conditions contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. The condition is listed below.

Settlement Article No.	Modification
Article 15 and 16	Modification of instream flows or pulsing flows for channel maintenance, if monitoring shows flows to be inadequate.

Water Quality Certification Conditions	Modification
Condition 1c and 1d	Modification of instream flows, pulsing flows or ramping rates, if monitoring shows flows are causing de-watering of redds or stranding of juvenile or adult salmon
Condition 1e	Structural or operational modifications to reduce total dissolved gas concentration to within water quality standards

Article 402. The licensee shall file an annual monitoring report by December 31 of each year following license issuance that contains the provisional USGS or equivalent daily flow records for USGS gage 14238000 and a written explanation of any instream flow deficiencies from those required by agreement articles 13 and 14 (Appendix A) that have occurred within the year. The report should show the actual flow versus the required flow and an explanation for any deviation. If any violation of the agreement is noted, the report should discuss this in detail. The frequency and detail of the flow record reports may be modified with Commission approval and in accordance with any recommended modifications resulting from the fish monitoring plan required by agreement article 15 or the instream flow implementation report required by agreement article 16, or as otherwise provided for in agreement articles 13 and 14.

As required by condition 1(b) of the incidental take statement: (a) the spawning survey shall occur at River Mile 42.5 and 47, which is a correction of the locations stated in article 13, part c, of the settlement agreement; (b) when releases below Mayfield Dam during the August 15- November 20 period meet or exceed 5,000 cfs for a consecutive five-day period as measured by the daily mean flows, minimum flows shall be maintained at the lesser of 5,000 cfs or 8 inches of river stage height below the highest consecutive 5-day average flow during which active spawning occurred, as measured at

USGS Station No. 14238000; and (c) during the November 21- February 28 minimum flow period, if deviation from the flow schedule occurs due to operating emergencies beyond the control of the licensee then WDOE, NOAA Fisheries, and the Commission shall be notified within 10 days, instream flows shall be monitored at USGS Station No. 14238000 or via other means approved by FTC, NOAA Fisheries, and the Commission, and, for changes to the schedule release, for short periods of time, the licensee shall have prior agreement from WDOE and NOAA Fisheries; and notify the Commission within 10 days.

As required by condition 1(c) of the incidental take statement, the licensee shall follow the ramping rate restrictions as shown in Table 2 (settlement article 14) at flows less than 6,000 cfs, unless modified with NOAA Fisheries, FTC, and Commission approval, based on further study.

As required by condition 1(d) of the incidental take statement, the licensee shall, within one year of issuance of this order, file a Fish Monitoring Plan for Commission approval. In addition to the requirements of settlement article 15, the plan shall include measures to thoroughly investigate the effects of project operations on anadromous fish redd abandonment and dewatering and entrapment and stranding of juvenile and adult fish.

As required by condition 1(e) of the incidental take statement, the licensee shall, within 2 years of issuance of this order, file with the Commission a report describing measures taken to ensure compliance with instream flows that includes a training manual for licensee's operation staff to ensure compliance with instream flows. In addition to the requirements of settlement article 16, the training manual shall provide tools, resources, and information to manage flows for flood control, recreation, power generation, and fish survival and health. The Commission reserves the right to require changes to the plan.

(B) The license is amended to add Articles 409, 410, 411, 412, 413, 414, 415, 416, and 417, as follows:

Article 409. As required by condition 1(f) of the incidental take statement, within 1 year of issuance of this order, the licensee, in consultation with the Fisheries Technical Committee, shall develop and file for Commission approval a plan to monitor the maintenance and use of side-channel habitat in the Cowlitz River downstream from Mayfield Dam. In the event flow management under the constraints contained in the license is insufficient to maintain the availability and anadromous fish habitat function of side channels, NOAA Fisheries and the Washington Department of Ecology can require changes to modify the flow constraints or require other measures to preserve side-channel habitat availability and function. Any such changes shall require Commission approval

and any flow modifications that change the release schedule of license Articles 401 or 402 should be reported to the Commission within 10 days (per license Articles 401 and 402).

Article 410. As required by condition 1(g) of the incidental take statement, within 6 months of issuance of this order the licensee shall file for Commission approval a water quality monitoring plan for the Lower Cowlitz River. The plan shall be developed in consultation with NOAA Fisheries and Washington Department of Ecology. The plan shall include monitoring of water temperature, dissolved oxygen concentration and percent saturation, total dissolved gases concentration and percent saturation, total nitrogen and ammonia concentrations, and total and ortho-phosphorus concentrations. The plan shall be provided to the Fisheries Technical Committee and tribes for a 30-day review. The final plan shall have documentation of consultation and copies of comments and recommendations, and specific description of how the final plan accommodates all comments and recommendations.

Article 411. As required by condition 1(h) of the incidental take statement, within 9 months of issuance of this order the licensee shall file for Commission approval a Fisheries and Hatchery Management Plan that incorporates settlement article 6 and identifies: a) quantity and size of fish to be produced at the complex; b) rearing and release strategies for each stock, including upward and downward production adjustments to accommodate recovery of indigenous stocks; c) credit mechanisms for production of high quality natural stocks; d) plans for funding ongoing monitoring and evaluation; and e) a fisheries management strategy consistent with the priority objective of maximizing natural production of wild indigenous fish stocks and species in the basin hatchery plan. The plan shall include a chum salmon analysis and be updated at 6-year intervals.

Article 412. As required by condition 2 of the incidental take statement, the licensee shall modify project operations to provide agency-specified stream flows downstream from Mayfield Dam within the time frame specified by Washington Department of Ecology (WDOE) or the Commission, not to be less than 48 hours from the time of the request, and that such flow modification will remain in effect until superseded by subsequent WDOE or Commission action. The licensee must notify NOAA Fisheries following initiation of a flow-change action. Such notification shall not cause delay to implementation of any flow change identified by WDOE or the Commission.

Article 413. As required by condition 3 of the incidental take statement, the licensee shall, within one year of issuance of this order, develop a trap and haul plan, in consultation with the Fisheries Technical Committee, including NOAA Fisheries, and file the plan for NOAA Fisheries and Commission approval. The plan shall address and minimize harm to anadromous fish during any trap and haul operation. The plan shall adhere to the most updated criteria at the time of the plan regarding trapping and hauling

of anadromous fish as outlined in the document "Draft Anadromous Salmonid Passage Facility Guidelines and Criteria," available at http://www.nwr.noaa.gov/1hydrop/hydroweb/docs/release_draft.pdf

Additionally, as the number of adult fish returning to the applicable traps increase, the licensee must increase the trap and haul capabilities before existing capabilities are exceeded.

Article 414. As required by condition 4(a) of the incidental take statement, the licensee shall implement adaptive management, described in the analysis of effects of the proposed action in section 6 of the biological opinion as setting objectives, defining management actions designed to achieve those objectives, implementing those actions, monitoring and evaluating the outcomes, and making changes in management actions in response to new information.

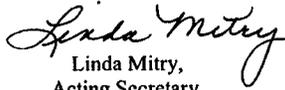
Article 415. As required by condition 4(b) of the incidental take statement, the licensee shall, on an annual basis, file for Commission approval a final Fish Passage Plan. The plan shall be subject to NOAA Fisheries review and approval. In addition to the provisions of settlement articles 1, 2, and 3, the plan shall include, but not be limited to, plans for the operation and maintenance of all fish passage facilities, emergency operations of said facilities, protocols for emergencies, schedule for inspection of facilities (to ensure operation within established criteria), reporting procedures of inspection results, and anticipated special operation of the facilities for research.

Article 416. As required by conditions 5(a) through 5(t) and condition 5(v) of the incidental take statement, the licensee shall, in all proposed actions involving construction in or near waterways, follow the construction practices set forth in Appendix E to this order. At least ninety (90) days before the start of any proposed action involving construction in or near waterways, the licensee shall file for Commission approval a plan that describes how the licensee intends to implement the requirements of Appendix E for that action.

Article 417. As required by condition 5(u) of the incidental take statement, in preparing the large woody debris plan required by settlement article 9 and the gravel augmentation plan required by settlement article 10, the licensee shall also develop best management plans, in consultation with NOAA Fisheries, to minimize impacts to listed fish, and shall obtain the approval of NOAA Fisheries, as well as that of the Commission, before implementing these plans.

By the Commission.

(S E A L)


Linda Mitry,
Acting Secretary.

APPENDIX E

In all proposed actions involving construction in or near waterways, the licensee shall follow the construction practices described below to control sediment, disturbance, and other potential detrimental effects to listed salmonids.

- a. Minimum area. Construction impacts will be confined to the minimum area necessary to complete the project.
- b. Alteration or disturbance of the streambanks and existing riparian vegetation will be minimized to the greatest extent possible.
- c. No herbicide application should occur as part of this action. Mechanical removal of undesired vegetation and root nodes is permitted.
- d. All existing vegetation within 150 ft of the edge of bank should be retained to the greatest extent possible.
- e. Timing of inwater work. Work below the bankfull elevation will be completed during the State of Washington's or the Corps' preferred inwater work period as appropriate for the project area, unless otherwise approved in writing by NOAA Fisheries.
- f. Cessation of work. Project operations will cease under high flow conditions that may result in inundation of the project area, except for efforts to avoid or minimize resource damage. All materials, equipment, and fuel must be removed if flooding of the area is expected to occur within 24 hours.
- g. Fish screens. All water intakes used for a project, including pumps used to isolate an inwater work area, will have a fish screen installed, operated, and maintained according to NOAA Fisheries' fish screen criteria.
- h. Fish passage. Provide passage for any adult or juvenile salmonid species present in the project area during construction, unless otherwise approved in writing by NOAA Fisheries, and maintained after construction for the life of the project. Passage will be designed in accordance with NOAA Fisheries' "Anadromous Salmonid Passage Facility Guidelines and Criteria" (2003). Upstream passage is required during construction if it previously existed.
- i. Construction activities associated with habitat enhancement and erosion control measures must meet or exceed best management practices and other performance standards contained in the applicable state and federal permits.

- j. **Pollution and Erosion Control Plan.** Prepare, in consultation with NOAA Fisheries, and carry out a Pollution and Erosion Control Plan to prevent pollution caused by survey, construction, operation, and maintenance activities. The Plan will be available for inspection upon request by FERC or NOAA Fisheries.
- (i) **Plan Contents.** The Pollution and Erosion Control Plan will contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
- (1) The name and address of the party(s) responsible for accomplishment of the Pollution and Erosion Control Plan.
 - (2) Practices to prevent erosion and sedimentation associated with access roads, decommissioned roads, stream crossings, drilling sites, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations, and staging areas.
 - (3) Practices to confine, remove, and dispose of excess concrete, cement, and other mortars or bonding agents, including measures for washout facilities.
 - (4) A description of any regulated or hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.
 - (5) A spill containment and control plan with notification procedures, specific cleanup and disposal instructions for different products, quick response containment, and cleanup measures that will be available on the site; proposed methods for disposal of spilled materials; and employee training for spill containment.
 - (6) Practices to prevent construction debris from dropping into any stream or water body, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.
 - (7) Erosion control materials (e.g., silt fence, straw bales, aggregate) in excess of those installed must be available on site for immediate use during emergency erosion control needs.
 - (8) Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work exceeding 7 days.
- (ii) **Inspection of erosion controls.** During construction, the operator must monitor instream turbidity and inspect all erosion controls daily during the rainy season and weekly during the dry season, or more often if necessary, to ensure they are working adequately.
- (1) If monitoring or inspection shows that the erosion controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

- (2) Remove sediment from erosion controls once it has reached one-third of the exposed height of the control.
- k. **Construction discharge water.** Treat all discharge water created by construction (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) as follows:
- (i) **Water quality.** Design, build, and maintain facilities to collect and treat all construction discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants likely to be present.
 - (ii) **Discharge velocity.** If construction discharge water is released using an outfall or diffuser port, velocities will not exceed 4 ft per second, and the maximum size of any aperture will not exceed 4 ft per second.
 - (iii) **Spawning areas, submerged estuarine vegetation.** Do not release construction discharge water within 300 ft upstream of spawning areas or areas with submerged estuarine vegetation.
 - (iv) **Pollutants.** Do not allow pollutants, including green concrete, contaminated water, silt, welding slag, or sandblasting abrasive to contact any wetland or the 2-year floodplain, except cement or grout when abandoning a drill boring or installing instrumentation in the boring.
- l. **During completion of habitat enhancement activities,** no pollutants of any kind (sewage, waste spoils, petroleum products, etc.) should come in contact with the water body or wetlands nor their substrate below the mean high-high water elevation or 10-year flood elevation, whichever is greater.
- m. **Treated wood.**
- (i) Projects using treated wood that may contact flowing water or that will be placed over water where it will be exposed to mechanical abrasion or where leachate may enter flowing water will not be used, except for pilings installed following NOAA Fisheries' guidelines.
 - (ii) Projects that require removal of treated wood will use the following precautions:
 - (1) **Treated wood debris.** Use the containment necessary to prevent treated wood debris from falling into the water. If treated wood debris does fall into the water, remove it immediately.

- (2) Disposal of treated wood debris. Dispose of all treated wood debris removed during a project, including treated wood pilings, at an upland facility approved for hazardous materials of this classification. Do not leave treated wood pilings in the water or stacked on the streambank.
- n. Preconstruction activity. Complete the following actions before significant alteration of the project area:
- (i) Marking. Lag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands, and other sensitive sites beyond the flagged boundary. Construction activity or movement of equipment into existing vegetated areas must not begin until clearing limits are marked.
 - (ii) Emergency erosion controls. Ensure that the following materials for emergency erosion control are on site: A supply of sediment control materials (e.g., silt fence, straw bales), and an oil-absorbing, floating boom whenever surface water is present.
 - (iii) Temporary erosion controls. All temporary erosion controls will be in place and appropriately installed downslope of project activity within the riparian buffer area until site rehabilitation is complete.
- o. Temporary access roads.
- (i) Steep slopes. Do not build temporary roads mid-slope or on slopes steeper than 30%.
 - (ii) Minimizing soil disturbance and compaction. Low-impact, tracked drills will be walked to a survey site without the need for an access road. Minimize soil disturbance and compaction for other types of access whenever a new temporary road is necessary within 150 ft of a stream, water body, or wetland by clearing vegetation to ground level and placing clean gravel over geotextile fabric, unless otherwise approved in writing by NOAA Fisheries.
 - (iii) Temporary stream crossings.
 - (1) Do not allow equipment in the flowing water portion of the stream channel where equipment activity could release sediment downstream, except at designated stream crossings.
 - (2) Minimize the number of temporary stream crossings.
 - (3) Design new temporary stream crossings as follows:
 - (a) Survey and map any potential spawning habitat within 300 ft downstream of a proposed crossing.

- (b) Do not place stream crossings at known or suspected spawning areas, or within 300 ft upstream of such areas if spawning areas may be affected.
 - (c) Design the crossing to provide for foreseeable risks (e.g., flooding and associated bedload and debris) to prevent the diversion of stream flow out of the channel and down the road if the crossing fails.
 - (d) Vehicles and machinery will cross riparian buffer areas and streams at right angles to the main channel wherever possible.
- (4) Obliteration. When the project is completed, obliterate all temporary access roads, stabilize the soil, and revegetate the site. Abandon and restore temporary roads in wet or flooded areas by the end of the inwater work period.
- p. Vehicles.
- (i) Choice of equipment. When heavy equipment will be used, the equipment selected will have the least adverse effects on the environment (e.g., minimally sized, low ground pressure equipment).
 - (ii) Vehicle staging. Fuel, operate, maintain, and store vehicles as follows:
 - (1) Complete vehicle staging, cleaning, maintenance, refueling, and fuel storage, except for that needed to service boats, in a vehicle staging area placed 150 ft or more from any stream, water body, or wetland, unless otherwise approved in writing by NOAA Fisheries.
 - (2) Inspect all vehicles operated within 150 ft of any stream, water body, or wetland daily for fluid leaks before leaving the vehicle staging area. Repair any leaks detected in the vehicle staging area before the vehicle resumes operation. Document inspections in a record that is available for review on request by FERC or NOAA Fisheries.
 - (3) Before operations begin and as often as necessary during operation, steam clean all equipment that will be used below the bankfull elevation until all visible external oil, grease, mud, and other visible contaminants are removed. Any washing of equipment must be conducted in a location that will not contribute untreated wastewater to any flowing stream or drainage area.
 - (4) Diaper all stationary power equipment (e.g., generators, cranes, stationary drilling equipment) operated within 150 ft of any stream, waterbody, or wetland to prevent leaks, unless suitable containment is provided to prevent potential spills from entering any stream or water body.
 - (5) At the end of each work shift, vehicles must not be stored within or over the waterway.

- q. Site preparation. Conserve native materials for site rehabilitation.
- (i) If possible, leave native materials where they are found.
 - (ii) If materials are moved, damaged, or destroyed, replace them with a functional equivalent during site rehabilitation.
 - (iii) Stockpile any large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site rehabilitation.
- r. Isolation of inwater work area. If adult or juvenile fish are reasonably certain to be present, or if the work area is less than 300 ft upstream of spawning habitats, completely isolate the work area from the active flowing stream using inflatable bags, sandbags, sheet pilings, or similar materials, unless otherwise approved in writing by NOAA Fisheries.
- s. Capture and release. Before and intermittently during pumping to isolate an inwater work area, attempt to capture and release fish from the isolated area using trapping, seining, electrofishing, or other methods as are prudent to minimize risk of injury.
- i. The entire capture and release operation will be conducted or supervised by a fishery biologist experienced with work area isolation and competent to ensure the safe handling of all ESA-listed fish.
 - (ii) If electrofishing equipment is used to capture fish, comply with NOAA Fisheries' electrofishing guidelines, listed below.
 - (1) Do not electrofish near adult salmon in spawning condition or near redds containing eggs.
 - (2) Keep equipment in good working condition. Complete manufacturers' preseason checks, follow all provisions, and record major maintenance work in a log.
 - (3) Train the crew by a crew leader with at least 100 hours of electrofishing experience in the field using similar equipment. Document the crew leader's experience in a logbook. Complete training in waters that do not contain listed fish before an inexperienced crew begins any electrofishing.
 - (4) Measure conductivity and set voltage as follows:

Conductivity (umhos/cm)	Voltage
Less than 100	900 to 1100
100 to 300	500 to 800
Greater than 300	150 to 400
 - (5) Use direct current (DC) at all times.

- (6) Begin each session with pulse width and rate set to the minimum needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured. Start with pulse width of 500us and do not exceed 5 milliseconds. Pulse rate should start at 30Hz and work carefully upwards. In general, pulse rate should not exceed 40 Hz, to avoid unnecessary injury to the fish.
 - (7) The zone of potential fish injury is 0.5 meters from the anode. Care should be taken in shallow waters, undercut banks, or where fish can be concentrated, because in such areas the fish are more likely to come into close contact with the anode.
 - (8) Work the monitoring area systematically, moving the anode continuously in a herringbone pattern through the water. Do not electrofish one area for an extended period.
 - (9) Have crew members carefully observe the condition of the sampled fish. Dark bands on the body and longer recovery times are signs of injury or handling stress. When such signs are noted, the settings for the electrofishing unit may need adjusting. End sampling if injuries occur or abnormally long recovery times persist.
 - (10) Whenever possible, place a block net below the area being sampled to capture stunned fish that may drift downstream.
 - (11) Record the electrofishing settings in a logbook along with conductivity, temperature, and other variables affecting efficiency. These notes, with observations on fish condition, will improve technique and form the basis for training new operators.
- (iii) Do not use seining or electrofishing if water temperatures exceed 18°C.
 - (iv) Handle ESA-listed fish with extreme care, keeping fish in water to the maximum extent possible during seining and transfer procedures, to prevent the added stress of out-of-water handling.
 - (v) Transport fish in aerated buckets or tanks. Release fish into a safe release site as quickly as possible, and as near as possible to capture sites.
 - (vi) If a listed fish is injured or killed at any point during the salvage operation, the NOAA Fisheries Law Enforcement Office will be contacted (360-418-4248).
 - (vii) Do not transfer ESA-listed fish to anyone except NOAA Fisheries or USFWS personnel, unless otherwise approved in writing by them.
 - (viii) Obtain all other federal, state, and local permits necessary to conduct the capture and release activity.
 - (ix) Allow NOAA Fisheries or the USFWS or its designated representative to accompany the capture team during the capture and release activity, and to inspect the team's capture and release records and facilities.

- t. Earthwork. Complete earthwork (including drilling, excavation, dredging, filling, and compacting) as quickly as possible.
- (i) Excavation. Material removed during excavation will only be placed in locations where it cannot enter sensitive aquatic resources. Whenever topsoil is removed, it must be stored and reused on site to the greatest extent possible. If culvert inlet/outlet protecting riprap is used, it will be class 350 metric or larger, and topsoil will be placed over the rock and planted with native woody vegetation.
 - (ii) Drilling and sampling. If drilling, boring, or jacking is used, the following conditions apply.
 - (1) Isolate drilling operations in wetted stream channels using a steel pile, sleeve, or other appropriate isolation method to prevent drilling fluids from contacting water.
 - (2) If it is necessary to drill through a bridge deck, use containment measures to prevent drilling debris from entering the channel.
 - (3) If directional drilling is used, the drill, bore, or jack hole will span the channel migration zone and any associated wetland.
 - (4) Sampling and directional drill recovery/recycling pits, and any associated waste or spoils, will be completely isolated from surface waters, off-channel habitats, and wetlands. All drilling fluids and waste will be recovered and recycled or disposed to prevent entry into flowing water.
 - (5) If a drill boring conductor breaks and drilling fluid or waste is visible in water or a wetland, all drilling activity will cease, pending written approval from NOAA Fisheries to resume drilling.
 - (iii) Site stabilization. Stabilize all disturbed areas, including obliteration of temporary roads, following any break in work, unless construction will resume within 4 days.
 - (iv) Source of materials. Obtain boulders, rock, woody materials, and other natural construction materials used for the project outside the riparian buffer area.
- u Implementation monitoring. For projects undertaken by or funded by Tacoma Power, Tacoma Power will submit a monitoring report to FERC and NOAA Fisheries within 120 days of project completion describing the success in meeting the RPMs and associated terms and conditions of the Opinion.
- (i.) Project identification.
 - (1) Project implementor name, project name, detailed description of the project.

- (2) Project location by 5th or 6th field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.
- (3) Starting and ending dates for the work completed.
- (ii) Photo documentation. Photo documentation of habitat conditions at the project site before, during, and after project completion.
 - (1) Include general views and close-ups showing details of the project and project area, including pre- and post-construction.
 - (2) Label each photo with date, time, project name, photographer's name, and documentation of the subject activity.
- (iii) Other data. Additional project-specific data, as appropriate, for individual projects.
 - (1) Work cessation. Dates work ceased because of high flows, if any.
 - (2) Fish screen. Compliance with NOAA Fisheries' fish screen criteria.
 - (3) Pollution and Erosion Control Plan. A summary of pollution and erosion control inspections, including any erosion control failures, contaminant releases, and correction efforts.
 - (4) Description of site preparation.
 - (5) Isolation of inwater work area, capture, and release.
 - (a) Supervisory fish biologist's name and address.
 - (b) Methods of work area isolation and take minimization.
 - (c) Stream conditions before, during, and within 1 week after completion of work area isolation.
 - (d) Means of fish capture.
 - (e) Number of fish captured by species.
 - (f) Location and condition of all fish released.
 - (g) Any incidence of observed injury or mortality of listed species.
 - (6) Streambank protection.
 - (a) Type and amount of materials used.
 - (b) Project size - one bank or two, width, and linear feet.
 - (7) Site rehabilitation. Photo or other documentation that site rehabilitation performance standards were met.

NOAA Fisheries will be reviewing the detailed construction plans submitted to advise FERC regarding whether or not those plans are likely to meet the "best management practices" articulated in this incidental take statement terms and conditions, or such additional best management practices that NOAA Fisheries deems appropriate.

MEMORANDUM OF UNDERSTANDING

**REIMBURSEMENT OF ROAD UPGRADE COSTS
PETERMAN UNIT OF THE COWLITZ WILDLIFE AREA**

BETWEEN

**CITY OF TACOMA
DEPARTMENT OF PUBLIC UTILITIES
LIGHT DIVISION**

AND

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

AND

SIMPSON RESOURCE COMPANY

**TACOMA POWER AGREEMENT NO. 2709
PROJECT NO. 2003-008**

This Memorandum of Understanding ("MOU") is made and entered into, by and between, City Of Tacoma, Department Of Public Utilities, Light Division, d.b.a. and herein referred to as "Tacoma Power," the Washington Department of Fish and Wildlife, herein referred to as "WDFW," and Simpson Resource Company, herein referred to as "SIMPSON."

WITNESSETH:

Whereas, under the Settlement Agreement Relating to Wildlife for the Cowlitz Hydroelectric Project (FERC No. 2016) dated January 5, 1993, Tacoma Power is obligated to fulfill certain wildlife management requirements;

Whereas, under said Settlement Agreement, the Washington Department of Fish and Wildlife (WDFW) accepted responsibility for the management and maintenance of all Tacoma Power's wildlife lands within the Cowlitz Hydroelectric Project pursuant to Tacoma Power's agreement to provide funds annually to WDFW to accomplish that obligation;

Whereas, in December 1992, in order to meet its Settlement Agreement requirements, Tacoma Power purchased 6,855 acres of timberlands (commonly known as the Peterman Unit) from the John Hancock Mutual Life Insurance Company ("Hancock") and included said timberlands as part of Tacoma Power's wildlife lands managed by the WDFW. Under the terms of the sale, Hancock retained a one-time harvest ownership of all trees then growing, or down, on 4,700 acres of the property, as defined under that certain Timber Reservation between Hancock and Tacoma Power, dated December 31, 1992;

Whereas, on October 16, 2000, the Timber and the Hancock Timber Reservation were sold and assigned to Simpson Timber Company and on June 28, 2002, Simpson Timber Company transferred the Timber and assigned the Timber Reservation to Simpson Resource Company (SIMPSON);

Whereas, effective July 1, 2001, the Washington State Department of Natural Resources (DNR) adopted new State regulations (WAC 222.24) regarding Road Maintenance and Abandonment Planning (RMAP). These regulations set forth certain requirements relating to management of forest roads to protect the State's rivers and streams;

Whereas, due to these new RMAP regulations, Tacoma Power and SIMPSON desired to allocate the obligations for RMAP implementation and intend to amend the Timber Reservation to establish provisions and procedures to facilitate the enhancement of their working relationship in response to the RMAP requirements, including allocation of responsibility and cost-sharing for all necessary road improvements;

Whereas, under said amended Timber Reservation, Tacoma Power is responsible for all road upgrades and maintenance within the Peterman Unit for roads which are now used exclusively for wildlife management and SIMPSON is responsible for road upgrades and maintenance of all roads which are used solely by SIMPSON. For those roads that have shared use (main haul roads), road upgrade responsibility is shared;

Whereas, with respect to their shared responsibility for main haul road upgrades under the amended Timber Reservation, Tacoma Power is required to purchase all "materials" as may be required to fulfill the RMAP rules and SIMPSON will provide the labor and equipment to complete said road improvements;

Whereas, Tacoma Power and the WDFW have consulted regarding the Timber Reservation amendment and have determined it is highly desirable and beneficial to all concerned parties that the materials needed for common (main haul) road upgrades be actually acquired by SIMPSON since it is doing similar work in the same vicinity per the existing Timber Reservation and can obtain said materials at a more favorable price than either Tacoma Power or the WDFW;

Whereas, in order to reimburse SIMPSON for the cost of road upgrade materials to be acquired, and to the extent Tacoma Power's annual payments to the WDFW include monies to pay for said materials, the parties hereto desire to enter into this MOU setting forth the reimbursement process to be utilized.

NOW, THEREFORE, in consideration of the mutual benefits and covenants hereinafter contained, the parties hereto agree as follows:

1. Commencing in 2004, SIMPSON shall acquire all materials needed for said improvements/upgrades.

2. Tacoma Power shall reimburse SIMPSON for the cost of all necessary road improvement/upgrade materials acquired and actually used by SIMPSON pursuant to the obligations of the Timber Reservation, as amended, up to a maximum project lifetime sum of \$82,650. SIMPSON shall invoice Tacoma Power for all such costs on an annual basis, prior to September 1 of each year. Tacoma Power shall reimburse each year's invoiced costs on or before December 15 of the invoice year.
3. Commencing in 2004, all invoiced costs for materials acquired by SIMPSON and reimbursed by Tacoma Power pursuant to this MOU shall be deducted and withheld from Tacoma Power's annual Settlement Agreement payment to the WDFW (maximum project lifetime sum of \$82,650). All such material costs invoiced Tacoma Power shall be coordinated and verified through the WDFW Cowlitz Wildlife Manager prior to any reimbursement to SIMPSON and/or deduction by Tacoma Power from the annual Settlement Agreement payment due the WDFW.
4. No reimbursement by Tacoma Power hereunder shall serve to increase Tacoma Power's total annual payment obligation under Paragraph V of the Settlement Agreement or as previously approved by Public Utility Board Resolution U-8801.

Dated this 14th day of November, 2003

ACCEPTED

State of Washington
Department of Fish and Wildlife



William C. Brooks, C.P.M.
Contracts Officer

ACCEPTED

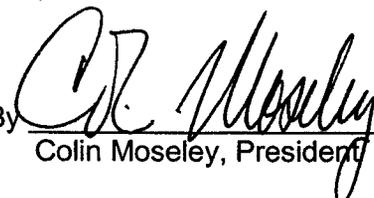
City of Tacoma

By 

Generation Manager

ACCEPTED

Simpson Resource Co.

By 

Colin Moseley, President 

REVIEWED

CITY OF TACOMA
Department of Public Utilities



Natural Resources Manager

REVIEWED:



Cowlitz Wildlife Biologist

APPROVED AS TO FORM:



Assistant City Attorney

98 FERC ¶ 61, 274
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
William L. Massey, Linda Breathitt,
and Nora Mead Brownell.

City of Tacoma, Washington

Project No. 2016-044

ORDER APPROVING SETTLEMENT AND ISSUING NEW LICENSE

(Issued March 13, 2002)

The City of Tacoma, Washington (Tacoma) filed an application for a new license, pursuant to Sections 15 and 4(e) of the Federal Power Act (FPA),¹ for the continued operation and maintenance of the 462-megawatt (MW) Cowlitz River Hydroelectric Project No. 2016, located on the Cowlitz River in Lewis County, Washington, and in part on lands within the Gifford Pinchott National Forest.² On September 11, 2000, Tacoma filed a settlement agreement (Agreement), which is signed by most of the participants in a collaborative relicensing process.

For the reasons discussed below, this order approves the Agreement with some modifications and issues a new license for the Cowlitz River Project. The new license, as conditioned in this order, authorizes Tacoma to continue to produce much needed power in a sound, environmentally sensitive manner. In addition, the new license includes numerous enhancements to the existing aquatic and terrestrial environments, and recreation. We therefore find that the Cowlitz River Project, with the conditions adopted in the new license, will serve the public interest because it is best adapted to the comprehensive development of the Cowlitz River Basin for all beneficial public purposes, in accordance with the requirements of Section 10(a)(1) of the FPA.³

¹16 U.S.C. §§ 808 and 797, respectively.

²About 5 acres of the project are on National Forest Service lands and about 59 acres are on lands owned by the Bureau of Land Management.

³16 U.S.C. § 803(a)(1).

BACKGROUND

The original license for Cowlitz River Project was issued in 1951,⁴ and expired on December 31, 2001. Since that time, project operations have continued pursuant to an annual license.⁵

Tacoma filed its relicense application on December 27, 1999.⁶ Notice of the application was issued on March 15, 2000. By notices dated May 10, 2000, and July 12, 2000, the filing deadline for interventions was extended to July 15, 2000, and August 15, 2000, respectively. Timely interventions in the relicense proceeding were filed by the U.S. Department of the Interior (Interior); the U.S. Department of Agriculture, Forest Service (Forest Service); the National Marine Fisheries Service (NMFS); Bonneville Power Administration (BPA); Washington Department of Fish and Wildlife (Washington DFW); Washington State Department of Ecology (Ecology); Confederated Tribes and Bands of the Yakama Nation (Yakama Nation); the Cowlitz Indian Tribe (Cowlitz Tribe); Public Utility District No. 1 of Lewis County, Washington (Lewis County PUD); jointly by Washington Council of Trout Unlimited and Trout Unlimited National (Trout Unlimited); American Rivers; jointly by Friends of the Cowlitz and Cowlitz Plan for Restoration-Fish (CPR-Fish); Steelhead Trout Club of Washington; King County Outdoors Sports Council; Lower Columbia Fish Recovery Board; Cowlitz River Charters; and John Squires. The Cowlitz Tribe filed a protest of the license application. The concerns of the Cowlitz Tribe are discussed below.

⁴10 FPC 424 (1951).

⁵See 16 U.S.C. § 808(a)(1).

⁶Preparation of the application followed the Commission's alternative licensing procedures, which were approved for use in this proceeding on February 24, 1998.

Subsequent to the filing of the license application, Tacoma and the following entities negotiated and signed an Agreement which resolves the various issues in the proceeding: Washington DFW; Ecology; Washington State Parks and Recreation Commission; Interior, Fish and Wildlife Service (FWS); NMFS; Forest Service; Interagency Committee for Outdoor Recreation; Lewis County; Yakama Nation; Trout Unlimited; and American Rivers. On September 11, 2000, Tacoma, on behalf of the signatories, filed the Agreement with the Commission, requesting that the measures for protection, mitigation, and enhancement of fish and wildlife and recreation and cultural resources set forth in the Agreement's Appendix A be incorporated, without material modification, as articles in the new Cowlitz River Project license. The Agreement and the proposed articles are described below. Participants in the negotiations that chose not to sign are: Cowlitz Indian Tribe, Friends of the Cowlitz, CPR-Fish, and Lower Columbia Fish Recovery Board.⁷ The Agreement was noticed and comments opposing the Agreement were filed by the Cowlitz Tribe, CPR-Fish and Friends of the Cowlitz (hereafter, collectively referred to as Friends of the Cowlitz), Lower Columbia Fish Recovery Board, Northwest Marine Trade Association, and King County Outdoor Sports Council. In addition, the Commission received 27 letters from the general public and sport fisherman objecting to the Agreement. All of the comments expressed concern that the measures defined in the Agreement were inadequate to ensure the recovery of listed salmon stocks.

A Draft and Final Environmental Impact Statement (FEIS) for the Cowlitz River Project were issued on June 8, 2001, and November 9, 2001, respectively. The FEIS includes background information, analysis of impacts, and support for related license articles. The FEIS recommends adopting the Agreement and issuing a new license as conditioned in this order. We have fully considered the motions and extensive comments received from interested agencies, tribes, and individuals in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

The Cowlitz River Project consists of 2 dams on the Cowlitz River, the Mayfield Dam at river mile 52 and the Mossyrock Dam, upstream at river mile 65. It also includes the Cowlitz Salmon Hatchery and the associated Barrier Dam, and the Cowlitz Trout Hatchery. The Mayfield Dam forms Mayfield Lake and was completed in 1963. The

⁷Although the Sport Fishing Guides of Washington did not participate extensively in the negotiations, they initially signed the Agreement but withdrew their support for the Agreement on January 22, 2001, because of what they regarded as inadequate representation of their interests in future decision-making processes.

Mossyrock Dam creates Riffe Lake and was completed in 1968. Barrier Dam supports the hatchery and was completed in 1969.

The Mayfield development consists of: Mayfield reservoir with a gross storage of 133,700 acre-feet and a surface area of 2,250 acres; a 250-foot-high (200 feet above the riverbed), 850-foot-long, concrete arch and gravity dam, an overflow spillway section that has a combined discharge capacity of 203,000 cfs; an intake tunnel contained within a separate structure located upstream of the dam on the right abutment; a 37-foot-diameter, 854-foot-long power tunnel that passes through the right abutment of the dam and terminating at a concrete forebay structure; four steel penstocks varying in length from 235 to 278 feet; a powerhouse that contains four 40,500-kW vertical Francis turbines for an installed capacity of 162 MW; a functioning downstream fish passage facility; a bypass channel that directs the fish to a secondary separator, where they are guided through the dam to a holding/counting facility and emptied into the river below the powerhouse through a pipe and chute.

The Mossyrock development, located immediately upstream of the Mayfield development, consists of: Riffe Lake with a gross storage of 1,685,100 acre-feet and a surface area of 11,830 acres; a 606-foot-high (365 feet above the riverbed), 1,300-foot-long, double curvature concrete arch dam, with two 300-foot-long gravity-type concrete wing walls; a rockfill embankment on the left abutment; a spillway having a combined discharge capacity of 240,000 cubic feet per second (cfs); three steel penstocks varying in length from 248 to 285 feet; and a powerhouse that contains two 150,000-kilowatt (kW) vertical Francis turbines for an installed capacity of 300 MW.

Cowlitz River Project operations have multi-purpose objectives: to generate electricity and to provide flood control, recreation, and downstream flows for fish habitat protection. The Cowlitz River Project is used extensively to meet much of the base demand of Tacoma customers and to fill moment-to-moment electricity demand changes in the Tacoma service area. Typically, Riffe Lake is held at an elevation 745.5 feet between December 1 and January 31 to provide storage for winter flood flows, with the objective of keeping flows below 70,000 cfs at the downstream community of Castle Rock. From February 1 to June 1, Riffe Lake is allowed to fill in an attempt to have the reservoir at, or near, full pool for the summer recreation season. Typically, the reservoir slowly drafts throughout the summer, because minimum downstream flow requirements at Mayfield are frequently higher than project inflows. Gradual drawdown to the winter pool level begins between Labor Day and October 1. These water levels are operational targets, and Tacoma's ability to meet them is influenced by the objective of meeting instream flow release levels for fish habitat protection. Tacoma tries to maintain Riffe Lake at or above elevation 767 feet from June 1 to September 1 of each year. Mayfield is operated in a run-of-river fashion, dependent entirely upon discharge from Mossyrock and inflow mainly

from the Tilton River. Inflow in excess of the capacity of the turbines is spilled, resulting in a very stable reservoir elevation, typically fluctuating less than 2 to 3 feet throughout the year, although the maximum allowable elevation fluctuation is 10 feet. Operations under the Agreement would not change, except for the minimum flows provided below Mayfield (discussed latter).

Located about 2 miles downstream of Mayfield Dam are the Cowlitz Salmon Hatchery and Barrier Dam. The Cowlitz Salmon Hatchery produces coho, spring chinook, and fall chinook salmon juveniles for release to the Cowlitz River and is currently managed by the Washington DFW, with funding from Tacoma. Barrier Dam is used to direct migrating adult fish into the salmon hatchery sorting facilities, where they are sorted by species for release to onsite holding ponds or for transport offsite.

About 7.5 miles downstream of Barrier Dam is the Cowlitz Trout Hatchery. The Cowlitz Trout Hatchery is also managed by the Washington DFW, with funding from Tacoma. The hatchery is used for egg collection and incubation, and to rear sea-run cutthroat and winter and summer steelhead.

Power from the Cowlitz River Project is used by Tacoma Power to meet the energy requirements of the City of Tacoma. With the mitigation measures recommended by staff, the project would generate about 1,686,000 MWh of energy annually.

WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act (CWA),⁸ the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has either issued a water quality certification for the project or has waived certification. Certification (or waiver) is required in connection with any application for a federal license or permit to conduct an activity which may result in a discharge into U.S. waters. Under Section 401(d) of the CWA, any conditions of the certification become conditions of the federal license or permit,⁹ and only a reviewing court may revise or delete those conditions.¹⁰

⁸33 U.S.C. § 1341(a)(1).

⁹33 U.S.C. § 1341(d).

¹⁰See *American Rivers v. FERC*, 229 F.3d 99 (D.C. Cir. 1997).

On December 9, 1999, Tacoma applied to Ecology for water quality certification of the project. Tacoma withdrew its pending water quality certificate application and refiled a new application on December 1, 2000, and again on December 5, 2001.

Ecology issued a water quality certification for the project on January 15, 2002. On March 8, 2002, the Pollution Control Hearings Board for the State of Washington issued a temporary stay of the certification until April 11, 2002.¹¹ Therefore, we are issuing the new license with an effective date of April 12, 2002.

The certification contains seven water quality conditions to ensure that the project meets state water quality standards, including a requirement for the licensee to operate the project in compliance with the Agreement (including but not limited to instream flows stipulated in the Agreement); three notification conditions, including a requirement to notify Ecology if the Agreement is reopened for any reason; one condition that stipulates when an updated application must be filed; one condition that defines future actions that are not covered by the certificate; two water quality monitoring conditions, including a requirement that all monitoring detailed in the Agreement be conducted and that additional monitoring may be required based on the monitoring results stipulated in Agreement Article 15; one reporting condition that requires reporting monitoring results to Ecology on an annual basis or as necessary; 17 construction conditions that would apply to all site-specific development or mitigation projects (i.e. use of Best Management Practices, Erosion and Sediment Control Plan, etc.) unless covered under a separate 401 water quality certification; four conditions to address emergency situations, including a spill prevention and containment plan; and eight general conditions. These conditions are included in this license in Appendix C.

SECTION 18 FISHWAY PRESCRIPTIONS

¹¹See Stipulation and Agreed Order of Temporary Stay at 3 (issued March 8, 2002), attached to Letter from Jonathan Feil to Commission Secretary (filed March 11, 2002).

Section 18 of the FPA¹² provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe.

¹²16 U.S.C. § 811.

By letters dated August 15, 2000, and September 29, 2000, the NMFS (as delegated by the Secretary of Commerce) and the FWS (as delegated by the Secretary of Interior), respectively, filed their Section 18 prescriptions. The prescriptions addressed downstream fish passage at Mossyrock Dam and Mayfield Dam and upstream fish passage at Barrier, Mayfield and Mossyrock Dams. The prescriptions are set forth in Appendix D to this order. In most respects, they are essentially the same as Articles 1, 2, and 3 of the Agreement (Appendix A).¹³

¹³Based on a quick comparison, it appears that Interior's prescription differs from the Agreement in two minor respects. Interior's Prescription 2(a) includes in the third sentence two commas and the word "along" that are absent from the third sentence of Agreement Article 2(a). Interior's Prescription 2(d) includes the following two sentences at the end of the paragraph: "The Licensee shall submit the final plan to the National Marine Fisheries Service and the U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan" Agreement Article 2(d) does not contain those two sentences, and substitutes the following two sentences at the end of the paragraph: "The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan."

It also appears that Commerce's prescription differs from the Agreement in several respects. To the extent that we have been able to identify the differences, they appear to result from additional language in the Agreement that is missing from Commerce's prescription. For example, Agreement Article 1(a) includes the following phrase in item 5 of the third sentence: "not to exceed 12 months from plan approval by the Commission, unless the Licensee can establish good cause for additional time." This phrase is missing from the corresponding Article X(a) of Commerce's prescription. Similarly, the second sentence of Article 2(b) of the Agreement includes the phrase, "but not limited to," that is missing from the corresponding Article XI(b) of Commerce's prescription. Article 2(d) of the Agreement includes four sentences at the end of the paragraph concerning the submission of a draft plan and a reservation of the Commission's authority to require changes that are missing from the corresponding Article XI(b) of Commerce's prescription. Finally, Agreement Article 3(h) includes four sentences near the end of the article (again, concerning the submission of a draft plan and a reservation of the Commission's authority to require changes) that are missing from the corresponding Article XII(h) of Commerce's prescription. There may be other differences. Because we have no authority to modify the Section 18 prescriptions, we have included them in Appendix D without modification.

In Article 401, we reserve our authority to approve and require changes to these plans.

By also approving Agreement Articles 1 through 3 in Appendix A, we have included the Agreement language that is missing from Commerce's Section 18 prescription.

Both NMFS and FWS reserved their authority under Section 18 of the FPA to prescribe additional or modified upstream and downstream fish passage measures, consistent with the adaptive management techniques employed by the Agreement, to address the uncertainty in the time frames within which anadromous fish population recovery and restoration thresholds are met and subsequent specific measures, including a ladder (or similar volitional adult passage facility) at Mayfield Dam, an adult trapping facility below Mossyrock, or an independent smolt collection facility at Riffe Lake, must be constructed. As requested by NMFS and FWS, in Article 406 of the license we have reserved our authority to require such additional or modified fish passage facilities as the Secretaries may prescribe.¹⁴

SECTION 4(e) OF THE FPA

Portions of the Cowlitz River Project are located within the Gifford Pinchott National Forest, which is under the supervision of the U.S. Forest Service.¹⁵ Section 4(e)

¹⁴The Agreement also contained language that reserved NMFS's and FWS's authority under Section 18 of the FPA to amend their fishway prescriptions contained in Articles 1, 2 and 3 of the Agreement

¹⁵The project also occupies four separate parcels of federal lands managed by the U.S. Bureau of Land Management. The parcels total 58.8 acres; three of the parcels are submerged in Riffe Lake and the other parcel is located on the bank of Riffe Lake. The licensee pays annual land use charges for these lands pursuant to Section 10(e) of the FPA,

of the FPA¹⁶ states that the Commission may issue a license for a project on a reservation only if it finds that the license will not interfere or be inconsistent with the purposes for which the reservation was created or acquired. Section 3(2) of the FPA¹⁷ defines reservations as including national forests. We find that this license will not interfere or be inconsistent with the purposes for which the Gifford Pinchott National Forest was created.

16 U.S.C. 803(e). Nothing in the record of this proceeding suggests that these federal lands are "reservations," as defined in FPA Section 3(2), 16 U.S.C. 794(2).

¹⁶16 U.S.C. § 797(e).

¹⁷16 U.S.C. § 796(2).

FPA Section 4(e) also requires that a license for a project located on a United States reservation must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation.¹⁸ On February 14, 2002, the Forest Service, a signatory to the Agreement, timely filed its final conditions (Appendix C) for the project pursuant to FPA Section 4(e). Condition 1 requires compliance with the terms of the Agreement as a mandatory Section 4(e) condition.

In addition, the Forest Service submitted the following Section 4(e) conditions, requiring the licensee to: (1) delay implementation of any ground-disturbing actions authorized by the license on National Forest lands until the completion of any administrative appeal filed under 36 CFR Part 215;¹⁹ (2) obtain prior written approval from the Forest Service for all final design plans prior to any ground-disturbing activities on National Forest System lands; (3) obtain written approval from the Forest Service prior to making any changes in the location of any constructed project features or facilities, or in the uses of project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission that are located on or otherwise directly impact National Forest System lands; (4) consult with the Forest Service each year during the 60 days preceding the anniversary of the license; and (5) remove facilities sited on National Forest System lands and restore National Forest System lands and resources to a condition satisfactory to the Forest Service prior to surrender of the license.

THE SETTLEMENT AGREEMENT

The Agreement addresses the signatories' various concerns related to fish passage, fish production, fish habitat, water quality, instream flows, wildlife, recreation, and cultural and historic resources. Particular emphasis is placed on ecosystem integrity and the

¹⁸Escondido Mutual Water Co. v. LaJolla Band of Mission Indians, 466 U.S. 765 (1984).

¹⁹The Forest Service noted that it may require modification of its 4(e) conditions as a result of the appeal process.

restoration and recovery of wild, indigenous salmonid runs to harvestable levels, while also providing significant improvements to area recreational facilities. The Agreement is also intended to establish an adaptive management framework for future collaborative efforts for the protection, mitigation, and enhancement of natural resources of the Cowlitz River basin.

The Agreement sets out the background, purpose, use, implementation of the Agreement and license conditions, expectations of the signatories, and procedures for amending the Agreement and resolving disputes under, withdrawal from and termination of the Agreement.²⁰ Section 2 includes key definitions used in the proposed license conditions.²¹ Section 6 includes guiding principals to aid the signatories in understanding and implementing the Agreement where any ambiguity in the Agreement language may occur. Appendix A of the Agreement sets out the specific protection, mitigation, and enhancement measures proposed for inclusion in the new Cowlitz River Project license.²² These conditions are included as Appendix A of this license.

²⁰The Agreement does not provide for inclusion of these procedures in the license.

²¹For example, it defines: "fish passage survival," "fish guidance efficiency," "downstream fish passage survival rate," "wild salmonid," "pre-spawner," "recruit," "indigenous," and "natural production."

²²Section 17 lists the authorized representatives of the signatories to the Agreement. Although the Forest Service, FWS, NMFS, and Ecology are signatories, the Agreement is not intended to restrict the duties of these agencies or the Commission pursuant to the

Federal Power Act, Endangered Species Act or the Clean Water Act, and explicitly recognizes that if any terms of the Agreement are inconsistent with the requirements of these acts, modifications to the Agreement may be required. See Sections 4.2, 4.3, 4.4, 11.3, and 11.4.

Fisheries needs are met through a combination of upstream and downstream fish passage, habitat restoration and improvement, and an adaptive management program to restore natural production that is coupled with continued hatchery production at levels consistent with the recovery objectives for endangered species while also providing for sustainable fisheries.²³ To provide effective fish passage, the licensee will: provide or fund facilities and measures to improve downstream fish passage survival and collection at the head of Riffe Lake or at the Cowlitz Falls Project No. 2833 (Agreement Article 1);²⁴ provide, following studies of turbine mortality and effectiveness of the existing louvers, improvements to downstream fish passage at Mayfield dam that would increase fish guidance efficiency and improve downstream fish passage survival (Agreement Article 2); and provide adult upstream fish passage through trap and haul facilities until criteria for constructing volitional upstream passage measures are met, at which time Barrier Dam would be breached or a ladder provided, a ladder with sorting facilities or a tram would be constructed at Mayfield Dam, and a trap and haul facility would be constructed at

²³See Agreement Section 6.1.2.

²⁴The Agreement does not purport to require Tacoma to make modifications at the Cowlitz Falls Project to achieve 95 percent fish passage survival. Nor could we include such a condition if it did, because it would be beyond the scope of this license and must be considered in the context of the Project 2833 license. The Agreement merely requires Tacoma to (a) report on its efforts to negotiate with Lewis County PUD and BPA regarding shared funding of cooperative efforts to improve downstream fish passage and collection effectiveness at or near Cowlitz Falls, (b) identify proposed facilities and measures most likely to achieve the goal of 95 percent fish passage survival that it would fund or construct, (c) identify its plans to support on-going operation and maintenance of those facilities and measures, and (d) monitor the effectiveness of those facilities and measures. If such negotiations are not successful or if additional measures are needed, Tacoma agrees to continue to pursue other means to achieve the goal of 95 percent fish passage survival until the licensee has employed the best available technology and achieved at least 75 percent fish passage survival for all species. We note, however, that in the FEIS, staff concluded that improving downstream survival of juvenile salmonids is likely key to their recovery in the basin, and that the most logical place for such improvement to occur is at the Cowlitz Falls Project (See FEIS at 4-34-35). If negotiations among Tacoma, Lewis County PUD, and BPA are successful, and plans are developed that would indicate that modifications to Lewis County PUD's Cowlitz Falls Project would be effective and feasible at achieving the 95 percent FPS criteria, Lewis County PUD could pursue, on its own motion or at the request of fish and wildlife resource agencies or the Commission, an appropriate amendment to the license of the Cowlitz Falls Project.

Mossyrock Dam (Agreement Article 3). The licensee would also provide funding of up to \$40,000 per year for a freshwater juvenile tagging and monitoring program to gather data that would be used in determining when the volitional passage criteria are met (Agreement Article 4).²⁵ Future hatchery production and management would be consistent with the overall goal of restoring and recovering wild stocks and would include: continued funding for the operation and maintenance of the Cowlitz Hatchery Complex, consisting of the remodeled Cowlitz Salmon Hatchery, the remodeled Cowlitz Trout Hatchery, and three new satellite rearing facilities (Agreement Article 5); a Fisheries and Hatchery Management Plan, updated at 6 year intervals, that details production levels and release strategies for each stock, consistent with the priority objective of maximizing natural production of wild indigenous fish stocks and species in the basin (Agreement Article 6); a Hatchery Complex Remodel and Phase-In Plan (Agreement Article 7); and a Fisheries Disease Management Plan for the hatchery complex that would allow adult fish above Barrier dam (Agreement Article 8). Habitat restoration and improvement measures include: a Large Woody Debris Management Plan that would continue to make large woody debris available for fish habitat restoration projects (Agreement Article 9); a Gravel Augmentation Plan to augment spawning gravel below Mayfield dam (Agreement Article 10); creation of a fish habitat fund in the amount of \$3 million dollars for the purpose of fisheries habitat protection, restoration, and enhancement through acquisition, easements or restoration projects (Agreement Article 11); coordinating and encouraging the expeditious expenditure of remaining wetlands acquisition funds previously allocated by Tacoma in accordance with the 1993 Wildlife Settlement Agreement (Agreement Article 12);²⁶ minimum instream flows and pulse flows to encourage fish out-migration and to protect spawning redds (Agreement Article 13); ramping rates to protect fish from stranding (Agreement Article 14); a Fish Monitoring Plan to evaluate the effectiveness of the instream flow requirements (Agreement Article 15); and a report on measures taken to ensure compliance with the instream flows (Agreement Article 16).

To address current and future recreation needs, the licensee will: prepare a Recreation Plan that provides for additional trails, camp sites, boat launches, and other

²⁵Funding of the tagging and monitoring program would continue until implementation of the Fisheries and Hatchery Management Plan provided for in Article 6. Presumably, the plans for licensee-funded ongoing monitoring and evaluation required in the Fisheries and Hatchery Management Plan would include the necessary funding and tagging of juveniles to address these monitoring needs.

²⁶The 1993 Wildlife Settlement Agreement was approved by the Commission July 17, 1998 (84 FERC ¶ 61,037).

improvements (Agreement Article 17); prepare a Recreation Operation, Maintenance and Safety Plan that would ensure that construction and operation of the recreation facilities are compatible with the Cowlitz Wildlife Area management, improve boating safety, provide for the transition of existing facilities to meet the requirements of the American with Disabilities Act, and provide for Tacoma to assume responsibility for the maintenance and operation of the Mayfield Lake County Park from Lewis County (Agreement Article 18); prepare plans for expenditure of \$67,000 in years four, seven, and thirteen of the license for additional facilities to improve water access, such as parking, trails to water, ramps, and piers (Agreement Article 19); monitor recreation use at six year intervals (Agreement Article 20); compensate the Forest Service in the amount of \$5,500 each year for indirect impacts to recreation facilities in the Gifford Pinchot National Forest (Agreement Article 21); and report on efforts to negotiate the transfer of national forest and other lands for the purpose of consolidating land ownership within the Cowlitz River Project Area (Agreement Article 22).

To protect cultural resources, the licensee will prepare and implement a Cultural Resources Management Plan (Agreement Article 23). Wildlife needs will be met through continued compliance with the terms of the 1993 Wildlife Settlement Agreement among Tacoma, Washington Department of Wildlife,²⁷ and FWS (Agreement Article 24).

An adaptive management approach to implementing the Agreement is a central concept. In particular, decisions on fish passage and hatchery production are tied to various measures of progress toward salmon recovery. Under various conditions of the Agreement,²⁸ Tacoma would consult with a Fisheries Technical Committee for the purpose of assisting the licensee in the design of monitoring plans and studies, reviewing and evaluating resulting data, and decisions on adaptive management measures associated with the fisheries measures. The Fisheries Technical Committee would consist of one representative each from Tacoma, NMFS, FWS, Washington DFW, Ecology, and the Yakama Nation, and one representative from the conservation groups (American Rivers and Trout Unlimited).²⁹ A Habitat Advisory Group, consisting of a representative from

²⁷Washington Department of Wildlife is now Washington Department of Fish and Wildlife.

²⁸Articles 1-16 of the Agreement.

²⁹Section 12 of the Agreement defines the composition, role, and operating procedures of the Fisheries Technical Committee, which the signatories do not propose to be included in the license. Further, the signatories provided for alternative consultation requirements with the various resource agencies in the event that the Agreement is

each signatory to the Agreement electing to participate in the group, would also be consulted to aid in the implementation of Article 11 of the Agreement.

With the exception of the fish passage requirements (Articles 1, 2 and 3), the Agreement provides for the submission of the plans in Appendix A to the Commission for its approval. It also includes a reservation of the Commission's authority to modify the conditions as necessary to meet the requirements of the FPA and to take into account the regional fish and wildlife program established by the Pacific Northwest Electric Power Planning and Conservation Act (Agreement Article 25).³⁰

DISCUSSION

terminated.

³⁰Articles 301 and 302 require the filing of revised exhibit drawings, final contract plans and specifications, a Quality Control Inspection Program, and authorization from the Portland Regional Engineer prior to commencing construction, to ensure construction is conducted in a safe and environmentally sound manner. Additionally, Commission approval will be required for certain other facility or operational changes to the project that may occur as a result of the monitoring conducted under the Agreement, or other aspects of the Agreement as approved. See Article 401.

The Commission encourages settlement agreements that resolve licensing issues in the public interest. We commend the parties, and members of our staff who assisted their discussions, for their successful effort to reach consensus on the broad range of issues involved in the operation of this project and for the development of a sound framework for a continuing collaborative approach to the management of the project in the public interest.

Because the "comprehensive development" standard of Section 10(a)(1) of the FPA continues to govern regulation of a project throughout the term of the license, it is the Commission's responsibility to approve, through appropriate license amendments, all material changes to the project and its maintenance and operation.³¹ We read the Agreement as entirely consistent with this fundamental principal. In addition, it would be an unacceptable constraint on our Section 10(a)(1) responsibilities, were we not to retain (as we do in this license) the authority to initiate on our own or anyone else's motion, proceedings to amend the project license as we determine is required by the public interest, after notice and opportunity for a hearing.³²

³¹The Commission's regulations, as well as the terms of the license and basic due process principles, govern the filing and public notice requirements for different types of alterations.

³²Section 11 of the Agreement provides for amending the Agreement upon unanimous written consent of the parties. It also acknowledges the need for approval by the Commission or other permitting agency of any such amendment that would render the Agreement inconsistent with the terms and conditions of the new license or other regulatory approvals then in effect.

We make one further general observation. Section 11 and 13 of the Agreement, pertaining to amending the Agreement and the resolution of disputes regarding any party's performance or compliance with the Agreement, respectively, establish procedural requirements binding the parties to the Agreement. While the signatories do not request that we include such conditions in the license and recognize the limits of the Commission's jurisdiction,³³ we reiterate that such provisions are beyond our jurisdiction, in part or total, to enforce.³⁴ Therefore, by approving the Agreement, we are not undertaking to enforce such provisions.

A. Commission Approval of Plans

Agreement Articles 1, 2, and 3 require Tacoma to file plans for downstream and upstream fish passage facilities, following approval of NMFS and FWS. To the extent these plans change project operations in a manner not contemplated by the license, we will

³³The Agreement states, in pertinent part, "It is the intent of the Parties that the requirements of the proposed license articles shall be enforced by FERC and other regulatory agencies that have concurrent jurisdiction to enforce such articles. . . . The Agreement and any proposed license articles determined to be outside FERC's jurisdiction shall be enforced through the remedies available under applicable state or federal law."

³⁴Our policy in approving settlement agreements in hydroelectric licensing proceedings was set forth in *Erie Boulevard Hydropower, L.P.*, 88 FERC ¶ 61,176 (1999). The policy is based on the principle that the Commission can only enforce those matters that fall within its jurisdiction.

require Tacoma, prior to implementation, to submit the plans for Commission approval.³⁵ Similarly, Articles 15 and 16 contemplates changes to the project instream flows based on monitoring results that will also require Commission approval.

B. Fish Passage

³⁵See license article 401.

A principal controversy in this proceeding deals with fish passage and its role in the recovery of listed salmon in the basin. A critical concern for the Cowlitz Tribe is that fish be able to travel the river through natural means, which would include fish ladders. The Cowlitz Tribe and Friends of the Cowlitz believe that a fish ladder should be constructed at Mayfield within 18 months of license issuance, and a ladder or other form of volitional passage be provided at Mossyrock within 5 years of license issuance. The Lower Columbia Fish Recovery Board believes that the terms of the Agreement could unduly delay needed and justified volitional passage measures for Tilton River³⁶ stocks by as much as 12 years. It recommends that volitional passage be provided at Mayfield Dam as soon as the recovery criteria specified in the Agreement are reached for the Tilton River stocks, and that volitional passage be provided at Mossyrock as soon as criteria are satisfied for either spring chinook or late-winter-run steelhead originating above Mossyrock.

Under the terms of the Agreement, downstream fish passage facilities at Cowlitz Falls dam or at the head of Riffe Lake and at Mayfield Dam will be developed and implemented to achieve 95 percent fish passage survival, while continuing to provide and maintain effective upstream fish passage at Barrier Dam, Mayfield Dam, and Mossyrock Dam through existing trap and haul facilities. Once specific criteria are met that demonstrate that self-sustaining runs in the upper basin and the Tilton River have been achieved and concerns over the introduction of fish diseases from the hatchery are resolved, Tacoma would provide permanent fish passage facilities in the form of a ladder at Barrier Dam or its removal, a ladder or tram at Mayfield Dam, and a trap and haul system or tram at Mossyrock Dam.

A primary focus of the Settlement Agreement is on the recovery of listed stocks. No listed stocks currently use the Tilton River. The FEIS identified a number of adverse impacts that could result by providing volitional passage at Barrier and Mayfield Dams before meeting the recovery criteria for listed stocks of upper basin origin, with little benefit to listed species.³⁷ Additionally, staff concluded that, given the many uncertainties

³⁶The Tilton River is a large tributary of the Cowlitz that joins the Cowlitz River above Mayfield Dam to make the Tilton River arm of the Mayfield reservoir.

³⁷**These impacts include increased handling and sorting of hatchery and natural stocks, disease introduction to the Cowlitz Salmon Hatchery water supply, genetic introgression of hatchery and wild-origin fish, multiple exposure to turbines and reservoirs for upper basin origin adult fish, the potential for lower survival rates and migration success through Mayfield Reservoir that may have negative impacts on the restoration of anadromous salmonids, competition between non-native summer steelhead and native late-winter steelhead stock in the upper basin, and**

associated with determining the feasibility of reestablishing anadromous fish populations upstream of Barrier, Mayfield, and Mossyrock Dams, the small increase (2 percent) in survival rates over the existing trap and haul facilities, by itself, does not warrant immediate construction of volitional facilities, at an estimated cost of \$30 million.

potential migration delays or failure of adult fish to migrate through a ladder as long as the one needed at this location (Mayfield Dam is 200 feet high). See FEIS at 4-38.

Parties to the Agreement gave careful consideration to the measures needed to recover listed salmon, as did staff. These measures include habitat and hatchery improvements and instream flows, and shifting from trap-and-haul upstream passage facilities to volitional upstream passage facilities if and when criteria in Article 3 of the Agreement have been achieved. Volitional passage systems sought by the Friends of the Cowlitz, Cowlitz Tribe and others may ultimately be constructed, but in a logical manner based on results of studies and monitoring set forth in the Agreement and prescribed by NMFS and FWS pursuant to FPA Section 18.³⁸ Based on the available information and the support of the various federal and state resource management agencies, the Yakama Nation, several non-governmental agencies, and staff, for the identified passage and fish protection measures, we are approving the Agreement and incorporating the passage measures (as well as the other fish protection measures) into the license as requested.

C. Instream Flows

The Friends of the Cowlitz and the Cowlitz Tribe proposed variable flows that they believe would better reflect the natural hydrograph, protect salmonid rearing habitat, improve ecosystem integrity, and provide adequate flood control.³⁹ The Friends of the Cowlitz believe that the Agreement improperly favors power production over fisheries resources and flood control, and that staff's conclusions that the Settlement Agreement operations provide better flood control and greater assurance in meeting instream flow needs than their recommendations is driven by project economics.

³⁸Even if we did not agree with the measures as proposed, we would be required to include Articles 1, 2 and 3 in the license pursuant to Sections 18 and 4(e) of the FPA and as a condition of the Section 401 Water Quality Certification.

³⁹See Appendix C of the FEIS for details.

Project economics is only one factor considered by staff. Tacoma's operational model indicates that the Friends of the Cowlitz and Cowlitz Tribe flow recommendations do not allow the reservoir to refill during most years, and, by passing the higher of daily inflows or minimum flows from October 1 to February 15, can result in a situation where minimum flows are not sustainable. The model also indicates that the proposed operations result in a higher frequency of flows approaching flood cap flows (70,000 cfs) at Castle Rock, which is located downstream of Mayfield Dam. In contrast, the Agreement flows are expected to assist migrating smolts, and to protect salmonid spawning, incubation, and rearing habitat, and would not conflict with flood control operations developed in consultation with the U.S. Army Corps of Engineers.⁴⁰ The Friends of the Cowlitz and Cowlitz Tribe proposed operations would have a substantial effect on project economics (reducing power generation by 161,880 MWhs) compared to the Agreement (which reduces power generation by 18,410 MWhs). Staff concluded that the Agreement is expected to provide equivalent or better environmental conditions at a much lower cost.

We find that operation of the project in accordance with the Agreement flows represents the best balance of the resources. Therefore, we will require Tacoma to implement the flows and ramping rates defined in the Agreement, as well as to prepare a fish monitoring plan to monitor the effectiveness of the instream flows in meeting the identified objectives.⁴¹

The Agreement would also have the Licensee monitor instream flows (Agreement Article 13) and ramping rates (Agreement Article 14) at U.S. Geological Survey gage 14238000 and provide flow records to the Commission and resource agency staff as requested. Agreement Article 16 further requires a report to be filed within two years of license issuance that contains a description of the measures taken to ensure compliance with the instream flows. Notwithstanding any requirements that may be developed in accordance with Agreement Articles 13, 14, and 16, we will need, in order to ensure compliance with the instream flows and ramping rates, for Tacoma to file an annual monitoring report by December 31 of each year following license issuance. The report, required by Article 402 in this license, shall contain the provisional USGS or equivalent daily flow records for USGS gage 14238000 and a written explanation of any instream flow

⁴⁰See Article 303.

⁴¹Even if we did not agree with the measures as proposed, we are required to include Articles 13, 14, and 15 in the license pursuant to 4(e) of the FPA and as a condition of the Section 401 Water Quality Certification.

deficiencies from those required by Agreement Articles 13 and 14 (Appendix A) that have occurred within the year.

D. Public Participation

In response to complaints from the Friends of the Cowlitz, the staff recommended in the FEIS that Tacoma be required to develop and implement an Information Management Plan. The Friends of the Cowlitz state that the staff's recommendation for an Information Management Plan does not adequately provide for public involvement, and improperly "freezes out" Friends of the Cowlitz and other groups from exercising their First Amendment rights to petition the Commission for scrutiny and modification of the Settlement Agreement. Their assertion is founded in their belief that there should be broader public participation on the Fisheries Technical Committee, not just scientists and representatives from parties to the Settlement Agreement.

Nothing in staff's recommendation reduces the public's ability to seek the Commission's review of a licensee's compliance with its license.⁴² To the contrary, staff's recommendation goes beyond what is typically included in a license and increases the level of public participation and knowledge. This is accomplished by requiring that Tacoma develop a plan outlining how it would keep the public informed and seek public comments on fishery-related actions developed by the Fisheries Technical Committee. Additionally, opportunities for public comment on state and federal resource agency management actions would be provided through the respective agencies's policies and practices. Direct involvement in the Fisheries Technical Committee is not required to accomplish this objective. We are therefore requiring Tacoma to prepare the Information Management Plan recommended by staff (Article 405).

E. Arguments Concerning the FEIS and the Earlier Complaint

Friends of the Cowlitz and CPR-Fish maintain that the FEIS failed to examine Tacoma's record of non-compliance, as required by the court in Friends of the Cowlitz v. FERC.⁴³ That case involved a complaint filed by those parties with the Commission, alleging that Tacoma had violated its license by failing to maintain agreed-upon levels of anadromous fish populations in the Cowlitz River and by failing to cooperate with Washington DFW in instituting remedial measures, such as building and operating permanent fish traps and upstream and downstream fish passage facilities. The Commission dismissed the

⁴²See 18 CFR §385.206.

⁴³253 F.3d 1161 (D.C. Cir. 2001).

complaint, finding that the 1967 Agreement between Tacoma and Washington DFW establishing fish population levels was not a license requirement, and Tacoma had complied with all the requirements of Articles 37 and 57 of its license.⁴⁴

On judicial review, the court held that the Commission erred in summarily dismissing the complaint, because petitioners' allegations were sufficient to raise a material issue of fact that Tacoma had failed to cooperate with the fisheries agencies, as required by Article 57. However, the court also held that the Commission has virtually unreviewable discretion whether to enforce any alleged license violations, and did not abuse its discretion in declining to investigate the allegations or to hold an evidentiary hearing on the complaint. The court therefore denied the petitions for review.

⁴⁴City of Tacoma, Washington, 85 FERC ¶ 61,315 (1998), reh'g denied, 86 FERC ¶ 61076 (1999). Article 37 of the license authorized the Commission to require Tacoma to make changes to project facilities and operation for the conservation and development of fish and wildlife resources. Article 57 required Tacoma to continue to cooperate with the fishery agencies in the development of details of design, operation, and maintenance of fish facilities needed to maintain the existing runs of anadromous fish at the project and in evaluating the success of these facilities. It also required Tacoma to submit certain design drawings for Commission approval, and prohibited construction of those facilities without such approval.

Friends of the Cowlitz and CPR-Fish argue that the Commission must, nevertheless, now determine whether Tacoma violated the license, and, if so, impose penalties and sanctions. They maintain that this determination will affect the environmental baseline, as well as what fish protection measures should be required for the new license term. In support, they cite the court's observation that, in reviewing relicensing applications, the Commission is required to take into consideration an "existing licensee's record of compliance with the terms and conditions of the existing license."⁴⁵

We have reviewed Tacoma's record of compliance in this case, giving the matter additional attention in light of the court's decision. Setting aside for the moment the issues raised in the complaint, we find that, in all other respects, Tacoma has complied with the terms and conditions of its license. These findings are discussed later in this order. With regard to the complaint, we have decided that the most appropriate course of action at this juncture is to decline to investigate the allegations raised. If we believed that conducting such an investigation would provide some benefit, we would consider doing so. However, we have before us a comprehensive settlement agreement that is the product of years of negotiations and cooperative effort, in which the complaining parties were able to participate. In these circumstances, we believe that the best use of our resources is to focus on evaluating the Agreement and determining whether it adequately protects the full range of public interest factors for the new license term.

We have reviewed the allegations in the complaint, as well as Tacoma's response and other information in the record. As the court recognized, there are material issues of fact in dispute. The settlement agreement that gave rise to the complaint was not part of the license, and the failure to achieve the agreed-upon fish returns could not, in itself constitute a violation of Article 57. Rather, it could at most be considered as evidence of Tacoma's failure to cooperate with the fisheries agencies. Resolution of that issue would require a substantial investigation, and could possibly require an adjudicatory hearing. Among other things, we would have to define a standard for cooperation, consider whether the failed fish quotas were due to factors beyond Tacoma's control, and determine whether Tacoma's refusal to provide additional hatchery facilities, as Washington DFW requested, should be considered a failure to cooperate.

⁴⁵16 U.S.C. § 808(a)(3)(A) (2000). See Friends of the Cowlitz v. FERC, 253 F.3d at 7439 n.15.

We would also have to consider other alleged violations of Articles 37 and 57, such as Tacoma's failure to install and operate permanent functional downstream fish traps, or to submit designs for them, in light of our 1968 order approving the construction, operation, and maintenance of moveable downstream migrant fish traps in the Mossyrock Reservoir.

We would have to determine how to factor in the understanding of FWS that these traps should not be considered permanent until proven feasible through testing, as well as our 1971 order approving Tacoma's abandonment of the upstream fish facilities at Mayfield Dam, with the concurrence of Interior, Commerce, and the Washington Departments of Game and Fisheries. These determinations would take considerable resources, and would delay our decision on the relicense application and Settlement Agreement in this case. This would result in delaying needed protection, mitigation, and enhancement measures for fish and wildlife resources. More importantly, however, doing so would not significantly influence our decision in this case, because it would not alter the environmental baseline or affect our assessment of what protective measures should be included in the new license.

As explained in more detail in Eugene Water and Electric Board,⁴⁶ we use existing project operations and environmental conditions as a baseline, or starting point, for our environmental analysis in relicensing proceedings. This approach has been judicially approved as reasonable.⁴⁷ Thus, we begin with an examination of the existing project facilities and operation, and their effects on the environment as it exists at the time of relicensing. Past or ongoing environmental effects may be relevant in determining what measures may be needed for environmental protection, mitigation, and enhancement over the term of the new license. However, we do not attempt to recreate pre-project conditions or to hypothesize an environmental baseline that assumes that the project does not exist. Thus, our starting point must be the Cowlitz Project as it is currently configured, not as it might have been if additional facilities had been constructed, operated, and maintained, if such facilities had been required under the terms of the existing license.]

In determining what environmental measures are appropriate for the new license term, we consider the resources as they exist now, and determine what is needed for the future to provide adequate protection, mitigation, and enhancement. Again, past effects may be relevant in determining what measures are needed. But our focus is on the resources as they exist now, and on what measures are required to protect them, mitigate for damage to them, or improve their condition in the future. We do not attempt to determine]

⁴⁶81 FERC ¶ 61,270 at pp. 62,326-27 (1997).

⁴⁷American Rivers v. FERC, 201 F.3d 1186, 1195-99 (9th Cir. 1999).

what condition the resources would be in now if things had been done differently in the past.

In Friends of the Cowlitz, the court agreed with petitioners' view that summarily dismissing their complaint on a flawed legal basis could unfairly impact the relicensing negotiations, because Tacoma could leverage the need for mitigation of the alleged infractions to gain concessions in the relicensing process. This view assumes that Tacoma did, in fact, violate its license. If we were to find no such violation, petitioners could not attempt to use that finding to require more mitigation. In other words, our decision could work to the benefit of either party in relicensing negotiations, depending on the result. However, those negotiations have now been completed, and an Agreement has been reached. Support for the Agreement is widespread, and includes all major parties except Friends of the Cowlitz, CPR-Fish, and the Cowlitz Tribe. In these circumstances, we think it makes more sense to use our resources for reviewing the Settlement Agreement and determining whether it adequately meets the need for resource protection measures for the new license term, rather than attempting to determine what may or may not have been required in the past.

The court decision makes it clear that, if we had simply declined to initiate an investigation or to hold a hearing on the complaint, without making any finding about possible license violations, we would have been entirely within our discretion. If we could have done so then, it necessarily follows that we may do so now. Therefore, we will exercise our discretion to decline to investigate the allegations of the complaint, and will instead focus our attention where we think it more properly belongs--on determining what measures are needed for the new license term. As discussed throughout this order, we find that the Settlement Agreement provides for adequate protection, mitigation, and enhancement of fish and wildlife resources, and represents the best balance of public interest factors for the new license term.

Because the earlier complaint raises issues of Tacoma's compliance with its license that the parties have contested and we have declined to resolve, we have decided that it would be appropriate for the new license term to focus greater attention on Tacoma's compliance with its new license requirements. To that end, we will require in Article 501 that Tacoma file a Hydropower Compliance Management Program for Commission review and approval. This should facilitate both Tacoma's compliance and the Commission staff's review of that compliance. It should also make it easier to provide a prompt response to any compliance issues that may arise during the term of the new license.

SECTION 10(J) OF THE FPA

Section 10(j)(1) of the FPA⁴⁸ requires the Commission, when issuing a license, to include conditions based on the recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, for the protection and enhancement of fish and wildlife and their habitat affected by the project. Washington DFW, NMFS, and FWS filed a number of recommendations pursuant to Section 10(j). All that were within the scope of Section 10(j) are also provisions of the Agreement and are incorporated in the license. Although not within the scope of Section 10(j) of the FPA, the recreation facility improvements, recreation operation, maintenance, and safety plan, and the water access facility improvement recommended by Washington DFW are also provisions of the Agreement and are incorporated in the license under Section 10(a) of the FPA because of the recreational benefits they would provide.

OTHER ISSUES

A. Compliance with the Northwest Power Planning Act

⁴⁸16 U.S.C. § 803(j)(1).

Friends of the Cowlitz argue that by deferring the construction of volitional adult upstream passage facilities and improved juvenile downstream passage and collection facilities, staff recommendations in the FEIS violate the conditions of the Northwest Power Planning Council's Columbia Basin Fish and Wildlife Program (Program),⁴⁹ which states that the Commission should not relicense a hydro project in the Columbia River basin without providing for "the best available means for aiding downstream and upstream passage of anadromous and resident fish."⁵⁰ They also state that the FEIS fails to require "specific plans for flows and fish facilities prior to construction;" "flows and reservoir levels of sufficient quantity and quality to protect spawning, incubation, rearing, and migration;" and "full compensation for unavoidable fish losses or fish habitat losses

⁴⁹Friends of the Cowlitz also assert that, by deferring the development of specific mitigation measures that should be required by the license until future studies are completed, staff's recommendations are inconsistent with the requirements of Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466 (9th Cir. 1984). While Yakima clearly requires the Commission to evaluate resource impacts prior to licensing, we find nothing in that decision that would prevent the use of adaptive management to refine resource protection measures during a new license term.

The Agreement requires the development of a number of plans, some of which rely on further studies (e.g., downstream fish passage efficiency studies at Mayfield) to develop appropriate measures, and others that would rely on monitoring results to recommend additional modifications (e.g., downstream passage at Riffe Lake; upstream passage at Barrier, Mayfield, and Mossyrock; fisheries and hatchery management, and disease management) to achieve identified objectives. Some of the plans will take several years to develop and implement, and all would be continually modified as new information is obtained, consistent with the adaptive management concept that underpins the Agreement. This approach enables the Commission to assess the effectiveness of mitigation measures, fine-tune project facilities and operations, secure information that cannot be obtained prior to license issuance, and address new circumstances that may arise in the future. This is consistent with the Yakima decision (see City of Tacoma, Washington 86 FERC ¶61,311 (1999); Northern Wasco County People's Utility District, 53 FERC ¶61,438 (1990)). The record is sufficient to support a licensing decision, and it would not be in the public interest to delay the implementation of identified protection, mitigation, and enhancement measures until better information can be obtained.

⁵⁰See Appendix B, Condition 1, in Northwest Power Planning Council, 2000 Columbia River Basin Fish and Wildlife Program. (Council document 2000-19, Portland, Oregon, December 2000).

through habitat restoration or replacement, appropriate propagation, or similar measures consistent with the provisions of this program."⁵¹

In the FEIS, staff concluded, for the reasons stated already, that the fish passage measures identified in the Agreement represent the best available means of providing fish passage and the means to refine those measures to improve passage as new information is developed from monitoring and additional studies. Thus, the measures are consistent with the Program. Staff also concluded that the instream flows, ramping rates, fish habitat improvement measures, and hatchery management plans required by the Agreement are consistent with the Program. We concur.

⁵¹Friends of the Cowlitz also state that FEIS fails to provide "specific plans for flows and fish facilities prior to construction" and "assurance that all fish protection measures are fully operational at the time the project begins operation." As staff correctly notes, the provisions do not logically apply in the context of relicensing an existing, operating project. See FEIS at A-5.

The Northwest Power Act⁵² imposes on the Commission three obligations: 1) in exercising its existing statutory responsibilities, the Commission must provide "equitable treatment" to fish and wildlife; (2) at each relevant stage of its decision-making process, the Commission must take into account "to the fullest extent practicable" the Program; and (3) in carrying out the above two responsibilities, the Commission must consult with a variety of entities and to the "greatest extent practicable," coordinate its actions with other federal agencies.⁵³ Those obligations have been met.⁵⁴

The signatories to the Agreement foresaw the potential need to require alterations to project structures and operations to take the Council's Program into account as new information is developed and recite our reservation of authority to require such revisions in Article 25 of the Agreement (Appendix A).

B. Approval of the Cultural Resource Management Plan

⁵²16 U.S.C. §839, et seq.

⁵³The Program is also a state comprehensive plan which the Commission must consider, but not necessarily follow, in acting on a license application. Public Utility District No. 1 of Douglas County, 27 FERC ¶61,375 (1984).

⁵⁴See FEIS at 6-13 and A-5.

Article 23 of the Agreement requires Tacoma to file a final Cultural Resources Management Plan (CRMP) within one year of license issuance. The CRMP is to be prepared by a qualified cultural resource specialist after consulting with State Historic Preservation Officer and affected Indian tribes. Such consultation has occurred. On June 27, 2001, Commission staff circulated a final CRMP, developed by qualified archeologists, along with a Programmatic Agreement that would implement the CRMP over the term of the license. The CRMP describes the sites eligible for listing on the National Register of Historic Places, potential project effects, proposed measures for avoiding or mitigating identified effects, documentation of the consultation, a schedule for mitigating effects and conducting additional studies, and measures for dealing with undiscovered sites during the course of the license. Thus, the requirements of Article 23 have been fulfilled.⁵⁵ Therefore, Article 403 approves the final CRMP required by Article 23 and requires Tacoma to implement the Programmatic Agreement among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Washington Office of Archaeology and Historic Preservation.

The Cowlitz Tribe asserts that the CRMP does not adequately protect the cultural and spiritual interests of the Cowlitz Tribe, because it was prepared without input from the tribe and by consultants that were biased against the tribe. This assertion is unfounded. Between January 1996 and May 2000, the Cowlitz Tribe was afforded numerous opportunities to consult on the preparation and content of the CRMP, including numerous meetings, field trips, and several presentations to the Cowlitz Tribal Council by Tacoma. Comments on the CRMP were requested by Tacoma in May 2000 and January 2001 and by the Commission in June 2001. The Cowlitz Tribe did not respond. The CRMP was prepared by qualified archeologists in consultation with the Office of Archaeology and Historic Preservation, the Cowlitz Tribe, and the Yakama Nation.⁵⁶ Furthermore, the CRMP provides for continued consultation throughout the license with the affected tribes (Cowlitz Tribe and Yakama Nation) and oversight agencies,⁵⁷ which will further protect

⁵⁵Pursuant to Section 7.7 of the CRMP, Tacoma would file for Commission approval, within one year of accepting the license, a monitoring plan that describes the methods and intervals at which an archaeologist will examine archaeological sites and areas that could be affected by erosion, motorized vehicle traffic, and vandalism. Article 404 requires filing of the monitoring plan for Commission approval within one year of license issuance.

⁵⁶See FEIS at A-49.

⁵⁷Tacoma will conduct the management of cultural resources in the project area in a spirit of partnership with the Cowlitz Tribe and Yakama Nation. Tacoma will contact

tribal cultural interests consistent with Section 106 of the National Historic Preservation Act.

THREATENED AND ENDANGERED SPECIES

representatives of the tribes during the third quarter of each calendar year to discuss the status of cultural resource management at the project, plans for management activities during the upcoming year, and changes that may be needed in management measures. Tacoma also will notify the tribes of the dates of management activities so they can participate in or visit the work as desired. See Section 7.1 of the CRMP.

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)⁵⁸ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. Federally listed wildlife species that may occur in the project area include bald eagles (threatened) and northern spotted owls (threatened). Federally listed fish species and designated critical habitat that occur in the project area include lower Columbia River chinook salmon (threatened) and its critical habitat, lower Columbia River chum salmon (threatened) and its critical habitat, lower Columbia River steelhead trout (threatened) and its critical habitat, and southwestern Washington/Columbia River sea-run cutthroat trout (coastal cutthroat trout) (proposed threatened).

On April 25, 2001, pursuant to Section 7 of the ESA, Commission staff submitted to both the NMFS and FWS, a biological assessment (BA).⁵⁹ The BA concluded that relicensing the project in accordance with the terms of the Agreement is "not likely to adversely affect" the bald eagle and northern spotted owl, but is "likely to adversely affect" the chinook salmon and its critical habitat, the chum salmon and its critical habitat, and the steelhead trout and its critical habitat. The BA also concluded that the proposed project is

⁵⁸16 U.S.C. § 1536(a)(2).

⁵⁹On June 2, 2000, the City of Tacoma was designated as the Commission's non-federal representative for initiating consultation with NMFS and FWS. The BA, prepared by the City of Tacoma, analyzed the effects of operating the Cowlitz River Project in accordance with the terms of the Agreement. Staff concurred with the conclusions in the BA and forwarded it to NMFS and FWS.

"likely to adversely affect" the coastal cutthroat trout, but is not likely to jeopardize the continued existence of the species.⁶⁰

⁶⁰The BA also analyzed the effects of the Agreement on lower Columbia River/southwest Washington coho salmon (a candidate for listing under the Endangered Species Act). The effects of the action on the coho salmon would be largely the same as those on the other salmonid species.

On July 3, 2001, FWS filed a letter concurring with the BA's conclusions on the bald eagle and northern spotted owl. FWS sought additional information on the coastal cutthroat trout before initiating formal conferencing on that species. On August 21, 2001, the Commission provided the FWS with the additional information available to its staff, but advised the FWS that, in light of staff's no jeopardy finding, a formal conference was not needed unless the FWS required one.⁶¹ The FWS has not requested a conference or otherwise responded. We therefore conclude that no further consultation with the FWS is required for this action.

By letter dated January 29, 2002, the NMFS responded to our request for formal consultation. NMFS requested that the Commission delay action on the license application and settlement agreement until at least September 2002 in order to coordinate formal consultation efforts with those underway at Cowlitz Falls. By letter dated February 19, 2002, Tacoma responded, stating that it is very interested in early action on its application and is anxious to begin implementing the settlement agreement. Tacoma believes that, because the settlement agreement addresses NMFS's conditions for protection of endangered species, which NMFS acknowledges in its January 29, 2002, letter, NMFS's biological opinion could and preferably would be dealt with expeditiously, thereby allowing implementation of the settlement agreement to begin. Tacoma did not agree that relicensing the Cowlitz River Project should be slowed down to wait for the Cowlitz Falls Project biological opinion. On February 25, 2002, Commission staff informed NMFS that it could not concur with its request because (a) conclusion of the consultation for Cowlitz Falls Project is not required to complete consultation on the Cowlitz River Project, (b) too

⁶¹ A formal conference is only required if an action is likely to jeopardize a proposed species or destroy or adversely modify proposed critical habitat. Staff concluded that formal conferencing was not necessary here because the measures in the Agreement and included within this license (Appendix A) would address the needs of the coastal cutthroat trout and assist in their recovery. These conditions include instream flows to assist in migration (Article 13) and ramping rates to protect against stranding (Article 14), means to improve downstream and upstream passage (Articles 1, 2, and 3), means to acquire and improve habitat for the species (Articles 9, 10, and 11), and changes in hatchery production and management to improve survival of smolts (Articles 5, 6, and 7) and to minimize the effects and control of hatchery diseases on coastal cutthroat trout populations (Article 8). Additionally, because of the unknown time frame for the listing of the coastal cutthroat trout, the adaptive management concepts included in these conditions could result in new information that could affect any conference recommendations the FWS may issue.

much time had elapsed since initiating consultation, and (c) significant potential benefits would result from a prompt Commission action.⁶²

⁶²Section 7(b) of the ESA imposes strict time limits on formal consultation and requires the applicant's consent to an extension of consultation period. Formal consultation concludes within 90 days after its initiation unless extended. Within 45 days after concluding formal consultation, the FWS or NMFS (collectively the Service) is to deliver a biological opinion to the federal agency and any applicant (a 135-day time frame). If an applicant is involved, the Service and the federal agency may mutually agree to extend the consultation, provided that the Service submits to the applicant, before the close of the 90 days, a written statement setting forth: (1) the reasons why a longer period is required, (2) the information that is required to complete consultation, and (3) the estimated date on which the consultation will be completed. A consultation involving an applicant cannot be extended for more than 60 days without the consent of the applicant. 16 U.S.C. § 1536(b); see also 50 C.F.R. § 402.14(e). The 135-day deadline for NMFS to issue its biological opinion was September 7, 2001.

In the FEIS, staff concluded that licensing the project with the environmental measures proposed in the Agreement and incorporated in this license⁶³ would benefit chinook salmon, chum salmon, and steelhead trout and their critical habitat and improve the probability of their recovery. We concur. The new license includes, in Article 15,⁶⁴ the Commission's standard reservation of authority to reopen the license for the conservation and development of fish and wildlife resources. This authority can be used to reopen the license to address ESA issues,⁶⁵ including modifying the license to address any conditions that may arise from a biological opinion that NMFS may issue on this relicensing action. Compliance with the license provisions will enhance, rather than adversely alter, the environmental status quo, and will not make irreversible or irretrievable commitments of resources which could have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures.⁶⁶

⁶³The measures described for the coastal cutthroat trout would also apply and benefit the chinook salmon, chum salmon and steelhead trout (see footnote 60, supra).

⁶⁴Ordering paragraph F states that the license is subject to the articles set forth in Form L-5 (published at 54 FPC 1832-42 (1975)), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States." 90 FERC at p. 61,521. Article 15 of the Form L conditions provides:

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 a hearing.

⁶⁵NMFS recommended that the Commission retain, by means of a specific ESA reopener provision and other appropriate reservations of authority, sufficient discretionary involvement or control with respect to project construction, modification, maintenance and operation under the new license to ensure full compliance with the requirements of the ESA during the term of the license. Standard Form L, Article 15, provides such authority. Thus, there is no need to include a specific reservation of authority for ESA purposes.

⁶⁶See Section 7(d) of the ESA, 16 U.S.C. § 1536(d).

APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10 and 15 of the FPA, the staff evaluated Tacoma's record as a licensee for these areas: (A) conservation efforts, (B) compliance history and ability to comply with the new license, (C) safe management, operation, and maintenance of the project, (D) ability to provide efficient and reliable electric service, (E) need for power, (F) transmission service, (G) cost-effectiveness of plans, (H) actions affecting the public, and (I) ancillary services.

A. Conservation Efforts

We have reviewed Tacoma's efforts to conserve electricity. We find that Tacoma has implemented programs and participated in regional programs to encourage conservation by their residential, commercial and industrial customers.

Tacoma has encouraged residential, commercial, and industrial conservation and energy efficiency by participating in Bonneville Power Administration and Washington State conservation programs. Tacoma has also developed its own programs such as:

- Zero-Interest Loan Weatherization Program
- Watt 'n Water Program
- Rebates for Efficient Water Heater Replacements
- Energy Code Enforcement
- Energy Smart Design that provided technical assistance and an awards program for new construction.
- New equipment rebates to boost interest in installing state-of-the art efficiency measures.
- Zero interest efficiency loans to encourage businesses to invest in cost-effective energy efficiency measures.
- Fort Lewis Energy Efficiency Project, which was designed to improve the efficiency of a defense installation.
- Motor Challenge Rebates for purchasing industrial sized motors meeting stringent efficiency standards.

In addition, Tacoma promotes the efficient use of energy through public education and information efforts. Tacoma is also a participant in several regional and national organizations to promote energy efficiency.

B. Compliance History and Ability to Comply with the New License

We have reviewed Tacoma's compliance history and ability to comply with the new license. For the reasons explained earlier, we have decided not to investigate the allegations in the complaint that was the subject of the court's decision in Friends of the Cowlitz v. FERC. Setting aside those allegations, which we decline to investigate, we find that in all other respects Tacoma's overall record of making timely filings and compliance with its license is satisfactory.

We reviewed Exhibit H of the relicense application; records of the Commission's Division of Hydropower Administration and Compliance, including the Office of Energy Projects Non-Compliance Alleged Violations Status Report and OEP Overdue/Non-compliance Status Report; OEP-IT; the Commission's Records Information Management System (RIMS); and responses to inquiries of the Commission's Portland Regional Office. Our review indicates that Tacoma has generally complied with the terms and conditions of its license. According to our records, Tacoma has made all its filings in a timely manner. Apart from the earlier complaint, which we decline to investigate, we found two instances in which Tacoma was alleged to be in non-compliance with the terms and conditions of its license. In each instance, staff conducted an investigation and determined that Tacoma was not in violation of its license.

By a March 25, 1996 letter, Senator Slade Gorton requested the Commission to respond to allegations that the Mossyrock and Mayfield Dams of the Cowlitz Project were not operated in accordance with the license during flooding conditions in November and December 1995. In a June 21, 1996 letter, the Director, Office of External Affairs, advised Senator Gorton that the licensee had operated the project as required, and that the peak flow release of 65,000 cfs was 30,000 cfs less than the peak inflow of 95,000 cfs. In accordance with the license, Tacoma had received concurrence from the U.S. Army Corps of Engineers during the flood operation.

By letter dated March 17, 1998, a private landowner requested the Commission to determine if Tacoma's wetland mitigation project might be negatively affecting his adjacent property. The landowner stated that Tacoma, through the Washington DFW (acting as a subcontractor), had diverted Oliver Creek, causing water to backup onto his property. Pursuant to a wildlife settlement agreement approved by the Commission on July 17, 1998 (84 FERC ¶ 61,037) regarding wildlife mitigation for the Cowlitz Project, Tacoma had purchased about 413 acres of land, including areas of existing wetlands, near the landowner's property. In a letter dated August 12, 1998, the Director, Office of Hydropower Licensing, concluded that Tacoma had not flooded the landowner's adjacent property. The August 12 letter stated that, based on the information submitted, the landowner's property was flooded and contained wetlands prior to Tacoma purchasing its adjacent lands, and Tacoma had done nothing to influence water levels on the landowner's property.

Based on our review, we conclude that Tacoma's overall record of compliance is satisfactory. As discussed previously in connection with the earlier complaint, we are including Article 501 to facilitate future review of Tacoma's compliance with the new license. Article 501 requires that Tacoma file a Hydropower Compliance Management Program for Commission review and approval.

C. Safe Management, Operation, and Maintenance of the Project

We reviewed Tacoma's plans to manage, operate, and maintain the project safely. Tacoma proposes no change in project operation that would adversely affect the safety of the project. Based on information from the applicant on how the project affects public safety and on project records, we conclude that Tacoma's plans are adequate.

Under Part 12, Subpart C, of the Commission's regulations, Tacoma has filed an acceptable emergency action plan (EAP) and periodic updates. Part 12 requires Tacoma to continue reviewing the adequacy of the EAP and make any changes in the EAP as needed. The Mossyrock and Mayfield powerhouses are remotely controlled from the Energy Control Center located in Tacoma. Maintenance personnel are at the project during the normal weekday work schedule. The Cowlitz River Project manager oversees daily visual inspections of the project.

Under Part 12, Subpart D, Tacoma has submitted the required independent-consultant safety inspection reports and complied with the recommendations of the consultant's and the Commission's Portland Regional Office.

Tacoma's record of project safety shows that it can be expected to cooperate with the Commission's requests and to comply fully with the terms and conditions of any new license issued for the project.

D. Ability to Provide Efficient and Reliable Electric Service

We reviewed Tacoma's plans and abilities to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. We find that the applicant is capable of operating the project efficiently and reliably over the term of a new license.

Tacoma coordinates project operation with the U. S. Army Corps of Engineers to provide winter flood control at Riffe Lake (Mossyrock Dam). Mayfield Lake does not provide flood control storage. Mayfield Lake is used to even out the flows released from

Mossyrock Dam. Article 303 provides for continued flood control in cooperation with the U.S. Army Corps of Engineers.

E. Need for Power

Tacoma serves approximately 143,000 customers within a service area of 180 square miles in and around the city of Tacoma. Its customers have a historical 1-hour peak demand of 1,255 MW. Of its 143,000 customers, 82,500 reside inside the city limits of Tacoma. The remaining 60,500 customers are served in locations that surround the city limits.

Tacoma relies on three general sources to satisfy power requirements: (1) power generated by Tacoma-owned and operated facilities, (2) power conserved by customers, and (3) power purchased from the Bonneville Power Administration (BPA) and others. Tacoma's owned and operated facilities are comprised exclusively of hydroelectric projects. The Cowlitz River Project accounts for 462 MW of the capacity of Tacoma's owned resources, or about 65 percent.

Tacoma anticipates robust growth in its service territory over the proposed license term. Tacoma predicts that by 2010, power demand will rise by about 12 percent from today's levels to 6,651,761 MWh. By 2030, power demand is forecast to rise by about 35 percent from today's levels to 7,983,494 MWh. The forecast of retail demand includes a reduction from conservation efforts. Tacoma has been actively involved in researching, piloting, and implementing cost-effective services in partnership with their residential, commercial and industrial customers for many years. Savings through conservation efforts have averaged approximately 35,000 MWh per year over the past 11 years.

Currently, Tacoma-owned facilities generate approximately 2,636,498 MWh, or 44.4 percent, of Tacoma customers' total energy needs. Other sources of power in Tacoma's resource portfolio include purchases from: the wholesale marketplace, 31.7 percent; BPA, 11.5 percent; other hydroelectric projects, 9.9 percent; the Columbia Storage Power Exchange, 2.3 percent; and a small landfill gas project operating in Tacoma's service territory, 0.2 percent.

According to the Pacific Northwest Utilities Conference Committee's (PNUCC's) "Northwest Regional Forecast of Power Loads and Resources for August 2001 through July 2006," dated June 2001, the Northwest does not presently have adequate resources to meet its load requirements. In the year 2002, the PNUCC forecasts a Northwest energy deficit of nearly 20 million MWh. By 2006, the last year of its latest forecast, the deficit rises to more than 24 million MWh. Given that electricity demand is forecast to increase

with the overall economy past the year 2006, coupled with the generation reductions on the federal power system, the need for Northwest generation will continue to increase.

The Cowlitz River Project, with the mitigation measures recommended by staff, has an installed capacity of 462 MW and generates an average of 1,686,000 MWh of renewable energy annually. The project would continue to contribute to Tacoma's power requirements and help provide a diverse resource mix for the region.

F. Transmission Services

The staff has reviewed Tacoma's application and concludes that the existing transmission system is sufficient and no changes are necessary. Tacoma proposes no new power development at the project, but desires the continued use of the project's energy on its system. We conclude that the existing transmission system is sufficient and no changes are necessary.

G. Cost Effectiveness of Plans

Tacoma does not propose any additional capacity or project modifications other than environmental enhancements. We concur that no project modifications are necessary at this time.

H. Actions Affecting the Public

The Cowlitz River Project generates electricity used to serve the needs of the public. Tacoma pays taxes annually to local and state governments and the project provides employment opportunities. Environmental enhancement measures and recreational improvements included in the license will generally improve environmental quality, particularly in aquatic and wildlife resources, and will have a beneficial effect on public use of project facilities for recreational purposes. Additionally, taking over ownership, operation, and management of the Mayfield Lake County Park would benefit Lewis County by alleviating expenditures estimated at \$180,000 annually, while continuing to provide for area recreation needs.

I. Ancillary Services

In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of

power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout. The ability of hydropower projects to provide ancillary services to the grid can increase the benefits of the project.

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA⁶⁷ requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Federal and state agencies filed 67 comprehensive plans that address various resources in Washington. Of these, we identified and reviewed 8 plans relevant to the project.⁶⁸ No conflicts were found.

⁶⁷16 U.S.C. § 803(a)(2)(A).

⁶⁸They are: (1) Interagency Committee for Outdoor Recreation. 1985. Washington's statewide comprehensive outdoor recreation plan, sixth edition. Olympia,

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Washington; (2) Interagency Committee for Outdoor Recreation. 1995. State of Washington Outdoor Recreation and Habitat: assessment and policy plan 1995-2001. November 1995; (3) Interagency Committee for Outdoor Recreation. 1995. Voices of Washington. November 1995; (4) National Marine Fisheries Service and Pacific Fishery Management Council. 1978. Final environmental impact statement and fishery management plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1978. March 1978. (5) Northwest Power Planning Council. 2000. 2000 Columbia River Basin fish and wildlife program. Council document 2000-19. Portland, Oregon. December 2000 ; (6) Pacific Fishery Management Council. 1988. Eighth amendment to the fishery management plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1978. January 1988; (7) Washington State Department of Game. 1986. 1987 strategies for Washington's wildlife. Olympia, Washington. December 1986; and (8) Washington State Department of Community Development. Office of Archaeology and Historic Preservation. 1987. A resource protection planning process identification of prehistoric archaeological resources in the lower Columbia study unit. Olympia, Washington.

In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefits of project power.

Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation,⁶⁹ the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the analysis is to provide general estimates of the potential power benefits and costs of a project, and reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license. In making its decision, the Commission considers the project power benefits both with the applicant's proposed mitigation and enhancement measures and with the Commission's modifications and additions to the applicant's proposal.

To determine whether the proposed project is currently economically beneficial, we subtract the project's cost from the value of the project's power. When licensed in accordance with the Agreement conditions adopted herein, the project would produce about 1,686,000 MWh of energy annually at an annual cost of \$50,673,000 or about 30.1 mills/kWh. The staff determined the annual value of project power would be \$69,684,000 or 41.3 mills/kWh.⁷⁰ This is 11.2 mills/kWh less than the likely alternative cost of power of 41.3 mills/kWh. Staff estimates the project, with the Agreement conditions, would have an annual net benefit of \$19,011,000 or 11.2 mills/kWh. The additional environmental measure recommended by staff (Information Management Plan) in the FEIS and required by this license would increase annual cost by \$2,000; the net annual benefit would be \$19,009,000 or 11.2 mills/kWh. This additional cost does not significantly change the average annual cost or power benefits of the project as proposed by Tacoma.

Based on review and evaluation of the project as proposed by the applicant/licensee, and with the additional required measures, we conclude that operating and maintaining the project in the manner required by the license will protect and enhance fish and wildlife resources, water quality, recreational, and cultural resources. The electric power generated

⁶⁹72 FERC ¶ 61,207 (1995).

⁷⁰To set the value of the alternative generating resources, the FEIS used BPA's "New Resource Rate" for wholesale power. For the current year analysis, the base values are 40.6 mills per kWh for energy and \$0.87 per kW-year for capacity.

from renewable water power resources will be beneficial because it will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution. With this project providing the infrastructure for a total generating capacity of 462 MW, using the Oak Ridge Competitive Electricity Dispatch model, it is estimated that approximately 263,000 metric tons of greenhouse gas emissions may be avoided annually. We find, therefore, that the Cowlitz River Project, with the required measures, is best adapted to a comprehensive plan for the use, conservation, and development of the waterway for beneficial public purposes.

LICENSE TERM

Pursuant to Section 15(e) of the FPA,⁷¹ relicense terms shall not be less than 30 years nor more than 50 years from the date on which the license is issued. Our general policy is to establish 30, 40, and 50-year terms for projects with, respectively, little, moderate, or extensive redevelopment, new construction, new capacity, or additional environmental measures.⁷²

In our policy statement on Use of Reserved Authority in Hydropower Licenses to Ameliorate Cumulative Impacts,⁷³ we stated that, in issuing both new and original licenses, the Commission will coordinate the expiration dates of licenses to the maximum extent possible, to maximize future consideration of cumulative impacts at the same time in contemporaneous proceedings at relicensing. The Commission's intention is to consider cumulative impacts, to the extent practicable, at the time of licensing and relicensing, and to eliminate the need to resort to the use of reserved authority. The license for the Cowlitz Falls Project No. 2833, located immediately upstream of the Cowlitz River Project, expires May 31, 2036. The effects of the two projects on fish passage and the measures employed by Lewis County PUD, BPA, and Tacoma to restore salmon in the basin are interrelated, and cumulatively affect fishery resources in the basin.

⁷¹16 U.S.C. § 808(e).

⁷²See Consumers Power Company, 68 FERC ¶ 61,077 at pp. 61,383-84 (1994).

⁷³59 FR 66718, 1994.

In order to facilitate parallel timing for expiration of these licenses, a 35-year license is appropriate.⁷⁴ Accordingly, the new license term for the Cowlitz River Project will be 35 years, effective April 12, 2002.

The Commission orders:

(A) This license is issued to the City of Tacoma (licensee) for a period of 35 years, effective April 12, 2002, to operate and maintain the Cowlitz River Project No. 2016. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by exhibit G included in the application for new license, filed on December 27, 1999:

Exhibits G-	FERC Drawing No. 2016-	Showing
1 of 18	1022	Project boundary
2 of 18	1023	Project boundary

⁷⁴While a 35-year license term would not cause the license expiration of the two projects to coincide exactly, they are reasonably close to facilitate future coordinated treatment of the Cowlitz Falls and Cowlitz River Projects. Furthermore, while the parties to the Agreement did not agree to a specific term of the new license, they indicated they would not object to a term between 35 and 40 years (see section 10.2.1 of the Agreement).

Exhibits G-	FERC Drawing No. 2016-	Showing
3 of 18	1024	Project boundary
4 of 18	1025	Project boundary
5 of 18	1026	Project boundary
6 of 18	1027	Project boundary
7 of 18	1028	Project boundary
8 of 18	1029	Project boundary
9 of 18	1030	Project boundary
10 of 18	1031	Project boundary
11 of 18	1032	Project boundary
12 of 18	1033	Project boundary
13 of 18	1034	Project boundary
14 of 18	1035	Project boundary
15 of 18	1036	Project boundary
16 of 18	1037	Project boundary
17 of 18	1038	Project boundary
18 of 18	1039	Project boundary

(2) Project works consisting of two developments: Mossyrock and Mayfield developments; the Cowlitz Salmon Hatchery and Barrier Dam; and the Cowlitz Trout Hatchery.

The Mossyrock development consists of the following facilities: (1) a 606-foot-high (365 feet above the riverbed), 1,300-foot-long, double curvature concrete arch dam, with two 300-foot-long gravity-type concrete wing walls; (2) a rockfill embankment on the left abutment; (3) four spillway crest gates having a combined discharge capacity of 240,000 cubic feet per second (cfs) at the maximum operating pool elevation of 778.5 feet; (4) a 23.5-mile-long, 11,830-acre reservoir (Riffe Lake) at the maximum operating pool elevation of 778.5 feet, that provides a usable storage capacity of about 1,394,000 acre-feet and gross storage capacity of 1,685,100 acre-feet at the

maximum designed surcharged pool elevation of 778.5 feet; (5) three steel penstocks varying in length from 248 to 285 feet; (6) a powerhouse located near the base of the dam on the right abutment that contains two 150,000 kilowatt (kW) vertical Francis turbines with a rated output of 206,000 horsepower (hp) for an installed capacity of 300 MW; (7) generator leads and transformers carrying project power from the generating units to the 230 kilovolt (kV) bus in the Mossyrock switchyard which is part of the interconnected power system; and (8) appurtenant facilities.

The Mayfield development consists of the following facilities: (1) a 250-foot-high (200 feet above the riverbed), 850-foot-long, concrete arch and gravity dam, (2) with a 205-foot-long overflow spillway section that contains five radial gates having a combined discharge capacity of 203,000 cfs at a pool elevation of 425 feet; (3) a 13-mile-long, 2,250-acre reservoir (Mayfield Lake) at the maximum operating pool elevation of 425 feet, that provides a gross storage capacity of 133,700 acre-feet and a usable storage of 21,378 acre-feet between the maximum and minimum (415 feet) operating levels; (4) an intake tunnel contained within a separate structure located upstream of the dam on the right abutment; a 37-foot-diameter, 854-foot-long power tunnel that passes through the right abutment of the dam and terminating at a concrete forebay structure; (5) four steel penstocks varying in length from 235 to 278 feet; (6) a powerhouse located downstream of the dam on the right abutment that contains four 40,500-kW vertical Francis turbines with a rated output of 55,000 hp for an installed capacity of 162 MW; (7) a non-functioning upstream fish passage facility consisting of a 25-foot-high barrier dam that directs fish into a collection channel in the lower level of the powerhouse; (8) a fish ladder that directs fish into a 1,500-gallon hopper, in which fish were hauled to the top of a tramway on a railed carriage and discharged into the reservoir through a pipe; (9) a functioning downstream fish passage facility consisting of a series of vertical louvers constructed in a V-formation within the intake; (10) a bypass channel that directs the fish to a secondary separator, where they are guided through the dam to a holding/counting facility and emptied into the river below the powerhouse through a pipe and chute; (11) generator leads and transformers carrying project power from the generating units to the 230-kV bus in the Mayfield switchyard which is part of the interconnected power system; and (12) appurtenant facilities.

The Cowlitz Salmon Hatchery includes a fish barrier dam, fish ladder, sorting facilities, trap and haul facilities, and a hatchery complex. The fish barrier dam consists of a 400-foot-long, 28-foot-high earthen embankment connecting to a 320-foot-long, 12-foot-high, run-of-river reinforced concrete fish barrier spanning the Cowlitz River (Barrier Dam). The hatchery complex consists of a fish ladder, a fish transport channel, separation facilities, 36 holding and rearing ponds, 18 fry kettles, a surface water pumping plant, well water supply, pollution abatement ponds, visitor facilities, vehicle maintenance and garage buildings, residences, and recently constructed holding ponds for fish

transported downstream from the Cowlitz Falls Hydroelectric Project (operated by Lewis County PUD, FERC No. 2833). There are right and left bank entrances to the fish ladder and an under-spillway transport channel connecting the two ladder entrances; neither the transport channel nor left bank entrance are in use because of design problems with the attraction flow.

The Cowlitz Trout Hatchery includes 30 raceways, three 5-acre and one 2.55-acre rearing ponds, two pollution abatement ponds, three adult holding raceways, a surface water pumping plant, well water supply, ozonation plant, and a hatchery building with 104 troughs.

The project works generally described above are more specifically shown and described by the following exhibits that also form a part of the application for license:

Exhibit A: sections 1 through 5

Exhibit F:

Exhibit F-	FERC Drawing No.2016 -	Showing
1 of 31	1001	Project vicinity map
2 of 31	1002	Mayfield general plan
3 of 31	1003	Mayfield arch and thrust blocks; plan and sections
4 of 31	1004	Mayfield cross section through the spillway
5 of 31	1005	Mayfield gravity wall
6 of 31	1006	Mayfield powerhouse at elevation 280.0
7 of 31	1007	Mayfield powerhouse at elevation

Exhibit F-	FERC Drawing No.2016 -	Showing
		261.0
8 of 31	1008	Mayfield powerhouse longitudinal section
9 of 31	1009	Mayfield forebay & powerhouse section
10 of 31	1010	Mayfield powerhouse section through unit 4
11 of 31	1011	Mayfield fish facilities downstream migratory functional layout
12 of 31	1012	Mayfield fish facilities downstream migratory counting and holding facility
13 of 31	1013	Mayfield switchyard general arrangement
14 of 31	1014	Mossyrock general arrangement
15 of 31	1015	Mossyrock general sections
16 of 31	1016	Mossyrock powerhouse plan at elevation 475.0
17 of 31	1017	Mossyrock powerhouse plan at elevation 455.0
18 of 31	1018	Mossyrock powerhouse plan at elevation 433.0
19 of 31	1019	Mossyrock powerhouse plan at elevation 395.0
20 of 31	1020	Mossyrock powerhouse longitudinal section
21 of 31	1021	Mossyrock powerhouse transverse section

Exhibit F-	FERC Drawing No.2016 -	Showing
22 of 31	1022	Mossyrock powerhouse general arrangement
23 of 31	1023	Cowlitz transmission system one line diagram
24 of 31	1024	Cowlitz salmon hatchery site plan, sheet 1 of 2
25 of 31	1025	Cowlitz salmon hatchery site plan, sheet 2 of 2
26 of 31	1026	Salmon hatchery barrier- plan
27 of 31	1027	Cowlitz salmon hatchery plan
28 of 31	1028	Cowlitz salmon hatchery sections
29 of 31	1029	Cowlitz trout hatchery site plan
30 of 31	1030	Cowlitz trout hatchery south well facilities site plan and typical details
31 of 31	1031	Swofford Valley rearing pond

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

(C) Exhibits A, F, and G, as designated in ordering paragraph (B) above, are approved and made part of the license.

(D) This license is subject to the Settlement Agreement conditions set forth in Appendix A to this order.

(E) This license is subject to the conditions submitted by the Forest Service under Section 4(e) of the FPA, as those conditions are set forth in Appendix B to this order.

(F) This license is subject to the conditions submitted by the Washington Department of Ecology under Section 401 of the Clean Water Act, as those conditions are set forth in Appendix C to this order.

(G) This license is subject to the conditions submitted by the U.S. Department of the Interior on September 29, 2000, and by the U.S. Department of Commerce on August 15, 2000, under Section 18 of the FPA, as those conditions are set forth in Appendix D to this order.

(H) This license is subject to the articles set forth in Form L-5 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States," 54 FPC 1792, 1799 (October 1975), and the following additional articles:

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

(A) Reimbursing the United States for the cost of administration of Part I of the Act. This annual charge will be a reasonable amount as determined in accordance with the Commission's regulations in effect from time to time. The authorized existing installed capacity for that purpose is 462 megawatts.

(B) Recompensing the United States for the use, occupancy and enjoyment of 63.87 acres of its lands, other than for transmission line right-of-way.

Article 202. Within forty-five days of the effective date of the license, the licensee shall file three sets of aperture cards of the approved Exhibit F and G drawings. The drawings must be reproduced on silver or gelatin 35 mm microfilm. All microfilm must be mounted on type D (3-1/4" x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2016-1001 through 2016-1037) shall be shown in the margin below the title block on the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F.1, G.1, etc.), Drawing Title, and date of this license must be typed on the upper left corner of each aperture card.

Two sets of aperture cards must be filed with the Secretary of the Commission, ATTN: OEP/Division of Hydropower Administration and Compliance. A third set of aperture cards shall be filed with the Commission's Portland Regional Office.

Article 203. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 301. Within ninety days of completion of construction of the fish passage and recreation facilities directed by any article of this license, the licensee shall file for Commission approval revised Exhibits A, F, and G, as appropriate, to show those project facilities as built.

Article 302. The licensee shall, at least 60 days prior to the commencement of construction activities under Settlement Agreement articles 1, 2 and 3, submit to the Division of Dam Safety and Inspections, Portland Regional Engineer, three copies of the final contract plans and specifications and a Quality Control Inspection Program (QCIP). The Commission may require changes in the plans and specifications and QCIP to ensure construction is conducted in a safe and environmentally sound manner. Construction may not commence until the Portland Regional Engineer authorizes the start of construction. The licensee shall file, no later than three months following completion of construction, revised exhibits and project description showing the fish passage facilities.

Article 303. The Licensee shall reserve in Mossyrock Reservoir between elevation 778.5 feet and 645.5 feet adequate space to regulate Cowlitz River floods equal to or less than the magnitude of the December 1933 flood to 70,000 cfs or less at Castle Rock, Washington. However, it is recognized that a flow of 70,000 cfs is considered to be bankfull conditions at Castle Rock. Unregulated tributary flows downstream from Mossyrock can exceed 70,000 cfs at Castle Rock, and even termination of discharge from Mossyrock will not guarantee that flows at Castle Rock will be 70,000 cfs or less. Maximum scheduled pool levels and flood regulation procedures for Mossyrock Reservoir are prescribed in the following paragraphs:

a) Beginning on October 1, Mossyrock Reservoir shall be gradually lowered from elevation 778.5 feet to reach 745.5 feet on or before December 1. At no time during that two-month period shall the pool be higher than the elevation represented by uniform evacuation of the reservoir, except temporarily when regulating a flood. Between December 1 and January 31, the reservoir shall be maintained at elevation 745.5 feet or below, except when storage space is used to regulate floods. Between February 1 and June 1, the reservoir may be filled gradually to elevation 778.5 feet.

b) The procedure for flood operations will be, to the fullest extent feasible, to regulate the flow at Castle Rock so as not to exceed 70,000 cfs. Except as further set forth herein, discharges from Mossyrock shall not exceed equivalent maximum sustained turbine capacity, and discharges should be adjusted in conjunction with the Mayfield development in an effort not to exceed a flow of 70,000 cfs at Castle Rock. Equivalent maximum sustained turbine capacity at Mossyrock is understood to be the outflow from two turbines each operating at a unit load of 160 MW (320 MW combined load from both turbines). If less than two turbines are operational then additional discharges must be provided by the regulating outlets or spill to provide the equivalent maximum sustained discharge.

c) For post-flood evacuation, stored waters in Mossyrock Reservoir above elevation 770 feet shall be evacuated as fast as downstream channel conditions will permit, preferably not to exceed 50,000 cfs at Castle Rock, or at a lesser rate if the evacuation can be accomplished in less than three days. However, should a 50,000 cfs flow at Castle Rock jeopardize the evacuation of the storage space above elevation 770 feet, the regulated flow at Castle Rock may be increased to 70,000 cfs, the scheduled maximum. Stored flood waters at Mossyrock that have to be evacuated below elevation 770 feet shall be made at the equivalent maximum sustained turbine capacity at Mossyrock. In the case of approaching storms or other flood situations, it may be necessary to release more than the equivalent maximum sustained turbine capacity to reach the required flood control pool. The Corp of Engineers will then have the authority to request a higher discharge.

Adjustments in the operation specified by the criteria in this article may be made subject to prior approval of the authorized representatives of the Licensee and the Corps of Engineers, Department of the Army. The Licensee shall notify the Commission of any such adjustments.

The Licensee shall also provide data to the Corps of Engineers for the regulation of the Mossyrock and Mayfield developments. The Licensee shall consult with the Corps of Engineers for their data needs to assist in project flood control.

Article 401.

(a) Requirement to File Plans for Commission Approval:

Settlement Agreement Articles 1, 2 and 3 (Appendix A) require the licensee to prepare plans regarding fish passage in consultation with the Fisheries Technical Committee or, if the Agreement has become void, the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, and Washington Department of Ecology (FTC or agencies). Each such plan shall also be

submitted to the Commission for approval. These plans are listed below in the approximate sequence we anticipate they would be filed.

Settlement Article No.	Facility or Activity	Due Date from License Issuance or Otherwise Specified
Article 1	Plan for downstream fish passage and collection facilities and measures at Riffe Lake or Cowlitz Falls (if Lewis County Public Utility District concurs).	6 months
Article 2	Study plan or study results evaluating turbine mortality and the effectiveness of existing louver system at Mayfield Dam.	6 months
Article 3	Plan for studies to evaluate whether criteria for implementing effective upstream volitional passage facilities have been met.	6 months
Article 1	If necessary, a plan for further improvements to downstream passage facilities or measures at Riffe Lake or Cowlitz Falls (if Lewis County Public Utility District concurs) most likely to reach 95% FPS, based on effectiveness studies, and continued monitoring and evaluation of those facilities.	18 months from completion of new or modified facilities.
Article 2	Plan for improvements to downstream fish passage at Mayfield Dam.	3 years
Article 2	If 95% FPS has not been achieved at Mayfield Dam, plans to further improve the effectiveness of the facilities or measures, or to substitute other measures.	18 months from completion of downstream passage improvements, with additional plans at 18-month intervals if recommended by FTC.
Article 3	Design and schedule for constructing volitional upstream passage facilities.	In the first annual report filed within the first 12

Settlement Article No.	Facility or Activity	Due Date from License Issuance or Otherwise Specified
		<p>years that indicates that, within the next 3 years or less, volitional passage criteria will be met for (1) any species originating in the Tilton basin and (2) either spring chinook or late winter steelhead originating above Mossyrock Dam.</p> <p>By the end of year 12, if volitional passage criteria have been or will be met for any salmonid species in the Tilton River by year 15.</p>
Article 3	Plan to abandon volitional upstream fish passage and expend the \$15 million in the fish passage escrow account.	By year 14, if determined by the FTC or agencies and affected tribes that expenditure of escrow funds on additional measures in lieu of volitional passage is necessary and appropriate to achieve natural stock restoration.

For each plan, the licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. 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 make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in the project operations or facilities, including any changes required by the Commission.

(b) Requirement to File Amendment Applications:

Certain license conditions contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. The conditions are listed below.

Settlement Article No.	Modification
Article 15 and 16	Modification of instream flows or pulsing flows for channel maintenance, if monitoring shows flows to be inadequate.

Article 402. The Licensee shall file an annual monitoring report by December 31 of each year following license issuance that contains the provisional USGS or equivalent daily flow records for USGS gage 14238000 and a written explanation of any instream flow deficiencies from those required by Agreement Articles 13 and 14 (Appendix A) that have occurred within the year. The report should show the actual flow versus the required flow and an explanation for any deviation. If any violation of the agreement is noted, the report should discuss this in detail. The frequency and detail of the flow record reports may be modified with Commission approval and in accordance with any recommended modifications resulting from the fish monitoring plan required by Agreement Article 15 or the instream flow implementation report required by Agreement Article 16, or as otherwise provided for in Agreement Articles 13 and 14.

Article 403. The Licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Washington Office of Archaeology and Historic Preservation, for Historic Properties that May be Affected by a License Issuing to Tacoma Power for the Continued Operation of the Cowlitz River Hydroelectric Power Project in Lewis County, Washington (FERC No. 2016)," executed on October 22, 2001, including, but not limited, to the Cultural Resources Management Plan for the project. In the event that the Programmatic Agreement is terminated, the Licensee shall continue to implement the provisions of its approved Cultural Resources Management Plan. The Commission reserves the authority to require changes to the Cultural Resources Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated, the Licensee shall obtain approvals from or notify the Commission or State Historic Preservation Officer where the Cultural Resources Management Plan calls upon the Licensee to do so.

Article 404. Within one year of license issuance the Licensee shall file for Commission approval a monitoring plan that describes the methods and intervals at which an archaeologist will examine archaeological sites and areas that could be affected by erosion, motorized vehicle traffic, and vandalism as specified in Section 7.7 of the Cultural Resources Management Plan approved by Article 403 above. The Licensee shall consult with Washington Office of Archaeology and Historic Preservation, the Cowlitz Tribe and the Yakama Nation in the preparation of the plan. The Licensee will allow the agencies and Tribes 30 days to comment on the plan before filing it with the Commission for approval. The Licensee shall include in the filing to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. 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 make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in the project operations or facilities, including any changes required by the Commission.

Article 405. Within six months of licensee issuance, the Licensee shall file for Commission approval, a Public Information Management Plan that describes how the Licensee will share and disseminate information and solicit public comment on implementing the provisions of the Settlement Agreement. Information to be provided shall include any recommendations and reports produced by the Fisheries Technical Committee and Habitat Advisory Group. The Licensee shall consult with parties to the Agreement and the FTC in the preparation of the plan. The Licensee shall allow the parties 30 days to comment on the plan before filing it with the Commission for approval. The Licensee shall include in the filing to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. 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 make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan, including any changes required by the Commission.

Article 406. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for construction, operation, and maintenance of, such fish passage facilities as may be prescribed by the Secretaries of the Interior or Commerce under Section 18 of the Federal Power Act.

Article 407. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project

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

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

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

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

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

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

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

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

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

Article 501. (1) The licensee, within 4 months of the effective date of this license, shall file a Hydropower Compliance Management Program (HCMP) for Commission

approval. The HCMP shall include the following elements for each license requirement.

a. The identification of, and a schedule for, each action necessary to complete the license requirements;

b. A schedule for the start and completion of the consultation process with each resource agency required to be consulted for each action necessary to complete the license requirements; and

c. The identification of specific individuals in each agency that need to be consulted on each action necessary to complete the license requirements.

(2) The licensee shall file an annual report with the Commission on or before each anniversary of the issuance date of this license, that demonstrates the progress made toward completion of each license requirement under the schedules presented in the HCMP.

Eight copies of all submissions under this article must be filed with the Secretary of the Commission. One copy of each submission must also be filed with any agency consulted under element (1)b above.

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

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

By the Commission.

(S E A L)

Project No. 2016-044

-68-

Magalie R. Salas,
Secretary.

APPENDIX A

SETTLEMENT AGREEMENT LICENSE ARTICLES

Article 1. Downstream Fish Passage: Riffe Lake and Cowlitz Falls Collection and Passage.

a) Within six (6) months of license issuance, Licensee shall develop and submit a plan for downstream fish passage and collection at Riffe Lake and Cowlitz Falls. The Licensee shall prepare the plan in collaboration with, and subject to approval by, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. The plan shall include: 1) a report on the results of negotiations among the Licensee, Lewis County Public Utility District (licensee for the Cowlitz Falls Project, FERC No. 2833) and the Bonneville Power Administration regarding shared funding of cooperative efforts to improve downstream passage and collection effectiveness at or near Cowlitz Falls; 2) proposed facilities and measures most likely to achieve the goal of 95% Fish Passage Survival ("FPS"), as defined in the August 2000 Settlement Agreement, to be funded by the Licensee to contribute to effective downstream passage and collection at or near Cowlitz Falls and/or to be constructed by the Licensee downstream of Cowlitz Falls Dam at Riffe Lake; 3) plans to support the on-going operation and maintenance of facilities and measures for downstream passage and collection at or near Cowlitz Falls and/or at Riffe Lake each year for the term of the license; 4) plans for monitoring and evaluation of effectiveness, including determination of the combined FPS of the existing, proposed new and/or improved facilities at or near Cowlitz Falls and/or Riffe Lake; and 5) a construction and implementation timeline not to exceed 12 months from plan approval by the Commission, unless the Licensee can establish good cause for additional time. The draft plan shall be provided for 30-day review and comment to the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, to the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan either on its own or pursuant to an agreement reached among the Licensee, Bonneville Power Administration and Lewis County Public Utility District to fund cooperative efforts for passage improvements at or near Cowlitz Falls.

b) Within eighteen (18) months of completion of the new and/or modified Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities required above, the Licensee shall file a report on the effectiveness of the Riffe Lake/Cowlitz Falls downstream

fish passage/collection facilities and measures, including an evaluation of the FPS achieved by the facilities and measures. If the FPS achieved has not reached 95%, the report shall include a plan and schedule providing for any further improvements to downstream passage facilities or measures as are determined by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to be most likely successful in reaching 95% FPS. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above, and upon approval by the NMFS and USFWS and filing with the Commission, shall implement, or support implementation of, the improvements provided for in the plan. The plan and schedule shall provide for continued monitoring and evaluation of fish passage effectiveness. The monitoring and evaluation results shall be provided to the FTC or the agencies in a timely manner.

c) The Licensee shall implement, or support implementation of, additional downstream passage facility improvements and file additional reports at 18 month intervals in accordance with the preceding paragraph until the Licensee has employed the best available technology and achieved at least 75% FPS for all species.

Article 2. Downstream Fish Passage: Mayfield.

a) Within six (6) months of license issuance, the Licensee shall develop and file with the Commission, a study plan or study results evaluating turbine mortality and the effectiveness of the existing louver system at Mayfield Dam. The studies shall be designed and results reviewed in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the study plan and results documentation of consultation and copies of comments and recommendations on the plan and descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall conduct the studies.

b) Within three (3) years of license issuance, the Licensee shall develop and file with the Commission, a plan for improvements to downstream fish passage at Mayfield Dam. The plan shall be developed in consultation with the FTC or agencies and shall be based upon, but not limited to, the 90% Fish Passage Report (filed as supplemental information by the Licensee in February 2000). It shall include: 1) the results of studies of turbine mortality and effectiveness of the existing louvers; 2) plans for debris handling modifications; 3)

plans for changes to the bypass system; 4) a comparison of the proposed improvements with those identified in the 90% Fish Passage Report along with a justification for any proposed improvements not included in the 90% Fish Passage Report; 5) a statement of how the proposed improvements will achieve increased Fish Guidance Efficiency ("FGE"), as defined in the August 2000 Settlement Agreement, and survival at Mayfield Dam to a level of downstream fish passage survival rate, also as defined in the August 2000 Settlement Agreement, of greater than or equal to 95% for anadromous stocks; 6) a construction and implementation schedule not to exceed one year from the date of plan approval, unless there is good cause for extending the period beyond one year; and 7) plans to evaluate the effectiveness of downstream fish passage, including FGE and the downstream passage survival rate at Mayfield Dam, upon completion of the proposed improvements. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

c) Within eighteen months of the completion of construction of the improvements to downstream fish passage at Mayfield Dam as provided in the approved schedule, the Licensee shall file a report on the effectiveness of the modifications, including a calculation of the downstream fish passage survival rate and FGE achieved by the facility. If the downstream fish passage survival rate at Mayfield Dam has not achieved 95%, the report shall also include plans to further improve the effectiveness of the facilities and measures or to substitute other measures as described in paragraph (d) below, and to continue monitoring their effectiveness, including continued monitoring of FGE and the downstream fish passage survival rate. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the further improvements provided for in the plan.

d) Tacoma shall implement additional downstream passage facility modifications or measures and file additional reports at 18 month intervals in accordance with the preceding paragraph until either: 1) a 95% downstream fish passage survival rate is achieved; or 2) the National Marine Fisheries Service and U.S. Fish and Wildlife Service, in consultation with the FTC or agencies, determine that passage effectiveness and survival are high enough to support self-sustaining populations of anadromous fish stocks; that protection of anadromous fish migrating downstream at Mayfield Dam has been maximized by all reasonable measures and that adjustments to hatchery production (using then-existing facilities) and/or habitat measures will be required in lieu of further attempts to improve downstream passage at Mayfield Dam. If NMFS and USFWS elect to pursue other

measures in lieu of further downstream passage improvements, the Licensee, in consultation with the FTC or agencies, shall prepare a draft plan for other actions designed to mitigate for continued juvenile mortality at Mayfield Dam. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan.

e) Tacoma shall monitor proper operation of passage facilities and evaluate effects of changed conditions on FGE and downstream fish passage survival, with a summary of results to be submitted annually to the FTC or agencies. Tacoma shall immediately report to the FTC or agencies any results indicating a significant reduction in passage effectiveness or survival, and consult with the FTC or agencies on any further improvements that may be required to maintain consistently high levels of passage effectiveness and survival in accordance with the above performance standards.

Article 3. Upstream Fish Passage: Barrier, Mayfield and Mossyrock.

a) The Licensee, in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service shall provide and maintain effective upstream fish passage at the Barrier Dam, Mayfield Dam and Mossyrock Dam through trap and haul facilities immediately upon license issuance, and continuing until volitional upstream passage systems have been implemented in accordance with this article.

b) Within six months of license issuance, or as soon as practicable thereafter depending on the availability of marked fish, and updated on an annual basis thereafter, the Licensee shall file with the Commission a report on adult anadromous fish traveling through the Cowlitz River Project, prepared in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The report shall include: 1) the most recent version of Tables 3, 4, and 5 from the report entitled *Contribution Rate Benchmarks for Future Runs of Spring Chinook, Fall Chinook, and Coho Produced at the Cowlitz Salmon Hatchery* that provide estimated age 3 recruits and survival equivalency that enables comparison of future broods to the benchmark run year and survival rate for each of these species, dated June 28, 2000 and filed with the Commission concurrently with the August 2000 Cowlitz River Hydroelectric Project Settlement Agreement; 2) tables estimating the annual number of adult recruits originating from the Cowlitz River basin upstream of the Toutle River, and including steelhead, cutthroat trout, and all other indigenous stocks that

are produced at the hatcheries, along with an index of each stock to its benchmark values, or if not otherwise agreed, a default index of "1"; 3) a plan and schedule for studies, to be conducted at regular intervals, to evaluate whether the following criteria for implementing effective upstream passage through volitional facilities have been met: A) adult fish in Mayfield Lake are able to choose their tributary of origin and survive Mayfield Lake transit at rates determined by NMFS and USFWS, in consultation with the FTC or agencies, to be sufficient to achieve effective upstream passage through volitional facilities; and B) as determined based on the above-described tables with respect to: (I) the number of pre-spawners arriving at the Barrier Dam, in at least 3 of 5 consecutive brood years measured, and based on the 5-year rolling average, exceeds an abundance level which indicates natural recruitment above Mayfield Dam has achieved self-sustaining levels, as determined by the National Marine Fisheries Service in consultation with the FTC or agencies; (ii) the productivity level in 3 of 5 years and the 5-year rolling average, as measured at the Barrier Dam or other Cowlitz River fish counting facilities by the recruit/pre-spawner ratio, exceeds 1.0; and (iii) the disease management plan required by Article 8 has been implemented.

c) For any annual report filed within 12 years of license issuance in which the results of the studies indicate that, within the next three years or less, the above criteria for volitional upstream passage will be met with respect to any salmonid species originating in the Tilton basin and with respect to either spring chinook salmon or late winter steelhead originating above Mossyrock Dam, the Licensee shall also include proposed preliminary designs and schedules for the construction of upstream passage systems for the Project. In the case of Barrier Dam, the proposed modifications shall provide for breaching the Barrier Dam. In lieu of breaching, a fish ladder may be constructed only if NMFS and USFWS determine, in consultation with the FTC or agencies, that a ladder is more appropriate than breaching for effective upstream passage. The proposed modifications for the Barrier Dam shall also include steps to disable the electrical field in the event of fish ladder construction or breaching the dam. In the case of Mayfield Dam, the upstream passage system proposed shall be a ladder with sorting facilities, unless prior to filing the report the NMFS and USFWS determine that a tram is more appropriate than a ladder for effective upstream passage, in which case the system proposed shall be a tram with sorting facilities. In the case of Mossyrock Dam, the passage system proposed shall be an adult trap and haul facility to facilitate adult transit above Cowlitz Falls Dam to be built before or concurrently with the upstream passage system at Mayfield Dam, unless prior to filing the report the USFWS and NMFS determine that a comparably-priced tram is more appropriate than a trap and haul facility based on studies that show fish are able to migrate through Riffe Lake, and it has also been determined that an adult upstream passage facility will be developed at Cowlitz Falls Dam. A draft report shall be provided to the FTC or agencies for review and comment. The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report, and specific descriptions of how

the FTC's and agencies' comments are accommodated by the report. The Licensee shall submit the final report to the NMFS and USFWS for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the proposals in the report.

d) Upon meeting the criteria above for the construction of volitional upstream passage systems, the Licensee shall proceed expeditiously to complete the final design, permitting and construction of upstream passage systems. The final design shall be subject to the same review and approval process described in paragraph c) above. Once the report containing the final design and implementation schedule for the construction of upstream fish passage systems is approved by NMFS and USFWS and filed with the Commission, volitional upstream passage facilities shall be completed and made operational within one (1) year of meeting the criteria or approval of the final design, whichever is later, unless there is good cause for extending the period beyond one year.

e) Within five years of license issuance, the Licensee shall establish an interest-bearing escrow account in the amount of \$15 million to contribute to the total cost of constructing volitional upstream fish passage facilities. To minimize administrative cost and allow conservative growth, said escrow account may be held by the Licensee as a separate account (with Licensee being obligated to treat said account substantially similar to an escrow account), and said account may be invested, consistent with investment limitations on public agencies within the State of Washington.

f) If at any time the Licensee files a report indicating that the above criteria are not likely to be met within 15 years following license issuance with respect to listed chinook salmon or steelhead originating above Mayfield Dam, the Licensee shall consult with the FTC or agencies, using the best available data at the time, regarding factors that may be contributing to the failure to meet such criteria, and the likelihood or not that such criteria will be met for the listed stocks in the foreseeable future.

g) If preliminary or final upstream volitional fish passage design plans and implementation schedules have not been approved and filed with the Commission at the end of year 12, the Licensee must prepare and submit preliminary design plans and schedules in accordance with paragraphs c) and d) if the volitional upstream passage criteria set forth in paragraphs b) and c) have been met or are likely to be met for any salmonid species in the Tilton by year 15. The Licensee shall proceed expeditiously with final design and construction of volitional upstream passage facilities, unless otherwise directed under paragraph h) below.

h) If within 14 years of license issuance the criteria for volitional upstream passage facilities, described in b), c) and g) above, have not been met and it is determined by the FTC or agencies, and affected Tribes, with the concurrence of NMFS and USFWS, that

measures in addition to those provided for in the August 2000 Settlement Agreement are necessary to restore self-sustaining, natural production of ESA-listed stocks in the Cowlitz River basin, and that expenditure of the escrow fund on such additional measures in lieu of volitional upstream facilities is necessary and appropriate to achieve natural stock restoration, consistent with the express purpose of the license and the Settlement Agreement, and with applicable recovery plans for the listed Cowlitz River stocks, the Licensee shall submit to the Commission a plan to abandon volitional upstream passage and expend the funds in the escrow account for the purposes of protecting and promoting restoration and recovery of listed Cowlitz River stocks. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment period. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan. If the above criteria have not been met for any salmonid species in the Tilton by year 15, the Licensee shall continue monitoring fishery conditions for future construction of upstream volitional fish passage, until either the criteria are met or a decision is made to abandon upstream volitional passage and fund other necessary and appropriate measures in accordance with this paragraph.

I) Following construction of volitional upstream passage facilities, the Licensee, in consultation with the FTC or the agencies, shall monitor the effectiveness of the facilities. As deemed necessary by NMFS and USFWS, after consultation with the FTC, the Licensee shall implement such reasonable modifications as may be necessary to improve passage effectiveness.

j) Any plan required to be filed pursuant to this article shall be prepared in consultation with the FTC or agencies. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

Article 4. Juvenile Tagging and Monitoring.

The Licensee shall contribute up to \$40,000 per year (adjusted for inflation), for a freshwater juvenile tagging and monitoring program required for estimating: the number of juveniles arriving at transport facilities; their origin (natural or hatchery); the number of juveniles transported (by species); and adults arriving and transported to the upper basin. Data from the program shall be reviewed annually by the Fisheries Technical Committee

provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or the agencies") annually and filed with the Commission after review. Funding of the tagging and monitoring program shall continue until implementation of the Fisheries and Hatchery Management Plan, provided for in Article 6.

Article 5. Fish Production and Hatcheries.

a) The Licensee shall be responsible for funding the operation and maintenance of the Cowlitz Hatchery Complex consisting of the remodeled Cowlitz Salmon Hatchery, the remodeled Cowlitz Trout Hatchery, and three satellite rearing facilities, for the duration of this license. The principal stocks of fish to be produced are the indigenous stocks of spring chinook, fall chinook, coho, sea-run cutthroat trout, and late winter-run steelhead. Non-indigenous stocks, such as early winter and summer steelhead, may be produced, provided that production shall emphasize the recovery of indigenous stocks, and production and management of all stocks shall be consistent with that goal. The remodeled hatchery complex will accommodate a range of possible production levels, up to 800,000 pounds, and the current upper bound permitted by the ESA of 771,500 pounds. The total production level within the remodeled hatchery complex will not exceed 650,000 pounds per year for all stocks until and unless a decision has been made pursuant to Article 3 to not construct volitional upstream passage during the remaining term of the license, at which time hatchery production may be considered as part of the plan to expend the funds in the escrow account for the purposes of protecting and promoting recovery of listed stocks. The 650,000 pound limit does not include upper basin pre-smolts that are reared and ponded in the hatchery complex to avoid conflicts with listed stocks. During remodeling of the hatchery complex provided by Article 6, production will approximate the maximum possible within remodeling constraints and ESA requirements. Total annual production levels during remodeling will be established through the planning process delineated in Article 5. Any variations to these transitional production levels during the time period between license issuance and the completion of the remodeled hatchery complex will be prepared in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or the agencies"). The Licensee shall also be responsible for funding any monitoring required for adaptive management at the hatcheries, as included in the Fisheries and Hatchery Management Plan required by Article 6.

b) Through 2004, the Licensee will provide funding for 50,000 pounds of trout production. Subsequent to 2004, future trout production will be based upon a review by the FTC of the success or failure of the program and any impacts to listed stocks.

Article 6. Fisheries and Hatchery Management Plan.

Within 9 months of license issuance, the Licensee shall submit a Fisheries and Hatchery Management Plan. The plan shall be updated every 6 years, starting in year 7, of the license. The plan shall identify: a) the quantity and size of fish to be produced at the Cowlitz Hatchery Complex; b) rearing and release strategies for each stock, including upward and downward production adjustments to accommodate recovery of indigenous stocks; c) credit mechanisms for production of high quality natural stocks; d) plans for Licensee-funded on-going monitoring and evaluation; and e) a fisheries management strategy consistent with the priority objective of maximizing the natural production of wild indigenous fish stocks and species in the basin. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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 make changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 7. Hatchery Complex Remodel and Phase-In Plan.

Within 18 months of license issuance the Licensee shall submit a plan for the Hatchery Complex remodel. The plan shall include: a) hatchery design drawings that include decreased rearing densities and innovative practices to replicate historic out-migration size and timing; b) plans for construction scheduling; c) provision for hatchery water supply that maximizes water from existing groundwater wells and, if necessary, provides for treatment of up to 10 cfs additional river water; and d) a plan for gradual transition to innovative rearing practices. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and

Washington Department of Ecology (referred to as “the FTC or agencies”). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 8. Disease Management Plan.

Within five (5) years of license issuance, the Licensee shall submit a Fisheries Disease Management Plan that defines an acceptable level of risk from *Ceratomyxa shasta* ©. *shasta*) and other diseases, and allows adult fish to be upstream of Barrier Dam. The Fisheries Disease Management Plan shall be designed to allow an appropriate level of pathogens. The plan shall include criteria for determining success or failure, as well as a review every five (5) years to see that the criteria for success are being met and a procedure and schedule for amending the plan if the criteria are not met. Plan amendments could include, but not be limited to: changes in the Fisheries and Hatchery Management Plan and changes to the hatchery water quality and/or quantity. The Licensee shall consult with fish pathology experts from the National Marine Fisheries Service, U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife and shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 9. Large Woody Debris.

Within 1 year of license issuance, the Licensee shall submit a plan to continue to make large woody debris available for fish habitat restoration projects in the Cowlitz River basin. The large woody debris plan shall include: a) a description of the source/s of large woody debris to be made available; b) measures for transporting and delivering large woody debris within the Cowlitz River basin; c) guidelines for the use and disbursement of large woody debris for restoration projects, giving first priority to projects within the lower basin, second priority to upper basin projects, and third priority to projects outside the basin; and d) provisions for storage of large woody debris and for disposal of unused debris. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, U.S. Forest Service and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 10. Gravel Augmentation.

Within 9 months of license issuance, the Licensee shall file for Commission approval a plan to augment spawning gravel below the Barrier Dam to enhance salmonid spawning habitat. The source of gravel, to the extent reasonably available, shall be just upstream of Barrier Dam. The gravel augmentation plan shall include: a) a description of plans to monitor and evaluate the effectiveness of gravel augmentation, including parameters that will be measured to determine the value of gravel placements to salmonid fish reproduction and the stability and life expectancy of such placements, and b) a plan for the discontinuation of gravel augmentation if Barrier Dam is breached, including plans to monitor the post-breach adequacy of gravel supplies and mitigate for any identified gravel shortfalls in the affected reach (Mayfield Dam to the Toutle River). The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include

with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 11. Fish Habitat Fund.

Within 6 months of license issuance, the Licensee shall establish a habitat fund in the amount of \$3.0 million for the purpose of fisheries habitat protection, restoration, and enhancement through acquisition, easements or restoration projects. The habitat fund may be a special or separate account held by Licensee with all accrued interest being credited to the fund. Within one year of license issuance, the Licensee shall file with the Commission a plan for the uses of the habitat fund, including: a) a statement of the priority uses and criteria for disbursement of the funds, identifying acquisition by Tacoma in fee title or by conservation easements of riparian habitat along side channels below Barrier Dam as first priority; b) a description of efforts the Licensee will make in concert with other entities to leverage the habitat fund as matching funds for other salmon recovery funding opportunities; c) plans to coordinate with Lewis County on purchases of land or easements, including any plans to fund Lewis County personnel to conduct the acquisition of land rights; d) procedures for conservation groups and others to request the Licensee's participation in restoration projects along with criteria for such participation; and e) a statement of what, if any, additional lands acquired through the habitat fund will be included within the Project boundary. The Licensee shall prepare the plan in consultation with a Habitat Advisory Group provided for in the August 2000 Settlement Agreement, or, if the Settlement Agreement has become void, in consultation with U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, U.S. Forest Service and Lewis County. When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 12. Coordination with Wildlife Settlement Wetlands Acquisition Fund.

Within one year of license issuance, the Licensee shall file with the Commission a report on its efforts to encourage the expeditious expenditure of remaining funds previously allocated by the Licensee in a manner consistent with the purposes of the Wildlife Settlement Agreement of 1993 (continued compliance with which is required by Article 24, below) for lowlands and wetlands acquisition and restoration and for operations and maintenance, in a manner that enhances the overall goals of fish and wildlife habitat protection and restoration. The Licensee shall prepare the report in consultation with the signatories to the 1993 Wildlife Settlement Agreement (also referred to as the Cowlitz Wildlife Coordinating Committee). The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report. The Commission reserves the right to require the Licensee to take such additional steps as may be appropriate in light of the report to promote habitat protection and restoration goals.

Article 13. Instream Flows.

The Licensee shall release minimum flows from the Project into the Cowlitz River for the protection and enhancement of fish and wildlife resources, riparian vegetation, aesthetic resources and water quality. Flows shall be released as follows:

a) March 1 – June 30

Minimum flow releases from Mayfield Dam shall be 5,000 cfs, unless the March 1 or later inflow forecasts indicate that this flow cannot be achieved and assure reservoir refill. A decision to reduce flows shall only be made after Tacoma has consulted with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”). Once per week from March through the end of June, or as otherwise agreed with the FTC or agencies, Tacoma will conduct a 12-hour release at the lesser of 8,000 cfs or 120% of the preceding flows for juvenile fish transport flows. Natural flows (e.g., from the Tilton River) that provide the same magnitude of flow pulse may substitute for artificial flow pulsing.

b) July 1 - August 14

Minimum flow releases from Mayfield Dam shall be 2,000 cfs during this period.

c) August 15 - September 30

Minimum flow releases from Mayfield Dam shall be 2,000 cfs during this period. If Mayfield releases meet or exceed 5,000 cfs for a consecutive 5-day period as measured by daily mean flows, then flows will not be decreased below 5,000 cfs until a spawning survey, documenting redd numbers and locations in key side-channel areas at River Mile 42 and

River Mile 47.5, or two other representative sites as selected by the FTC or agencies, has been performed. If the survey shows that redds are present, the level of minimum flows necessary for the remainder of the period will be established after consultation with the FTC or agencies. The established minimum flows for incubation shall not exceed the lesser of: a) eight inches of river stage height below the highest consecutive 5-day average flow as measured at the USGS gauge (Station #14238000) below Mayfield Dam, or b) 5,000 cfs.

d) October 1 - November 20

Minimum flow releases below Mayfield Dam shall be subject to the following requirements:

- 1) At no time shall flows released from Mayfield Dam be less than 3,500 cfs;
- 2) Flow releases from Mayfield Dam always shall be at a quantity adequate to provide incubation protection to redds established during the period of August 15 - September 30, as defined in Section 3 below;
- 3) When releases during the August 15 - September 30 period meet or exceed 5,000 cfs for a consecutive five-day period as measured by the daily mean flows, minimum flows shall be maintained at the lesser of (A) or (B) below:

A) 5,000 cfs

B) Eight inches of river stage height below the highest consecutive 5-day average flow during which active spawning occurred, as measured at the USGS gauge (Station #14238000) below Mayfield Dam.

Flow releases less than those described in Section 3 above may be established upon agreement by the FTC or agencies, following review of spawning survey data for the August 15 - September 30 period.

Tacoma shall make a good faith attempt to provide flows for the purpose of protecting spawning habitat (5,000 to 8,000 cfs) from November 1 until either November 20 or the completion of spawning, whichever comes first.

e) November 21 – February 28

Minimum flow releases from Mayfield Dam will be maintained at the lesser of:

- 1) eight inches of river stage height below the highest consecutive 5-day average flow during which active spawning occurred, as measured at the USGS gauge (Station #14238000) below Mayfield Dam, or
- 2) 5,000 cfs, or
- 3) a lower flow authorized by the FTC or agencies based upon the results of spawning surveys.

Instream flows shall be monitored at the USGS gauge (Station #14238000) below Mayfield Dam or via other approved means. Results of monitoring shall be available to FERC or resource agency staff upon request from the U.S. Geological Survey (USGS) or as

otherwise approved. The minimum release required may be reduced, in consultation with the FTC or agencies, when such reduction can be shown not to impact downstream salmonid redds. Flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee that threaten the safety and/or stability of Project facilities, and for short periods upon agreement between the Licensee and the Washington Department of Ecology. If the flow is so modified, the Licensee shall notify the Commission and the Washington Department of Ecology as soon as practicable, but no later than ten (10) days after each such incident.

Article 14. Ramping Rate Conditions.

The Licensee shall operate the Project within the following ramping rate restrictions. Ramping rate refers to the rate of allowable stage decline. These rates apply to flows less than 6,000 cfs. The ramping rate restrictions may be modified based upon further study and approval by the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies").

Time of Year	Daylight Rates*	Night Rates**
February 16 to June 15	No Ramping	2 inches per hour
June 16 to October 31	1 inch per hour	1 inch per hour
November 1 to February 15	2 inches per hour	2 inches per hour

*Daylight shall be defined as one hour before sunrise to one hour after sunset. This is for the protection of salmon fry.

** Night shall be defined as one hour after sunset to one hour before sunrise. This is for the protection of trout and steelhead fry.

These time restrictions will account for the lag time it takes for the fluctuation to pass through all affected fish habitat downstream to the confluence of the Cowlitz and Toutle rivers. Flow is to be measured at the USGS gauge (Station #14238000) below Mayfield Dam.

Article 15. Fish Monitoring Plan.

Within one year of license issuance, the Licensee shall develop and submit a monitoring plan to evaluate the effects of the instream flow requirements, including pulsing or channel

maintenance flows, upon the fish of the Cowlitz River, in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. If the Licensee does not adopt a recommendation, the filing shall include the Licensee’s reasons, based on Project-specific information. Upon filing, the Licensee shall implement the plan to the extent that such implementation is not contrary to Commission order or regulation and is in conformity with the CWA Section 401 water quality certification. The Commission and WDOE reserve the right to require changes to the plan. Upon Commission and WDOE approval, the Licensee shall fully implement the plan, including any changes required by the Commission or WDOE. Following Commission and WDOE approval, the plan becomes a requirement of the license, enforceable by the Commission and WDOE. If monitoring indicates that instream flows or pulsing flows for channel maintenance are inadequate, the Commission and WDOE separately reserve the right to require modifications to the flow regime, either on their own motion or upon request of state or federal resource agencies.

Article 16. Instream Flow Implementation.

Within two years of license issuance, the Licensee shall prepare and submit a report on implementation of instream flows containing a description of measures taken to ensure compliance, including preparation and use of a training manual for licensee’s staff, and any recommended modifications to operating procedures. The report shall be prepared in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”). When a draft report has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final report documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final report accommodates all comments and recommendations. If the Licensee does not adopt a recommendation, the filing shall include the Licensee’s reasons, based on Project-specific information. Upon filing, the Licensee shall implement any recommended modifications to the extent that such implementation is not contrary to Commission order or regulation and is in conformity with the CWA Section 401 water quality certification. The Commission and WDOE reserve the right to require changes to the recommended modifications. Upon Commission and

WDOE approval, the Licensee shall fully implement the recommended modifications, including any changes required by the Commission or WDOE. Following Commission and WDOE approval, the recommended modifications become a requirement of the license, enforceable by the Commission and WDOE. If monitoring indicates that instream flows or pulsing flows for channel maintenance are inadequate, the Commission and WDOE separately reserve the right to require modifications to the flow regime, either on their own motion or upon request of state or federal resource agencies.

Article 17. Recreation Facilities.

Within one year of license issuance, the Licensee shall file with the Commission for approval, a recreation plan for the Cowlitz River Project. The plan shall include, but not be limited to, the following specific items:

- (a) A trail system on Peterman Hill built to accepted standards, of not less than 20 miles. The trail will serve non-motorized users and include parking, sanitation facilities, interpretive and regulatory signage and brochures.
- (b) A 2-mile non-motorized loop trail near Mossyrock Park, part of which will (to the extent feasible) be made ADA accessible.
- (c) An extension of the Mossyrock Park boat launch with mooring dock, including provision for seasonal ADA accessibility.
- (d) A low water boat launch at the east end of Riffe Lake.
- (e) An ADA accessible fishing platform in the vicinity of Barrier Dam.
- (f) 50 additional campsites at Taidnapam Park to be provided during years 7 to 12 of the license term.
- (g) Improvements to the road from Highway 12 to Taidnapam Park.
- (h) Add 50 additional campsites at Mossyrock Park during years 19 to 24 of the license term.
- (i) Recreation improvements to be undertaken by the State of Washington for capital improvements at Ike Kinswa State Park using \$500,000 provided by the Licensee.
- (j) Unidentified recreation improvements in the Project area undertaken by the State of Washington using \$100,000 provided by the Licensee.

The plan shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Fish and Wildlife Service, the U.S. Forest Service, Lewis County, Washington State Parks and Recreation Commission, and the Washington Department of Fish and Wildlife. With respect to item (a), the Peterman Hill trail, the Cowlitz Wildlife Coordinating Committee, established pursuant to the 1993 Wildlife Settlement Agreement (referred to in Article 24) will provide oversight and approval of trail planning, location, construction, management and allowable impacts. The plan shall include provisions for monitoring of recreational use impacts to wildlife along and in the vicinity of this trail and define benchmarks for unacceptable wildlife impacts. The Licensee shall allow a minimum

of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plan with the Commission. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are addressed by the plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons. The Commission reserves the right to require changes to the plan. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan has been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 18. Recreation Operation, Maintenance and Safety.

Within one year of license issuance, the Licensee shall file with the Commission an operation, maintenance and safety plan for the recreation facilities for the Cowlitz River Project. The plan shall include, but not be limited to:

- (a) A description of the oversight for trail construction and management to be provided by the Cowlitz Wildlife Area Wildlife Management Coordinating Committee, as established by the 1993 Wildlife Settlement Agreement.
- (b) A plan to work with the Lewis County Sheriff's office to improve boating safety.
- (c) An Americans with Disabilities Act (ADA) transition plan specifying improvements to be made to existing facilities to comply with ADA.
- (d) A plan for Licensee to assume ownership and all responsibility for maintenance and operation of Mayfield Lake County Park from Lewis County.

The plan shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service, U.S. Fish and Wildlife Service, Lewis County, Washington State Parks and Recreation Commission and the Washington Department of Fish and Wildlife. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plan with the Commission. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are accommodated by the plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on Project-specific information. The Commission reserves the right to require changes to the plan. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan has been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plan,

including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 19. Water Access Facilities.

The Licensee shall file with the Commission for approval, plans for expenditure of \$67,000 in each of years four, seven and thirteen for additional facilities to improve water access, such as parking, trails to water, ramps and piers. The plans shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service, the U.S. Fish and Wildlife Service, Lewis County, Washington State Parks and Recreation Commission and Washington Department of Fish and Wildlife. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plans with the Commission. The Licensee shall include with the plans documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are accommodated by the plans. 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 plans. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plans have been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plans, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 20. Recreation Reporting.

The Licensee shall monitor recreation use of the Project area using protocols developed in consultation with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service and Lewis County. The recreation survey shall begin within six (6) years of the issuance date of this license and be conducted every six (6) years thereafter during the term of the license and shall, at a minimum, include the collection of one calendar year of annual recreation use data every six (6) years. The Licensee shall file on April 1 of every sixth (6th) year after the initial filings, a report with the Commission on the monitoring results. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the report with the Commission. The report shall satisfy the Commission's requirements for filing the Form 80 recreation report (18 CFR Section 8.11).

Article 21. Forest Service Facilities.

Licensee shall pay annually to the U.S. Forest Service the amount of \$5,500 by October 1 of each year in compensation for impacts to recreation facilities in the Gifford Pinchot National Forest. Beginning in the seventh (7th) year of the license term, and every 6 years thereafter, this amount shall be adjusted for inflation as provided in the August 2000 Settlement Agreement. Upon agreement between the Forest Service and Licensee, services equivalent in value may be provided in lieu of the annual compensation payment. Licensee shall file with the Commission an annual report documenting its contribution to Forest Service recreation facilities during the preceding year, which report shall be based on information from the Forest Service regarding the use of funds and/or services for these facilities.

Article 22. Forest Service Report.

Within one year of license issuance, the Licensee shall file with the Commission a report, prepared in consultation with the Forest Service, documenting Licensee's efforts to negotiate the transfer of Forest Service and other lands for the purpose of consolidating land ownership within the Cowlitz River Project area. The Commission reserves the right to require additional reports on the progress of such negotiations should they not be concluded within one year of license issuance.

Article 23. Cultural and Historic Resources.

Within 1 year of license issuance, the Licensee shall file for Commission approval a Cultural Resource Management Plan prepared by a qualified cultural resource specialist after having consulted with the SHPO and affected Indian tribes. The plan shall include the following items: a) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; b) a description of the potential effect on each discovered property; c) proposed measures for avoiding or mitigating effects; d) documentation of the nature and extent of consultation; and e) a schedule for mitigating effects and conducting additional studies. The Commission reserves the right to require changes to the plan. The Licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license until informed by the Commission that the requirements of this article have been fulfilled. The Commission reserves the right to require changes to the proposed modifications or measures. Upon Commission approval, the Licensee shall implement the proposed modifications or measures, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 24. Wildlife.

The Licensee shall comply with the terms of the settlement agreement among the City of Tacoma, the State of Washington Department of Wildlife (now the Washington Department of Fish and Wildlife), and the U.S. Fish and Wildlife Service regarding wildlife mitigation for the Cowlitz River Project as set forth in the Licensee's October 24, 1994 filing. The Licensee shall file a monitoring report by May 1 annually, which shall incorporate a report from the Washington Department of Fish and Wildlife, as manager of the lands, describing the implementation of its current management plan. Monitoring reports shall contain any proposed significant changes to the plan for Commission approval. Prior to filing annual reports with the Commission, the Licensee shall provide a draft copy of the report to the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service and Lewis County and give these agencies and Lewis County at least 30 days to review and make comments and recommendations on the report. The report shall contain copies of the Licensee's transmittal cover letters to the agencies and Lewis County requesting comments and any comments provided. Should the Licensee disagree with a comment or recommendation, the Licensee shall explain its disagreement in its report based on Project-specific information.

Article 25. Reservation of Commission Authority.

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

APPENDIX B

FPA SECTION 4(e) TERMS and CONDITIONS

I. GENERAL

License articles contained in the Federal Energy Regulatory Commission's Standard Form L- 2 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Gifford Pinchot National Forest. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of Gifford Pinchot National Forest System lands and resources. These terms and conditions are based on those resources and management requirements enumerated in the Organic Administration Act of 1897 (30 Stat. 1 1), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resource Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for the protection and utilization of National. Forest System lands shall also be included in any license issued.

II. FOREST SERVICE PROVISIONS

Condition No. 1 - Settlement Agreement

The licensee shall completely and fully comply with all the terms of the Cowlitz River Hydroelectric Project Settlement Agreement. This condition is premised on the expectation that the Commission will incorporate the settlement agreement, substantially unmodified, into the new license. The Forest Service reserves the authority to issue additional terms and conditions in the event the settlement is not incorporated into the new license.

Condition No. 2 - Implementation and Modification of Forest Service Conditions

The licensee shall not commence implementation of ground disturbing activities authorized by the license on National Forest System Lands of the Gifford Pinchot National Forest until Forest Service completion any administrative appeal filed under 36 CFR Part 215 regarding

terms and conditions issued by the Forest Service under Section 4(e) of the Federal Power Act. providing appeal rights of Forest Service 4(e) conditions. The Forest Service may require modification of its 4(e) conditions as a result of the final agency decision regarding such an appeal.

Condition No. 3 - Forest Service Approval of Final Design

Before the Licensee implements any ground disturbing activities on National Forest System land, the Licensee shall obtain the prior written approval of the Forest Service. As part of such prior written approval, the Forest Service may require adjustments in final plans and facility locations to preclude or mitigate impacts and to assure that the project is compatible with on-the-ground conditions. Should such adjustments deemed necessary by the Forest Service, the Commission, or the Licensee constitute a substantial change, the licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions of the Secretary of Agriculture made pursuant to section 4(e) of the Federal Power Act.

Condition No. 4 Approval of Changes After Initial Construction

Notwithstanding any license authorization to make changes to the project, the licensee shall secure written approval from the Forest Service prior to making any changes in the location of any constructed project features or facilities, or in the uses of project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission that are located on or otherwise directly impact National Forest System Lands. Following receipt of such approval from the Forest Service, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This condition does not relieve the Licensee from the requirements of final USDA Forest Service Term and Condition Number 2 or 3 set out above.

Condition No. 5 - Consultation

Each year during the 60 days preceding the anniversary date of the license, the Licensee shall consult with the Forest Service with regard to measures needed to ensure protection and development of the natural resource values of the project area on or affecting National Forest System lands of the Gifford Pinchot National Forest. Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the Forest Service.

Condition No. 6 - Project Surrender or Abandonment and Restoration of National Forest System Lands

Prior to any surrender of this license, the licensee shall remove facilities sited on National Forest System Lands and restore National Forest System lands and resources to a condition satisfactory to the Forest Service. Within one year of filing for surrender of license, or within 90 additional days after project generation has ceased for a period exceeding one year, the Licensee shall prepare in consultation with the Forest Service, and file with the Director, Office of Hydropower Licensing, a facilities removal and restoration plan approved by the Forest Service. The plan shall include an implementation schedule and shall identify the measures to be taken to remove all project facilities and fully restore National Forest System lands and resources to a condition satisfactory to the Forest Service and shall establish a surety bond to ensure performance of the removal and restoration measures.

The licensee shall implement the plan in accordance with the approved schedule. Failure to immediately initiate removal or restoration measures, or to otherwise complete actions within the time frame established by the authorized Forest Service officer is cause for the Forest Service to issue a demand letter to the Surety for the amount due under the bond. Payment by the surety of the amount required by the bond is due upon receipt of the demand letter. In lieu of payment, the Surety may perform the remediation work required under the written instructions from the authorized Forest Service officer within the time frame set forth in the schedule.

APPENDIX C

WASHINGTON DEPARTMENT OF ECOLOGY
WATER QUALITY CERTIFICATION CONDITIONS

In view of the foregoing and in accordance with 33 U.S.C. 1341, Chapter 90.48 RCW and Chapter 173-201A WAC, certification is granted to the Applicant subject to the following conditions:

A. Water Quality Standard Conditions:

1. Nothing in this certification shall absolve the Applicant from liability for pollution and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.
2. The Cowlitz River waterbody segment from the mouth of the Cowlitz to the base of Mayfield Lake Dam (RM 52.0) is a Class A water of the state. Certification of this proposal does not authorize the Applicant to exceed applicable state water quality standards (Chapter 173-201A WAC) or sediment quality standards (Chapter 173-204 WAC) unless otherwise authorized by Ecology.
3. The Cowlitz River waterbody segment from the upstream end of Riffe Lake dam (RM 52.0) to the headwaters is a Class AA water of the state. Certification of this proposal does not authorize the Applicant to exceed applicable state water quality standards (173-201A WAC) or sediment quality standards (173-204 WAC) unless otherwise authorized by Ecology.
4. Riffe Lake Reservoir and Mayfield Lake Reservoir are Lake Class waters of the state. Certification of this proposal does not authorize the Applicant to exceed applicable state water quality standards (173-201A WAC) or sediment quality standards (173-204 WAC) unless otherwise authorized by Ecology.
5. The Cowlitz River, waterbody segment #WA-26-1040, has been identified on the current 303(d) list as exceeding state water quality standards for arsenic. Operation of the proposed Project shall not result in further exceedances of this standard.
6. In the event of changes in or amendments to the state water quality standards, Chapter 173-201A, or changes in or amendments to the state Water Pollution

Control Act, Chapter 90.48, or changes in or amendments to the Federal Clean Water Act, such provisions, standards, criteria or requirements shall also apply to this Project and any attendant agreements, orders, or permits.

7. The Applicant shall operate this project in a manner to comply with the Agreement including but not limited to required instream flows as described in the Agreement and so as to support fisheries in the river.

B Notification Conditions:

1. The Applicant shall notify Ecology's SWRO Federal Permit Coordinator, PO Box 47775, Olympia WA 98504-7775, 360.407.6926, in the event that the Agreement is reopened for any reason.
2. The Applicant shall immediately notify Ecology in the event of a spill of hazardous substances or the discharge of polluting matter. Notification shall be made to Ecology's SWRO Spill Response Team, (360) 407-6300.
3. The Applicant shall immediately notify Ecology's SWRO Federal Permit Coordinator of any and all violations of state water quality standards. The notification shall include a description of the possible cause(s) of the exceedance, measures taken to reduce or eliminate the exceedance, and actions planned or underway to prevent reoccurrence.

C. Duration of Certification:

1. The Applicant shall reapply with an updated application if the information contained in the Public Notice is voided by subsequent submittals to the federal agency. Any future action at this Project location, emergency or otherwise, that is not defined in the public notice, or has not been approved by Ecology, is not authorized by this Order. All future actions shall be coordinated with Ecology for approval prior to implementation of such action.

D. Further Actions Not Covered by This Notice:

1. Any future action at this Project location, emergency or otherwise, that is not defined in the public notice, has not been approved by Ecology as having reasonable assurance of compliance with water quality requirements.

E. Monitoring Conditions:

1. All monitoring shall be conducted as detailed in the Agreement and shall include monitoring for water quality of total dissolved gas, dissolved oxygen, temperature, and pH at a minimum. Additional monitoring may be required by Ecology based on the results of monitoring and for site-specific projects and fisheries issues as necessary as set out in Article 15 of the Agreement.
2. The Applicant shall submit all Water Quality Assurance Project Plans or monitoring plans to Ecology's SWRO Federal Permit Coordinator. Plans should be submitted at least thirty (30) days prior to the start of the monitoring in order to give Ecology sufficient time for review and approval. These plans shall include the following information at a minimum:
 - a) Map of sample locations (background, and distance in feet upstream and downstream of Project facilities);
 - b) parameter(s) to be monitored;
 - c) sample methodology;
 - d) units of measurement; and,
 - e) sample frequency.

Any changes to the water quality monitoring plan requirements must be approved in writing by Ecology. The Applicant shall submit all Water Quality Assurance Project Plans to Ecology's SWRO Federal Permit Coordinator. Proposed changes should be submitted at least thirty (30) days prior to the start of the monitoring in order to give Ecology sufficient time for review and approval.

F. Reporting Conditions:

1. The Applicant shall provide to Ecology on an annual basis or as necessary, a report on all water quality monitoring, sampling and analysis conducted in

association with the project. The reports shall be submitted to Ecology's SWRO Federal Permit Coordinator.

G. Construction Conditions:

While the existing Project in and of itself will not require construction, all site-specific development or mitigation projects proposed under this relicensing must meet the conditions below unless covered under a separate 401 water quality certification:

1. A Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control (ESC) Plan must be developed prior to commencement of construction activities. During construction adjustments to the plan(s) and Best Management Practices (BMPs) may be necessary to successfully control off-site movement of material.
2. All projects must apply for an NPDES permit for construction activities as required by Washington law, including RCW 90.48.
3. The development site shall be clearly marked/staked prior to construction. Clearing limits, travel corridors and stockpile sites shall be clearly marked. Sensitive areas to be protected from disturbance shall be delineated so as to be clearly visible to equipment operators. Equipment shall enter and operate only within the delineated clearing limits, corridors and stockpile areas.
4. Work in or near the waterbody shall be done using Best Management Practices so as to minimize turbidity, erosion, and other water quality impacts.
5. Erosion control devices (e.g., filter fences, hay bales, etc.) suitable to prevent exceedance of state water quality standards shall be in place before starting project construction and shall be maintained throughout construction.
6. Periodic inspection and maintenance of all erosion control structures shall be conducted no less than every 7 days from the start of the project to site stabilization. Additional inspections shall be conducted during and/or after rainfall events to ensure erosion control measures are working properly. Any damaged structures shall be immediately repaired. If it is determined during the inspection that additional measures are needed to control stormwater and erosion, they shall be implemented immediately.

7. A contingency plan shall be developed detailing actions to be taken in the event of adverse weather conditions or other foreseeable undesirable conditions.
8. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall not be discharged into state waters. The Applicant shall set up a designated area for washing down equipment.
9. Machinery and equipment used during construction shall be serviced, fueled, and maintained on uplands in order to prevent contamination of surface waters.
10. The Applicant shall comply with all water quality-related requirements and Best Management Practices included in any other required permit or Order.
11. All excavated material shall be disposed of above the 100-year floodplain and shall be contained so as to prevent its re-entry into waters of the state.
12. Turbid water generated from construction activities, including turbid dewatering water, shall not be discharged directly to waters of the state. Turbid water shall be pumped to an upland area to allow the turbid water to settle or filter into the ground. The discharge from the upland areas shall meet state water quality criteria at the point of discharge.
13. Temporary sediment traps shall be periodically cleaned out and the settled sediments removed from the stream channel before removing any stream diversion system and returning the flow of the Cowlitz River to its natural channel. Settled sediments shall not be allowed to enter the Cowlitz River due to water or runoff flows that may occur after construction is completed.
14. The waters of the Cowlitz River and tributaries, Riffe Lake, and Mayfield Lake shall not come in contact with the concrete outlet structure while the concrete is curing. All concrete shall be poured in the dry, or within the confined waters not being dewatered. Any diversion system shall not be removed until after the concrete has cured for at least 7 days.
15. A separate area shall be set aside, which does not have any possibility of draining to surface waters, for the wash out of concrete delivery trucks, pumping equipment, and tools.

16. All earth areas adjacent to the Cowlitz River, Riffe Lake, or Mayfield Lake which have been exposed or disturbed are to be graded to a stable grade, seeded with a suitable erosion control seed mix which includes native grasses and forbs, and protected from erosion with straw mulch or equivalent within seven (7) days of project completion. Native trees and shrubs are also recommended for slope stabilization.
17. All stormwater facilities shall be designed to the standards contained in the most recent version of the Ecology "Stormwater Management Manual for Western Washington".

H. Emergency/Contingency Measures:

All site-specific projects proposed under this relicensing must meet the conditions unless covered under a separate 401 water quality certification:

1. The Applicant shall develop spill prevention and containment plans for the projects, and shall have spill cleanup materials available on site.
2. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters.
3. If at any time during work the Applicant finds buried chemical containers, such as drums, or any unusual conditions indicating disposal of chemicals, the Applicant shall immediately notify the Ecology's Southwest Regional Spill Response Office at (360) 407-6300.
4. Any work that is out of compliance with the provisions of this Order, or conditions causing distressed or dying fish, or any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited. If these occur, the Applicant shall immediately take the following actions:
 - a) Cease the activity causing the pollution.
 - b) Assess the possible cause(s) of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.

- c) In the event of finding distressed or dying fish, the Applicant shall collect fish specimens and water samples in the affected area and, within the first hour of such conditions, make every effort to have the water samples analyzed for dissolved oxygen and total sulfides.
- d) In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled material and used cleanup materials.
- e) In the event of a fish kill, immediately notify Ecology's Southwest Regional Spill Response Office at (360) 407-6300, the SWRO Federal Permit Coordinator, and Washington Department of Fish and Wildlife. Notification shall include a description of the nature and extent of the problem, any actions taken to correct the problem, and any proposed changes in operations to prevent further problems.

I. General Conditions:

- 1. This Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the state or related aquatic resources, except as specifically provided for in this Order.
- 2. Ecology retains continuing jurisdiction to make modifications hereto through supplemental or amended Order, if it appears necessary to further protect the public interest and as stated in Section 11.3 of the Agreement.
- 3. The Applicant shall construct and operate the project in a manner consistent with the project description contained in the Public Notice for certification, or as otherwise approved by Ecology.
- 4. A full-time Pollution Control inspector shall be on-site, or on-call and readily accessible to the site, at all times while construction activities are occurring that may affect the quality of ground and surface waters of the state.
- 5. The Pollution Control inspector shall have adequate authority to ensure proper implementation of the SWPPP and Erosion and Sediment Control Plans, as well as immediate corrective actions necessary because of changing field conditions. If the Pollution Control Officer issues an order necessary to

implement a portion of the SWPPP or to prevent pollution to the river, all personnel on site, including the construction contractor and the contractor's employees, shall immediately comply with this order.

6. The Applicant shall provide access to the project site and all mitigation sites upon request by Ecology or WDFW personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.
7. Copies of this Order and all related permits, approvals, and documents shall be kept on site and readily available for reference by the project managers, construction managers and foremen, other employees and contractors of the Applicant, and state agency personnel.
8. Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars (\$10,000) per violation for each day of continuing noncompliance.

APPENDIX D

SECTION 18 PRESCRIPTIONS

B. U.S. Department of the Interior, Section 18 Prescriptions for Fishways

1. Downstream Fish Passage: Riffe Lake and Cowlitz Falls Collection and Passage (Settlement Agreement Article 1).

a) Within six (6) months of license issuance, Licensee shall develop and submit a plan for downstream fish passage and collection at Riffe Lake and Cowlitz Falls. The Licensee shall prepare the plan in collaboration with, and subject to approval by, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. The plan shall include:

- 1) a report on the results of negotiations among the Licensee, Lewis County Public Utility District (licensee for the Cowlitz Falls Project, FERC No. 2833) and the Bonneville Power

Administration regarding shared funding of cooperative efforts to improve downstream passage and collection effectiveness at or near Cowlitz Falls;

2) proposed facilities and measures most likely to achieve the goal of 95% Fish Passage Survival ("FPS"), as defined in the August 2000 Settlement Agreement, to be funded by the Licensee to contribute to effective downstream passage and collection at or near Cowlitz Falls and/or to be constructed by the Licensee downstream of Cowlitz Falls Dam at Riffe Lake;

3) plans to support the on-going operation and maintenance of facilities and measures for downstream passage and collection at or near Cowlitz Falls and/or at Riffe Lake each year for the term of the license;

4) plans for monitoring and evaluation of effectiveness, including determination of the combined FPS of the existing, proposed new and/or improved facilities at or near Cowlitz Falls and/or Riffe Lake; and

5) a construction and implementation timeline not to exceed 12 months from plan approval by the Commission, unless the Licensee can establish good cause for additional time.

The draft plan shall be provided for 30-day review and comment to the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, to the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan either on its own or pursuant to an agreement reached among the Licensee, Bonneville Power Administration and Lewis County Public Utility District to fund cooperative efforts for passage improvements at or near Cowlitz Falls.

b) Within eighteen (18) months of completion of the new and/or modified Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities required above, the Licensee shall file a report on the effectiveness of the Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities and measures, including an evaluation of the FPS achieved by the facilities and measures. If the FPS achieved has not reached 95%, the report shall include a plan and schedule providing for any further improvements to downstream passage facilities or measures as are determined by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to be most likely successful in reaching 95% FPS. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above, and upon approval by the NMFS and USFWS and filing with the Commission, shall implement, or support implementation of, the improvements provided for in the plan. The plan and schedule shall provide for continued monitoring and evaluation of fish passage effectiveness. The monitoring and evaluation results shall be provided to the FTC or the agencies in a timely manner.

c) The Licensee shall implement, or support implementation of, additional downstream passage facility improvements and file additional reports at 18 month intervals in accordance with the preceding paragraph until the Licensee has employed the best available technology and achieved at least 75% FPS for all species.

2. Downstream Fish Passage: Mayfield (Settlement Agreement Article 2)

a) Within six (6) months of license issuance, the Licensee shall develop and file with the Commission, a study plan or study results evaluating turbine mortality and the effectiveness of the existing louver system at Mayfield Dam. The studies shall be designed and results reviewed in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the study plan and results documentation of consultation and copies of comments and recommendations on the plan and descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall conduct the studies.

b) Within three (3) years of license issuance, the Licensee shall develop and file with the Commission, a plan for improvements to downstream fish passage at Mayfield Dam. The plan shall be developed in consultation with the FTC or agencies and shall be based upon, but not limited to, the 90% Fish Passage Report (filed as supplemental information by the Licensee in February 2000). It shall include:

- 1) the results of studies of turbine mortality and effectiveness of the existing louvers;
- 2) plans for debris handling modifications;
- 3) plans for changes to the bypass system;
- 4) a comparison of the proposed improvements with those identified in the 90% Fish Passage Report along with a justification for any proposed improvements not included in the 90% Fish Passage Report;
- 5) a statement of how the proposed improvements will achieve increased Fish Guidance Efficiency ("FGE"), as defined in the August 2000 Settlement Agreement, and survival at Mayfield Dam to a level of downstream fish passage survival rate, also as defined in the August 2000 Settlement Agreement, of greater than or equal to 95% for anadromous stocks;
- 6) a construction and implementation schedule not to exceed one year from the date of plan approval, unless there is good cause for extending the period beyond one year; and
- 7) plans to evaluate the effectiveness of downstream fish passage, including FGE and the downstream passage survival rate at Mayfield Dam, upon completion of the proposed improvements.

The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

c) Within eighteen months of the completion of construction of the improvements to downstream fish passage at Mayfield Dam as provided in the approved schedule, the Licensee shall file a report on the effectiveness of the modifications, including a calculation of the downstream fish passage survival rate and FGE achieved by the facility. If the downstream fish passage survival rate at Mayfield Dam has not achieved 95%, the report shall also include plans to further improve the effectiveness of the facilities and measures or to substitute other measures as described in paragraph (d) below, and to continue monitoring their effectiveness, including continued monitoring of FGE and the downstream fish passage survival rate. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the further improvements provided for in the plan.

d) Tacoma shall implement additional downstream passage facility modifications or measures and file additional reports at 18 month intervals in accordance with the preceding paragraph until either: 1) a 95% downstream fish passage survival rate is achieved; or 2) the National Marine Fisheries Service and U.S. Fish and Wildlife Service, in consultation with the FTC or agencies, determine that passage effectiveness and survival are high enough to support self-sustaining populations of anadromous fish stocks; that protection of anadromous fish migrating downstream at Mayfield Dam has been maximized by all reasonable measures and that adjustments to hatchery production (using then-existing facilities) and/or habitat measures will be required in lieu of further attempts to improve downstream passage at Mayfield Dam. If NMFS and USFWS elect to pursue other measures in lieu of further downstream passage improvements, the Licensee, in consultation with the FTC or agencies, shall prepare a draft plan for other actions designed to mitigate for continued juvenile mortality at Mayfield Dam. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

e) Tacoma shall monitor proper operation of passage facilities and evaluate effects of changed conditions on FGE and downstream fish passage survival, with a summary of results to be submitted annually to the FTC or agencies. Tacoma shall immediately report to the FTC or agencies any results indicating a significant reduction in passage effectiveness or survival, and consult with the FTC or agencies on any further improvements that may be required to maintain

consistently high levels of passage effectiveness and survival in accordance with the above performance standards.

3. Upstream Fish Passage: Barrier, Mayfield and Mossyrock. (Settlement Agreement Article 3)

a) The Licensee, in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service shall provide and maintain effective upstream fish passage at the Barrier Dam, Mayfield Dam and Mossyrock Dam through trap and haul facilities immediately upon license issuance, and continuing until volitional upstream passage systems have been implemented in accordance with this article.

b) Within six months of license issuance, or as soon as practicable thereafter depending on the availability of marked fish, and updated on an annual basis thereafter, the Licensee shall file with the Commission a report on adult anadromous fish traveling through the Cowlitz River Project, prepared in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The report shall include: 1) the most recent version of Tables 3, 4, and 5 from the report entitled *Contribution Rate Benchmarks for Future Runs of Spring Chinook, Fall Chinook, and Coho Produced at the Cowlitz Salmon Hatchery* that provide estimated age 3 recruits and survival equivalency that enables comparison of future broods to the benchmark run year and survival rate for each of these species, dated June 28, 2000 and filed with the Commission concurrently with the August 2000 Cowlitz River Hydroelectric Project Settlement Agreement; 2) tables estimating the annual number of adult recruits originating from the Cowlitz River basin upstream of the Toutle River, and including steelhead, cutthroat trout, and all other indigenous stocks that are produced at the hatcheries, along with an index of each stock to its benchmark values, or if not otherwise agreed, a default index of "1"; 3) a plan and schedule for studies, to be conducted at regular intervals, to evaluate whether the following criteria for implementing effective upstream passage through volitional facilities have been met: A) adult fish in Mayfield Lake are able to choose their tributary of origin and survive Mayfield Lake transit at rates determined by NMFS and USFWS, in consultation with the FTC or agencies, to be sufficient to achieve effective upstream passage through volitional facilities; and B) as determined based on the above-described tables with respect to: (I) the number of pre-spawners arriving at the Barrier Dam, in at least 3 of 5 consecutive brood years measured, and based on the 5-year rolling average, exceeds an abundance level which indicates natural recruitment above Mayfield Dam has achieved self-sustaining levels, as determined by the National Marine Fisheries Service in consultation with the FTC or agencies; (ii) the productivity level in 3 of 5 years and the 5-year rolling average, as measured at the Barrier Dam or other Cowlitz River fish counting facilities by the recruit/pre-spawner ratio, exceeds 1.0; and (iii) the disease management plan required by Article 8 has been implemented.

c) For any annual report filed within 12 years of license issuance in which the results of the studies indicate that, within the next three years or less, the above criteria for volitional upstream passage

will be met with respect to any salmonid species originating in the Tilton basin and with respect to either spring chinook salmon or late winter steelhead originating above Mossyrock Dam, the Licensee shall also include proposed preliminary designs and schedules for the construction of upstream passage systems for the Project. In the case of Barrier Dam, the proposed modifications shall provide for breaching the Barrier Dam. In lieu of breaching, a fish ladder may be constructed only if NMFS and USFWS determine, in consultation with the FTC or agencies, that a ladder is more appropriate than breaching for effective upstream passage. The proposed modifications for the Barrier Dam shall also include steps to disable the electrical field in the event of fish ladder construction or breaching the dam. In the case of Mayfield Dam, the upstream passage system proposed shall be a ladder with sorting facilities, unless prior to filing the report the NMFS and USFWS determine that a tram is more appropriate than a ladder for effective upstream passage, in which case the system proposed shall be a tram with sorting facilities. In the case of Mossyrock Dam, the passage system proposed shall be an adult trap and haul facility to facilitate adult transit above Cowlitz Falls Dam to be built before or concurrently with the upstream passage system at Mayfield Dam, unless prior to filing the report the USFWS and NMFS determine that a comparably-priced tram is more appropriate than a trap and haul facility based on studies that show fish are able to migrate through Riffe Lake, and it has also been determined that an adult upstream passage facility will be developed at Cowlitz Falls Dam. A draft report shall be provided to the FTC or agencies for review and comment. The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report, and specific descriptions of how the FTC's and agencies' comments are accommodated by the report. The Licensee shall submit the final report to the NMFS and USFWS for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the proposals in the report.

d) Upon meeting the criteria above for the construction of volitional upstream passage systems, the Licensee shall proceed expeditiously to complete the final design, permitting and construction of upstream passage systems. The final design shall be subject to the same review and approval process described in paragraph c) above. Once the report containing the final design and implementation schedule for the construction of upstream fish passage systems is approved by NMFS and USFWS and filed with the Commission, volitional upstream passage facilities shall be completed and made operational within one (1) year of meeting the criteria or approval of the final design, whichever is later, unless there is good cause for extending the period beyond one year.

e) Within five years of license issuance, the Licensee shall establish an interest-bearing escrow account in the amount of \$15 million to contribute to the total cost of constructing volitional upstream fish passage facilities. To minimize administrative cost and allow conservative growth, said escrow account may be held by the Licensee as a separate account (with Licensee being obligated to treat said account substantially similar to an escrow account), and said account may be invested, consistent with investment limitations on public agencies within the State of Washington.

f) If at any time the Licensee files a report indicating that the above criteria are not likely to be met within 15 years following license issuance with respect to listed chinook salmon or steelhead

originating above Mayfield Dam, the Licensee shall consult with the FTC or agencies, using the best available data at the time, regarding factors that may be contributing to the failure to meet such criteria, and the likelihood or not that such criteria will be met for the listed stocks in the foreseeable future.

g) If preliminary or final upstream volitional fish passage design plans and implementation schedules have not been approved and filed with the Commission at the end of year 12, the Licensee must prepare and submit preliminary design plans and schedules in accordance with paragraphs c) and d) if the volitional upstream passage criteria set forth in paragraphs b) and c) have been met or are likely to be met for any salmonid species in the Tilton by year 15. The Licensee shall proceed expeditiously with final design and construction of volitional upstream passage facilities, unless otherwise directed under paragraph h) below.

h) If within 14 years of license issuance the criteria for volitional upstream passage facilities, described in b), c) and g) above, have not been met and it is determined by the FTC or agencies, and affected Tribes, with the concurrence of NMFS and USFWS, that measures in addition to those provided for in the August 2000 Settlement Agreement are necessary to restore self-sustaining, natural production of ESA-listed stocks in the Cowlitz River basin, and that expenditure of the escrow fund on such additional measures in lieu of volitional upstream facilities is necessary and appropriate to achieve natural stock restoration, consistent with the express purpose of the license and the Settlement Agreement, and with applicable recovery plans for the listed Cowlitz River stocks, the Licensee shall submit to the Commission a plan to abandon volitional upstream passage and expend the funds in the escrow account for the purposes of protecting and promoting restoration and recovery of listed Cowlitz River stocks. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment period. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan. If the above criteria have not been met for any salmonid species in the Tilton by year 15, the Licensee shall continue monitoring fishery conditions for future construction of upstream volitional fish passage, until either the criteria are met or a decision is made to abandon upstream volitional passage and fund other necessary and appropriate measures in accordance with this paragraph.

I) Following construction of volitional upstream passage facilities, the Licensee, in consultation with the FTC or the agencies, shall monitor the effectiveness of the facilities. As deemed necessary by NMFS and USFWS, after consultation with the FTC, the Licensee shall implement such reasonable modifications as may be necessary to improve passage effectiveness.

j) Any plan required to be filed pursuant to this article shall be prepared in consultation with the FTC or agencies. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing

with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

B. U.S. Department of Commerce Section 18 Prescriptions

A. Downstream Fish Passage: Mossyrock Dam.

ARTICLE X. a) Within six (6) months of license issuance, Licensee shall develop and submit a plan for downstream fish passage and collection at Riffe Lake and Cowlitz Falls. The Licensee shall prepare the plan in collaboration with, and subject to approval by, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. The plan shall include: 1) a report on the results of negotiations among the Licensee, Lewis County Public Utility District (licensee for the Cowlitz Falls Project, FERC No. 2833) and the Bonneville Power Administration regarding shared funding of cooperative efforts to improve downstream passage and collection effectiveness at or near Cowlitz Falls; 2) proposed facilities and measures most likely to achieve the goal of 95% Fish Passage Survival ("FPS"), as defined in the August 2000 Settlement Agreement, to be funded by the Licensee to contribute to effective downstream passage and collection at or near Cowlitz Falls and/or to be constructed by the Licensee downstream of Cowlitz Falls Dam at Riffe Lake; 3) plans to support the on-going operation and maintenance of facilities and measures for downstream passage and collection at or near Cowlitz Falls and/or at Riffe Lake each year for the term of the license; 4) plans for monitoring and evaluation of effectiveness, including determination of the combined FPS of the existing, proposed new and/or improved facilities at or near Cowlitz Falls and/or Riffe Lake; and 5) a construction and implementation timeline not to exceed 12 months from plan approval by the Commission, unless the Licensee can establish good cause for additional time. The draft plan shall be provided for 30-day review and comment to the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, to the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan either on its own or pursuant to an agreement reached among the Licensee, Bonneville Power Administration and Lewis County Public Utility District to fund cooperative efforts for passage improvements at or near Cowlitz Falls.

b) Within eighteen (18) months of completion of the new and/or modified Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities required above, the Licensee shall file a report on the effectiveness of the Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities and measures, including an evaluation of the FPS achieved by the facilities and measures. If the FPS achieved has not reached 95%, the report shall include a plan and schedule providing for any further improvements to downstream passage facilities or measures as are determined by the U.S.

Fish and Wildlife Service and the National Marine Fisheries Service to be most likely successful in reaching 95% FPS. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above, and upon approval by the NMFS and USFWS and filing with the Commission, shall implement, or support implementation of, the improvements provided for in the plan. The plan and schedule shall provide for continued monitoring and evaluation of fish passage effectiveness. The monitoring and evaluation results shall be provided to the FTC or the agencies in a timely manner.

c) The Licensee shall implement, or support implementation of, additional downstream passage facility improvements and file additional reports at 18 month intervals in accordance with the preceding paragraph until the Licensee has employed the best available technology and achieved at least 75% FPS for all species.

B. Downstream Fish Passage: Mayfield Dam.

ARTICLE XI. a) Within six (6) months of license issuance, the Licensee shall develop and file with the Commission, a study plan or study results evaluating turbine mortality and the effectiveness of the existing louver system at Mayfield Dam. The studies shall be designed and results reviewed in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies").

The Licensee shall include with the study plan and results documentation of consultation and copies of comments and recommendations on the plan and descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall conduct the studies.

b) Within three (3) years of license issuance, the Licensee shall develop and file with the Commission, a plan for improvements to downstream fish passage at Mayfield Dam. The plan shall be developed in consultation with the FTC or agencies and shall be based upon the 90% Fish Passage Report (filed as supplemental information by the Licensee in February 2000). It shall include: 1) the results of studies of turbine mortality and effectiveness of the existing louvers; 2) plans for debris handling modifications; 3) plans for changes to the bypass system; 4) a comparison of the proposed improvements with those identified in the 90% Fish Passage Report along with a justification for any proposed improvements not included in the 90% Fish Passage Report; 5) a statement of how the proposed improvements will achieve increased Fish Guidance Efficiency ("FGE"), as defined in the August 2000 Settlement Agreement, and survival at Mayfield Dam to a level of downstream fish passage survival rate, also as defined in the August 2000 Settlement Agreement, of greater than or equal to 95% for anadromous stocks; 6) a construction and implementation schedule not to exceed one year from the date of plan approval, unless there is good cause for extending the period beyond one year; and 7) plans to evaluate the effectiveness of downstream fish passage, including FGE and the downstream passage survival rate at Mayfield Dam, upon completion of the proposed improvements. The Licensee shall

include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

c) Within eighteen months of the completion of construction of the improvements to downstream fish passage at Mayfield Dam as provided in the approved schedule, the Licensee shall file a report on the effectiveness of the modifications, including a calculation of the downstream fish passage survival rate and FGE achieved by the facility. If the downstream fish passage survival rate at Mayfield Dam has not achieved 95%, the report shall also include plans to further improve the effectiveness of the facilities and measures or to substitute other measures as described in paragraph (d) below, and to continue monitoring their effectiveness, including continued monitoring of FGE and the downstream fish passage survival rate. The Licensee shall prepare and file the plan for further improvements in accordance with the consultation, review and approval procedures set forth above. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the further improvements provided for in the plan.

d) Tacoma shall implement additional downstream passage facility modifications or measures and file additional reports at 18 month intervals in accordance with the preceding paragraph until either: 1) a 95% downstream fish passage survival rate is achieved; or 2) the National Marine Fisheries Service and U.S. Fish and Wildlife Service, in consultation with the FTC or agencies, determine that passage effectiveness and survival are high enough to support self-sustaining populations of anadromous fish stocks; that protection of anadromous fish migrating downstream at Mayfield Dam has been maximized by all reasonable measures and that adjustments to hatchery production (using then-existing facilities) and/or habitat measures will be required in lieu of further attempts to improve downstream passage at Mayfield Dam.

e) Tacoma shall monitor proper operation of passage facilities and evaluate effects of changed conditions on FGE and downstream fish passage survival, with a summary of results to be submitted annually to the FTC or agencies. Tacoma shall immediately report to the FTC or agencies any results indicating a significant reduction in passage effectiveness or survival, and consult with the FTC or agencies on any further improvements that may be required to maintain consistently high levels of passage effectiveness and survival in accordance with the above performance standards.

C. Upstream passage, Barrier, Mayfield and Mossyrock.

ARTICLE XII. a) The Licensee, in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service shall provide and maintain effective upstream fish passage at the Barrier Dam, Mayfield Dam and Mossyrock Dam through trap and haul facilities immediately upon license issuance, and continuing until volitional upstream passage systems have been implemented in accordance with this article.

b) Within six months of license issuance, or as soon as practicable thereafter depending on the availability of marked fish, and updated on an annual basis thereafter, the Licensee shall file with the Commission a report on adult anadromous fish traveling through the Cowlitz River Project, prepared in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The report shall include: 1) the most recent version of Tables 3, 4, and 5 from the report entitled *Contribution Rate Benchmarks for Future Runs of Spring Chinook, Fall Chinook, and Coho Produced at the Cowlitz Salmon Hatchery* that provide estimated age 3 recruits and survival equivalency that enables comparison of future broods to the benchmark run year and survival rate for each of these species, dated June 28, 2000 and filed with the Commission concurrently with the August 2000 Cowlitz River Hydroelectric Project Settlement Agreement; 2) tables estimating the annual number of adult recruits originating from the Cowlitz River basin upstream of the Toutle River, and including steelhead, cutthroat trout, and all other indigenous stocks that are produced at the hatcheries, along with an index of each stock to its benchmark values, or if not otherwise agreed, a default index of "1"; 3) a plan and schedule for studies, to be conducted at regular intervals, to evaluate whether the following criteria for implementing effective upstream passage through volitional facilities have been met: A) adult fish in Mayfield Lake are able to choose their tributary of origin and survive Mayfield Lake transit at rates determined by NMFS and USFWS, in consultation with the FTC or agencies, to be sufficient to achieve effective upstream passage through volitional facilities; and B) as determined based on the above-described tables with respect to: (I) the number of pre-spawners arriving at the Barrier Dam, in at least 3 of 5 consecutive brood years measured, and based on the 5-year rolling average, exceeds an abundance level which indicates natural recruitment above Mayfield Dam has achieved self-sustaining levels, as determined by the National Marine Fisheries Service in consultation with the FTC or agencies; (ii) the productivity level in 3 of 5 years and the 5-year rolling average, as measured at the Barrier Dam or other Cowlitz River fish counting facilities by the recruit/pre-spawner ratio, exceeds 1.0; and (iii) the disease management plan required by Article 8 has been implemented.

c) For any annual report filed within 12 years of license issuance in which the results of the studies indicate that, within the next three years or less, the above criteria for volitional upstream passage will be met with respect to any salmonid species originating in the Tilton basin and with respect to either spring chinook salmon or late winter steelhead originating above Mossyrock Dam, the Licensee shall also include proposed preliminary designs and schedules for the construction of upstream passage systems for the Project. In the case of Barrier Dam, the proposed modifications shall provide for breaching the Barrier Dam. In lieu of breaching, a fish ladder may be constructed only if NMFS and USFWS determine, in consultation with the FTC or agencies, that a ladder is more appropriate than breaching for effective upstream passage. The proposed modifications for the Barrier Dam shall also include steps to disable the electrical field in the event of fish ladder construction or breaching the dam. In the case of Mayfield Dam, the upstream passage system proposed shall be a ladder with sorting facilities, unless prior to filing the report the NMFS and USFWS determine that a tram is more appropriate than a ladder for effective upstream passage, in which case the system proposed shall be a tram with sorting facilities. In the case of Mossyrock

Dam, the passage system proposed shall be an adult trap and haul facility to facilitate adult transit above Cowlitz Falls Dam to be built before or concurrently with the upstream passage system at Mayfield Dam, unless prior to filing the report the USFWS and NMFS determine that a comparably-priced tram is more appropriate than a trap and haul facility based on studies that show fish are able to migrate through Riffe Lake, and it has also been determined that an adult upstream passage facility will be developed at Cowlitz Falls Dam. A draft report shall be provided to the FTC or agencies for review and comment. The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report, and specific descriptions of how the FTC's and agencies' comments are accommodated by the report. The Licensee shall submit the final report to the NMFS and USFWS for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the proposals in the report.

d) Upon meeting the criteria above for the construction of volitional upstream passage systems, the Licensee shall proceed expeditiously to complete the final design, permitting and construction of upstream passage systems. The final design shall be subject to the same review and approval process described in paragraph c) above. Once the report containing the final design and implementation schedule for the construction of upstream fish passage systems is approved by NMFS and USFWS and filed with the Commission, volitional upstream passage facilities shall be completed and made operational within one (1) year of meeting the criteria or approval of the final design, whichever is later, unless there is good cause for extending the period beyond one year.

e) Within five years of license issuance, the Licensee shall establish an interest-bearing escrow account in the amount of \$15 million to contribute to the total cost of constructing volitional upstream fish passage facilities. To minimize administrative cost and allow conservative growth, said escrow account may be held by the Licensee as a separate account (with Licensee being obligated to treat said account substantially similar to an escrow account), and said account may be invested, consistent with investment limitations on public agencies within the State of Washington.

f) If at any time the Licensee files a report indicating that the above criteria are not likely to be met within 15 years following license issuance with respect to listed chinook salmon or steelhead originating above Mayfield Dam, the Licensee shall consult with the FTC or agencies, using the best available data at the time, regarding factors that may be contributing to the failure to meet such criteria, and the likelihood or not that such criteria will be met for the listed stocks in the foreseeable future.

g) If preliminary or final upstream volitional fish passage design plans and implementation schedules have not been approved and filed with the Commission at the end of year 12, the Licensee must prepare and submit preliminary design plans and schedules in accordance with paragraphs c) and d) if the volitional upstream passage criteria set forth in paragraphs b) and c) have been met or are likely to be met for any salmonid species in the Tilton by year 15. The Licensee shall proceed expeditiously with final design and construction of volitional upstream passage facilities, unless otherwise directed under paragraph h) below.

h) If within 14 years of license issuance the criteria for volitional upstream passage facilities, described in b), c) and g) above, have not been met and it is determined by the FTC or agencies, and affected Tribes, with the concurrence of NMFS and USFWS, that measures in addition to those provided for in the August 2000 Settlement Agreement are necessary to restore self-sustaining, natural production of ESA-listed stocks in the Cowlitz River basin, and that expenditure of the escrow fund on such additional measures in lieu of volitional upstream facilities is necessary and appropriate to achieve natural stock restoration, consistent with the express purpose of the license and the Settlement Agreement, and with applicable recovery plans for the listed Cowlitz River stocks, the Licensee shall submit to the Commission a plan to abandon volitional upstream passage and expend the funds in the escrow account for the purposes of protecting and promoting restoration and recovery of listed Cowlitz River stocks. If the above criteria have not been met for any salmonid species in the Tilton by year 15, the Licensee shall continue monitoring fishery conditions for future construction of upstream volitional fish passage, until either the criteria are met or a decision is made to abandon upstream volitional passage and fund other necessary and appropriate measures in accordance with this paragraph.

I) Following construction of volitional upstream passage facilities, the Licensee, in consultation with the FTC or the agencies, shall monitor the effectiveness of the facilities. As deemed necessary by NMFS and USFWS, after consultation with the FTC, the Licensee shall implement such reasonable modifications as may be necessary to improve passage effectiveness.

j) Any plan required to be filed pursuant to this article shall be prepared in consultation with the FTC or agencies. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

**Cowlitz River Hydroelectric Project
Settlement Agreement**

Including

**Appendix A
Proposed License Articles**

August 8, 2000

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**Cowlitz River Hydroelectric Project
Settlement Agreement**

1 Parties to the Agreement

- 1.1 This Settlement Agreement (“Agreement”) is entered into this 10th day of August, 2000, by and between the following organizations, which shall be referred to collectively as “the Parties”: City of Tacoma, Washington, Department of Public Utilities, Light Division (“Tacoma”); Washington Department of Fish and Wildlife (“WDFW”), Washington Department of Ecology (“WDOE”), Washington State Parks and Recreation Commission (“WSPRC”); United States Fish and Wildlife Service (“USFWS”), National Marine Fisheries Service (“NMFS”), United States Forest Service - Gifford Pinchot National Forest (“USFS”), Interagency Committee for Outdoor Recreation (“IAC”), Lewis County, Confederated Tribes and Bands of the Yakama Nation (“Yakama Nation”), Washington Council of Trout Unlimited (“WCTU”), Sport Fishing Guides of Washington (“SFGW”) and American Rivers (“American Rivers”).
- 1.2 For purposes of this agreement, WDFW, WDOE, WSPRC, USFWS, NMFS, USFS and IAC shall be referred to collectively as “the Agencies”. For purposes of this agreement, Lewis County shall be referred to as “the Other Government Entities”. For purposes of this agreement, WCTU, SFGW, and American Rivers shall be referred to collectively as “the Conservation Groups.”
- 1.3 This Agreement shall be binding on and inure to the benefit of the above-listed Parties and their successors and assigns, unless otherwise specified in this agreement.

2 Definitions

- 2.1 “Project” means the Cowlitz River Hydroelectric Project, licensed to Tacoma by the Federal Energy Regulatory Commission (“FERC”) as Project No. 2016.
- 2.2 “License” means the regulatory authorization for construction, maintenance and operation of a hydroelectric project subject to the jurisdiction of the FERC pursuant to the

- Federal Power Act (“FPA”); the “Licensee” means the legal entity to which the license is granted, City of Tacoma, Washington, Department of Public Utilities, Light Division.
- 2.3 “License articles” means the terms and conditions included in the new license issued to Tacoma by the FERC for the continued operation of the Project.
- 2.4 “Fish Passage Survival” (“FPS”) as used in proposed license article 1 and applied to Cowlitz Falls Dam, Riffe Lake, and Mossyrock Dam, means the percentage of smolts entering the upstream end of Scanewa reservoir, and adjusted for natural mortality, that are collected at Cowlitz Falls Dam and Riffe Lake and Mossyrock Dam, that are transported downstream to the stress relief ponds, and subsequently leave the stress relief ponds at Barrier Dam as healthy migrants.
- 2.5 “Fish Guidance Efficiency” (“FGE”) as used in proposed license article 2 and applied to Mayfield Dam, means the percentage of smolts entering the Mayfield louver system that are guided through the juvenile fish guidance and bypass facilities and do not enter the turbines.
- 2.6 “Downstream fish passage survival rate” as used in proposed license article 2 and applied to Mayfield Dam, means the percentage of smolts entering the Mayfield louver system that are guided through the juvenile fish guidance and bypass facilities and do not enter the turbines, plus those juveniles that also pass through the project turbines or over the spillway and also survive.
- 2.7 “Wild salmonid” or “wild, naturally spawning”, for purposes of this Agreement, means a stock of fish that is sustained by natural spawning and rearing in the natural habitat, regardless of parentage.
- 2.8 “Pre-spawner,” for the purpose of this Agreement, means an adult salmonid that is progeny of hatchery or natural adult fish that spawned in the natural environment, returns from the ocean, and is collected at the Barrier Dam or hatchery trapping facilities.
- 2.9 “Recruit,” for the purpose of this Agreement, means an adult fish produced by a pre-spawner, measured one generation later and collected at the Barrier Dam or hatchery trapping facilities.

- 2.10 "Indigenous" means a stock of fish that has not been substantially affected by genetic interactions with non-native stocks of fish and is still present in all or part of its original range in the Cowlitz River basin.
- 2.11 "Natural production" means fish that are progeny of spawners in the natural environment and that subsequently rear in the natural environment throughout their lives.
- 2.12 "Agreement" means the entirety of this agreement, including the proposed license articles in Appendix A.
- 2.13 "Adjusted for inflation" means a value that shall be adjusted using the Gross Domestic Product Chain Type Price Index as published in the March issue of the Survey of Current Business. The base value will be defined as the value for the year 2000 as published in the March 2001 issue of the Survey of Current Business. Any adjustments will commence in the following year, or as otherwise provided in this Agreement.
- 2.14 "Material change in the Project" means any activity which falls within the activities contemplated in paragraphs 11.3.1 through 11.3.6.

3 Recitals

- 3.1 The Project generally consists of Mossyrock Dam (RM 65.5), Mayfield Dam (RM 52.0), Riffe Lake reservoir, Mayfield Lake reservoir, the two powerhouses and transmission facilities associated with the dams, the Cowlitz Salmon Hatchery (RM 49.5), the Barrier Dam (RM 47.0), the Cowlitz Trout Hatchery (RM 42.0), recreational facilities at the reservoirs, and lands within the Project boundary. Construction of the Project began with Mayfield Dam in 1956 and was completed with the construction of Mossyrock Dam ending in 1968. The Project has been operated and maintained continuously since original construction.
- 3.2 An original license for the Project was issued to Tacoma by the Federal Power Commission, predecessor to the FERC, by order dated November 28, 1951 for fifty (50) years. The license will expire on December 31, 2001. As required by Section 15 of the FPA, Tacoma filed formal notice of its intent to seek a new license for the Project in November of 1996 and filed an application for new license with FERC on December 27,

1999. In February 1998, FERC approved Tacoma's request to use the alternative relicensing procedures for preparation of its application and an applicant-prepared environmental assessment, in lieu of the Exhibit E environmental report. A Memorandum of Agreement and Communications Protocol among the Parties has guided the conduct of this process, which has culminated in this Agreement by and among the Parties.

4 Powers Reserved

- 4.1 It is the intent of the Parties that the requirements of the proposed license articles shall be enforced by FERC and other regulatory agencies that have concurrent jurisdiction to enforce such articles, including WDOE for Clean Water Act ("CWA") Section 401 water quality certification requirements. The Agreement and any proposed license articles determined to be outside FERC's jurisdiction shall be enforced through the remedies available under applicable state or federal law.
- 4.2 As required by Section 401 of the federal CWA, the FERC may not issue a new license for the Project unless and until a certification of compliance with water quality standards has been made or waived by the state agency responsible for CWA implementation. WDOE is the entity in the State of Washington statutorily authorized and obligated to issue Section 401 Water Quality Certifications and National Pollutant Discharge Elimination System ("NPDES") permits pursuant to the CWA and state water quality laws. In addition, WDOE is the entity authorized to issue water rights. By law, WDOE cannot issue any certification and/or permit without public notice and compliance with the State Environmental Policy Act ("SEPA"), following submission of an application for Section 401 certification by Tacoma. As of the date of this Agreement, these prerequisites have not been satisfied and no certification has been issued. Therefore, by signing this Agreement, WDOE may not formally bind itself to take any particular future permit or certification actions. WDOE expressly reserves the right, consistent with federal and state law, to place such conditions as it may deem necessary in any permit or certification it may issue in the future. WDOE's signature on this Agreement does,

however, indicate that absent new information being obtained by WDOE through the public process, environmental review, or other further actions contemplated under this Agreement, or absent a material change in the Project, or relevant change in applicable law, WDOE agrees that the instream flows and other provisions contained in this Agreement are adequate to meet the water quality standards currently contained in Washington law.

- 4.3 As required by Section 7 of the federal Endangered Species Act (“ESA”), the FERC may not issue a new license for the Project unless and until it has completed consultation with NMFS and USFWS with respect to threatened and endangered species affected by the Project. As of the date of this Agreement, ESA Section 7 consultation has not been completed. Therefore, by signing this Agreement, NMFS and USFWS do not formally bind themselves to make any specific recommendations or take any particular action with respect to ESA compliance. NMFS and USFWS expressly reserve the right, consistent with federal law, to take such future actions as they may deem necessary to meet their obligations under the ESA. By signing this Agreement, NMFS and USFWS expressly contemplate that FERC’s subsequent actions with respect to its issuance of the new license, and any subsequent modification, change, condition or omission made with respect to the new license, will fully satisfy the requirements of ESA Section 7, including the terms and conditions contained in a biological opinion issued by NMFS and USFWS. NMFS and USFWS further expressly contemplate that FERC will retain sufficient discretionary involvement or control with respect to project construction, modification, maintenance and operation under the new license issued in conformity with the terms of this Agreement so as to ensure full compliance with the requirements of the ESA with respect to the implementation of such actions during the term of the new license.
- 4.4 By entering into this Agreement, the USFS represents that it believes its statutory and other legal obligations are or can be met consistent with this Agreement. Nothing in this Agreement shall be construed to limit the USFS from complying with its legal obligations under applicable laws and regulation or from considering public comments received in any environmental review or regulatory process related to the issuance of the license.

This Agreement shall not be interpreted to predetermine the outcome of any National Environmental Policy Act ("NEPA") environmental review or administrative appeal process. Further, the USFS reserves the power to submit its standard terms and conditions for license to FERC for inclusion as license articles, as they may apply to the Licensee's activities on National Forest lands.

4.5 Under authority of the Treaty of June 9, 1855, the Yakama Nation claims perpetual rights to harvest fish at usual and accustomed places ("U & A") within the upper Cowlitz River basin. NMFS, USFWS, and USFS have a trust responsibility to protect any treaty resources for the benefit of the Yakama Nation. In addition, the Yakama Nation claims a share of the total fisheries harvest within the entire Columbia River basin. Due to a lack of historical documentation, none of the Agencies currently recognize Yakama U & A within the upper Cowlitz River basin. By signing this Agreement, the Parties agree that the issue of the Yakama Nation's treaty fishing rights and harvest allocation is not resolved by this Agreement. However, the Agencies and the Yakama Nation agree to work together on a government-to-government basis to address the issue of recognition by the United States and the State of Washington of Yakama rights to harvest fish within the basin. Resolution of the treaty issue subsequent to execution of this Agreement shall not affect the terms of this Agreement, and shall not create any contingencies or conditions subsequent concerning implementation of its provisions for protection, mitigation, and enhancement of natural resources.

4.6 By signing this agreement, all Parties agree that the provisions contained in paragraphs 4.2 and 4.3 control in interpreting the other provisions of this Agreement affecting CWA and ESA compliance.

5 Purpose of the Agreement

5.1 It is the intent of the Parties that this Agreement shall resolve, to the satisfaction of the Parties, all issues associated with issuance of a new license for the Project regarding fish passage, fish production, fish habitat, water quality, instream flows, wildlife, recreation and cultural and historic resources. This Agreement establishes Tacoma's obligations for

the protection, mitigation and enhancement of natural resources affected by the Project under a new license issued by FERC. It also specifies procedures to be used among the Parties to ensure the implementation of those license articles consistent with this Agreement, and with other legal and regulatory mandates, including but not limited to those described in Sections 4.2 and 4.3 above. It is the intent of the Parties to establish a framework for future collaborative efforts for the protection, mitigation and enhancement of the natural resources of the Cowlitz River basin.

5.2 Through the duration of this Agreement, the Parties and their successors and assigns, hereby release, waive and discharge Tacoma, its successors and assigns, from any and all claims, demands, actions and causes of action of any kind arising during that period from the effects of the Project on the natural resources of the Project area, so long as Tacoma, or its contractors, subcontractors or agents performs its obligations under this Agreement and the new license, and complies with all applicable laws, permits, certifications, and approvals. This release does not waive actions to interpret or enforce this Agreement or claims that may arise from past or future negligent or intentional misconduct of Tacoma in the operation of the Project, nor does it waive any actions that may arise under federal or state laws not referenced in or implemented through this Agreement. This release also does not waive the ability of the Parties to join in the defense of any lawsuit filed by any third party non-signatory as a result of the activities of any Party, including but not limited to any subsequent permitting activities of WDFW, WDOE, NMFS, USFWS or Lewis County.

5.3 For purposes of this Agreement, a "*force majeure*" is defined as causes beyond the reasonable control of, and without the fault or negligence of, any Party or any entity controlled by that Party, including its contractors and subcontractors (to the extent said contractor was acting under the control or direction of the Licensee), including but not limited to acts of God, or sudden actions of the elements, including fire. *Force majeure* does not include the financial inability of any Party to complete the work or increased cost of performance. In the event that any Party is wholly or partially prevented from performing obligations under this Agreement because of a *force majeure* event, that Party

shall be excused from whatever performance is affected by such *force majeure* event to the extent so affected, and such failure to perform shall not be considered a material breach, provided that nothing in this Section shall be deemed to authorize a Party to violate the ESA or other permit or certificate requirements, or render the standards and objectives of this Agreement unobtainable and provided further that: (1) the suspension of performance is of no greater scope and no longer duration than is required by the *force majeure*; (2) the prevented Party shall notify the other Parties to this Agreement in writing within a reasonable time after the event. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay; state the measures taken or to be taken to minimize the delay; and estimate the timetable for implementation of the measures; (3) in any action for enforcement or damages, the prevented Party shall have the burden of demonstrating that delay is warranted by a *force majeure*. The prevented Party shall make a good faith effort to avoid and mitigate the effects of the delay and remedy its inability to perform. A *force majeure* event may require use of other provisions of this Agreement in remedying the effects of the *force majeure* event, including but not limited to the provisions of Sections 6, 10, 11, 12, and 13; (4) when there is a delay in performance of a requirement under this Agreement that is attributable to a *force majeure*, the time period for performance of that requirement shall be reasonably extended as determined by the Parties; and (5) when the prevented Party is able to resume performance of their obligation, that Party shall give the other Parties prompt written notice to that effect.

- 5.4 Except as to agreements referenced in Section 6.2 below, all previous communications between the Parties, either verbal or written, with reference to the subject matter of this Agreement are superseded by the terms and provisions of this Agreement, and, once executed, this Agreement shall constitute the entire agreement between the Parties.

6 Guidance for Future Interpretation and Decision-Making

- 6.1 To the extent that the plain language of this Agreement is insufficient, the following general principles may be used by the Parties to aid understanding and implementation. In taking independent action outside the scope of this Agreement that may affect the resources of the Cowlitz River basin, the Parties shall also take into consideration the consistency of their actions with these principles.
- 6.1.1 The emphasis of this Agreement is ecosystem integrity and the restoration and recovery of wild, indigenous salmonid runs, including ESA-listed and unlisted stocks, to harvestable levels.
- 6.1.2 Fisheries obligations will be met through a combination of effective upstream and downstream passage, habitat restoration and improvement, an adaptive management program to restore natural production coupled with continued artificial production to compensate for unavoidable impacts at levels consistent with ESA recovery, and providing fish production for sustainable fisheries.
- 6.1.3 Collection and passage of juvenile fish migrating from the upper basin above Mossyrock Dam is the joint responsibility of the Bonneville Power Administration (“BPA”), Lewis County Public Utility District (“LCPUD”) and Tacoma.
- 6.1.4 ESA constraints will be a factor in determining the upper bound of production at the remodeled hatchery complex. Hatchery production numbers are expected to be adjusted downward as wild stocks recover.
- 6.1.5 Fisheries management and hatchery production will be consistent with the overall goal of restoring and recovering wild stocks in the Cowlitz River basin. The hatchery complex will be designed with flexibility so managers can employ innovative rearing practices, low densities, and replication of historic fish out-migration size and timing. At a minimum, WDFW will be the primary contractor for the operation of the hatchery complex through the year 2008 and could continue as such through the term of the license, based upon the results of the annual reviews. Annual reviews of contract

operations will include criteria for success including, but not limited to, fish health, operational efficiency, collaborative relationships, mutual expectations, effective implementation of the Fisheries and Hatcheries Management Plan, and public relations. At any time after 2008, WDFW may be contracted to operate the fish counting and fish separation activities in connection with the operation of the hatchery separator facility.

- 6.1.6 Maintenance of a recreational fishery is important. Implementation of wild salmonid recovery measures shall allow for the continued support of a recreational fishery on the Cowlitz River, including the production of non-indigenous stocks, provided this is consistent with the priority objective to maximize the recovery of wild, indigenous salmonid stocks.
- 6.1.7 If hatchery production is decreased in conjunction with wild stock recovery, there will be excess capacity over time at the hatchery. Uses for this excess capacity will be, in order of priority: 1) to reduce rearing densities of listed indigenous stocks which have not yet recovered; 2) to reduce rearing densities of indigenous stocks which have not yet recovered; 3) to provide space for increasing the production of listed indigenous stocks which have not yet recovered; 4) to provide space for increasing the production of indigenous stocks which have not yet recovered; and 5) to produce fish unrelated to Tacoma's protection, mitigation and enhancement responsibilities for the Project, pursuant to future agreements.
- 6.1.8 Habitat enhancement measures can be combined and coordinated with other habitat efforts throughout the watershed. The habitat component is meant to augment other protective measures, strengthen the overriding goal of wild, indigenous salmon recovery, achieve ESA objectives, and mitigate for the loss of riverine habitat due to project impoundments.
- 6.2 In implementing components of this Agreement that require the Parties to make decisions based on future conditions, the Parties will refer to the following environmental and recreational management plans, among others, for relevant resource goals, operating principles and best practices to inform their decisions:

- 6.2.1 1993 Cowlitz River Project Wildlife Settlement Agreement
- 6.2.2 2000 Cowlitz River Project Cultural Resource Management Plan
- 6.2.3 Washington State Wild Salmonid Policy
- 6.2.4 State of Washington Outdoor Recreation and Habitat Assessment and Policy Plan
- 6.2.5 Applicable ESA Recovery Plans
- 6.2.6 Washington State Trails Plan: Policy and Action Document
- 6.2.7 Revised Shoreline Master Program for Lewis County
- 6.2.8 Draft Lower Columbia Steelhead Conservation Initiative
- 6.2.9 Cowlitz River Project Integrated Aquatic Vegetation Management Plan

7 Effective Date of the Agreement and Duration

- 7.1 This Agreement shall take effect upon signature of all Parties and shall remain in effect for the term of the new license and for any annual license issued subsequent thereto, except as provided in Section 11.5.

8 Obligations of Tacoma: Proposed License Articles for Environmental Protection, Mitigation and Enhancement

- 8.1 Except as described in Sections 4.2 and 4.3 above, the Parties agree that Tacoma's obligations for the protection, mitigation and enhancement of natural resources affected by the Project, including measures for fish passage, fish production, fish habitat, water quality, instream flows, wildlife, recreation and cultural and historic resources are fully described in this Agreement.
- 8.2 In anticipation of and consistent with the proposed license articles in Appendix A, Tacoma agrees to take the following actions promptly upon signing of this Agreement and to continue these actions as required by the articles referenced below:
 - 8.2.1 Undertake studies of Mayfield turbine mortality and current louver effectiveness (Article 2).
 - 8.2.2 Develop a Fisheries and Hatchery Management Plan (Article 6).
 - 8.2.3 Develop a Fisheries Disease Management Plan (Article 8).

- 8.2.4 Develop a Hatchery Complex Remodel and Phase-In Plan (Article 7).
- 8.2.5 Develop a gravel augmentation plan at Barrier Dam (Article 10).
- 8.2.6 Investigate groundwater supply options and availability at the hatchery complex (Article 7).
- 8.2.7 Study Mayfield Lake adult self-sorting and identify adult returns by sub-basin of origin (Article 3).
- 8.2.8 Convene the Fisheries Technical Committee and Habitat Advisory Group referred to in Section 12 of this Agreement.
- 8.2.9 Prepare a training manual for use of its operations staff that provides tools, resources and information to manage flows for flood control, recreation, power generation, and fish survival and health.
- 8.2.10 Engage in negotiations with LCPUD (licensee for the Cowlitz Falls Project, FERC No. 2833) and BPA regarding cooperative efforts to improve downstream passage effectiveness at Cowlitz Falls and provide a progress report to NMFS and USFWS within 4 months of the effective date of this Agreement and monthly thereafter until negotiations are completed or terminated.
- 8.2.11 For any of the above plans and reports that are required to be filed with FERC as a condition of a proposed license article, Tacoma will file such plan or report promptly upon completion, after undertaking such consultation and review as may be required.
- 8.3 In addition, pending issuance of a new license and implementation of new terms and conditions thereunder related to the effects of the Project on natural resources, Tacoma shall continue to comply fully with the terms and conditions of its existing license and shall maintain the level of activity undertaken as of the effective date of this Agreement, with respect to:
 - 8.3.1 Fund operation and maintenance of Cowlitz salmon and trout hatcheries, including stress relief ponds.
 - 8.3.2 Placement of large woody debris.

- 8.3.3 Participation in the salmon and steelhead introduction effort in the Cowlitz River basin above Mayfield Dam by collecting adult fish at the salmon and trout hatcheries and releasing them in their sub-basin of origin and transporting downstream migrants.
- 8.3.4 Funding of a freshwater juvenile tagging and monitoring program.
- 8.3.5 Funding of hatchery fish mass marking.
- 8.3.6 Funding for 50,000 pounds of resident fish production at the Mossyrock trout hatchery.

9 Obligations of the Parties: Actions in Support of License Issuance

- 9.1 Tacoma. By entering into this Agreement, Tacoma agrees to: a) within 30 days of the effective date of this Agreement, file an offer of settlement with FERC pursuant to Rule 602 (18 CFR 385.602); b) submit a statement in support of the Agreement to FERC as part of its response to comments on the Draft Environmental Assessment and application for new license; c) submit a statement in support of the Agreement to WDOE as part of any comments or responses to comments it may file on the application for CWA Section 401 water quality certification; d) submit a statement in support of the Agreement to NMFS and USFWS as part of any comments in the ESA Section 7 consultation process; e) ensure that any supplemental information, comments or responses to comments filed by it with FERC or WDOE in the context of the relicensing and water quality certification processes are consistent with this Agreement; and f) actively support, in all relevant regulatory proceedings, incorporation of the proposed license articles in Appendix A into the FERC license and incorporation of consistent terms into the water quality certification and other applicable permits, as appropriate.
- 9.2 Regulatory Agencies. Except as provided in Sections 4.2 and 4.3 above, by entering into this Agreement, the Agencies, individually and collectively, agree: a) to submit a statement in support of the Agreement to FERC as part of the offer of settlement and of their comments on the Draft Environmental Assessment and Tacoma's application for a new license; b) that the individual agency's complete and final recommendations, conditions, and/or prescriptions pursuant to Sections 4(e), 10(a), 10(j), and 18 of the FPA,

to the extent those sections are applicable to each individual agency, shall be consistent with the Agreement; c) to submit a statement in support of the Agreement to WDOE as part of any comments on the application for CWA Section 401 water quality certification; d) to ensure that any comments submitted to FERC related to the ESA Section 7 consultation process are consistent with the Agreement; e) to ensure that any supplemental information, comments or responses to comments filed by them with FERC or WDOE in the context of the relicensing and water quality certification processes are consistent with this Agreement; and f) to actively support, in all relevant regulatory proceedings, incorporation of the proposed license articles in Appendix A into the FERC license and incorporation of consistent terms into the water quality certification and other applicable permits, as appropriate.

- 9.2.1 To the extent allowed by law, WDOE agrees that its comments, requests, opinions, certification conditions, permit decisions and any other actions taken in compliance with its responsibilities under the CWA shall be consistent with the proposed license articles in Appendix A and that no additional obligations shall be imposed upon Tacoma except as provided in Sections 4.2 and 11.3.
- 9.2.2 To the extent allowed by law and in conformity with Section 4.3 above, USFWS and NMFS agree that Tacoma's application for relicensing as modified by the proposed license articles in Appendix A shall constitute the proposed action for purposes of ESA Section 7 consultation on the new license, and that following issuance of a new license in conformity with this Agreement, the requirements of Section 7(a)(2) of the ESA and other applicable law, no additional obligations shall be imposed upon Tacoma except as provided in Section 11.4.
- 9.2.3 WDFW agrees that, to the extent allowed by applicable law, including requirements for public rulemaking, its actions as fishery resource manager for the State of Washington shall be consistent with the Agreement.
- 9.3 By entering into this Agreement, the Other Government Entities agree, individually and collectively: a) to submit a statement in support of the Agreement to FERC as part of the offer of settlement and of their comments on the Draft Environmental Assessment and

Tacoma's application for a new license; b) that the individual entity's complete and final recommendations pursuant to Section 10(a) of the FPA shall be consistent with the Agreement; c) to submit a statement in support of the Agreement to WDOE as part of any comments on the application for CWA Section 401 water quality certification; d) to ensure that any comments submitted to FERC related to the ESA Section 7 consultation process are consistent with the Agreement; e) to ensure that any supplemental information, comments or responses to comments filed by it with FERC or WDOE in the context of the relicensing and water quality certification processes are consistent with this Agreement; and f) to actively support, in all relevant regulatory proceedings, incorporation of the proposed license articles in Appendix A into the FERC license and incorporation of consistent terms into the water quality certification and other applicable permits, as appropriate.

- 9.4 Except as provided by Section 4.5, by entering into this Agreement, the Yakama Nation agrees: a) to submit a statement in support of the Agreement to FERC as part of the offer of settlement and of its comments on the Draft Environmental Assessment and Tacoma's application for a new license; b) that the Yakama Nation's complete and final recommendations pursuant to Section 10(a) of the FPA shall be consistent with the Agreement; c) to acknowledge in such supporting statements that the Agreement satisfies the trust responsibilities owed to the Yakama Nation by agencies or departments of the United States government concerning this relicensing; d) to recommend to any agency of the United States government not a Party to this Agreement that such agency support the adoption of the Agreement; e) to submit a statement in support of the Agreement to WDOE as part of any comments on the application for CWA Section 401 water quality certification; f) to ensure that any comments submitted to FERC related to the ESA Section 7 consultation process are consistent with the Agreement; g) to ensure that any supplemental information, comments or responses to comments filed by it with FERC or WDOE in the context of the relicensing and water quality certification processes are consistent with this Agreement; and h) to actively support, in all relevant regulatory proceedings, incorporation of the proposed license articles in Appendix A into the FERC

license and incorporation of consistent terms into the water quality certification and other applicable permits, as appropriate.

- 9.5 By entering into this Agreement, the Conservation Groups agree, individually and collectively, to: a) submit a statement in support of the Agreement to FERC as part of the offer of settlement and of their comments on the Draft Environmental Assessment and Tacoma's application for a new license; b) submit a statement in support of the Agreement to WDOE as part of their comments on the application for CWA Section 401 water quality certification; c) ensure that any comments submitted to FERC related to the ESA Section 7 consultation process are consistent with the Agreement; d) ensure that any supplemental information, comments or responses to comments filed by it with FERC or WDOE in the context of the relicensing and water quality certification processes are consistent with this Agreement; and e) actively support, in all relevant regulatory proceedings, incorporation of the proposed license articles in Appendix A into the FERC license and incorporation of consistent terms into the water quality certification and other applicable permits, as appropriate.

10 Adoption by the FERC

- 10.1 The Parties have entered into this Agreement with the express condition that FERC approves the Agreement as an offer of settlement and issues a new license that incorporates the proposed license conditions in Appendix A. The Parties agree that if FERC incorporates into the license the proposed license articles in Appendix A, they will not seek rehearing of the FERC order so doing or support in any way a request for rehearing by any non-Party to this Agreement, provided that as to WDOE this obligation applies only if FERC also incorporates into the license all conditions contained in its CWA Section 401 water quality certification.
- 10.2 In the event that FERC materially changes, conditions, modifies or omits, either directly or indirectly, any of the proposed license articles in Appendix A or any plans required to be submitted in accordance with such articles, in its order issuing new license or any subsequent order, the Agreement shall be considered modified to conform to the FERC

order unless any Party to the Agreement within twenty (20) days of receiving FERC's order provides notice, orally and by facsimile, to the other Parties that it objects to the modification, change, condition or omission, and attempts to convene a meeting or a conference call of all Parties to discuss the objectionable FERC changes and seek consensus on a course of action. If agreement is not reached at the meeting or conference call on a common course of action, any Party may individually file a petition for rehearing with FERC advocating alteration of the license order to reverse the objectionable modification, change, condition or omission and ensure consistency between the Agreement and the new license.

10.2.1 The specific term of the new license for the Project is not an express condition of this Agreement, and the Parties may advocate for a term of at least 30 and not more than 50 years (consistent with Section 15(e) of the FPA) in comments submitted to the FERC, as described in Section 9, above, provided that such advocacy is not inconsistent with the other terms of this Agreement. The Parties agree that any license term of thirty-five to forty years will not constitute a material change allowing a Party to seek rehearing on that issue pursuant to this Section. If FERC issues a license for less than 35 years or more than 40 years, any Party may seek rehearing on the issue of the license term after following the procedures set forth in this section.

10.2.2 In the event that FERC does not reverse the objectionable material change, condition, modification, or omission in an order on petition for rehearing filed as provided above or otherwise further modifies, changes, conditions or omits any provision contained herein, the objecting Party may seek judicial review. Upon final order by FERC or a reviewing court, or expiration of the period for judicial review, the Agreement shall be considered modified to conform to said order. Any Party to the Agreement, within thirty (30) days of such final order or expiration, may withdraw from the Agreement because of the modification, change, condition or omission after providing written notice to the other Parties. Upon such notification, the provisions of Section 11.5 of this Agreement shall apply. Upon withdrawal from this Agreement, a former Party is no longer bound by the

Agreement and shall not have waived any rights or otherwise limited its ability to pursue available remedies by virtue of having previously been a Party to this Agreement.

10.2.3 In the event that rehearing petitions and/or judicial appeals arise from FERC actions as described above, the Parties shall meet and confer on the need to amend the Agreement with respect to any deadlines for initiating or completing activities required by this Agreement and the proposed license articles in Appendix A, as incorporated in the new license.

11 Modification of License or Permit Terms and Amendment of Agreement

11.1 The Parties agree that this Agreement may be amended by unanimous written consent of the Parties. Any Party may request all other Parties to commence negotiations for a period of up to ninety (90) days to amend the terms and conditions of this Agreement in whole or in part. Any such amendment that renders the Agreement inconsistent with terms and conditions of the new license or other regulatory approvals then in effect shall be subject to approval by FERC or other permitting agency, except that the Parties may agree to implement on an interim basis, pending approval, any amendment not requiring prior regulatory approval. If ESA recovery is successful and all fish stocks affected by the Cowlitz River Project are delisted, the Parties will meet and confer to negotiate any necessary changes to the Agreement. These changes will reflect that WDFW is the state agency with primary authority over fisheries management, including artificial production.

11.1.1 If and at such time as this Agreement is amended to include Bonneville Power Administration and Lewis County Public Utility District as signatories to this Agreement, then a) they will be added to the Parties listed in Section 1.1, b) they will be entitled to select an aquatic scientist as their joint representative to become a full member of the Fisheries Technical Committee ("FTC"), and c) they and Tacoma will negotiate promptly, reasonably, and in good faith the equitable cost-sharing agreement among Tacoma, BPA, and Lewis County Public Utility District that is referred to in proposed license article 1.

- 11.2 Except as provided below and pursuant to Sections 4.2, 4.3, and 4.4, the Parties agree not to invoke any re-opener clause or reservation of authority in the new license or in any other regulatory approval or permit required for the Project in order to request the imposition by FERC or any other agency of additional or modified measures for fish passage, fish production, fish habitat, water quality, instream flows, wildlife, recreation, and/or cultural and historic resources unless and until the amendment process described above has been undertaken.
- 11.3 Consistent with the regulatory context of the CWA described in Section 4.2 above, Tacoma by signing this agreement acknowledges that, under current law, WDOE retains the authority to amend the Section 401 water quality certification for purposes of addressing specific proposed activities by adding, deleting or modifying any conditions when any of the following occur:
- 11.3.1 Construction activities that have the potential to adversely impact water quality, including but not limited to: (a) fish passage construction; (b) construction of hatchery and rearing facilities; (c) construction of new diversion works from both tributaries to the Cowlitz River and the Cowlitz River mainstem; (d) construction of new dams; (e) removal or modifications of existing dams, diversions and weirs; and (f) construction of recreation facilities in or near the water.
- 11.3.2 Any proposal to modify the quantity of water diverted at Project facilities.
- 11.3.3 Any proposal to modify stream bed profiles including but not limited to gravel enhancement measures.
- 11.3.4 Any proposal to modify the terms of the Agreement.
- 11.3.5 When monitoring or other studies establish that new measures are necessary to ensure compliance with the water quality standards.
- 11.3.6 When changes in the law necessitate re-opening or amendment in order to ensure compliance with water quality standards.
- 11.3.7 Nothing in this Section affects the right of Tacoma or any other Party to administrative due process, as provided in applicable law, in connection with any such amendment, including the right to notice, an opportunity to be heard, and administrative and judicial

review, except that by signing this Agreement, Tacoma has waived any challenges it may have under current law to WDOE's authority to re-open or amend the CWA Section 401 certification as discussed in paragraphs 11.1 through 11.3.6. By signing this Agreement, Tacoma has not waived its right to challenge on other grounds any new conditions that result from the re-opening or amendment of the certification.

11.4 Consistent with the regulatory context of the ESA described in Section 4.3 above, and following completion of consultation pursuant to Section 7(a)(2) of the ESA, including issuance of a biological opinion with regard to a new FERC license issued in conformity with this Agreement, NMFS and USFWS reserve the right to reinitiate consultation under any of the following conditions:

11.4.1 The amount or extent of authorized incidental take is exceeded, or

11.4.2 New information reveals effects of the construction, modification, maintenance or operation of the Project under a new license issued in conformity with this Agreement that may affect listed species or critical habitat in a manner or to an extent not considered in the biological opinion, or

11.4.3 The license is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in the biological opinion, or

11.4.4 A new species is listed or critical habitat designated that may be affected by the construction, modification, maintenance or operation of the project under a new license issued in conformity with this agreement.

11.4.5 In considering any new information regarding the manner or extent to which the construction, modification, maintenance or operation of the Project under a new license issued in conformity with this Agreement may affect listed species or critical habitat, NMFS and USFWS will consider the manner or extent to which the effects of such action, continuing during the term of the license, may increase or reduce the likelihood of survival and recovery of listed salmonids, including any stocks determined by NMFS to be essential to the recovery of listed species that are restored to natural production in the Tilton and Cowlitz river basins pursuant to the protection, mitigation and enhancement requirements of the license and the terms of this Agreement.

- 11.4.6 Nothing in this Section affects the right of Tacoma or any other Party to administrative due process, as provided in applicable law, in connection with any such proceeding, including the right to notice, an opportunity to be heard, and administrative and judicial review.
- 11.5 Withdrawal by Tacoma, or by NMFS, USFWS, or WDOE due to a change by FERC to a term or condition within their mandatory conditioning authority under the conditions described in Section 10.2.1 shall render this Agreement void. Withdrawal by other Parties shall have no effect on the enforceability of this Agreement.
- 11.6 In the event that FERC, WDOE or other regulatory agency having jurisdiction over the Project initiates any proceeding, other than the relicensing proceeding itself, either on its own motion or at the request of a non-Party, that may have the effect of changing, conditioning or modifying any provision contained herein or of imposing additional measures for fish passage, fish production, fish habitat, water quality, instream flows, wildlife, recreation, and/or cultural and historic resources, the other Parties shall meet and confer on the need to participate jointly in the proceeding in support of the Agreement or to amend the Agreement.

12 Implementation of Agreement and License Conditions

- 12.1 To assist in the implementation of the terms of this Agreement, the Parties agree to create the Fisheries Technical Committee ("FTC").
- 12.2 The FTC shall include one representative from each of the following Parties to this Agreement: Tacoma, NMFS, USFWS, WDFW, WDOE and the Yakama Nation; and one representative from the Parties included in the Conservation Groups. Agency representatives will be aquatic scientists. The representatives of the Yakama Nation and the Conservation Groups will be either aquatic scientists or persons with extensive knowledge of the Cowlitz River basin.

- 12.3 Draft plans, reports and recommendations developed by the FTC shall be provided to all Parties for review and comment. Parties will also be provided with final products of the FTC.
- 12.4 The FTC shall meet as deemed necessary by its members, but at least annually. Tacoma shall be responsible for convening the FTC, including providing adequate notice to all FTC members and funding basic administrative services in support of the FTC's efforts.
- 12.5 The FTC shall be responsible for making recommendations on actions to maximize the effectiveness of fisheries mitigation, protection, and enhancement measures. Such recommendations will include, but are not limited to: the plan for phasing in the remodeled hatchery complex described in Article 7, the hatchery and fish management plan described in Article 6, the disease management plan described in Article 8, assessment of the progress towards upstream passage triggers as described in Article 3, assessment of progress toward reaching downstream passage objectives and measures as may be necessary to achieve such objectives as described in Articles 1 and 2, review of instream flows as described in Article 15, study protocols and goals in support of such plans and assessments, and such adaptive management recommendations as may be indicated by monitoring and evaluation measures. Recommendations of the FTC shall be in writing.
- 12.6 The FTC shall develop its own operating rules and procedures, emphasizing the importance of developing a consensus among FTC representatives on fishery measures. When making recommendations, the FTC will operate by consensus when possible or by majority vote.
- 12.7 Where an Agency has prescriptive and mandatory conditioning authority over fisheries or instream flow issues, the FTC will coordinate and convey information to the appropriate decision-making Agency. Where no Agency has prescriptive or mandatory conditioning authority, the FTC will make recommendations to Tacoma, who will convey a subsequent plan to FERC and provide a copy of such plan to the FTC. For recommendations made directly to Tacoma, Tacoma shall follow the recommendations of the FTC unless it can establish good cause for rejecting or modifying such recommendations. Should Tacoma

reject or modify such recommendations, it must notify the FTC in writing within 30 days of receiving the recommendations and state the reasons for rejecting or modifying such recommendations. If the dispute is not resolved, the positions of both the licensee and the FTC shall be provided as documentation of consultation in all FERC filings.

- 12.8 To aid in the implementation of Article 11, the Parties agree to create the Habitat Advisory Group ("HAG"). The HAG will consist of a representative of each Party that elects to participate.
- 12.9 The HAG shall be responsible for advising Tacoma regarding the development and implementation of a plan for the use of the habitat fund required by Article 11, including criteria for disbursement and a means of deciding which habitat projects should receive priority. The HAG shall develop its own operating rules and procedures, emphasizing the importance of developing consensus on habitat measures.

13 Resolving Disputes Among the Parties

- 13.1 In the event that any dispute arises among the Parties as to the interpretation of and/or compliance by any Party with the obligations of this Agreement and the license, the Parties agree to engage in good faith negotiations for a period of at least ninety (90) days in an effort to resolve the dispute. During the ninety-day period, any Party may request the services of a professional mediator to assist in resolving the dispute, with such mediator to be selected by the disputing Parties. The Party requesting such services shall cover the costs, unless there is an agreement among the disputing parties to share costs. In the event that resolution cannot be reached within the 90-day negotiating period, the dispute may be referred to FERC pursuant to FERC's then-applicable Rules of Practice and Procedure (18 CFR Part 385). If a dispute is referred to FERC, the Parties shall make use of such resources for alternative dispute resolution as may be available at FERC.
- 13.2 No Party shall seek relief in any other forum for noncompliance with this Agreement unless and until the requirements of the above-described dispute resolution process shall have been met. If dispute resolution is not successful, any Party may seek judicial,

administrative or other enforcement of the terms of this Agreement, which shall be enforceable under all applicable federal or state laws governing agreements of this type.

- 13.3 This section shall not apply to disputes within the FTC or the HAG, unless the Agencies or a majority of the FTC recommend otherwise. It will also not apply to disputes regarding FERC incorporation of the proposed license articles described in Section 10, to disagreements over proposed amendments to the Agreement described in Section 11, nor to disputes arising in the context of CWA Section 401 water quality certification or ESA compliance.

14 Notice and Communication

- 14.1 All written notices to be given pursuant to this Agreement shall be mailed by first class mail, or overnight express service, postage prepaid, to each Party at the addresses listed below or such subsequent address as a Party shall identify. Notices shall be deemed to be given five (5) business days after the date of mailing or on date of receipt if overnight express or other receipt-notification service is used.
- 14.2 For purposes of implementing this Agreement, the Parties agree that the following individuals shall be designated to be the primary contact persons and all written notices shall be posted to these individuals at the addresses listed below. Notification of changes in the contact persons must be made in writing and delivered to all other contact persons:

For Tacoma:

Debbie Young, Natural Resources Manager
Tacoma Power
3628 South 35th Street
Tacoma, WA 98409
P. O. Box 11007
Tacoma, WA 98411
Phone: (253) 502-8340
Fax: (253) 502-8396
E-mail: dyoung@ci.tacoma.wa.us

For WDFW:

Hal Beecher, Fisheries Research Scientist
Habitat Program, Science Team
Washington Dept. of Fish and Wildlife
600 Capitol Way North
Olympia, WA 98501-1091
Phone: (360) 902-2421
Fax: (360) 902-2946
E-mail: beechhab@dfw.wa.gov

For WDOE:

Jeff Marti, Environmental Specialist
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
300 Desmond Drive
Lacey, WA 98503
Phone: (360) 407-6636
Fax: (360) 407-6574
E-mail: jema461@ecy.wa.gov

For WSPRC:

Larry Fairleigh
Washington State Parks and Recreation Commission
P.O. Box 42650
Olympia, WA 98540-2650
Phone: (360) 902-8500
Fax: (360) 664-2756
E-mail: larry.fairleigh@parks.wa.gov

For USFWS:

Eugene Stagner
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For NMFS:

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National Marine Fisheries Service
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Lacey, WA 98503
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E-mail: steven.m.fransen@noaa.gov

For USFS:

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Vancouver, WA 98682
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For IAC:

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Interagency Committee for Outdoor Recreation
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Olympia, WA 98504
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Fax: (360) 902-3026
E-mail: jime@iac.wa.gov

For Lewis County:

Dennis Hadaller
Lewis County Board of Commissioners
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Phone: (360) 740-1419
Fax: (360) 740-2675

For Yakama Nation:

Johnson Meninick, Manager
Yakama Nation Cultural Resources Program
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For Washington Council of Trout Unlimited:

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Washington Council of Trout Unlimited
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E-mail: nwssctu@halcyon.com

For American Rivers:

Robert J. Masonis, Regional Director
Conservation Programs
Northwest Regional Office of American Rivers
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Fax: (206) 213-0334
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For Sport Fishing Guides of Washington:

Clancy Holt, President
Sport Fishing Guides of Washington
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Chehalis, WA 98537
Phone: (360) 262-9549

14.3 In the event that the primary contact person listed in 14.2 above is not available, written notices may be posted to the following individuals at the addresses listed below:

For Tacoma:

Patrick McCarty, Generation Manager
Tacoma Power
3628 South 35th Street
Tacoma, WA 98409-3192
Phone: (253) 502-8336
Fax: (253) 502-8136
E-mail: pmccarty@ci.tacoma.wa.us

For WDFW:

David Mudd, Division Manager, Major Projects
Washington Dept. of Fish and Wildlife
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Fax: (360) 902-2946
E-mail: mudddrm@dfw.wa.gov

For WDOE:

Brad Caldwell, Environmental Specialist 4
Washington Department of Ecology
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Olympia, WA 98504-7600
300 Desmond Drive
Lacey, WA 98503
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Fax: (360) 407-6574
E-mail: brca@ecy.wa.gov

For WSPRC:

Barbara Herman, Assistant Attorney General
Natural Resource Division
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For USFWS:

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U.S. Fish and Wildlife Service
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For NMFS:

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National Marine Fisheries Service
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For IAC:

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Interagency Committee for Outdoor Recreation
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Olympia, WA 98504
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E-mail: jime@iac.wa.gov

For Lewis County:

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Lewis County Board of Commissioners
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For Yakama Nation:

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For Trout Unlimited:

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West Coast Legal and Policy Coordinator
Trout Unlimited
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Fax: (503) 827-5672
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For American Rivers:

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Policy Director, Hydropower Programs
American Rivers
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Washington, DC 20005
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Fax: (202) 347-9240
E-mail: afahlund@amrivers.org

For Sport Fishing Guides of Washington:

Joe Little, Vice President
Sport Fishing Guides of Washington
1941 Bishop Rd
Chehalis, WA 98537
Phone: (360) 748-3474

14.4 Notices and other communications not required to be made to all Parties or not required to be made in a specific manner under the terms of this Agreement need not be in writing and may be made by telephone, electronic mail or facsimile.

15 Costs

15.1 Except as provided above, all Parties are to bear their own costs of participating in the Agreement.

15.2 Nothing in this Agreement shall be interpreted as or constitute a commitment or requirement that the federal Agencies obligate or pay funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341.

16 Miscellaneous Provisions

16.1 No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

17 Signatures

17.1 Each Party to this Agreement represents and acknowledges that it has the full legal authority to execute this Agreement and shall be fully bound by its terms.

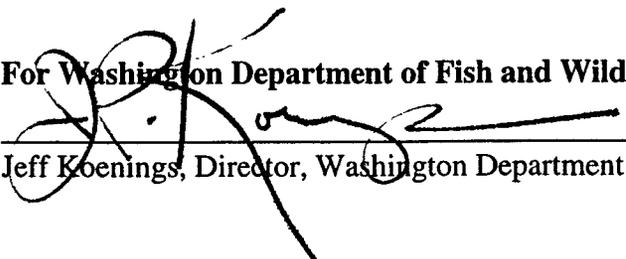
Entered into as of this 10th day of August, 2000.

For City of Tacoma:



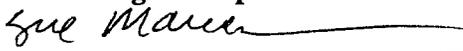
Mark Crisson, Director, Tacoma Public Utilities

For Washington Department of Fish and Wildlife:



Jeff Koenigs, Director, Washington Department of Fish and Wildlife

For Washington Department of Ecology:



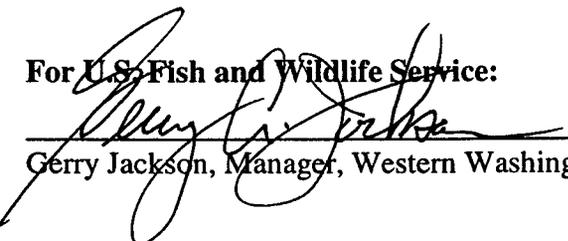
Sue Mauerman, Regional Director, Washington Department of Ecology

For Washington State Parks and Recreation Commission:



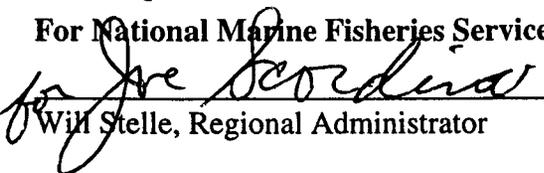
Cleve Pinnix, Director, Washington State Parks and Recreation Commission

For U.S. Fish and Wildlife Service:



Gerry Jackson, Manager, Western Washington Office

For National Marine Fisheries Service:



Will Stelle, Regional Administrator

For U.S. Forest Service:

Harv Forsgren

Harv Forsgren, Regional Forester

For Interagency Committee for Outdoor Recreation:

Laura Johnson

Laura Johnson, Director

For Lewis County:

Richard A. Graham

Richard Graham, Commissioner

Dennis Hadaller

Dennis Hadaller, Commissioner

Russ Wigley

Russ Wigley, Commissioner

For Yakama Nation:

William Yallup, Sr.

William Yallup, Sr., Chairman, Yakama Nation Cultural Committee

For Washington Council of Trout Unlimited:

William V. Robinson

William V. Robinson, Executive Director

Ric E. Abbett

Ric Abbett, Washington Council NRB Director

For American Rivers:

Rebecca Wodder

Rebecca Wodder, President

For Sport Fishing Guides of Washington:

Clancy Holt

Clancy Holt, President

APPENDIX A
PROPOSED LICENSE ARTICLES

Ordering Language. Proposed language for the Commission order issuing new license, regarding fishway prescriptions and reservation of authority.

The following proposed license Articles 1, 2, and 3 will be prescribed by NMFS and USFWS to be separately filed pursuant to their authority under Section 18 of the Federal Power Act ("FPA") (or with respect to certain other provisions, including Section 10(j) of the FPA, as appropriate). NMFS and USFWS expressly reserve their authority under Section 18 of the FPA, including without limitation their authority to amend the following fishway prescriptions contained in proposed Articles 1, 2, and 3 following approval by NMFS and USFWS of such plans, designs and implementation schedules pertaining to fishway construction, operation, maintenance and monitoring as may be submitted by the Licensee in accordance with the terms of the license articles containing such fishway prescriptions.

Article 1. Downstream Fish Passage: Riffe Lake and Cowlitz Falls Collection and Passage.

a) Within six (6) months of license issuance, Licensee shall develop and submit a plan for downstream fish passage and collection at Riffe Lake and Cowlitz Falls. The Licensee shall prepare the plan in collaboration with, and subject to approval by, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. The plan shall include: 1) a report on the results of negotiations among the Licensee, Lewis County Public Utility District (licensee for the Cowlitz Falls Project, FERC No. 2833) and the Bonneville Power Administration regarding shared funding of cooperative efforts to improve downstream passage and collection effectiveness at or near Cowlitz Falls; 2) proposed facilities and measures most likely to achieve the goal of 95% Fish Passage Survival ("FPS"), as defined in the August 2000 Settlement Agreement, to be funded by the Licensee to contribute to effective downstream passage and collection at or near Cowlitz Falls and/or to be constructed by the Licensee downstream of

Cowlitz Falls Dam at Riffe Lake; 3) plans to support the on-going operation and maintenance of facilities and measures for downstream passage and collection at or near Cowlitz Falls and/or at Riffe Lake each year for the term of the license; 4) plans for monitoring and evaluation of effectiveness, including determination of the combined FPS of the existing, proposed new and/or improved facilities at or near Cowlitz Falls and/or Riffe Lake; and 5) a construction and implementation timeline not to exceed 12 months from plan approval by the Commission, unless the Licensee can establish good cause for additional time. The draft plan shall be provided for 30-day review and comment to the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, to the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan either on its own or pursuant to an agreement reached among the Licensee, Bonneville Power Administration and Lewis County Public Utility District to fund cooperative efforts for passage improvements at or near Cowlitz Falls.

b) Within eighteen (18) months of completion of the new and/or modified Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities required above, the Licensee shall file a report on the effectiveness of the Riffe Lake/Cowlitz Falls downstream fish passage/collection facilities and measures, including an evaluation of the FPS achieved by the facilities and measures. If the FPS achieved has not reached 95%, the report shall include a plan and schedule providing for any further improvements to downstream passage facilities or measures as are determined by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to be most likely successful in reaching 95% FPS. The Licensee shall prepare and file

the plan for further improvements in accordance with the consultation, review and approval procedures set forth above, and upon approval by the NMFS and USFWS and filing with the Commission, shall implement, or support implementation of, the improvements provided for in the plan. The plan and schedule shall provide for continued monitoring and evaluation of fish passage effectiveness. The monitoring and evaluation results shall be provided to the FTC or the agencies in a timely manner.

c) The Licensee shall implement, or support implementation of, additional downstream passage facility improvements and file additional reports at 18 month intervals in accordance with the preceding paragraph until the Licensee has employed the best available technology and achieved at least 75% FPS for all species.

Article 2. Downstream Fish Passage: Mayfield.

a) Within six (6) months of license issuance, the Licensee shall develop and file with the Commission, a study plan or study results evaluating turbine mortality and the effectiveness of the existing louver system at Mayfield Dam. The studies shall be designed and results reviewed in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The Licensee shall include with the study plan and results documentation of consultation and copies of comments and recommendations on the plan and descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall conduct the studies.

b) Within three (3) years of license issuance, the Licensee shall develop and file with the Commission, a plan for improvements to downstream fish passage at Mayfield Dam. The plan shall be developed in consultation with the FTC or agencies and shall be based upon, but not

limited to, the 90% Fish Passage Report (filed as supplemental information by the Licensee in February 2000). It shall include: 1) the results of studies of turbine mortality and effectiveness of the existing louvers; 2) plans for debris handling modifications; 3) plans for changes to the bypass system; 4) a comparison of the proposed improvements with those identified in the 90% Fish Passage Report along with a justification for any proposed improvements not included in the 90% Fish Passage Report; 5) a statement of how the proposed improvements will achieve increased Fish Guidance Efficiency ("FGE"), as defined in the August 2000 Settlement Agreement, and survival at Mayfield Dam to a level of downstream fish passage survival rate, also as defined in the August 2000 Settlement Agreement, of greater than or equal to 95% for anadromous stocks; 6) a construction and implementation schedule not to exceed one year from the date of plan approval, unless there is good cause for extending the period beyond one year; and 7) plans to evaluate the effectiveness of downstream fish passage, including FGE and the downstream passage survival rate at Mayfield Dam, upon completion of the proposed improvements. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the final plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

c) Within eighteen months of the completion of construction of the improvements to downstream fish passage at Mayfield Dam as provided in the approved schedule, the Licensee shall file a report on the effectiveness of the modifications, including a calculation of the downstream fish passage survival rate and FGE achieved by the facility. If the downstream fish passage survival rate at Mayfield Dam has not achieved 95%, the report shall also include plans to further improve the effectiveness of the facilities and measures or to substitute other measures as described in paragraph (d) below, and to continue monitoring their effectiveness, including continued monitoring of FGE and the downstream fish passage survival rate. The Licensee shall prepare and file the plan for further improvements in accordance with the

consultation, review and approval procedures set forth above. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the further improvements provided for in the plan.

d) Tacoma shall implement additional downstream passage facility modifications or measures and file additional reports at 18 month intervals in accordance with the preceding paragraph until either: 1) a 95% downstream fish passage survival rate is achieved; or 2) the National Marine Fisheries Service and U.S. Fish and Wildlife Service, in consultation with the FTC or agencies, determine that passage effectiveness and survival are high enough to support self-sustaining populations of anadromous fish stocks; that protection of anadromous fish migrating downstream at Mayfield Dam has been maximized by all reasonable measures and that adjustments to hatchery production (using then-existing facilities) and/or habitat measures will be required in lieu of further attempts to improve downstream passage at Mayfield Dam. If NMFS and USFWS elect to pursue other measures in lieu of further downstream passage improvements, the Licensee, in consultation with the FTC or agencies, shall prepare a draft plan for other actions designed to mitigate for continued juvenile mortality at Mayfield Dam. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan.

e) Tacoma shall monitor proper operation of passage facilities and evaluate effects of changed conditions on FGE and downstream fish passage survival, with a summary of results to be submitted annually to the FTC or agencies. Tacoma shall immediately report to the FTC or agencies any results indicating a significant reduction in passage effectiveness or survival, and consult with the FTC or agencies on any further improvements that may be required to maintain consistently high levels of passage effectiveness and survival in accordance with the above performance standards.

Article 3. Upstream Fish Passage: Barrier, Mayfield and Mossyrock.

a) The Licensee, in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service shall provide and maintain effective upstream fish passage at the Barrier Dam, Mayfield Dam and Mossyrock Dam through trap and haul facilities immediately upon license issuance, and continuing until volitional upstream passage systems have been implemented in accordance with this article.

b) Within six months of license issuance, or as soon as practicable thereafter depending on the availability of marked fish, and updated on an annual basis thereafter, the Licensee shall file with the Commission a report on adult anadromous fish traveling through the Cowlitz River Project, prepared in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). The report shall include: 1) the most recent version of Tables 3, 4, and 5 from the report entitled *Contribution Rate Benchmarks for Future Runs of Spring Chinook, Fall Chinook, and Coho Produced at the Cowlitz Salmon Hatchery* that provide estimated age 3 recruits and survival equivalency that enables comparison of future broods to the benchmark run year and survival rate for each of these species, dated June 28, 2000 and filed with the Commission concurrently with the August 2000 Cowlitz River Hydroelectric Project Settlement Agreement; 2) tables estimating the annual number of adult recruits originating from the Cowlitz River basin upstream of the Toutle River, and including steelhead, cutthroat trout, and all other indigenous stocks that are produced at the hatcheries, along with an index of each stock to its benchmark values, or if not otherwise agreed, a default index of "1"; 3) a plan and schedule for studies, to be conducted at regular intervals, to evaluate whether the following criteria for implementing effective upstream passage through volitional facilities have been met: A) adult fish in Mayfield Lake are able to choose their tributary of origin and survive Mayfield Lake transit at rates determined by NMFS and USFWS, in consultation with

the FTC or agencies, to be sufficient to achieve effective upstream passage through volitional facilities; and B) as determined based on the above-described tables with respect to: (i) the number of pre-spawners arriving at the Barrier Dam, in at least 3 of 5 consecutive brood years measured, and based on the 5-year rolling average, exceeds an abundance level which indicates natural recruitment above Mayfield Dam has achieved self-sustaining levels, as determined by the National Marine Fisheries Service in consultation with the FTC or agencies; (ii) the productivity level in 3 of 5 years and the 5-year rolling average, as measured at the Barrier Dam or other Cowlitz River fish counting facilities by the recruit/pre-spawner ratio, exceeds 1.0; and (iii) the disease management plan required by Article 8 has been implemented.

c) For any annual report filed within 12 years of license issuance in which the results of the studies indicate that, within the next three years or less, the above criteria for volitional upstream passage will be met with respect to any salmonid species originating in the Tilton basin and with respect to either spring chinook salmon or late winter steelhead originating above Mossyrock Dam, the Licensee shall also include proposed preliminary designs and schedules for the construction of upstream passage systems for the Project. In the case of Barrier Dam, the proposed modifications shall provide for breaching the Barrier Dam. In lieu of breaching, a fish ladder may be constructed only if NMFS and USFWS determine, in consultation with the FTC or agencies, that a ladder is more appropriate than breaching for effective upstream passage. The proposed modifications for the Barrier Dam shall also include steps to disable the electrical field in the event of fish ladder construction or breaching the dam. In the case of Mayfield Dam, the upstream passage system proposed shall be a ladder with sorting facilities, unless prior to filing the report the NMFS and USFWS determine that a tram is more appropriate than a ladder for effective upstream passage, in which case the system proposed shall be a tram with sorting facilities. In the case of Mossyrock Dam, the passage system proposed shall be an adult trap and haul facility to facilitate adult transit above Cowlitz Falls Dam to be built before or concurrently with the upstream passage system at Mayfield Dam, unless prior to filing the report the USFWS and NMFS determine that a comparably-priced tram is more appropriate than a trap and haul facility based on studies that show fish are

able to migrate through Riffe Lake, and it has also been determined that an adult upstream passage facility will be developed at Cowlitz Falls Dam. A draft report shall be provided to the FTC or agencies for review and comment. The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report, and specific descriptions of how the FTC's and agencies' comments are accommodated by the report. The Licensee shall submit the final report to the NMFS and USFWS for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the proposals in the report.

d) Upon meeting the criteria above for the construction of volitional upstream passage systems, the Licensee shall proceed expeditiously to complete the final design, permitting and construction of upstream passage systems. The final design shall be subject to the same review and approval process described in paragraph c) above. Once the report containing the final design and implementation schedule for the construction of upstream fish passage systems is approved by NMFS and USFWS and filed with the Commission, volitional upstream passage facilities shall be completed and made operational within one (1) year of meeting the criteria or approval of the final design, whichever is later, unless there is good cause for extending the period beyond one year.

e) Within five years of license issuance, the Licensee shall establish an interest-bearing escrow account in the amount of \$15 million to contribute to the total cost of constructing volitional upstream fish passage facilities. To minimize administrative cost and allow conservative growth, said escrow account may be held by the Licensee as a separate account (with Licensee being obligated to treat said account substantially similar to an escrow account), and said account may be invested, consistent with investment limitations on public agencies within the State of Washington.

f) If at any time the Licensee files a report indicating that the above criteria are not likely to be met within 15 years following license issuance with respect to listed chinook salmon or steelhead originating above Mayfield Dam, the Licensee shall consult with the FTC or agencies, using the best available data at the time, regarding factors that may be contributing to

the failure to meet such criteria, and the likelihood or not that such criteria will be met for the listed stocks in the foreseeable future.

g) If preliminary or final upstream volitional fish passage design plans and implementation schedules have not been approved and filed with the Commission at the end of year 12, the Licensee must prepare and submit preliminary design plans and schedules in accordance with paragraphs c) and d) if the volitional upstream passage criteria set forth in paragraphs b) and c) have been met or are likely to be met for any salmonid species in the Tilton by year 15. The Licensee shall proceed expeditiously with final design and construction of volitional upstream passage facilities, unless otherwise directed under paragraph h) below.

h) If within 14 years of license issuance the criteria for volitional upstream passage facilities, described in b), c) and g) above, have not been met and it is determined by the FTC or agencies, and affected Tribes, with the concurrence of NMFS and USFWS, that measures in addition to those provided for in the August 2000 Settlement Agreement are necessary to restore self-sustaining, natural production of ESA-listed stocks in the Cowlitz River basin, and that expenditure of the escrow fund on such additional measures in lieu of volitional upstream facilities is necessary and appropriate to achieve natural stock restoration, consistent with the express purpose of the license and the Settlement Agreement, and with applicable recovery plans for the listed Cowlitz River stocks, the Licensee shall submit to the Commission a plan to abandon volitional upstream passage and expend the funds in the escrow account for the purposes of protecting and promoting restoration and recovery of listed Cowlitz River stocks. The draft plan shall be submitted to the FTC or agencies for 30-day review and comment period. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan. If the above criteria have not been met for any salmonid species in the Tilton by year 15, the Licensee shall continue monitoring fishery conditions for future construction of upstream volitional fish passage, until either the criteria are met or a decision is made to abandon

upstream volitional passage and fund other necessary and appropriate measures in accordance with this paragraph.

i) Following construction of volitional upstream passage facilities, the Licensee, in consultation with the FTC or the agencies, shall monitor the effectiveness of the facilities. As deemed necessary by NMFS and USFWS, after consultation with the FTC, the Licensee shall implement such reasonable modifications as may be necessary to improve passage effectiveness.

j) Any plan required to be filed pursuant to this article shall be prepared in consultation with the FTC or agencies. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the plan, and specific descriptions of how the FTC's or agencies' comments are accommodated by the plan. The Licensee shall submit the plan to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for approval prior to filing with the Commission. Upon approval by NMFS and USFWS and filing with the Commission, the Licensee shall implement the plan.

Article 4. Juvenile Tagging and Monitoring.

The Licensee shall contribute up to \$40,000 per year (adjusted for inflation), for a freshwater juvenile tagging and monitoring program required for estimating: the number of juveniles arriving at transport facilities; their origin (natural or hatchery); the number of juveniles transported (by species); and adults arriving and transported to the upper basin. Data from the program shall be reviewed annually by the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or the agencies") annually and filed with the Commission after review. Funding of the tagging and monitoring program shall continue until implementation of the Fisheries and Hatchery Management Plan, provided for in Article 6.

Article 5. Fish Production and Hatcheries.

a) The Licensee shall be responsible for funding the operation and maintenance of the Cowlitz Hatchery Complex consisting of the remodeled Cowlitz Salmon Hatchery, the remodeled Cowlitz Trout Hatchery, and three satellite rearing facilities, for the duration of this license. The principal stocks of fish to be produced are the indigenous stocks of spring chinook, fall chinook, coho, sea-run cutthroat trout, and late winter-run steelhead. Non-indigenous stocks, such as early winter and summer steelhead, may be produced, provided that production shall emphasize the recovery of indigenous stocks, and production and management of all stocks shall be consistent with that goal. The remodeled hatchery complex will accommodate a range of possible production levels, up to 800,000 pounds, and the current upper bound permitted by the ESA of 771,500 pounds. The total production level within the remodeled hatchery complex will not exceed 650,000 pounds per year for all stocks until and unless a decision has been made pursuant to Article 3 to not construct volitional upstream passage during the remaining term of the license, at which time hatchery production may be considered as part of the plan to expend the funds in the escrow account for the purposes of protecting and promoting recovery of listed stocks. The 650,000 pound limit does not include upper basin pre-smolts that are reared and ponded in the hatchery complex to avoid conflicts with listed stocks. During remodeling of the hatchery complex provided by Article 6, production will approximate the maximum possible within remodeling constraints and ESA requirements. Total annual production levels during remodeling will be established through the planning process delineated in Article 5. Any variations to these transitional production levels during the time period between license issuance and the completion of the remodeled hatchery complex will be prepared in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or the agencies"). The Licensee shall also be responsible for funding any monitoring required for

adaptive management at the hatcheries, as included in the Fisheries and Hatchery Management Plan required by Article 6.

b) Through 2004, the Licensee will provide funding for 50,000 pounds of trout production. Subsequent to 2004, future trout production will be based upon a review by the FTC of the success or failure of the program and any impacts to listed stocks.

Article 6. Fisheries and Hatchery Management Plan.

Within 9 months of license issuance, the Licensee shall submit a Fisheries and Hatchery Management Plan. The plan shall be updated every 6 years, starting in year 7, of the license. The plan shall identify: a) the quantity and size of fish to be produced at the Cowlitz Hatchery Complex; b) rearing and release strategies for each stock, including upward and downward production adjustments to accommodate recovery of indigenous stocks; c) credit mechanisms for production of high quality natural stocks; d) plans for Licensee-funded on-going monitoring and evaluation; and e) a fisheries management strategy consistent with the priority objective of maximizing the natural production of wild indigenous fish stocks and species in the basin. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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 make changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 7. Hatchery Complex Remodel and Phase-In Plan.

Within 18 months of license issuance the Licensee shall submit a plan for the Hatchery Complex remodel. The plan shall include: a) hatchery design drawings that include decreased rearing densities and innovative practices to replicate historic out-migration size and timing; b) plans for construction scheduling; c) provision for hatchery water supply that maximizes water from existing groundwater wells and, if necessary, provides for treatment of up to 10 cfs additional river water; and d) a plan for gradual transition to innovative rearing practices. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 8. Disease Management Plan.

Within five (5) years of license issuance, the Licensee shall submit a Fisheries Disease Management Plan that defines an acceptable level of risk from *Ceratomyxa shasta* (*C. shasta*) and other diseases, and allows adult fish to be upstream of Barrier Dam. The Fisheries Disease Management Plan shall be designed to allow an appropriate level of pathogens. The plan shall include criteria for determining success or failure, as well as a review every five (5) years to see that the criteria for success are being met and a procedure and schedule for amending the plan if the criteria are not met. Plan amendments could include, but not be limited to: changes in the Fisheries and Hatchery Management Plan and changes to the hatchery water quality and/or quantity. The Licensee shall consult with fish pathology experts from the National Marine Fisheries Service, U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife and shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 9. Large Woody Debris.

Within 1 year of license issuance, the Licensee shall submit a plan to continue to make large woody debris available for fish habitat restoration projects in the Cowlitz River basin. The large woody debris plan shall include: a) a description of the source/s of large woody debris to be made available; b) measures for transporting and delivering large woody debris within the Cowlitz River basin; c) guidelines for the use and disbursement of large woody debris for restoration projects, giving first priority to projects within the lower basin, second priority to upper basin projects, and third priority to projects outside the basin; and d) provisions for storage of large woody debris and for disposal of unused debris. The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, U.S. Forest Service and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 10. Gravel Augmentation.

Within 9 months of license issuance, the Licensee shall file for Commission approval a plan to augment spawning gravel below the Barrier Dam to enhance salmonid spawning habitat. The source of gravel, to the extent reasonably available, shall be just upstream of Barrier Dam. The

gravel augmentation plan shall include: a) a description of plans to monitor and evaluate the effectiveness of gravel augmentation, including parameters that will be measured to determine the value of gravel placements to salmonid fish reproduction and the stability and life expectancy of such placements, and b) a plan for the discontinuation of gravel augmentation if Barrier Dam is breached, including plans to monitor the post-breach adequacy of gravel supplies and mitigate for any identified gravel shortfalls in the affected reach (Mayfield Dam to the Toutle River). The Licensee shall prepare the plan in collaboration with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 11. Fish Habitat Fund.

Within 6 months of license issuance, the Licensee shall establish a habitat fund in the amount of \$3.0 million for the purpose of fisheries habitat protection, restoration, and enhancement through acquisition, easements or restoration projects. The habitat fund may be a special or separate account held by Licensee with all accrued interest being credited to the fund. Within one year of license issuance, the Licensee shall file with the Commission a plan for the uses of the habitat fund, including: a) a statement of the priority uses and criteria for disbursement of

the funds, identifying acquisition by Tacoma in fee title or by conservation easements of riparian habitat along side channels below Barrier Dam as first priority; b) a description of efforts the Licensee will make in concert with other entities to leverage the habitat fund as matching funds for other salmon recovery funding opportunities; c) plans to coordinate with Lewis County on purchases of land or easements, including any plans to fund Lewis County personnel to conduct the acquisition of land rights; d) procedures for conservation groups and others to request the Licensee's participation in restoration projects along with criteria for such participation; and e) a statement of what, if any, additional lands acquired through the habitat fund will be included within the Project boundary. The Licensee shall prepare the plan in consultation with a Habitat Advisory Group provided for in the August 2000 Settlement Agreement, or, if the Settlement Agreement has become void, in consultation with U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, U.S. Forest Service and Lewis County. When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. 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. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 12. Coordination with Wildlife Settlement Wetlands Acquisition Fund.

Within one year of license issuance, the Licensee shall file with the Commission a report on its efforts to encourage the expeditious expenditure of remaining funds previously allocated by the Licensee in a manner consistent with the purposes of the Wildlife Settlement Agreement of 1993 (continued compliance with which is required by Article 24, below) for lowlands and

wetlands acquisition and restoration and for operations and maintenance, in a manner that enhances the overall goals of fish and wildlife habitat protection and restoration. The Licensee shall prepare the report in consultation with the signatories to the 1993 Wildlife Settlement Agreement (also referred to as the Cowlitz Wildlife Coordinating Committee). The Licensee shall include with the report documentation of consultation and copies of comments and recommendations on the report. The Commission reserves the right to require the Licensee to take such additional steps as may be appropriate in light of the report to promote habitat protection and restoration goals.

Article 13. Instream Flows.

The Licensee shall release minimum flows from the Project into the Cowlitz River for the protection and enhancement of fish and wildlife resources, riparian vegetation, aesthetic resources and water quality. Flows shall be released as follows:

a) March 1 – June 30

Minimum flow releases from Mayfield Dam shall be 5,000 cfs, unless the March 1 or later inflow forecasts indicate that this flow cannot be achieved and assure reservoir refill. A decision to reduce flows shall only be made after Tacoma has consulted with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”). Once per week from March through the end of June, or as otherwise agreed with the FTC or agencies, Tacoma will conduct a 12-hour release at the lesser of 8,000 cfs or 120% of the preceding flows for juvenile fish transport flows. Natural flows (e.g., from the Tilton River) that provide the same magnitude of flow pulse may substitute for artificial flow pulsing.

b) July 1 - August 14

Minimum flow releases from Mayfield Dam shall be 2,000 cfs during this period.

c) August 15 - September 30

Minimum flow releases from Mayfield Dam shall be 2,000 cfs during this period. If Mayfield releases meet or exceed 5,000 cfs for a consecutive 5-day period as measured by daily mean flows, then flows will not be decreased below 5,000 cfs until a spawning survey, documenting redd numbers and locations in key side-channel areas at River Mile 42 and River Mile 47.5, or two other representative sites as selected by the FTC or agencies, has been performed. If the survey shows that redds are present, the level of minimum flows necessary for the remainder of the period will be established after consultation with the FTC or agencies. The established minimum flows for incubation shall not exceed the lesser of: a) eight inches of river stage height below the highest consecutive 5-day average flow as measured at the USGS gauge (Station #14238000) below Mayfield Dam, or b) 5,000 cfs.

d) October 1 - November 20

Minimum flow releases below Mayfield Dam shall be subject to the following requirements:

- 1) At no time shall flows released from Mayfield Dam be less than 3,500 cfs;
- 2) Flow releases from Mayfield Dam always shall be at a quantity adequate to provide incubation protection to redds established during the period of August 15 - September 30, as defined in Section 3 below;
- 3) When releases during the August 15 - September 30 period meet or exceed 5,000 cfs for a consecutive five-day period as measured by the daily mean flows, minimum flows shall be maintained at the lesser of (A) or (B) below:
 - A) 5,000 cfs
 - B) Eight inches of river stage height below the highest consecutive 5-day average flow during which active spawning occurred, as measured at the USGS gauge (Station #14238000) below Mayfield Dam.

Flow releases less than those described in Section 3 above may be established upon agreement by the FTC or agencies, following review of spawning survey data for the August 15 - September 30 period.

Tacoma shall make a good faith attempt to provide flows for the purpose of protecting spawning habitat (5,000 to 8,000 cfs) from November 1 until either November 20 or the

completion of spawning, whichever comes first.

e) November 21 – February 28

Minimum flow releases from Mayfield Dam will be maintained at the lesser of:

- 1) eight inches of river stage height below the highest consecutive 5-day average flow during which active spawning occurred, as measured at the USGS gauge (Station #14238000) below Mayfield Dam, or
- 2) 5,000 cfs, or
- 3) a lower flow authorized by the FTC or agencies based upon the results of spawning surveys.

Instream flows shall be monitored at the USGS gauge (Station #14238000) below Mayfield Dam or via other approved means. Results of monitoring shall be available to FERC or resource agency staff upon request from the U.S. Geological Survey (USGS) or as otherwise approved. The minimum release required may be reduced, in consultation with the FTC or agencies, when such reduction can be shown not to impact downstream salmonid redds. Flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee that threaten the safety and/or stability of Project facilities, and for short periods upon agreement between the Licensee and the Washington Department of Ecology. If the flow is so modified, the Licensee shall notify the Commission and the Washington Department of Ecology as soon as practicable, but no later than ten (10) days after each such incident.

Article 14. Ramping Rate Conditions.

The Licensee shall operate the Project within the following ramping rate restrictions. Ramping rate refers to the rate of allowable stage decline. These rates apply to flows less than 6,000 cfs. The ramping rate restrictions may be modified based upon further study and approval by the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as “the FTC or agencies”).

Time of Year	Daylight Rates*	Night Rates**
February 16 to June 15	No Ramping	2 inches per hour
June 16 to October 31	1 inch per hour	1 inch per hour
November 1 to February 15	2 inches per hour	2 inches per hour

*Daylight shall be defined as one hour before sunrise to one hour after sunset. This is for the protection of salmon fry.

** Night shall be defined as one hour after sunset to one hour before sunrise. This is for the protection of trout and steelhead fry.

These time restrictions will account for the lag time it takes for the fluctuation to pass through all affected fish habitat downstream to the confluence of the Cowlitz and Toutle rivers. Flow is to be measured at the USGS gauge (Station #14238000) below Mayfield Dam.

Article 15. Fish Monitoring Plan.

Within one year of license issuance, the Licensee shall develop and submit a monitoring plan to evaluate the effects of the instream flow requirements, including pulsing or channel maintenance flows, upon the fish of the Cowlitz River, in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies"). When a draft plan has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final plan accommodates all comments and recommendations. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on Project-specific

information. Upon filing, the Licensee shall implement the plan to the extent that such implementation is not contrary to Commission order or regulation and is in conformity with the CWA Section 401 water quality certification. The Commission and WDOE reserve the right to require changes to the plan. Upon Commission and WDOE approval, the Licensee shall fully implement the plan, including any changes required by the Commission or WDOE. Following Commission and WDOE approval, the plan becomes a requirement of the license, enforceable by the Commission and WDOE. If monitoring indicates that instream flows or pulsing flows for channel maintenance are inadequate, the Commission and WDOE separately reserve the right to require modifications to the flow regime, either on their own motion or upon request of state or federal resource agencies.

Article 16. Instream Flow Implementation.

Within two years of license issuance, the Licensee shall prepare and submit a report on implementation of instream flows containing a description of measures taken to ensure compliance, including preparation and use of a training manual for licensee's staff, and any recommended modifications to operating procedures. The report shall be prepared in consultation with the Fisheries Technical Committee provided for in the August 2000 Settlement Agreement, or if the Settlement Agreement has become void, with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife and Washington Department of Ecology (referred to as "the FTC or agencies").

When a draft report has been prepared, it shall be provided to all affected agencies and Tribes for 30-day review and comment. The Licensee shall include with the final report documentation of consultation and copies of comments and recommendations, and specific descriptions of how the final report accommodates all comments and recommendations. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on Project-specific information. Upon filing, the Licensee shall implement any recommended modifications to the extent that such implementation is not contrary to Commission order or regulation and is in conformity with the CWA Section 401 water quality

certification. The Commission and WDOE reserve the right to require changes to the recommended modifications. Upon Commission and WDOE approval, the Licensee shall fully implement the recommended modifications, including any changes required by the Commission or WDOE. Following Commission and WDOE approval, the recommended modifications become a requirement of the license, enforceable by the Commission and WDOE. If monitoring indicates that instream flows or pulsing flows for channel maintenance are inadequate, the Commission and WDOE separately reserve the right to require modifications to the flow regime, either on their own motion or upon request of state or federal resource agencies.

Article 17. Recreation Facilities.

Within one year of license issuance, the Licensee shall file with the Commission for approval, a recreation plan for the Cowlitz River Project. The plan shall include, but not be limited to, the following specific items:

- (a) A trail system on Peterman Hill built to accepted standards, of not less than 20 miles. The trail will serve non-motorized users and include parking, sanitation facilities, interpretive and regulatory signage and brochures.
- (b) A 2-mile non-motorized loop trail near Mossyrock Park, part of which will (to the extent feasible) be made ADA accessible.
- (c) An extension of the Mossyrock Park boat launch with mooring dock, including provision for seasonal ADA accessibility.
- (d) A low water boat launch at the east end of Riffe Lake.
- (e) An ADA accessible fishing platform in the vicinity of Barrier Dam.
- (f) 50 additional campsites at Taidnapam Park to be provided during years 7 to 12 of the license term.
- (g) Improvements to the road from Highway 12 to Taidnapam Park.
- (h) Add 50 additional campsites at Mossyrock Park during years 19 to 24 of the license term.
- (i) Recreation improvements to be undertaken by the State of Washington for capital

improvements at Ike Kinswa State Park using \$500,000 provided by the Licensee.

(j) Unidentified recreation improvements in the Project area undertaken by the State of Washington using \$100,000 provided by the Licensee.

The plan shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Fish and Wildlife Service, the U.S. Forest Service, Lewis County, Washington State Parks and Recreation Commission, and the Washington Department of Fish and Wildlife. With respect to item (a), the Peterman Hill trail, the Cowlitz Wildlife Coordinating Committee, established pursuant to the 1993 Wildlife Settlement Agreement (referred to in Article 24) will provide oversight and approval of trail planning, location, construction, management and allowable impacts. The plan shall include provisions for monitoring of recreational use impacts to wildlife along and in the vicinity of this trail and define benchmarks for unacceptable wildlife impacts. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plan with the Commission. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are addressed by the plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons. The Commission reserves the right to require changes to the plan. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan has been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 18. Recreation Operation, Maintenance and Safety.

Within one year of license issuance, the Licensee shall file with the Commission an operation, maintenance and safety plan for the recreation facilities for the Cowlitz River Project. The plan shall include, but not be limited to:

- (a) A description of the oversight for trail construction and management to be provided by the Cowlitz Wildlife Area Wildlife Management Coordinating Committee, as established by the 1993 Wildlife Settlement Agreement.
- (b) A plan to work with the Lewis County Sheriff's office to improve boating safety.
- (c) An Americans with Disabilities Act (ADA) transition plan specifying improvements to be made to existing facilities to comply with ADA.
- (d) A plan for Licensee to assume ownership and all responsibility for maintenance and operation of Mayfield Lake County Park from Lewis County.

The plan shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service, U.S. Fish and Wildlife Service, Lewis County, Washington State Parks and Recreation Commission and the Washington Department of Fish and Wildlife. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plan with the Commission. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are accommodated by the plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on Project-specific information. The Commission reserves the right to require changes to the plan. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan has been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 19. Water Access Facilities.

The Licensee shall file with the Commission for approval, plans for expenditure of \$67,000 in each of years four, seven and thirteen for additional facilities to improve water access, such as parking, trails to water, ramps and piers. The plans shall be developed in collaboration with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service, the U.S. Fish and Wildlife Service, Lewis County, Washington State Parks and Recreation Commission and Washington Department of Fish and Wildlife. The Licensee shall allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the plans with the Commission. The Licensee shall include with the plans documentation of consultation and copies of comments and recommendations, and specific descriptions of how the agencies' comments are accommodated by the plans. 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 plans. No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plans have been approved and has received all necessary permits and certifications. Upon Commission approval, the Licensee shall implement the plans, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 20. Recreation Reporting.

The Licensee shall monitor recreation use of the Project area using protocols developed in consultation with the Interagency Committee for Outdoor Recreation, the U.S. Forest Service and Lewis County. The recreation survey shall begin within six (6) years of the issuance date of this license and be conducted every six (6) years thereafter during the term of the license and shall, at a minimum, include the collection of one calendar year of annual recreation use data every six (6) years. The Licensee shall file on April 1 of every sixth (6th) year after the initial filings, a report with the Commission on the monitoring results. The Licensee shall

allow a minimum of 30 days for affected agencies and Tribes to comment and to make recommendations prior to filing the report with the Commission. The report shall satisfy the Commission's requirements for filing the Form 80 recreation report (18 CFR Section 8.11).

Article 21. Forest Service Facilities.

Licensee shall pay annually to the U.S. Forest Service the amount of \$5,500 by October 1 of each year in compensation for impacts to recreation facilities in the Gifford Pinchot National Forest. Beginning in the seventh (7th) year of the license term, and every 6 years thereafter, this amount shall be adjusted for inflation as provided in the August 2000 Settlement Agreement. Upon agreement between the Forest Service and Licensee, services equivalent in value may be provided in lieu of the annual compensation payment. Licensee shall file with the Commission an annual report documenting its contribution to Forest Service recreation facilities during the preceding year, which report shall be based on information from the Forest Service regarding the use of funds and/or services for these facilities.

Article 22. Forest Service Report.

Within one year of license issuance, the Licensee shall file with the Commission a report, prepared in consultation with the Forest Service, documenting Licensee's efforts to negotiate the transfer of Forest Service and other lands for the purpose of consolidating land ownership within the Cowlitz River Project area. The Commission reserves the right to require additional reports on the progress of such negotiations should they not be concluded within one year of license issuance.

Article 23. Cultural and Historic Resources.

Within 1 year of license issuance, the Licensee shall file for Commission approval a Cultural Resource Management Plan prepared by a qualified cultural resource specialist after having consulted with the SHPO and affected Indian tribes. The plan shall include the following items: a) a description of each discovered property indicating whether it is listed on or eligible

to be listed on the National Register of Historic Places; b) a description of the potential effect on each discovered property; c) proposed measures for avoiding or mitigating effects; d) documentation of the nature and extent of consultation; and e) a schedule for mitigating effects and conducting additional studies. The Commission reserves the right to require changes to the plan. The Licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license until informed by the Commission that the requirements of this article have been fulfilled. The Commission reserves the right to require changes to the proposed modifications or measures. Upon Commission approval, the Licensee shall implement the proposed modifications or measures, including any changes required by the Commission. Following Commission approval, the plan becomes a requirement of the license, enforceable by the Commission.

Article 24. Wildlife.

The Licensee shall comply with the terms of the settlement agreement among the City of Tacoma, the State of Washington Department of Wildlife (now the Washington Department of Fish and Wildlife), and the U.S. Fish and Wildlife Service regarding wildlife mitigation for the Cowlitz River Project as set forth in the Licensee's October 24, 1994 filing. The Licensee shall file a monitoring report by May 1 annually, which shall incorporate a report from the Washington Department of Fish and Wildlife, as manager of the lands, describing the implementation of its current management plan. Monitoring reports shall contain any proposed significant changes to the plan for Commission approval. Prior to filing annual reports with the Commission, the Licensee shall provide a draft copy of the report to the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service and Lewis County and give these agencies and Lewis County at least 30 days to review and make comments and recommendations on the report. The report shall contain copies of the Licensee's transmittal cover letters to the agencies and Lewis County requesting comments and any comments provided. Should the Licensee disagree with a comment or recommendation, the Licensee shall explain its disagreement in its report based on Project-specific information.

Article 25. Reservation of Commission Authority.

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

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UNITED STATES OF AMERICA 86 ferc ¶ 62,056
FEDERAL ENERGY REGULATORY COMMISSION

City of Tacoma, Washington) Project No. 2016-035

ORDER MODIFYING AND APPROVING FINAL WILDLIFE MANAGEMENT PLAN
(Issued January 26, 1999)

On November 12, 1998, the City of Tacoma, Washington (Tacoma), licensee for the Cowlitz River Project, filed a final wildlife management plan for Commission approval. The plan is required by paragraph (C) of the Commission's Order Approving Settlement and Amending License issued July 17, 1998.^{1/} The project is on the Cowlitz River in Lewis County, Washington.

The above Commission order approved a settlement agreement among Tacoma, the U.S. Fish and Wildlife Service (FWS) and the Washington Department of Fish and Wildlife (WDFW) to create a roughly 14,000 acre wildlife management area on project lands. The order also approved a draft wildlife management plan prepared by the WDFW and submitted by Tacoma to manage these lands. Commission staff issued draft and final environmental assessments (EA) for our action to approve the settlement and draft wildlife management plan.^{2/}

FINAL WILDLIFE MANAGEMENT PLAN

The final wildlife management plan was prepared by the WDFW (like the draft plan) and submitted by Tacoma for Commission approval. The WDFW is responsible for implementing the plan on project lands under the terms and conditions of the settlement agreement approved by our July 17, 1998 order.

In general, the final plan is consistent with the draft plan previously approved by the Commission. The WDFW would manage designated project lands primarily for wildlife and for compatible recreation and education. WDFW management objectives are identified by a Cross-Divisional Task Team of resource professionals with help from a Citizen Advisory Group. These objectives which WDFW has prioritize in importance, along with the systematic mapping of habitat types, results in WDFW's

^{1/} 84 FERC ¶ 61,037.

^{2/} Final Environmental Assessment, Application For Amendment of License, City of Tacoma, Washington, Cowlitz River Project, FERC Project No. 2016-022, dated July 1998. This document is available for public review in the Commission's files for this project.

selection of management prescriptions contained in the final
Project No. 2016-035-2-

plan. As with the draft plan, the final plan explains WDFW's program goals, identifies specific management units on project lands, and explains WDFW's operation policies. The plan describes WDFW's proposed wildfire management, weed control, road management, native habitat management, etc.

CONSULTATION

To solicit public input, the WDFW held scoping meetings, mailed questionnaires, created the Citizens Advisory Committee and ultimately developed the final plan in accordance with the Washington State Environmental Protection Act. Further, Commission staff public noticed the draft plan and our draft and final EA which reviews the plan. Finally, we required the licensee to consult with the WDFW, FWS, and Lewis County prior to filing the final plan for Commission approval. The licensee solicited comments from the above agencies and Lewis County. No comments were filed objecting to the final plan.

DISCUSSION

As discussed above, the final plan is generally consistent with the draft plan previously approved by the Commission. Commission staff believe the final plan should be approved with one modification. The WDFW prepares an annual monitoring report on the status of its efforts to implement the plan. The annual report is required by the settlement agreement approved by our July 17, 1998 order.^{3/} The final plan does not propose filing reports with the Commission. Annual monitoring reports would ensure that we remain informed about the plan's implementation. Consequently, we are modifying the plan to require the licensee to file these reports for our review.

Commission staff remind the licensee that any significant changes to the plan must be approved by the Commission prior to

^{3/} The settlement agreement states on page 13: The [WDFW] shall prepare an annual report to the [Wildlife Management Coordinating Committee] at the end of each calendar year the Agreement is in effect. The annual report will describe lands acquired, mitigation/enhancement activities undertaken, and wildlife benefits derived, and will provide an accounting of revenues and expenditures in accordance with generally accepted accounting principles, along with a listing of funds currently held in accounts where [Tacoma] funds have been deposited. The annual report will also outline future activities, expected wildlife benefits and estimated costs.

Project No. 2016-035-3-

implementation. Further, we hold the licensee ultimately responsible for ensuring that all actions on project lands are in conformance with license conditions.

Finally, the Cowlitz River project license expires in 2001 and Tacoma is actively pursuing prefiling relicensing activities. Commission staff point out that the issue of wildlife management on project lands, including the plan approved in this order, will be revisited in our comprehensive review during the project's The Director orders:

(A) The licensee's final wildlife management plan filed November 12, 1998, as modified in paragraph (B) below is approved. The Commission reserves the right to require changes to the plan.

(B) The licensee shall file a monitoring report describing its implementation of the final wildlife management plan by May 1 annually. Monitoring reports shall contain any significant changes to the plan for Commission approval. Prior to filing annual reports with the Commission, the licensee shall provide a draft copy of the report to the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service and Lewis County and give these agencies and Lewis County at least 30 days to review and make comments and recommendations on the report. The report shall contain copies of the licensee's transmittal cover letters to the agencies and Lewis County requesting comments and any comments provided. Should the licensee disagree with a comment or recommendation, the licensee shall explain its disagreement in its report based on project-specific information.

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

J. Mark Robinson
Director
Division of Licensing and Compliance

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

City of Tacoma, Washington) Project Nos. 11076-002 and
2016-025

ORDER RESCINDING PRIOR ORDER AND
DISMISSING LICENSE
AND AMENDMENT APPLICATIONS

(Issued November 14, 1995)

On September 15, 1995, the Commission issued an order 1/ granting an original license to the City of Tacoma, Washington, for the 9-megawatt (MW) Barrier Dam Hydroelectric Project No. 11076 (Barrier Project), to be located on the Cowlitz River in Lewis County, Washington. In the same order, the Commission amended the City's license for the existing 460-MW Cowlitz River Project No. 2016 (Cowlitz Project) 2/ to modify the fishway entrances and channels of the Cowlitz Salmon Hatchery Barrier Dam (Barrier Dam) and the salmon hatchery fish drains associated with the Cowlitz Project, while excluding the Barrier Dam and reservoir from the Cowlitz Project and incorporating them in the Barrier Project.

On October 13, 1995, the City filed a letter declining both the Barrier Project license and the associated Cowlitz Project amendment, stating, inter alia, that the Barrier Project as licensed is uneconomic and excessively risky to develop within the period provided in the license for construction, even with an extension of time. The City adds that it had planned to use billing credits under the Bonneville Power Administration's (BPA) Billing Credits program to pay a significant portion of the Barrier Project's costs, but that BPA has terminated its funding for new generating resources under that program.

1/ 72 FERC ¶ 61,239.

2/ The original initial license for the Cowlitz Project was issued in 1951. 10 FPC 432.

David- FYI, then return. Brett
cc: olds
Jan
Seecher

Project Nos. 11076-002
and 2016-025

DISCUSSION

Pursuant to Section 6 of the Federal Power Act, 3/ licenses, and amendments thereto, are issued subject to the licensees' acceptance of their terms and conditions. 4/ If a licensee does not file a request for rehearing within 30 days from the date of issuance of a license or amendment, or otherwise declare its intention not to accept the license or amendment as issued, it is deemed to have accepted them. 5/ In this instance, the City filed a timely letter declining the license and the amendment. Therefore, we will rescind the order, which issued the license for the Barrier Project and adopted the amendment to the license for the Cowlitz Project, 6/ and dismiss the license application for the Barrier Project and the amendment application for the Cowlitz Project.

The Commission orders:

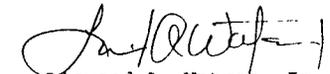
(A) The September 15, 1995 order issuing license to the City of Tacoma, Washington, for the Barrier Dam Hydroelectric Project No. 11076, and amending the license for the Cowlitz River Project No. 2016, is rescinded.

(B) The January 17, 1991 license application, as amended, filed by the City of Tacoma, Washington, for the Barrier Dam Hydroelectric Project No. 11076 is dismissed.

(C) The July 25, 1991 application filed by City of Tacoma, Washington, to amend its license for the Cowlitz River Project No. 2016, is dismissed.

By the Commission.

(S E A L)


Linwood A. Watson, Jr.,
Acting Secretary.

3/ 16 U.S.C. § 799.

4/ See e.g., City of Richmond, Virginia, 38 FERC ¶ 61,100 at p. 61,276 (1987).

5/ Id.

6/ The order amended the Cowlitz Project license only in order to accommodate the needs of the Barrier Project license. The rescission of the Barrier Project license obviates the need for the Cowlitz Project amendment.

Murd

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Tacoma

Project No. 2016-021
Washington

ORDER MODIFYING IN PART AND APPROVING REVISED EXHIBIT R DRAWINGS
(Issued May 12, 1995)

On September 9, 1994, the City of Tacoma, licensee for the Cowlitz River Project, FERC No. 2016, filed a recreation as-built drawing pursuant to ordering paragraph (D) of the Commission's order issued on July 17, 1992.¹ Ordering paragraph (D) requires the licensee to file as-built drawings showing the type and location of the installed facilities and the actual revised boundaries of the specific recreation areas identified in the July 17 order. Supplemental information was filed by the licensee on January 17 and April 7, 1995.

Pursuant to the Commission's July 17, 1992 order, the licensee proposed to remove undeveloped lands from a number of project recreation sites and designate such lands for wildlife mitigation purposes. The recreation sites involved were Mossyrock Park, Mayfield Lake Youth Camp, and Mayfield County Park.² These areas are partially developed recreation sites containing facilities for camping, boating, swimming, and various day-use activities. The change in land designation subsequently resulted in boundary changes at each area and, as such, drawings of the revised boundaries were required to be filed with the Commission.

The Commission's July 17, 1992 order also approved the licensee's proposal to construct 20 additional vehicle camping units, with water and electrical hookup, at Mossyrock Park and a major recreation facility at the Kosmos Recreation Site.³ In particular, development at Taidnapam Park was to include a boat launching ramp with parking for vehicles and boat trailers, a group campground for recreational vehicles, a family campground with approximately 40 campsites, several picnic areas, a swimming beach, a visitor parking lot with comfort station, and up to two residences for park managers and their families. All proposed

facilities were to be completed by June 1, 1994. Drawings of the facilities, required by ordering paragraph (D) of this order, were required to be filed with the Commission by September 1, 1994.

The material filed on September 9, 1994, includes an as-built drawing (site plan and layout) of Taidnapam Park. The drawing shows the type and location of the installed facilities as required by ordering paragraph (D). The September 9 filing failed, however, to include an as-built drawing of the Mossyrock Park facilities and revised boundary drawings for Mayfield Lake Youth Camp and Lewis County Park. Pursuant to the requests of Commission staff, the licensee filed the remaining drawings on January 17 and April 7, 1995. The January 17 filing includes the revised boundary drawings, while the April 7 filing includes a drawing showing the type and location of facilities constructed at Mossyrock Park.

As submitted, the drawings appropriately show the revised site boundaries and approved facilities. Because material is duplicated between filings, not all of the drawings need become part of the license. The January 17 filing of Mossyrock Park should be approved to the extent that it shows the revised boundary and the April 7 drawing of the park should be approved to the extent that it shows the location of the individual facilities at Mossyrock Park. The January 17 drawing of Mossyrock Park should be modified to show the recreation areas as designated in the April 7 filing. The specific location of each amenity on this drawing is not necessary but, at a minimum, the January 17 drawing should be modified to show the types of camping areas provided (i.e. upper overflow camping area, primitive group camp, main camp extension, etc.). Further, all amenities labeled as "future" facilities should be removed or relabeled. The term does not describe the as-built conditions of the site and has caused a discrepancy in the number of as-built boat ramps designated on the January 17 and April 7 drawings. With appropriate modifications the drawings should be approved.

The Director orders:

(A) The revised Exhibit R drawings filed on September 9, 1994 and April 7, 1995, are approved and made part of the license. The drawings of Mayfield Lake Youth Camp and Lewis County Park filed on January 17, 1995, are also approved and made part of the license. These drawings are approved as:

Exhibit	FERC No.	Showing	Supersedes Drawing No.
R-18	2016-244	Mayfield Lake Youth Camp	2016-225

¹ 60 FERC ¶ 62,024 (1992).

² Mayfield County Park as identified in the Commission's July 17, 1992 order has since been renamed Lewis County Park and will be addressed as such in the remainder of this order.

³ The Kosmos Recreation Site has been renamed as Taidnapam Park and is so referenced in the remainder of this order.

R-19	2016-245	Lewis County Park	2016-226
R-20	2016-246	Taidnapam Park Site Plan & Layout	2016-232
R-21	2016-247	Mossyrock Park Recreation Facilities	--

(B) The revised Exhibit R drawing of Mossyrock Park filed on January 17, 1995 should be modified to show the primary roadways and activity areas as designated on the drawing filed on April 7, 1995. Individual campsites and amenities need not be shown, but the recreation areas specified on the April 7 drawing (main campground area, upper overflow camping area, main camp extension, etc.) should be appropriately labeled on the modified drawing. Further, the term "future" should be removed from all descriptive titles on the drawing, and the boat ramps should be corrected to show the number that have actually been constructed. As modified, this drawing is approved as:

<u>Exhibit</u>	<u>FERC No.</u>	<u>Showing</u>	<u>Supersedes Drawing No.</u>
R-22	2016-248	Mossyrock Park Boundary	2016-229

(C) Within 90 days from the date of issuance of this order, the licensee shall file an original and two duplicate aperture cards of the drawings approved in ordering paragraph (A), and an original and two duplicate aperture cards of the drawing modified and approved in ordering paragraph (B). The original should be reproduced on silver or gelatin 35mm microfilm. The duplicates are copies of the original 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 Numbers (2016-244 through 2016-248) 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 (R-18 through R-22), Drawing Title, and the 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 set of aperture cards should be filed with the Commission's Portland Regional Office.

(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 CFR § 385.713.


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

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;
Vicky A. Bailey, William L. Massey,
Linda Breathitt, and Curt Hébert, Jr.

City of Tacoma, Washington) Project No. 2016-022

ORDER APPROVING SETTLEMENT AND AMENDING LICENSE

(Issued July 17, 1998)

On October 24, 1994, the City of Tacoma, Washington (Tacoma), the licensee for the Cowlitz River Project No. 2016, filed to amend the license in accordance with a settlement agreement among the licensee, the Washington Department of Fish and Wildlife (Washington), and the U.S. Fish and Wildlife Service (FWS). 1/ Tacoma requests that the Commission: (1) reflect in the license the terms and conditions of the settlement agreement, which expands the existing wildlife management area, and (2) include within the project boundary the wildlife lands described in the settlement agreement. We will approve the settlement agreement and amend the license as discussed below.

BACKGROUND

The Cowlitz River Project is located on the Cowlitz River, in Lewis County, Washington. The original license for the project was issued in 1951. 2/ It authorized the construction of two dams. The Mayfield Dam forms Mayfield Lake and is located at river mile 52. The Mossyrock Dam creates Riffe Lake and is located at river mile 65. The two reservoirs inundate approximately 14,000 acres of land.

On November 17, 1964, the Commission issued an order that approved certain changes to the unconstructed Mossyrock development, and incorporated Article 37 into the license. 3/ Under Article 37, the Commission, upon its own motion or the recommendation of FWS or Washington, and after notice and opportunity for hearing and upon substantial evidence, may order

- 1/ The original filing was supplemented by a letter filed June 23, 1995. At the time the settlement agreement was executed, Washington was named the Washington Department of Wildlife.
- 2/ 10 FPC 424.
- 3/ 32 FPC 1327 (1964).

Project No. 2016-022

- 2 -

changes to project structures and operations for fish and wildlife purposes. Pursuant to Article 37, Tacoma, FWS, and Washington performed studies to assess the project's impact on wildlife habitat, and implemented a number of wildlife mitigation programs, beginning early in 1966. In the 1980's, Tacoma voluntarily began funding full-time Washington employees to assist in the planning and implementation of additional and more comprehensive habitat mitigation programs on project lands set aside for wildlife. The parties also began discussions concerning alternative wildlife mitigation packages for the project. The result of the discussions is the settlement agreement and the application for license amendment now before us.

Notice of Tacoma's application for amendment of the project license to implement the settlement agreement was published in the Federal Register, 60 Fed. Reg. 2098 (December 14, 1994), with comments, protests, and interventions due by January 30, 1995.

Under the terms of the settlement agreement, 14,000 acres of lands will be dedicated for wildlife resources and managed under the terms of the wildlife management plan. The settlement agreement provides as follows:

- (1) Tacoma owns approximately 5,380 acres of lands which are dedicated to wildlife management and habitat protection. Certain of the lands are already located within the project boundary, while other lands are located outside the project boundary. These lands dedicated to wildlife resources will continue to be managed as wildlife habitat under the terms of a wildlife management plan to be submitted for Commission approval.
- (2) Tacoma will use its best efforts to acquire ownership of approximately 6,855 acres of lands located on the northern shore of Riffe Lake, referred to as Peterman Ridge, for inclusion in the wildlife management area. Tacoma will use its best efforts to acquire approximately 2,212 acres of timber rights that are included in the Peterman Ridge property. These lands will be managed to preserve the wildlife habitat.
- (3) Tacoma will pay \$3.0 million over a three-year period to acquire approximately 1,900 acres of lowlands and wetlands in the vicinity of the project for inclusion in the wildlife management area.
- (4) Tacoma will make an annual payment of \$250,000, adjusted for inflation, to Washington for the management and restoration of lands acquired under the terms of the settlement agreement until the end of the

term of the current license and any new license granted to Tacoma for this project.

- (5) If Tacoma does not propose to increase the current capacity of the project, and complies with the terms and conditions of the settlement agreement, FWS and Washington agree to support the wildlife mitigation provided under the settlement agreement as adequate through the end of term of the current license and any new license granted to Tacoma.

On January 23, 1995, as supplemented on January 27, 1995, Lewis County filed a motion to intervene in the proceeding. Lewis County states that it will not oppose the license amendment on the condition that Tacoma pays \$2,000,000 to Lewis County to compensate for the economic effect of lost tax revenues to the county.

On January 30, 1995, Friends of the Cowlitz (FOC) filed a motion to intervene stating that it supports Tacoma's efforts to mitigate the impacts of the Cowlitz River Project on wildlife on the project and appurtenant lands. However, FOC argues that the settlement agreement should not be approved until alternatives to timber harvesting and mining on the wildlife lands are evaluated. FOC contends that the Commission should not prematurely approve the settlement agreement for the existing license and the next license, 4/ arguing that relicensing is the proper time to determine adequate wildlife mitigation for the project. FOC also argues that Tacoma should be required to address the cumulative impact on wildlife of the existing and proposed hydroelectric projects in the Cowlitz River Basin. 5/

On January 30, 1995, as supplemented on June 5, 1995, American Rivers submitted a motion to intervene opposing Tacoma's request to amend the license. American Rivers contends that the settlement agreement will recover less than half of the wildlife habitat lost due to the project and will preclude additional wildlife mitigation measures during the remaining term of the existing license and through the term of a subsequent license, if a subsequent license is issued to the licensee. American Rivers and FOC argue that Commission approval of the settlement agreement at this time will prevent Commission review of project-related impacts when the project is relicensed. They also

- 4/ Tacoma's license expires on December 31, 2001. Tacoma and the parties currently are engaged in the relicensing process using the Commission's alternative licensing procedures.
- 5/ In general, the Commission will deal with issues of cumulative impacts of multiple projects in a river basin at the time of licensing or relicensing.

contend that the settlement agreement provides inadequate mitigation for wildlife impacts caused by the existence of the project. 6/

On August 15, 1996, notice of the availability of the Draft Environmental Assessment (EA) was issued by the Secretary. 7/ The Draft EA recommended (1) approving the settlement agreement contingent upon satisfactory consultation with the Washington State Historic Preservation Office (SHPO), 8/ (2) incorporating the terms and conditions of the settlement agreement into the license and incorporating the wildlife mitigation lands covered by the settlement agreement into the project boundary, and (3) requiring that Tacoma file the completed draft wildlife management plan for Commission approval when it is completed. Comments on the Draft EA were submitted by Tacoma, Lewis County, American Rivers, FOC, and the Washington State Parks and Recreation Commission. The Final EA, which includes changes that reflect the comments, is attached to this order. Lewis County's lost tax revenue proposal, and American Rivers' and FOC's concerns about project review under relicensing, are discussed below.

DISCUSSION

The Final EA concludes that the settlement agreement will benefit the project's environmental resources. The EA finds that the affected land will be protected from future development and other habitat-degrading activities, such as timber harvesting. 9/

- 6/ The motions to intervene, all timely and unopposed, were granted automatically under Rule 214, 18 C.F.R. § 385.214(c)(1) (1998).
- 7/ 61 Fed. Reg. 43239 (1996).
- 8/ The SHPO was provided an opportunity to review the Draft EA. No comments were submitted by the SHPO.
- 9/ In response to FOC's concern that alternatives to timber harvesting and mining should be evaluated before the settlement agreement is approved, we note that the settlement agreement provides for timber harvesting for wildlife management purposes, as well as for commercial purposes. In fact, commercial timber harvesting will be phased out over the next 30 years. Future timber harvesting within the area set aside for wildlife mitigation will occur only for wildlife management purposes. (See Draft Wildlife Management Plan, Exhibit C(I, 11) at pp. 4, 6-8.) Furthermore, the settlement agreement provides that Tacoma will restore wildlife habitat properties acquired (continued...)

Management of the lands for purposes of wildlife mitigation in accordance with the draft wildlife management plan will restore wildlife habitat, increase wildlife populations, and improve wildlife based-recreation. The EA concludes that approving the settlement agreement will not constitute a major federal action significantly affecting the quality of the human environment. We will amend the license as necessary to reflect the terms and conditions of the settlement agreement. 10/

As noted, American Rivers and FOC request that the Commission deny Tacoma's application to amend the license and also reject Tacoma's proposed settlement agreement as failing to satisfy Tacoma's wildlife mitigation obligations for any new license issued to Tacoma. They argue that approval of the settlement agreement and its inclusion in the license will prevent the Commission from exercising its authority over wildlife mitigation in the relicensing proceeding. However, American Rivers and FOC urge that the Commission amend Tacoma's existing license by including the settlement agreement as partial satisfaction of Tacoma's wildlife mitigation requirements for the remaining term of that license.

Nothing in the settlement agreement will prevent other parties from advocating, nor the Commission from imposing, additional mitigation requirements for wildlife impacts in the relicensing proceeding. The wildlife protection and enhancement measures the settlement provides for are consistent with the requirements of Article 37 of the license and the applicable standards of the Federal Power Act. Accordingly, we will approve the settlement.

In its motion to intervene, Lewis County states that it will not oppose Tacoma's request to amend the license if Tacoma pays Lewis County \$2,000,000. Lewis County's loss of tax revenues is based on the withdrawal of lands for wildlife mitigation purposes from the county's property tax base. The Revised Code of the

9/ (...continued)
from John Hancock Timber Company, the Campbell Group, or their successors or assigns that is damaged as a result of mining activities. (See Settlement Agreement, Part IV (B-3) at pp. 6-7.)

10/ Among other things, we are amending the license to provide that Tacoma will make a payment of \$250,000, adjusted annually, to Washington for the management and restoration of lands acquired for wildlife resources for the duration of the existing license. We will address the appropriateness of continuing such payments as a condition of a new license in the relicensing proceeding for the Cowlitz River Project.

State of Washington, § 84.36.010 (1997), exempts from taxation property belonging to a municipal corporation such as Tacoma.

Tacoma currently makes payments to Lewis County under an agreement which provides that Tacoma will pay for certain economic impacts attributable to the project, to the extent that the county provides certain services or incurs expenses as a result of the project. Tacoma states that the agreement with Lewis County meets the requirements of the Revised Code of the State of Washington, § 35.21.425 (1997), which allows a city that constructs a hydroelectric facility in another county to compensate that county for revenue losses or increased financial burden, upon terms mutually agreeable to the city and the county. We cannot determine from the record before us whether Tacoma and Lewis County have reached an agreement on such payments with respect to the lands acquired, or to be acquired, under this settlement agreement. In any event, the issue must be worked out between Lewis County and Tacoma under state law. In the meanwhile, we will not deny or postpone action on Tacoma's application.

The Commission orders:

(A) The settlement agreement among the City of Tacoma, the State of Washington Department of Wildlife (now the Washington Department of Fish and Wildlife), and the U.S. Fish and Wildlife Service regarding wildlife mitigation for the Cowlitz River Project No. 2016, as set forth in the licensee's October 24, 1994 filing, as supplemented by its June 23, 1995 filing, and the attachments thereto, is approved.

(B) Within 120 days from the date of this order, the licensee shall file, for Commission approval, a revised Exhibit G showing (1) those lands already within the project boundary that are to become part of the new wildlife management area; and (2) those lands outside the project boundary that have been acquired by Tacoma under the settlement agreement for inclusion in the wildlife management area.

Parcels of land acquired under the settlement agreement thereafter shall be shown in subsequent revisions to Exhibit G, which must be filed within 120 days of acquisition. Commission approval of revisions to Exhibit G will modify the project boundaries to include the acquired lands.

(C) Within 120 days from the date of this order, the licensee shall file either the Final Wildlife Management Plan or a schedule for filing the final plan for Commission approval. The licensee shall consult with the Washington Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and Lewis County prior to filing the plan with the Commission. 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 are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

(D) The licensee shall pay the Washington Department of Fish and Wildlife \$250,000 per year, in accordance with the terms of the settlement, until expiration of the term of the current license and any annual licenses issued for this project thereafter.

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

By the Commission.

(S E A L)


David P. Boergers,
Acting Secretary.

FINAL ENVIRONMENTAL ASSESSMENT

APPLICATION FOR AMENDMENT OF LICENSE

CITY OF TACOMA, WASHINGTON

COWLITZ RIVER PROJECT

FERC PROJECT NO. 2016-022

WASHINGTON

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Licensing and Compliance
888 First Street, NE
Washington, DC 20426

(Issued July 17, 1998)

FINAL ENVIRONMENTAL ASSESSMENT

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING
DIVISION OF LICENSING AND COMPLIANCE

Project Name: Cowlitz River Project

FERC Project No. 2016-022

1. APPLICATION

1. Application type: Amendment of License
2. Date filed: October 24, 1994, supplemented June 23, 1995
3. Applicant: City of Tacoma, Washington
4. Water body: Cowlitz River
5. Nearest city or town: Mossyrock
6. County and State: Lewis County, Washington

2. PURPOSE AND NEED FOR ACTION

On October 24, 1994 and supplemented by letter dated June 22, 1995, the City of Tacoma, Washington (Tacoma or licensee), filed an application to amend its license for the Cowlitz River Project. The licensee requests Commission approval to include the terms and conditions of a settlement agreement in the license among Tacoma, the Washington Department of Fish and Wildlife (WDFW), and the U. S. Fish and Wildlife Service (FWS). The licensee, WDFW, and FWS are referred to as the Parties in this final environmental assessment (FEA). The Parties further request the inclusion of wildlife mitigation lands, referenced in the agreement, in the project boundary.

3. BACKGROUND

The Commission issued a 50-year license for the project effective January 1, 1952. The Cowlitz River Project is on the Cowlitz River on the western slopes of the Cascade Mountains in southwestern Washington. The project includes Mayfield dam at river mile 52 which creates Mayfield Lake, and Mossyrock dam at river mile 65 which impounds Riffe Lake. About 14,000 acres of land are inundated by the two reservoirs. Figure 1 shows the existing project area.

On November 17, 1964, the Commission issued an order authorizing the licensee to add capacity to the Mossyrock development, increase the maximum surface elevation of Riffe Lake, and make other changes to the project. This order added various articles to the license including article 37, a reopener article, which allows the Commission to change project structures and operations for fish and wildlife purposes after notice and opportunity for hearing. The licensee states that the fish and wildlife agencies consider article 37 a mandate to perform wildlife mitigation at the project for project-related wildlife impacts.

The licensee states that, beginning as early as 1966 and continuing over the years, the licensee implemented a number of wildlife mitigation projects on project lands in cooperation with the WDFW and the FWS pursuant to article 37. In the early 1980s, the licensee began funding full-time WDFW employees to help plan additional and more intensive habitat mitigation projects on project lands set aside for wildlife. Eventually, 5,294 acres of project lands and 86 acres of non-project lands (5,380 total) were set aside for wildlife management as mitigation for the project. The licensee provides funding for the personnel, equipment, and supplies needed to manage the above lands.

In the 1980s, the Parties discussed various wildlife mitigation packages for the project. The outcome of these discussions is the settlement agreement before the Commission. The agreement identifies and credits existing wildlife mitigation undertaken by the licensee and specifies additional mitigation the licensee must perform in satisfaction of the agreement. The agreement references a Draft Wildlife Mitigation Plan (DWMP) which will be used by the WDFW and the licensee to manage the lands under the agreement. The DWMP is a part of the licensee's application for Commission approval.

4. PROPOSED ACTION AND ALTERNATIVES

The proposed action is Commission approval of the settlement agreement and the DWMP, and incorporation of the wildlife lands covered by the agreement into the project boundary.

4.1 Settlement Agreement

The scope of the agreement is limited to the licensee's wildlife mitigation obligations for the project as defined by the Parties. The agreement does not represent the concerns or views of any other party regarding wildlife mitigation at the project. Further, the agreement does not pertain to resident or anadromous fish issues or other environmental resources at the project. In the settlement, the WDFW and the FWS agree that the licensee has satisfied its wildlife mitigation obligations for the project

provided the licensee complies with the agreement and any additional wildlife terms and conditions required by the Commission before the project license expires in 2001. At relicensing, the WDFW and the FWS agree not to seek additional wildlife mitigation and enhancement for the next new license (if any) issued by the Commission to Tacoma. The agreement expires with the expiration of the first new license issued to Tacoma unless the Commission does not issue Tacoma a new license, in which case, the agreement terminates upon expiration of the existing license and any subsequent annual licenses. The settlement contains language stating that the agreement is subject at all times to the terms and conditions of the license, irrespective of the terms and conditions in the agreement.

The Parties signed the agreement January 5, 1993. Since that time, the licensee has completed many required actions in the agreement. The agreement's major provisions are described below:

Uplands/Timberlands

The licensee will continue to manage 5,380 acres of land already acquired for wildlife and make this land a part of the agreement.

The licensee will purchase 6,855 acres of land on the north shore of Riffe Lake known as Peterman Ridge. The licensee will purchase 2,212 acres of timber rights on this land to preserve wildlife habitat found in merchantable, pre-merchantable, and young forest lands, riparian areas, and wetlands. Timber will only be removed on these 2,212 acres for wildlife management purposes. Timber harvesting will continue on the remaining 4,643 acres (see Affected Environment - Terrestrial Resources). The licensee will restore any lands covered by the agreement damaged by reserved mineral rights exploration.

The licensee acquired the Peterman Ridge parcel and accompanying timber rights on December 30, 1992 (Tacoma, 1995).

Lowlands/Wetlands

The licensee shall provide \$3.0 million to the WDFW to acquire lowlands/wetlands. The WDFW, with concurrence from the FWS, shall use these funds at its discretion to purchase a targeted 1,900 acres of lowlands/wetlands. The WDFW will purchase these lands on behalf of the licensee who will own these lands in fee simple. The Parties agree that the actual amount of land acquired by the WDFW, on behalf of the

licensee, will be sufficient to satisfy the licensee's lowlands/wetlands obligation under the agreement.

The licensee has already provided \$3.0 million to the WDFW to purchase lowlands/wetlands. The licensee states that an estimated 1,003 acres of lowlands/wetlands would be acquired as of June 23, 1995.

Operation, Maintenance, and Capital Improvements

The licensee shall provide \$250,000 annually, adjusted for inflation using the current published Consumer Price Index for All Urban Consumers for the Seattle/Tacoma Metropolitan Area, to the WDFW to manage the lands included in the settlement. The Parties agree the WDFW shall use these funds, in consultation with the FWS, to manage wildlife and wildlife habitat on these lands.

The licensee has provided annual operating funds to the WDFW in accordance with the agreement since January 1993 (Tacoma, 1995).

Coordinating Committee and Reports

The Parties will establish a Wildlife Management Coordinating Committee (WMCC) with representatives of the licensee, WDFW, and FWS to develop and implement the DWMP and carry out other duties, as necessary, to manage the wildlife lands included in the agreement. The WMCC shall meet twice annually for the first three years and annually thereafter, for the term of the agreement.

The WDFW shall prepare an annual report to the WMCC at the end of each calendar year. The annual report will describe acquired lands, wildlife enhancement projects undertaken, wildlife benefits derived, and will provide an accounting of revenues and expenditures in accordance with generally accepted accounting principles along with a listing of funds currently held in accounts. The annual report will also outline future activities, expected wildlife benefits, and estimated costs.

4.2 Draft Wildlife Management Plan

By letter dated May 24, 1995, the Commission requested additional information from the licensee and a copy of the DWMP referenced in exhibit C of the agreement. The licensee provided additional information and a copy of the DWMP by letter filed June 23, 1995. Once finalized, the DWMP will be used by the WDFW and the licensee to manage the lands included in the agreement. The DWMP is being developed by a cross-divisional task team of

WDFW employees with assistance from the licensee, FWS, and a Citizens Advisory Group (CAG).

The DWMP is being developed under a State Environmental Policy Act review process by the WDFW. Land management strategies included in the DWMP are based upon "Standards and Guidelines for Management of Lands Owned or Controlled by the Department of Fish and Wildlife" (WDFW, 1994). Lands will be managed primarily for wildlife and for compatible recreation and education.

In the DWMP, major land features would be mapped including: habitat cover types; sensitive and rare species; physical resources like roads, buildings, and recreation facilities; hydrologic features; and cultural resources. The DWMP establishes two management zones for the purpose of prioritizing where habitat prescriptions or management activities would be performed first. A Habitat Management Zone is a distinctive land and/or vegetation character type, for example, a talus slope or a riparian area. A Species Management Zone is an area that contains elements required by an individual species. Management zones were prioritized in the DWMP according to the following criteria: (1) threatened and endangered species are given highest priority; (2) priority habitats are ranked next; and (3) Species Management Zones based on the below criteria:

- o Overall wildlife value and abundance of the habitat type represented by species.
- o Purpose for which a particular parcel of land was purchased.
- o Public input from the CAG list of concerns.
- o Number and type of enhancement projects that can be identified for a particular zone.

The DWMP identifies prescriptions or land management activities to preserve and/or enhance the land's value for wildlife. Some prescriptions are species specific, for example, prescriptions to improve dabbling duck habitat in the Mossyrock Unit include: (1) strive for a 50/50 open water vegetation mix in ponds, (2) plant wetland shrubs along pond edges, (3) replace canary grass with native seed-producing plants, and (4) plant palatable submergent vegetation. Other prescriptions are more general, for example, prescriptions to enhance black-tailed deer, Douglas squirrel, and pileated woodpecker habitat in the Peterman Ridge Unit include: (1) strive for diversity in tree stand composition when replanting timber-harvested areas, (2) thin timber where beneficial to achieve goals like stimulating conifer and understory growth, and (3) implement a road management program to protect habitat while ensuring public access.

4.3 Reasonable Alternatives

No alternatives to the Parties' proposed settlement agreement and DWMP were identified.

4.4 No-Action Alternative

The no-action alternative would require denying approval of the settlement agreement and DWMP.

5. CONSULTATION

The Commission public noticed the licensee's application on January 9, 1994. Three parties filed motions to intervene in response to the public notice as shown below.

<u>Intervening Group</u>	<u>Date of Letters</u>
Lewis County, Washington	January 17, 1995 January 23, 1995
Friends of the Cowlitz	January 27, 1995
American Rivers	January 27, 1995 June 2, 1995

Commission staff issued a draft environmental assessment (DEA) for this application in August 1996 and noticed the DEA in the Federal Register with a comment closing date of September 15, 1996. Copies of the DEA were mailed to the three intervening parties and all entities on the project's mailing list. Lewis County requested an extension of time to file comments. Commission staff granted the extension by letter dated October 18, 1996, establishing a new comment closing date of November 18, 1996. Below are a list of comments filed on Commission staffs' DEA. All comments are discussed in the Issues and Recommendations Section.

<u>Comments</u>	<u>Date of Letter</u>
City of Tacoma	September 4, 1996
American Rivers	September 6, 1996
Lewis County (EcoNorthwest)	September 13, 1996
Lewis County	September 14, 1996 November 14, 1996 November 22, 1996 November 12, 1996
Washington State Parks and Recreation Commission	November 15, 1996
Friends of the Cowlitz	November 15, 1996
City of Tacoma	December 17, 1996

6. ENVIRONMENTAL ANALYSIS

6.1 General Project Location

The Cowlitz River Project is located on the western slopes of the Cascade Mountains, about 50 miles southeast of Olympia, Washington. The project includes Mayfield dam at river mile 52 which impounds Mayfield Lake, and Mossyrock dam at river mile 65 which impounds Riffe Lake.

Mayfield dam is a concrete structure with a small arch section across the river, an ogee gravity spillway with 5 tainter gates, and 2 gravity abutment sections. The dam rises about 240 feet above bedrock and has a crest length of about 850 feet. The Mayfield powerhouse contains three turbine/generator units with a total maximum installed capacity of 120,000 kilowatts. Mayfield Lake has normal maximum and minimum elevations of 425 feet mean sea level (msl), and 415 feet msl, respectively. At its normal maximum level, the lake has a surface area of about 2,200 acres, has 33 miles of shoreline, and stretches about 13.5 miles upstream to Mossyrock dam.

Mossyrock dam is a concrete structure with a double curvature arch section with concrete thrust blocks near the top of each end. The dam rises 585 feet above bedrock and has a crest length of 1,300 feet. The Mossyrock powerhouse contains two turbine/generator units with a total maximum installed capacity of 412,000 horsepower. Riffe Lake (impounded by Mossyrock dam) has normal maximum and minimum levels of 778.5 feet and 600 feet, respectively. At its normal maximum level, the lake is 11,830 acres, has 52 miles of shoreline, and stretches about 18 miles upstream.

The project area has a maritime climate characterized by cool dry summers and mild wet winters. The area receives about 60 inches of precipitation annually, the majority of which comes between late fall and late spring. Summers are usually cool and dry. Less than 5 percent of annual precipitation falls between June and August. Annual snowfall averages 8 inches in the area of the project, increasing significantly as elevations increase in the Cascades. Summer daytime temperatures are generally in the 70s and winter temperatures in the low 50s (DFW, 1994).

6.2 Terrestrial Resources

Affected Environment

The project area supports a variety of game and non-game forest species, including black-tailed deer, Douglas squirrel, grouse, pileated woodpecker, Roosevelt elk, bear, and cougar. Common wetland birds in the project area include wood ducks, mallards, herons, and bitterns (WDW, 1993). Two federally listed threatened species are known to occur in the vicinity of the project: the bald eagle (*Haliaeetus leucocephalus*) and the Northern spotted owl (*Strix occidentalis caurina*) (FERC, 1992).

Up to about 14,000 acres of land are included in the settlement agreement and would be managed according to the DWMP once finalized. The DWMP divides these lands into geographic management units. This FEA divides these lands into three groups for discussion (see Table 1 for a summary). Each group is described below:

Land Group 1 (5,294 acres)

These lands are already in the project boundary and were dedicated for wildlife management prior to the settlement agreement. In general, these lands are made up of numerous small parcels forming a narrow band around Mayfield and Riffe Lakes. These lands form lakeshore buffer areas. Habitats include: second growth broadleaf, conifer, and mixed forest lands; wetlands; agricultural lands; and some stands of old growth forest. Seral shrub, grass, and pasture lands are also present. Just under 2,000 acres of these lands are described more specifically in the DWMP according to unit. A summary of the lands described by unit is given below.

Cowlitz Trout Hatchery Unit

This unit is located on about 280 acres adjacent to the Cowlitz Trout Hatchery. Management includes: farming corn, small grains and millet; planting and maintaining big game food plots; and wood duck, kestrel, and goose nesting structures. Douglas fir plantings for visual buffers and weed control are also a part of the unit's management. California quail and turkey introductions have taken place here with some success (WDFW, 1994).

Swofford Unit

This 520-acre unit consists of Swofford Pond and surrounding upland areas. Swofford Pond was originally a steelhead/cutthroat rearing pond until 1983. This program was abandoned and the area enhanced for wildlife habitat. In addition, a warm water fish

program was started with the introduction of bluegill, black crappie, largemouth bass, channel catfish, and brown bullhead. The fishery, opened in 1985, has become popular.

Wildlife habitat in this unit has been enhanced by the creation of big game food plots and goose forage pastures. Additional management includes: creating snags; planting Douglas fir and wetland species. Wood duck and kestrel nest boxes, and goose nesting platforms have also been placed in various locations around the pond (WDFW, 1994).

Mossyrock Unit

This unit contains about 640 acres of wetland, upland, and forested habitat. Management activities have included: wetland enhancement and creation; farming; tree planting; putting up nest boxes; and big game forage production. Corn, small grains, and millet have been farmed for waterfowl use. Douglas fir and wetland-type trees have been planted for cover and visual buffers. The forested portion of the unit has approximately 39 acres of forage clearings.

Kosmos Unit

The 520-acre Kosmos Unit contains habitat developments that include: farming corn and small grains for waterfowl; big game food plot management; Douglas fir and wetland tree plantings; timber thinning; the creation of 28 dugout ponds; wood duck and kestrel nest boxes; and maintenance of an upland bird feeder program. Up to 175 acres of mudflats were seeded in this unit during some years.

The Kosmos Unit also has a high level of non-wildlife oriented recreation, particularly in the summer and fall. Uses include: hang gliding, wind surfing, camping and ORV travel.

Rainey Creek Dike Project

A dike was constructed by the WDFW to impound spring and surface water runoff on the east end of Riffe Lake. The dike runs roughly parallel to Rainey Creek on the east side of the Champion International haul road. The dike impounds a 45-acre pond with five small islands. The pond is designed to provide spring nesting habitat for waterfowl as well as foraging and resting areas for fall migrants.

Land Group 2 (6,855 acres)

These lands are not in the project boundary and have not been managed for wildlife prior to the settlement agreement. All these lands are located on Peterman Ridge which is made up of

nearly contiguous blocks of land just off the north shore of Riffe Lake. According to the DWMP, lands on Peterman Ridge support a mixed hardwood and conifer forest varying from 1 to 55 years old.

The licensee purchased 6,855 acres on Peterman Ridge in 1992. Of this land, the licensee purchased 2,212 acres of timber rights from Hancock Timber Resource Group (Hancock). Hancock continues to hold timber rights to the remaining 4,643 acres within this area. Hancock will continue to harvest timber on these 4,643 acres over the next 30 years. As Hancock cuts each area the timber rights revert to the licensee. The licensee will only cut timber on its 2,212 acres for wildlife management purposes.

The DWMP states limited wildlife prescriptions would be performed on these lands in the immediate future because of Hancock's ongoing timber harvesting. The DWMP also says habitat prescriptions must be planned based on scheduled commercial timber harvests over the next 30 years.

Land Group 3 (up to 1,900 acres)

The agreement contains provisions for acquiring up to 1,900 acres of wetlands/lowlands to be purchased by the WDFW on behalf of the licensee (the licensee would own these lands in fee simple). In an additional information response filed June 23, 1995, the licensee states that currently, eight parcels with a total area of 702 acres have been purchased in three targeted wetland complexes. An additional 86 acres of wetland habitat were purchased by the licensee prior to the settlement agreement. An additional 72-acre parcel closed on June 19, 1995, and acquisition is proceeding on two other parcels of 80 and 63 acres each. Completing these transactions would bring the total acquired lowlands/wetlands to 1,003 acres. The WDFW continues to pursue the acquisition of additional parcels to meet the 1,900-acre targeted goal.

Table 1

Lands Included in Agreement	Descriptors
Land Group 1 5,294 acres	<ul style="list-style-type: none"> ◦ already in project boundary ◦ already owned by licensee ◦ managed for wildlife before settlement
Land Group 2 6,855 acres (Peterman Ridge)	<ul style="list-style-type: none"> ◦ proposed in project boundary ◦ already owned by licensee ◦ not managed for wildlife before settlement
Land Group 3 1,900 acres (target)	<ul style="list-style-type: none"> ◦ proposed in project boundary ◦ land would be owned by licensee ◦ not managed for wildlife before settlement
14,049 acres total	

Environmental Impacts

Lands included in the settlement agreement would be managed by the WDFW and the licensee according to the DWMP. The primary purpose of this plan is to protect and enhance wildlife and wildlife habitat while providing opportunities for compatible recreation and education. The WDFW's approach to maintaining healthy wildlife populations is through the protection and enhancement of habitat. The licensee would protect lands from future development and other habitat degrading activities through fee title ownership, inclusion of these lands in the project boundary, and management according to the DWMP. The DWMP lists wildlife management prescriptions to enhance these lands. For example, the DWMP contains prescriptions to: enhance stream and wetland areas by deepening ponds to create open water habitat, planting emergent vegetation along stream channels and lakes, installing wood duck boxes, installing bald eagle and osprey nesting structures, planting wildlife food plots, rehabilitating open fields by planting perennials, restricting recreation in sensitive areas, and restricting the use of Off-Road Vehicles (ORV). No adverse terrestrial resource impacts are expected from the settlement agreement and DWMP.

The settlement agreement prohibits commercial timbering on 2,212 acres of land on Peterman Ridge unless timber is harvested for wildlife management purposes. Hancock would continue to harvest timber on 4,643 acres over the next 30 years. Hancock's timber harvesting represents an ongoing and continuing impact

that would eventually be eliminated in accordance with the agreement. Hancock is allowed to cut timber once on the above 4,643 acres, after which the timber rights revert to the licensee. Except for forestry-related activities prescribed under the DWMP, there would be no commercial timber harvesting on Peterman Ridge in about 30 years.

The DWMP will be finalized sometime in the future. Commission staff recommends that the licensee file the final wildlife management plan, for Commission approval, when completed. Commission approval is needed because the final plan affects lands within the project boundary.

6.3 Aquatic Resources

Affected Environment

The Cowlitz River begins as glacial streams from the slopes of Mount Rainier, Mount Adams, and Mount St. Helens. During the summer, the river carries a heavy load of glacial melt. During the winter, flows are relatively clear, except during high flow events. The river below both dams runs through steep, rocky gorges. The river runs swift, with riffles and rapids below each dam. The river's average flow as measured below Mayfield Dam (the downstream development) was 6,578 cfs during a 15-year period between 1969 and 1983. The maximum flow during that period was 64,700 cfs on December 4, 1976. The minimum daily flow on record was 451 cfs on April 16, 1962.

The Washington Department of Ecology (WDOE) classifies the Cowlitz River as class A (excellent) from its mouth to RM 52.0 (Mayfield Dam). Dissolved oxygen (DO) levels are consistently high, exceeding the state standard of 8.0 milligrams per liter (mg/l). Based on data collected at the United States Geological Survey (USGS) gage No. 14238020 (RM 49.3) between October 1977 and September 1980, mean DO was 11.9 mg/l with a minimum of 10.9 and a maximum of 13.5 mg/l. Water temperatures ranged from 4.4 degrees Celsius (°C) to 12.5°C during this time. These temperatures are well below the State's maximum of 18.0°C for class A waters (FERC, 1992).

Mayfield is the lowermost dam on the Cowlitz River. As such, it blocks all anadromous fish migration above the dam. Article 31 of the license for the Cowlitz Project required Tacoma to construct, maintain, and operate such fish ladders, fish traps, or other fish-handling facilities or fish-protective devices, and make such stream improvements and provide such fish hatcheries as might be prescribed by the Commission on its own motion or upon the Department of the Interior's recommendations. License Article 30 required that, prior to beginning construction of any permanent fish ladders, fish traps, or other fish-handling

facilities or fish-protective devices, Tacoma was to make further studies, tests, and experiments to determine, in cooperation with various agencies, the probable effectiveness of such facilities and devices, and submit plans to the Commission for its approval. In addition, Tacoma was to continue its studies and investigations concerning hatchery facilities.

In compliance with articles 30 and 31, Tacoma built a barrier dam and fish trap facilities at river mile 49.5, the Cowlitz Salmon Hatchery adjacent to the barrier dam, and the Cowlitz Trout Hatchery (for game fish) and associated rearing pond. The salmon and game fish hatcheries are operated by the WDFW with funds provided by the licensee. WDFW rears steelhead, cutthroat, and rainbow trout at the Cowlitz Trout Hatchery, and spring chinook, fall chinook, and coho salmon at the Cowlitz Salmon Hatchery. In addition, the licensee annually traps about 5,000 coho salmon and 1,200 steelhead at the salmon hatchery for transport to Tilton River (a tributary to the Cowlitz) to provide a sport fishery. The licensee also funds a planting program for tiger muskie in Mayfield Lake.

Environmental Impacts

In general, the settlement agreement should benefit water quality and aquatic resources in the project area. Lands covered by the agreement would be preserved and managed for wildlife, eliminating the possibility of development in the future. Habitat prescriptions contained in the DWMP designed to benefit wildlife would typically benefit aquatic species and water quality as well. For example, planting emergent vegetation and performing other activities to enhance wetlands for wildlife would likely enhance the water quality functions of those wetlands, possibly including: enhancing water storage for flood control, enhancing groundwater discharge for stream base flow, enhancing phosphorous uptake for pollution control, and enhancing stream bank stability for erosion control. Planting riparian vegetation along stream corridors for wildlife would assist in keeping water temperatures down and improving water quality for fish. Prohibiting timber cutting (where timber rights were secured) except for wildlife management purposes would reduce erosion and siltation in tributaries emptying into the Cowlitz River.

Many prescriptions in the DWMP involve ground-disturbing activities. For example, a parking lot is proposed for the Kosmos Unit, additional hiking trails are proposed, pond dredging might be performed to create open water habitat for ducks, wildlife food plots would require tillage and farming, and interpretive signs and other structures like vehicle control gates would be installed. These activities generally involve small projects with minimal land disturbance and ultimately

should improve the area for wildlife and compatible recreation. Some minor soil erosion and vegetation clearing would be expected, but overall, the environmental impacts of the typical activities contained in the DWMP are expected to be minor with long-term benefits to the project's aquatic resources.

6.4 Recreation Resources

Affected Environment

The project is located along U.S. Highway 12, on the western slopes of the Cascade Mountains in southwestern Washington. Mayfield Dam is about 17 miles east of Interstate 5. State Route 122 and local roads provide additional access to Mayfield and Riffe Lakes. The project is located near Tacoma, Washington.

The Cowlitz Project lies in an area popular for recreation. Mt. Rainier National Park, a popular recreation destination, is about 35 miles northeast of both reservoirs. The Mount St. Helens National Volcanic Monument is about 17 miles to the south. The project's two lakes are popular recreation destinations for residents of major cities in western Washington and Oregon (FERC, 1994). Recreation activities within the project boundaries include camping, picnicking, swimming, boating, waterskiing, hang gliding, hiking, hunting, and fishing. Existing recreation facilities within the project's boundaries include (FERC, 1994):

- o Cowlitz Trout Hatchery and Fishing Access Area
- o Cowlitz Salmon Hatchery and Fishing Access Area
- o Lewis County Park
- o Ike Kinswa State Park
- o Mossyrock Park
- o Hydrovista Visitor Center
- o Mossyrock Dam Overlook
- o Mayfield Dam Overlook
- o Private facilities (including Lake Mayfield Resort and Mayfield Lake Youth Camp)
- o Taidnapam Park

Fishing access is provided near both fish hatcheries at sites developed by the WDFW. The area below the Cowlitz Salmon Hatchery is reportedly one of the most popular fishing sites in the state. This site, known as the Barrier Dam Access Site, is operated by the licensee and features picnic tables, 2 boat ramps, and shoreline fishing. The fishing access area adjacent to the Cowlitz Trout Hatchery also receives heavy use. Recreational facilities associated with the Cowlitz Trout Hatchery include a 2-lane boat ramp, parking area for about 300 cars, and restroom facilities (FERC, 1994).

The Lewis County Parks and Recreation Department holds a permit from the licensee to operate the Lewis County Park (formerly Mayfield County Park), also within the project boundary, consisting of about 50 acres along the eastern shore of the center section of Mayfield Lake. Facilities include 56 individual campsites, 30 to 40 group campsites, 35 picnic tables, a boat ramp, docks, a boat trailer parking lot, playground, and swimming beach (FERC, 1994).

The 454-acre Ike Kinswa State Park, located at the northern end of Mayfield Lake, has day-use and overnight facilities. These facilities include 43 tent sites and 60 hook-up campsites, a swimming area, 99 picnic tables, playground, a concession stand, parking, and wooded grounds.

Mossyrock Park, located on the left shoreline of Riffe Lake, is about 1 mile from the dam. Group camping facilities at the park include 40 picnic tables with an additional 20-unit overflow area, a large cooking shelter, restrooms, and nature trails. The park offers 24 individual hook-up campsites, 24 water-only campsites, 12 walk-in tent sites, and a playground. Day-use areas include 50 picnic tables, a swimming beach and bath house, restrooms, boat launch ramps and docks, parking areas, a concession stand, and public laundry facilities.

Located on the right shoreline, near the upper end of Riffe Lake, Taidnapam Park, formerly the Kosmos Recreation Site, originally was used for only informal recreation activities including fishing, camping, boating, and picnicking. In 1992, the Commission issued an order amending license authorizing Tacoma to expand the recreation facilities at this site. Added facilities include a boat ramp, parking for cars and boat trailers, a group campground for recreational vehicles, a family campground with approximately 40 campsites, several picnic areas, a swimming beach, a visitor parking lot with comfort station, and up to two residences for park managers and their families.

The Hydrovista Visitor's Center, on a high bluff overlooking the dam, is a small facility housing interpretive displays showing the construction of Mossyrock dam. The Mossyrock dam overlook has a large parking lot with a sign describing the Cowlitz River Project. A walkway provides access from the parking lot to a gated fishing area on Riffe Lake.

Private developments along the southern shore of Mayfield Lake include the Lake Mayfield Resort and the Mayfield Lake Youth Camp. Both of these developments are located outside the project boundary on private lands but include shoreline facilities on project lands leased from the licensee. The Lake Mayfield Resort is a commercial development with campsites, cabins, a restaurant,

and mooring facilities. The Mayfield Lake Youth Camp provides cabins and tent sites from June through August.

Environmental Impacts

Recreation compatible with the primary goal of protecting and enhancing wildlife habitat is encouraged in the DWMP. This is evident by the various proposals in the plan designed to improve recreational opportunities. For example, there are proposals to: build a parking lot in the Kosmos Area to improve shoreline access, build three new hiking trails (one each in Kosmos, Fishhook, and Swofford), and create a pheasant release area for hunting in the Kosmos Unit.

The settlement agreement would protect these lands from future development, ensuring their availability for recreation. Recreation compatible with wildlife management could continue in those areas where it already occurs and new areas would become available for recreation under the agreement. In general, the prescriptions in the DWMP should increase wildlife populations, improving the recreational experience of those who hunt, fish, hike, and camp. The prescriptions would also restore lands to a more natural state, improving the quality of these lands for recreation.

Non-compatible recreational activities would be reduced or eliminated. For example, ORV use would likely be more limited under the DWMP. Other recreation would be regulated more closely to reduce its impacts. Camping would continue but would be subject to standard restrictions to protect wildlife habitat: no camping in restricted areas, vegetation may not be removed or altered, no open fires during the fire season, etc. Restrictions would likely be placed on areas containing wetlands, threatened and endangered species, and areas where other sensitive species exist like the osprey, fringed pinesap, and small-flowered trillium.

Overall, the benefits of protecting these lands for future recreation, their enhancement under the DWMP, and the expansion of recreation made possible by additional lands covered by the settlement agreement outweigh the impacts of restrictions to some incompatible recreational uses like the use of ORVs. Some changes in existing recreational opportunities would be likely; however, the changes should not be significant.

6.5 Aesthetic Resources

Affected Environment

The Cowlitz River subbasin is located on the west side of the Cascade Mountains, in southwest Washington. Headwaters of

the Cowlitz River originate from the south side of Mount Rainier and the north sides of Mount Adams and Mount St. Helens. The Cowlitz River enters the Columbia River at river mile (RM) 68. The Cowlitz River drainage area encompasses 2,480 square miles. Major anadromous tributaries are the Toutle River, entering the Cowlitz River at RM 20, and the Coweeman River, entering the Cowlitz River at RM 1.7.

Much of the subbasin riparian areas have been impacted by logging and grazing. Logging can reduce an area's aesthetic appeal, particularly if clear-cutting is performed. In the immediate vicinity of the project, the area's steep hillsides, combined with open lakeshore areas, rocky gorges, and timbered slopes, contributes to the area's high aesthetic appeal and popularity as a recreation area (FERC, 1994).

Environmental Impacts

The settlement agreement would incorporate up to 8,841 acres of wildlife lands in the project boundary added to 5,294 acres already present in the boundary. These lands would be preserved from future development and enhanced by the management prescriptions contained in the DWMP. Actions proposed in the DWMP to improve wildlife habitat would also tend to improve the area's aesthetics. For example, restoring stream corridors, replanting old fields, controlling noxious weeds, and increasing wildlife populations would all serve to enhance the area's natural beauty. Commercial timbering operations would be eliminated over the next 30 years on the Peterman Ridge parcel except for wildlife management purposes. This would eliminate or reduce the effects of large-scale logging operations like clear cutting. The DWMP states that wildlife management proposals should be made in a manner to enhance aesthetics. Approving the agreement and the DWMP would only benefit project aesthetics by preserving up to an additional 8,841 acres of land for wildlife.

6.6 Land Use and Socioeconomics

Affected Environment

See *Affected Environment* under the Terrestrial Resources Section.

Environmental Impacts

No socioeconomic impacts or significant changes in land use are expected for the 5,294 acres of land already owned by the licensee and already in the project boundary. The licensee and WDFW have managed these lands for wildlife since before signing

the settlement agreement. Managing this land for wildlife would continue under the DWMP.

Land use on the 6,855-acre Peterman Ridge would gradually change from single-purpose timber harvesting to primary wildlife and secondary recreation and education purposes over the next 30 years. Hancock can harvest timber once on 4,643 acres of the above land for the next 30 years. Once an area is cut, the timber rights revert to the licensee. Consequently, the DWMP calls for gradually increasing management activities on the Peterman Ridge parcel coinciding with Hancock's expiring timber rights. This change in land use from single-purpose timber harvesting to wildlife and compatible recreation would benefit, as discussed before, the project's wildlife, water quality, aesthetics, and recreation. These lands would be protected from future development by their inclusion in the settlement agreement and would be enhanced by the gradual application of management prescription under the DWMP.

Lewis County filed a motion to intervene and comments regarding the licensee's purchase of 6,855 acres on Peterman Ridge and up to 1,900 acres of wetlands/lowlands. Lewis County is seeking compensation for lost tax revenues from the licensee's purchase of these lands due to the licensee's tax-exempt status as a municipal corporation in Washington State. This issue is discussed in the Issues and Recommendations Section.

6.7 Cultural Resources

Affected Environment

Commission staff checked the National Register of Historic Places (Register) to determine if any listed sites are known to exist on lands covered by the agreement. None were found. The licensee did not provide information on whether any eligible sites (not listed on the Register) are located on lands covered by the agreement.

Environmental Impacts

Many proposed wildlife management prescriptions contained in the DWMP involve ground-disturbing activities with potential to affect cultural resources. The potential risk is low because of the low-impact nature of the proposed activities. As discussed earlier, most wildlife enhancement measures involve small projects with minimal land disturbance. For example, continued farming of wildlife food plots; replanting old fields; planting emergent vegetation in wetland areas; creating new recreation trails; and installing signs, vehicle control gates, and other small structures involve continuing or low-impact ground-disturbing activities.

Commercial timber harvesting would continue on 4,643 acres of land on Peterman Ridge over the next 30 years. Road building and other impacts associated with timber harvesting could also potentially affect cultural resources.

Article 64 of the project license already requires the licensee to consult with the State Historic Preservation Officer (SHPO) prior to any construction. Article 64 states:

Prior to the commencement of any construction or development of any project works or other facilities at the project, the Licensee shall consult and cooperate with the State Historic Preservation Officer (SHPO) to determine the need for, and extent of, any archeological or historic resource surveys and any mitigative measures that may be necessary. The Licensee shall provide funds in a reasonable amount for such activity. If any previously unrecorded archeological or historic sites are discovered during the course of construction, 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 historic resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historic 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.

Commission staff forwarded a copy of the DEA to the SHPO requesting comments on our findings in the DEA. No comments were received. Because no historic properties were identified and the potential of disturbing archeological resources is low, and because of article 64's protection, Commission staff conclude approving the settlement should not affect cultural resources.

7. ISSUES AND RECOMMENDATIONS

American Rivers and Friends of the Cowlitz

As discussed in the DEA, American Rivers and Friends of the Cowlitz (FOC) share the same concerns about the settlement agreement. These concerns are summarized in American Rivers' conclusion statement in its June 5, 1995 filing:

Accordingly, American Rivers respectfully requests that the Commission: (1) deny Tacoma's Application to Amend the Cowlitz Project license under the terms set forth in the Application and Settlement Agreement; (2) amend the existing Project license to include the Settlement Agreement as partial satisfaction of Tacoma's wildlife mitigation

obligation through the existing license term; and (3) determine "adequate" wildlife mitigation in any subsequent license through the mandatory relicensing process.

By letters dated September 6 and November 15, 1996, respectively, American Rivers and FOC filed comments on the DEA consistent with their original concerns. The two parties oppose Commission approval of the settlement agreement should the Commission approve the agreement as satisfying Tacoma's wildlife mitigation obligations for any new license issued to Tacoma. Each group says the DEA's proposed action is not properly defined in that it fails to take into account the expressed purpose of the settlement agreement - to fulfill Tacoma's wildlife mitigation obligations under the existing and any new license. Because of this failure, American Rivers and FOC say the DEA does not contain a complete factual analysis and its range of alternatives is too limited.

Commission staff clarify that we do not recommend approving the settlement agreement as satisfying Tacoma's wildlife mitigation obligations for any new license issued to Tacoma. As American Rivers and FOC recommend, the Commission will review the need for any additional wildlife mitigation in our comprehensive analysis of the project during relicensing. Consequently, we believe the proposed action in the DEA and repeated here is properly defined and therefore, our factual analysis and range of alternatives are appropriate. This issue, approval of the settlement agreement as it pertains to relicensing, is fully discussed in the Commission's Order Amending License accompanying this FEA.

Lewis County

On January 23 and 27, 1995, respectively, Lewis County filed comments and a motion to intervene in response to the Commission's public notice. Lewis County makes only one comment, that it would not oppose the licensee's application if the licensee pays Lewis County \$2,000,000 to offset lost tax revenues incurred from withdrawing lands for wildlife purposes.

Lewis County filed comments on the DEA by letters dated September 13 and 14, and November 14 and 22, 1996. Tacoma filed a reply to Lewis County's comments by letter dated December 16, 1996.

Under the Revised Code of Washington (RCW) 84.36.010, all property belonging exclusively to municipal corporations for public use is exempt from taxation. The City of Tacoma is a municipal corporation and, as such, its purchase of 6,855 acres on Peterman Ridge and up to 1,900 acres of lowlands/wetlands has removed these lands from Lewis County's tax base. The County may

lose up to about \$14,000 per year in tax revenues as a consequence of the licensee's acquisition of the aforementioned property. Since 1958 the licensee has been compensating Lewis County for lands withdrawn from the County's tax rolls. In addition, the licensee also makes annual payments to three school districts and three fire protection districts. Table 2 shows the licensee's payments to Lewis County for compensation purposes (Tacoma, 1995).

The settlement agreement would create a new 14,000-acre area intensively managed for wildlife and wildlife based recreation. This area would be protected from development. Commercial timbering would be prohibited on all but 4,643 acres except for timber cut for wildlife management purposes. The area's protection, management under the DWMP, and uncommon status as a large-scale wildlife management refuge would attract additional recreationists. Additional recreationists including fishermen, hunters, campers, backpackers, and day-trippers attracted to the area would increase patronage at local businesses. This spending would generate additional sales tax revenues for Lewis County.

In conclusion, any loss in annual tax revenues collected by Lewis County resulting from the licensee's purchase of the subject property would be relatively insignificant. Moreover, any loss could be outweighed by the incremental revenues generated by the spending of recreationists at business establishments in Lewis County.

Washington State Parks and Recreation Commission

The Washington State Parks and Recreation Commission (State Parks) filed comments on the DEA by letter dated November 12, 1996. In its comments, State Parks notes that recreation usage at the project is increasing and that Commission staff anticipate further increases because of the new wildlife management area. State Parks recommends that the licensee create additional user capacity at Ike Kinswa State Park which it manages. State Parks says increasing recreational needs on Mayfield Lake are not being met at Ike Kinswa State Park.

While increased demands at Ike Kinswa State Park (and other project facilities) could be an impact of approving the settlement agreement (as discussed above) any increased demand would likely occur slowly. Recreation would likely increase as additional trails and other DWMP prescriptions are implemented in the future. Because there should be no immediate impact to Ike Kinswa State Park, and because the Commission will review project recreation comprehensively during relicensing, we believe relicensing is the appropriate forum in which to address State Parks' concern.

Table 2 Payments to Lewis County's Entities (\$)

YEAR	COUNTY	WHITE PASS	HOBSYROCK	HORTON	TOTAL
1980	155,349	18,480	16,060	451	190,349
1981	154,700	18,480	16,060	451	189,700
1982	154,700	18,480	16,060	451	189,700
1983	154,700	18,480	16,060	451	189,700
1984	161,200	18,480	16,060	451	196,200
1985	148,200	0	0	0	148,200
1986	666,300	45,000	45,000	40,000	796,300
1987	438,887	53,621	46,623	1,310	540,441
1988	459,960	54,666	47,533	1,336	563,498
1989	474,542	56,399	48,298	1,378	580,617
1990	498,961	59,301	51,563	1,449	611,274
1991	522,287	62,073	53,973	1,517	639,850
1992	538,971	64,056	55,697	1,565	660,289
1993	548,703	65,213	56,703	1,593	672,212
1994	566,767	67,361	58,571	1,646	694,345
1995	584,377	69,454	60,391	1,697	715,919
1996	607,752	72,232	62,807	1,765	744,556
1997	632,062	75,121	65,319	1,835	774,337
1998	657,345	78,126	78,932	1,909	806,312
TOTAL	\$8,125,766	\$915,023	\$799,969	\$ 1,254	\$9,903,012
FIRE DISTRICTS					
YEAR	No. 3	No. 8	No. 14	Total	
1990	735.00	926.72	0	1,661.72	
1991	771.75	977.54	0	1,749.29	
1992	794.90	1,006.87	0	1,801.77	
1993	870.34	1,039.09	0	1,859.43	
1994	853.17	1,080.67	0	1,933.84	
1995	----	----	450.00	450.00	
TOTAL	\$3,975.16	\$5,030.89	\$450.00	\$9,456.05	

*Figures for 1980 through 1995 are actuals based on payments. Figures for 1996, 1997, and 1998 are projected payments.

8. RECOMMENDED ALTERNATIVE AND CONCLUSIONS

The recommended alternative is approving the settlement agreement as applying to the current license. Incorporating the terms and conditions of the agreement into the license and the wildlife lands covered by the agreement into the project boundary would benefit the project's environmental resources. These lands would be protected from future development and other habitat degrading activities through fee title ownership by the licensee and management in accordance with the DWMP, once finalized. Management in accordance with the DWMP would restore wildlife habitat, increase wildlife populations, and improve wildlife-based recreation. This FEA recommends requiring the licensee to file the final wildlife management plan for the new 14,000-acre wildlife area, for Commission approval, once completed.

As discussed earlier, some wildlife prescriptions in the DWMP include ground-disturbing activities with potential for vegetation clearing and minor soil erosion. Most prescriptions generally involve small projects with minimal land disturbance and ultimately should improve these lands for wildlife and compatible recreation. Non-compatible recreation would likely be reduced or eliminated under the DWMP. Restrictions would likely be placed on recreation occurring in areas containing wetlands, threatened and endangered species, or where sensitive plant and animal habitats exist.

Based on our review of the licensee's application, motions to intervene by interested parties, and analysis of terrestrial, aquatic, recreation, aesthetic, and land use impacts, we find that approving the settlement agreement would not constitute a major federal action significantly affecting the quality of the human environment.

9. REFERENCES

- American Rivers. 1995a. American Rivers Motion to Intervene. American Rivers Northwest Regional Office. Seattle, WA. January 27, 1995.
- American Rivers. 1995b. American Rivers Motion in Opposition to Application for License Amendment, As Proposed. American Rivers Northwest Office. Seattle, WA. June 2, 1995.
- FERC (Federal Energy Regulatory Commission). 1992. Environmental Assessment for Hydropower License: Barrier Dam Project. FERC Project No. 11076-000. FERC, Office of Hydropower Licensing. Washington, D.C. June 24, 1992.

- FERC. 1994. Environmental and Public Use Inspection Report. Project No. 2016-WA. Portland Regional Office. July 7, 1994.
- FOC (Friends of the Cowlitz). 1995. Motion to Intervene and comments of Friends of the Cowlitz. Filed by Jonathan I. Feil, Simburg, Ketter, Sheppard & Purdy. Seattle, WA. January 27, 1995.
- Letter From David C. Frederick, State Supervisor, FWS, Olympia, WA., to Paul H. Svoboda, Tacoma Department of Public Utilities, 5/27/94. Tacoma. 1994. Cowlitz Hydroelectric Project. Application for Amendment of License - Noncapacity related. FERC No. 2016. City of Tacoma Department of Public Utilities. October 24, 1994.
- Tacoma. 1995. Cowlitz Hydroelectric Project, FERC No. 2016. Response to May 24, 1995, FERC Request for Additional Information. Tacoma Public Utilities. June 22, 1995.
- WDFW (Washington Department of Fish and Wildlife). 1994. Cowlitz Wildlife Area Management Plan, Draft. Washington Department of Fish and Wildlife. Olympia, WA. November 18, 1994.
- WDW. 1993. News Release: Highlights of the Cowlitz dam settlement. Washington Department of Wildlife. January 4, 1993.

10. PREPARERS

Federal Energy Regulatory Commission

Steve Hocking - Environmental Protection Specialist
Jim Haines - Economist

COWLITZ WILDLIFE SETTLEMENT--OBLIGATIONS OF DEPARTMENT OF WILDLIFE

Acquisition and Habitat Improvement of Lowlands/Wetlands

1. WDW will receive three \$1 million payments over a three-year period beginning in January 1993 and must deposit those payments in a segregated interest-bearing account. These funds are to be used for the acquisition of approximately 1900 acres of lowland/wetland properties in the Cowlitz Valley and the improvement of wildlife habitat (particularly wetlands) on those properties. Title to the properties acquired by WDW is to be in the name of the City of Tacoma.
2. Lowlands/wetlands to be acquired are at the discretion of WDW (with concurrence of USFWS) based upon such factors as cost, availability, restoration potential, and potential wildlife benefits.
3. WDW shall undertake and execute all necessary actions to acquire these lowland/wetland properties, including:
 - identifying and contacting willing sellers;
 - performing fair market value appraisals;
 - accomplishing necessary boundary surveys;
 - performing Phase I hazardous substance surveys;
 - negotiating purchase price and coordinating closing escrows;
 - insuring fee title for all acquired properties acceptable to the City;
 - transferring fee title to the acquired properties.
4. Following acquisition, WDW (in consultation with USFWS) shall develop plans and implement capital improvements such as, but not limited to, water control structures, dikes, fencing, and revegetation.

Operation and Maintenance of All Cowlitz Wildlife Mitigation Lands

5. Beginning on the date of receipt of the first \$1 million payment described in #1 above, WDW will receive an annual payment of \$250,000 to plan (in consultation with USFWS) and implement wildlife management and enhancement measures, and operate and maintain the 14,200 acres of wildlife mitigation lands. The \$250,000 annual payment will be adjusted for inflation each year.

Items to be funded from this annual payment are:

- salaries/benefits for all personnel on the project;
- planning and supervisory salaries and associated costs;
- habitat management of all Cowlitz wildlife mitigation lands (to total about 14,200 acres when all acquisitions completed);
- facilities and equipment;
- wildlife population management;
- public use and access gates, signage and related facilities;
- capital equipment and improvements including vehicles, shop equipment, fencing, boats, water control structures, dikes, etc.;
- travel, transportation, and training costs;
- uniforms and related equipment;

- understory enhancement plantings;
- weed control in any row crops, wildlife farming areas, and in any areas associated with understory enhancement plantings.

Funding (up to \$79,000) to complete the Rainey Creek dike to enhance wetlands is included under a separate purchase order from Tacoma. Those funds will expire on December 31, 1993. Tacoma will fund all costs associated with timber harvest, commercial thinning, reforestation, or other forestry-related activities on Peterman Ridge.

6. Representatives of WDW, Tacoma, and USFWS agree to meet at least twice annually for the first three years, and at least once annually thereafter to discuss: 1) development and/or amendment of the wildlife habitat development and management plan; 2) coordination of lowland/wetland property acquisition; 3) discussion of progress since the last meeting; 4) identification of conflicts and attempted resolution; and, 5) other business as necessary.

7. WDW shall prepare an annual report at the end of each calendar year. The annual report shall describe lands acquired; mitigation/enhancement activities undertaken; wildlife benefits derived; provide an accounting of revenues and expenditures in accordance with generally accepted accounting principles, along with a listing of funds currently held in accounts where Tacoma funds have been deposited; and, outline future activities, expected wildlife benefits, and estimated costs.

**SETTLEMENT AGREEMENT RELATING TO WILDLIFE
FOR THE COWLITZ HYDROELECTRIC PROJECT
(FERC NO. 2016)**

**City of Tacoma
State of Washington Department of Wildlife
U.S. Fish and Wildlife Service**

This Settlement Agreement Relating to Wildlife for the Cowlitz Hydroelectric Project (FERC No. 2016) (Agreement) is made by and between the City of Tacoma, Department of Public Utilities, Light Division (City) and the State of Washington, Department of Wildlife (WDW) and the United States Fish and Wildlife Service (USFWS), the parties to this Agreement (Parties).

RECITALS

1. The City is the licensee for Project No. 2016, issued by the Federal Energy Regulatory Commission (FERC), effective January 1, 1952, for the construction, operation and maintenance of the Cowlitz Hydroelectric Project (Project). The WDW and the USFWS are charged with providing the FERC with recommendations to protect, mitigate, and enhance fish and wildlife resources affected by the development, operation, and management of the project.

2. The FERC has amended said license by Order Further Amending License (Major) dated November 17, 1964, and, Article 37 of said Order provides:

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 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 and upon findings based on substantial evidence that such facilities and modifications are necessary and desirable, reasonably consistent with the primary purpose of the project, and consistent with the provisions of the Act.

NOW, THEREFORE, the Parties agree to the following terms and conditions:

PART I - SCOPE AND INTENT

A. The scope of this Agreement is and includes only the wildlife mitigation for the Mayfield and Mossyrock hydroelectric projects of the Cowlitz Hydroelectric Project. The Agreement does not address or modify any of the Parties' responsibilities, duties, or issues related to the Barrier Dam Project; further, the Agreement does not address the fishery resources associated with the Mayfield or Mossyrock projects nor address any or modify the Parties' responsibilities, duties, or issues regarding these matters.

B. It is the intent of the Parties to this Agreement to provide for the acquisition, improvement, operation and maintenance of wildlife mitigation lands and habitat in connection with the Project, as satisfaction of the City's wildlife mitigation obligations under Article 37 relative to its

existing license. Furthermore, the Parties agree that the wildlife mitigation provided by this Agreement shall satisfy the City's wildlife mitigation obligations for a "first new license," if granted, so long as no changes, which would have required license amendment(s) in the existing license, are made in the first new license. The "first new license" shall mean the first long term operating license issued by the FERC to the City after expiration of the existing license, as distinguished from any annual license during relicensing.

This intent shall be accomplished through the fee-title acquisition of lowlands/wetlands and uplands/timberlands within the Cowlitz River Basin and a commitment to preserve, restore, enhance and manage these lands for the benefit of local wildlife species, including sensitive and threatened or endangered animal species and their habitats.

PART II - TERM OF THE AGREEMENT

The term of this Agreement shall commence on the effective date of the Agreement and end with the expiration of the first new license, unless no first new license is issued to the City by FERC, in which event, the Agreement shall terminate upon expiration of the existing license and any subsequent annual licenses.

PART III - RESTRICTIONS

A. This Agreement is subject at all times to the terms and conditions of the applicable FERC license, irrespective of the effect of any other wording or expression of intent otherwise set forth herein. Further,

the Parties agree to jointly file the executed Agreement with the FERC and to seek acceptance of the Agreement as satisfaction of the City's wildlife mitigation requirements under its existing license. Furthermore, the Parties agree to encourage and petition FERC to amend the existing license to include the terms and conditions of this Agreement as part of the license, and to include the wildlife mitigation lands described in this Agreement as Project lands.

B. This Agreement shall not be assigned without prior written mutual approval of the Parties. All terms, restrictions and conditions of this Agreement shall be fully binding on the respective successors and assigns of the Parties.

C. In the event that the City transfers the Project FERC license to another entity, or FERC grants the Project license to another entity, this Agreement shall be specifically enforceable against any such successor licensee to the full extent permitted by law. If the Project FERC license is voluntarily transferred by the City to another entity, the City shall require as a condition of the transfer that the transferee agree to be bound by all the terms of this Agreement.

D. If a successor licensee is not required by FERC to own or maintain the lands acquired by the City under the terms of this Agreement for wildlife mitigation, WDW or USFWS shall have an option to purchase any or all of the acquired lands at a fair market value. The WDW or USFWS shall, within six months of notice by the City of its intent to sell the acquired lands, notify in writing the City of their agreement to purchase the

lands, subject to availability of funds. The Parties shall make their best faith efforts to complete the purchase of the lands within three years of the City's notice, but in no event shall the purchase be completed in greater than five years. If written notice of WDW's or USFWS's election to purchase is not given within the six month period, or if the closing is not completed within the five year deadline, this option shall lapse. In the event the Parties cannot agree upon a fair market value, the Parties shall mutually agree upon a certified MAI appraiser to establish the fair market value of the acquired lands as of the date of purchase.

PART IV - IMPLEMENTATION OF AGREEMENT

This Agreement shall be implemented through the joint actions and responsibilities of the City and the WDW as follows:

A. The Parties acknowledge the City has fee-title ownership to certain on- and off-project lands which are and shall continue to be dedicated to wildlife management and habitat protection/enhancement and that such lands are hereby included in this Agreement with the intent that said lands are to be credited toward the City's overall wildlife obligations under its operating license for the Project. The lands are generally shown on Exhibit A and include approximately:

5,294 Acres On-Project
<u>86 Acres Off-Project</u>
5,380 TOTAL ACRES

B. Habitat Acquisition - Uplands/Timberlands.

(1) The City shall use its best efforts to acquire fee-title to approximately 6,855 acres of property located on the northern shore of Riffe Lake commonly referred to as Peterman Ridge for the purpose of wildlife resources mitigation. The City shall acquire approximately 2,212 acres of timber rights (in areas shown in Exhibit B) in this acquired property for the purpose of preserving critical wildlife habitat of merchantable, premerchantable and young forest lands, riparian areas, and swamps/wetlands, as described in the Peterman Ridge Acquisition and Wildlife Management Plan herein included as Exhibit C.

(2) The City shall maintain the acquired timber-righted property as wildlife habitat and timber will be removed in the timber-righted area only to enhance the wildlife habitat pursuant to the Wildlife Management Plan, except as necessary to provide Hancock limited access to the reserved timber consistent with the then current forest practices rules and regulations, and as provided in Exhibit C. (Hancock as used in this Agreement means John Hancock Timber Company, the Campbell Group, or their successors and assigns.) The City agrees that for those lands where the City does not initially obtain the timber rights, the timber rights shall revert to the City after one cutting and thereafter timber will be cut only for the purpose of enhancing wildlife habitat.

(3) With respect to reserved mineral rights in any of the properties acquired by the City from Hancock, the City shall restore any

damaged wildlife habitat caused by the exercise of said reserved mineral rights.

C. Habitat Acquisition - Lowlands/Wetlands.

The City shall provide funds directly to the WDW in the amount of \$3.0 million on a schedule of \$1.0 million per year over a three-year period for the acquisition of approximately 1,900 acres of lowlands/wetlands.

The City shall make the initial payment of \$1.0 million to WDW on or before January 15, 1993, or 15 days after the execution date of this Agreement, whichever is later. The initial payment shall be deposited in a segregated interest-bearing escrow account designated for the purpose of this Agreement. In the event the City acquires the uplands/timberlands property from Hancock, as provided further in Section B of this Part, then the interest earned on said account shall accrue to the benefit of WDW's lowlands/wetlands acquisition, to be applied for the purposes and intent of this Agreement. Within 15 days after the City's acquisition of the uplands/timberlands is formally consummated, the initial payment plus accrued interest shall be released to WDW for the acquisition of lowlands/wetlands. Subsequent payments of \$1.0 million each shall be made on the following two anniversary dates of this Agreement. In the event that the Hancock acquisition occurs prior to January 15, 1993, then the City may elect to pay WDW the first payment directly.

In the event that by January 1994, unless extended by mutual written consent of the Parties, the City is unable to acquire the above-described uplands/timberlands property on terms acceptable to the City, then this

Agreement shall terminate and the initial payment of \$1.0 million plus accrued interest shall be returned to the City without penalty. The costs of establishing the escrow shall be deducted from the initial payment.

The lowlands/wetlands to be acquired for the City by the WDW with the above-provided funds shall be at the discretion of the WDW with the concurrence of the USFWS based upon such concerns as cost, availability, restoration potential and other factors.

The Parties agree that the amount of funds allocated for this purpose by the City may not be sufficient to acquire the targeted amount of acreage; however, WDW shall use its best efforts to acquire the maximum acreage practicable considering wildlife benefits, costs, availability, and restoration needs. The lowlands/wetlands acquired by WDW for the City shall be held in fee-title ownership by the City. The Parties understand and agree that whatever the total acreage of lowlands/wetlands the WDW is able to acquire for the City with the subject funds, that amount will be sufficient to satisfy and fulfill the lowlands/wetlands obligation of the City pursuant to this Agreement. The Parties agree that the City's obligations for the acquisition of lowlands/wetlands shall be limited to providing the funds as set forth above.

The Parties further agree that the obligations of the WDW under this Agreement shall be to utilize the funds provided by the City to undertake and execute all necessary actions to acquire the lowlands/wetlands identified above. These actions shall include but not be limited to:

- Identifying and contacting willing sellers

- Performing fair market value appraisals
- Accomplishing necessary boundary surveys
- Performing Phase I hazardous substance surveys
- Negotiating purchase price and coordinating closing escrows
- Insuring fee title for all acquired properties acceptable to the City
- Transferring fee title to the acquired properties

The Parties understand and agree that if a Phase I hazardous substance survey indicates, in the sole opinion of the City, that a subject property is contaminated and may expose the City to future cleanup costs if acquired, said contaminated property shall not be acquired. Prior to purchase of any property, the City shall provide written acceptance of the respective Phase I hazardous substance survey. A Phase I survey includes:

- Walk-through physical inspection of the site.
- Review of the historical usage of the site by review of the environmental questionnaire of purchaser and public records.
- Interview the past and present owners and operators.
- Contact with local health and construction permitting agencies and state and federal environmental and health protection agencies to make a determination whether the site has had past compliance problems or has a substantial likelihood of being contaminated.

- Typically takes from one to three weeks and costs between \$2,000 and \$10,000.

D. Plans and Improvements.

Following acquisition, WDW, in consultation with USFWS, shall develop plans and implement capital improvements such as, but not limited to, water control structures, dikes, fencing, hydrophytic revegetation, planting, etc., and other measures necessary for enhancement and restoration of damaged lowlands/wetlands.

PART V - OPERATION, MAINTENANCE AND CAPITAL IMPROVEMENTS

The City agrees to provide an annual sum of monies to the WDW for the management and restoration of acquired lowlands/wetlands and uplands/timberlands for the benefit of wildlife and their habitats. On the date of the first \$1.0 million dollar payment under Section C of Part IV, and on or before the anniversary date in subsequent years, until termination of this Agreement, the City shall provide to the WDW an annual payment of \$250,000, adjusted for inflation using the current published Consumer Price Index for All Urban Consumers for the Seattle/Tacoma Metropolitan Area.

The Parties agree further that it shall be the obligation of the WDW under this Agreement to use these annual funds to plan and implement, in consultation with USFWS, wildlife management and enhancement measures and operate and maintain said lands consistent with the intent of this Agreement and the following purposes:

- Salaries/fringe benefits for WDW project personnel

- Planning and oversight administrative salaries and associated costs
- Habitat management, including the maintenance and operation of existing City owned wildlife lands, on-Project habitat prescriptions, facilities, and equipment
- Wildlife population management
- Public use and access gates, signage and related facilities
- Capital equipment and improvements including vehicles, shop equipment, fencing, boats, water control structures, dikes, etc.
- Travel, transportation, and training costs
- Uniforms and related equipment
- Understory enhancement plantings
- Weed control in any row crops, wildlife farming areas and in any areas associated with understory enhancement plantings

The Parties agree that the annual operation and maintenance funds may be pooled with the lowland/wetland acquisition funds to be used interchangeably in the event that greater benefits will accrue to wildlife as a result.

The City agrees to fund all costs associated with timber harvest, commercial thinning, reforestation, or other forestry-related activities necessary for the management of Peterman Ridge for wildlife habitat. The

City is entitled to all revenues generated from the Peterman Ridge and other City property resulting from timber harvest, commercial thinning, or other forestry-related activities (patch cuts for wildlife forage areas, etc.) used to enhance wildlife habitat and pursuant to the Wildlife Management Plan. These funds may be used as the City deems appropriate.

The City agrees to coordinate and fund, in addition to the annual \$250,000 operation and maintenance funds identified above, all replanting costs associated with the reforestation of timber areas harvested by Hancock, as per Exhibit C, Section III, Reforestation.

PART VI - COORDINATING COMMITTEE

The Parties agree to establish a Wildlife Management Coordinating Committee (WMCC) composed of representatives of the City, WDW, and USFWS. The WMCC shall meet at least twice annually for the first three years after execution of the Agreement, and meet at least annually during the remainder of the term of the Agreement. Representative topics for discussion may include, but are not limited to: 1) development and/or amendment of the wildlife habitat development and management plan; 2) coordination of lowland/wetland property acquisition; 3) discussion of progress since the last coordination meeting; and 4) resolution of issues and identification of conflicts between the Parties. Written minutes of these meetings shall be kept by the City and approved by the participants. All WMCC participants shall receive written notice of the scheduled meetings and copies of the minutes.

PART VII - REPORTS

The WDW shall prepare an annual report to the WMCC at the end of each calendar year the Agreement is in effect. The annual report will describe lands acquired, mitigation/enhancement activities undertaken, and wildlife benefits derived, and will provide an accounting of revenues and expenditures in accordance with generally accepted accounting principles, along with a listing of funds currently held in accounts where City funds have been deposited. The annual report will also outline future activities, expected wildlife benefits and estimated costs.

PART VIII - WILDLIFE MITIGATION FOR EXISTING LICENSE AND FIRST NEW LICENSE

The City's existing FERC license for the Cowlitz Project expires in 2001. During the remainder of the existing license and during the period of any annual license(s) prior to a first new license, the Parties agree that the City adequately satisfies its obligation for wildlife mitigation for the Project, as currently constructed and operated, provided that the City complies with the terms and conditions of this Agreement, and additional wildlife terms and conditions, if any, imposed upon the City by the FERC before the new license.

At the time of the City's application for a first new license, to the extent that the City has met the terms and conditions of this Agreement and the existing FERC license, and no changes which would have required license amendment(s) in the existing license are made in the first new license, the WDW and USFWS agree to comment to FERC that the City was

a competent license holder with respect to its obligations to wildlife resources.

When the City submits a first new license application containing, at a minimum for wildlife mitigation, the terms and conditions of this Agreement, and consistent with Part I of this Agreement, the WDW and the USFWS will support the wildlife mitigation provided in this Agreement as adequate wildlife mitigation for the term of the first new license.

The Parties stipulate that they shall waive the right to appeal the issuance of the City's first new license solely on the basis of the wildlife mitigation requirements, so long as the license is consistent with Part I of this Agreement and contains, at a minimum, the wildlife mitigation terms and conditions identified in this Agreement.

If the City's first new license contains either: 1) a wildlife mitigation requirement less than the terms and conditions of this Agreement; or 2) terms and conditions inconsistent with the terms and conditions of this Agreement, any party may use any remedy available in any forum to appeal or contest the issuance of that license. In the event the City's first new license contains wildlife mitigation provisions requiring mitigation less than that required in this Agreement, the City agrees to maintain the wildlife mitigation provided for in this Agreement. However, in the event that the City's first new license contains wildlife mitigation different from, but no less than, that required in this Agreement, the City shall have the right to terminate excluded programs and to sell lands purchased under this Agreement which are not required by the license, so long as the revenues

associated with these programs and lands, both sales and O&M, shall be applied to the purchase and O&M of the lands and programs required by the FERC license.

In the event that the City is not granted a first new license for the Project, the City has the option of terminating the Agreement, subject to the terms and conditions provided in Part III C and D of this Agreement.

Nothing in this Agreement shall relate to or bar any party from taking any position in any forum with regard to the City's obligation as to the Barrier dam project or to provide mitigation for anadromous and resident fish impacts at the Mayfield and Mossyrock projects of the Cowlitz Project.

PART IX - INDEMNIFICATION

During the term of this Agreement, the City and WDW may have employees, agents and/or contractors on the wildlife mitigation properties that are the subject of this Agreement. Once the wildlife mitigation lands are acquired and title is in the City's name, the employees, agents and/or contractors of WDW and USFWS are hereby granted permission by the City to enter upon said properties for the purposes outlined in this Agreement. Provided, however, USFWS and WDW understand and agree that the physical condition of the various subject properties may be rugged and there may be unsafe conditions for which it would not be practicable to post warning signs. Therefore, in consideration of the mutual benefits of this Agreement, consistent with the guidelines of RCW 4.24.115, the City and WDW agree to hold harmless, indemnify and defend each other, and their

respective employees and officials, from any and all claims, legal actions and judgments by their respective employees, agents or contractors that in any way related to or arise from the performance or implementation of this Agreement. In this regard, it is acknowledged that the City and WDW may be waiving immunity under Title 51 RCW, Washington State Industrial Insurance law, and the City and WDW agree that this provision has been mutually negotiated. The City and WDW acknowledge that RCW 4.24.115 may not specifically apply; however, for purposes of this Agreement, WDW and the City agree to be bound by this statute.

It is the intention of the City and WDW hereto that this provision of this Agreement shall not be used to benefit third parties who are not parties to this Agreement. Therefore, this provision of this Agreement can only be enforced by the City and WDW (or successor entities).

PART X - AMENDMENTS

Minor amendments to or clarifications of this Agreement may be made by letter agreement executed by the City's Deputy Utility Director/Light Superintendent, and WDW's Assistant Director and USFWS's Field Supervisor, Olympia Field Office. The Parties may, as the need arises, make other amendments to this Agreement by mutual written agreement.

PART XI - MEDIATION

All disputes between the Parties relating to this Agreement shall first

be submitted to the respective supervisory staff persons for each party for resolution. If a resolution is not achieved, the respective chief executive officer for the City and WDW and the Field Supervisor, Olympia Field Office for USFWS shall attempt to mutually resolve said dispute. If the dispute is still not resolved, said matter shall be submitted to non-binding mediation with a mutually agreed mediator for resolution.

Prior to mediation, the Parties may engage in discovery pursuant to the same rules of procedure applicable to U.S. Federal District Court (at Tacoma) or Washington State Superior Court Civil proceedings.

Each step of the dispute resolution process shall be accomplished as quickly as practicable.

Each party to a bona fide dispute shall pay its own expenses for the mediation and/or arbitration.

In the event the Parties are not able to mutually resolve any dispute, any party may seek interpretation or enforcement of this Agreement in a court of competent jurisdiction, or if appropriate, the FERC.

PART XII - FULL AND COMPLETE AGREEMENT

This Agreement is the full and complete agreement of the Parties and is not severable. The Parties warrant that no contemporaneous or prior agreements exist with terms that modify or contradict the terms of this

Agreement. This Agreement supersedes and replaces all prior existing interim agreements between the City and WDW relating to wildlife mitigation for the Project, except as described in Exhibit D.

PART XIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner shall be admitted to any part of this Agreement, or to any benefit arising from it.

PART XIV - ANTI-DEFICIENCY ACT

The expenditure or payment of any money or the performance of any work by USFWS herein provided for, which may require appropriation of money or the allotment of funds by Congress, shall be contingent upon such appropriation or allotments being made.

PART XV - AUTHORITY

The City and WDW enter into this Agreement pursuant to the Interlocal Cooperation Act, chapter 39.34 RCW and the Agreement shall be filed with the Secretary of State and the City of Tacoma.

PART XVI - EFFECTIVE DATE

This Agreement shall be effective upon the date of the last signature affixed hereto.

Approved as to form:

CITY OF TACOMA
DEPARTMENT OF PUBLIC UTILITIES

William A. Fryer
Assistant Attorney General
State of Washington

[Signature]
Director of Utilities, Date: 1/5/93

STATE OF WASHINGTON
DEPARTMENT OF WILDLIFE

Mark Bubenik
Chief Assist. City Attorney
City of Tacoma

[Signature]
Director of Wildlife, Date: 12/24/92

UNITED STATES FISH AND WILDLIFE
SERVICE

Barbara Scott-Davis
Office of the Solicitor, Pacific NW
Region, U.S. Department of the
Interior

[Signature]
Field Supervisor, Olympia Field Office,
Date: 12/24/92

EXHIBIT C

PETERMAN RIDGE ACQUISITION AND WILDLIFE MANAGEMENT PLAN

City of Tacoma, Department of Public Utilities
State of Washington Department of Wildlife

INTENT

It is the intent of this plan to outline as specifically as possible the uplands/timberlands the City has agreed to acquire pursuant to Part III, item B of the Settlement Agreement Relating to Wildlife Pursuant to the Mayfield and Mossyrock Projects of the Cowlitz Hydroelectric Project (FERC No. 2016).

This plan is comprised of four parts: the Upland Acquisition Plan, the Habitat Development Strategies, the Management Guidelines, and the Wildlife and Habitat Management Plan.

For clarity, a brief description of the purpose of each part of the plan follows:

Upland Acquisition Plan - Outlines in narrative and with a map the approximate acreage and location of land and habitats, by type, that the City has agreed to acquire.

Habitat Development Strategies - Describes the overall targeted habitat ratios for the Peterman Ridge property, acknowledging and crediting current City wildlife lands owned and referred to in Part IV, Item A of the Agreement. This part of the plan also describes specific management

strategies to be applied for benefitting the Blacktail Deer, Douglas Squirrel and Pileated Woodpecker.

Management Guidelines - Discusses the approach regarding interactions with the timber rights owner (Hancock, its successor or assigns) relative to property purchased by the City. It also specifies harvest period, riparian and road buffers, silvicultural prescriptions, slash disposal, and reforestation guidelines for the subject lands.

Wildlife and Habitat Management Plan - Provides a summary statement of the City's intent for the Peterman Ridge lands subject to a jointly (City/WDW) developed wildlife management plan pursuant to Part VI, Coordinating Committee, of the Agreement.

I. UPLAND ACQUISITION PLAN

The City of Tacoma, Department of Public Utilities, Light Division, agrees to:

1. Purchase approximately 6,855 acres of land, of which 2,212 acres will include timber rights, as described in Items 2-9 below. The timber of these 2,212 acres will not be cut except for the purpose of enhancing wildlife habitat and pursuant to the terms of the Settlement Agreement.
2. Purchase approximately 829 acres of existing young forest (reproduction) up to 15 years of age (1992-1978). These areas provide a variety of stages of browse and cover particularly beneficial to Blacktailed Deer and Roosevelt Elk.

3. Purchase selected premerchantable timber stands, age 15 to 34, totaling approximately 244 acres, to provide excellent hiding cover for Blacktailed Deer, as well as other wildlife benefits.
4. Purchase selected merchantable stands, age 35 and older, totaling approximately 976 acres which will help balance desired habitat ratios and provide opportunities for immediately employing specific wildlife management practices, enhancing habitat, for example, for the Pileated Woodpecker and Douglas Squirrel.
5. Purchase parcels of existing mature timber greater than 65 years of age totaling approximately 56 acres (included in #4 above, and approximately two-thirds of the total remaining timber at the site 65 years and older), with the objective of accelerating the transition to desired mature habitat ratio.
6. Purchase a major block of standing timber in Section 13 and 14, to be managed indefinitely for Pileated Woodpecker habitat and other wildlife purposes. Total approximate acreage is 368 (included in #3 above).
7. Purchase standing timber and/or reproduction in riparian zones excluding that portion currently required to be left standing under existing state forest practice rules (approximately 320 acres, included in #2, 3 and 4 above, and in #9 below).
8. Purchase non-operable timber stands (small parcels blocked from access by riparian zones, included in #3, 4 and 5 above).

9. Purchase selected areas of swamp/wetlands and brush totaling approximately 145 acres.
10. Allow Hancock (its successor or assigns) to harvest one cutting of the remaining acres with unpurchased timber rights (currently age 16 and older) through year 2027.
11. Implement the long-range plan (as below) to eventually manage the entire approximately 6,855 acres for maximum wildlife habitat. Future timber harvest can occur within the area only for the purpose of enhancing habitat pursuant to the Wildlife Management Plan.

II. HABITAT DEVELOPMENT STRATEGIES

Blacktailed Deer

Long-range management strategies will be targeted to gradually improve current overall ratios to the desired level of:

20% forage habitat

30% hiding cover

30% thermal cover

20% mature habitat

By dispersing harvest units, within economic limits, desired habitat ratios will gradually become more uniform throughout the area. Parties acknowledge the targeted habitat balance may not be fully achieved by

2027, but continuous progress is anticipated. Forage habitat of 20 percent should be attained during the first seven years and will be retained at approximately that level during the period of Hancock's harvesting (to 2027). Initial acquisition of most existing mature timber stands will ensure accelerated progress towards the desired ratios.

Douglas Squirrel

The desired thinning of deciduous components of deciduous and mixed forest and underplanting of shade tolerant conifer species can be accomplished by the City in selected areas within the older reproduction stands and in the large woodpecker reserve. It will not be feasible to utilize these practices in stands scheduled to be harvested by Hancock.

Pileated Woodpecker

One large site (approximately 368 acres) is proposed to be maintained in its current status with no major timber harvesting. Parties acknowledge and agree that this site, in lieu of any future major timber harvesting, will require other sites within Peterman Ridge to be harvested on a schedule commensurate with the protection of this site such that the target habitat ratios as listed above for Blacktailed Deer are maintained.

As additional snags are desired on any of the lands where Tacoma holds the timber rights, selective deliberate killing of trees can be accomplished.

III. MANAGEMENT GUIDELINES

Timber Harvesting

The City will annually meet with Hancock (its successor or assigns) and discuss and review their harvesting plans relative to suggested wildlife habitat preservation guidelines jointly developed by the City, WDW, and USFWS. These guidelines shall not however, be interpreted to be mandatory unless so specified in the then current state forest practices rules and regulations.

Harvest Period

Hancock will have up to 34 years to harvest their timber (1993 through 2027).

Riparian Buffers

Harvesting will be planned to preserve the present integrity of designed riparian zones (see map) for water types 1, 2, 3 (200' each side, as measured from the center of the stream) and 4 (50' each side, as measured from the center of the stream).

Type 5 streams (not shown on map) will have no specified buffer width or leave requirement. Some type 5 streams which lead into fish bearing waters or are important wildlife travel corridors, as identified during the annual plan review, will be protected when reasonable forest practices allow. Small leave patches or strip segments would be appropriate. However, total acreage of type 5 stream protection shall be approximately

but not exceed 18 acres or impinge on the commercial harvest to restrict more than 18 acres.

Road Buffers

After acquisition, a study will be made to determine proper location for gates to adequately control public access. Some road segments will of necessity be open periodically to facilitate harvest operations. In the future, if some areas are opened to the public, desired screening will be provided on a 50' wide strip for lands not subject to future Hancock logging. This can be accomplished by one or a combination of methods. Examples include:

- a. Logging and planting strip several years prior to harvest of adjacent setting;
- b. Preplanting tolerant species, i.e., hemlock, with future careful removal of overstory;
- c. Protecting existing understory during harvesting; and,
- d. Immediate planting of rapid growing species, i.e., cottonwood, large nursery stock.

Silvicultural Prescriptions

All remaining timber areas will be harvested by Hancock under the then current state forest practice rules.

Slash Disposal

Slash isolation, reduction, or abatement is required when the State Department of Natural Resources (DNR) determines there is an extreme fire hazard. Techniques used by the operator may be any conventional method, but preferably the methods deemed most suitable to enhance wildlife habitat.

Reforestation

All clearcut lands will be reforested by the City with native conifer and shrub species pursuant to a City/WDW joint revegetation plan. Some selected plantings of non-native shrub species will be permitted provided that replanting costs are equivalent to native species and result in improved wildlife benefits. The City/WDW agree to jointly petition the State Department of Natural Resources (DNR) for a waiver from standard reforestation regulations to enable replanting schedules, species and densities to meet the intent of the subject Agreement.

IV. WILDLIFE AND HABITAT MANAGEMENT PLAN

It will be the policy of the City to manage those lands wholly in its control under a jointly (City/WDW/FWS) developed Wildlife Management Plan, for the purpose of enhancement of wildlife habitat. Initially, these lands will consist of: 976 acres of merchantable and mature timber, partially comprised of 368 acres in a Pileated Woodpecker reserve and a major portion of the 320 acres of riparian zones; 244 acres of premerchantable timber stands; 829 acres of young forest or reproduction; and 245 acres of

brush and wetlands; for a total of approximately 2,212 acres. Each year as Hancock completes harvesting units, those additional areas will be immediately included under the Wildlife Habitat Management Plan. The City reserves the right in the future to harvest portions of these stands within the scope of this Wildlife Management Plan only as necessary to meet the habitat development strategies in Section II of this Plan.

EXHIBIT D

City of Tacoma and State of Washington Department of Wildlife agree that in addition to the commitments made by the Parties in the Settlement Agreement Relating to Wildlife for the Cowlitz Hydroelectric Project, the City shall provide a sum not to exceed Seventy Nine Thousand Dollars (\$79,000.00) before December 31, 1993 to Wildlife to accomplish the already approved Rainey Creek Dike Construction Project to enhance wetlands.



E. E. COATES, DIRECTOR
3628 South 35th Street
P.O. Box 11007
Tacoma, Washington 98411
(206) 383-2471

10
December 6, 1988

DIVISIONS
Light
Water
Belt Line

Mr. Curt Smith
Director
Washington Dept. of Wildlife
600 North Capital Way, GJ-11
Olympia, Washington 98504-0091

RECEIVED
DEC 11 1988
DEPARTMENT OF WILDLIFE
ADMINISTRATION

Dear Mr. Smith:

On behalf of Tacoma Public Utilities, Light Division, I am pleased to inform you that as of November 23, 1988, the City adopted Resolution U-8142 authorizing the Director of Utilities to enter into the **Supplemental Agreement Regarding Game Fish and Wildlife Mitigation Relative to the Cowlitz River Project.**

We trust that this mutually developed accord, when fully implemented, will satisfy all known game fish mitigation requirements for the Cowlitz Hydroelectric Development.

Enclosed are two executed copies of the agreement as per your request, the third copy is retained by the City for our files.

Yours very truly,

A handwritten signature in cursive script, appearing to read 'Steven J. Klein'.

Steven J. Klein
Power Manager
Light Division

Enclosure

cc: Regional Director, FERC
Gary Fenton, WDW
Bruce Crawford

SUPPLEMENTAL AGREEMENT REGARDING GAME FISH AND WILDLIFE
MITIGATION RELATIVE TO THE COWLITZ RIVER PROJECT
OCTOBER 1988

This agreement relative to two Cowlitz River hydroelectric projects is entered into by the WASHINGTON STATE DEPARTMENT OF WILDLIFE (Wildlife) and the CITY OF TACOMA, Department of Utilities, Light Division (Tacoma). This is a real covenant, binding on the Parties and on all assignees, purchasers, or successors in interest. Wildlife (previously called Washington Department of Game) and Tacoma signed a Cowlitz River mitigation agreement dated June 26, 1986. Tacoma, Wildlife, and the Washington Department of Fisheries signed an agreement titled, "Flow Regulation Schedule for Mayfield Power Plant" between November 16 and November 27, 1977.

Elements of the this, the two agreements mentioned above, and the license need to be considered to determine game fish and wildlife mitigation responsibilities of Wildlife and Tacoma.]

I. Purpose

The parties intend this agreement to set forth supplemental mitigation and enhancement undertakings and responsibilities for Tacoma and Wildlife relating primarily to fisheries issues relative to the Cowlitz River hydroelectric project, Federal Energy Regulatory Commission (FERC) project number 2016. The provisions of this agreement shall not constitute approval or precedent regarding any principle or issue in this or any other proceedings.

II. Recitals

A. Tacoma was issued a license by the Federal Power Commission (now the Federal Energy Regulatory Commission or FERC) on November 28, 1951, for the Cowlitz hydroelectric project.

The license was for the construction, operation, and maintenance of

the Mayfield and Mossyrock projects now called the Cowlitz project (the Project).

B. Several articles in the license and subsequently issued FERC orders pertain to fish and wildlife:

1. Article 37 provides:

"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 facilities and comply with such reasonable modification 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 and upon findings based on substantial evidence that such facilities and modifications are necessary and desirable, reasonably consistent with the primary purpose of the project, and consistent with the provisions of the Act."

2. Article 57 set forth in the FERC order that amended the license on November, 17, 1964 approved the construction, operation, and maintenance of a game fish hatchery and other provisions not pertaining to this agreement. A FERC order issued June 17, 1966 approved the plans for fish facilities. Consequently, Tacoma constructed the Cowlitz trout hatchery to replace project-related resident and anadromous game fish losses. However, agreement regarding funding, hatchery funding, hatchery management, operation, and maintenance of the Cowlitz project was not finalized until June 26, 1986.

3. Article 63, issued by FERC September 7, 1978, relates to expansion of the Mayfield Powerhouse. The article required Tacoma to conduct studies in cooperation with Wildlife to determine the impact of adding a fourth unit at Mayfield

Powerhouse to the Cowlitz River fishery resources. This article also incorporated by reference a November 3, 1977 joint letter of understanding between Tacoma, Wildlife, and the Washington State Department of Fisheries describing these studies. The studies have been conducted and this agreement provides an item to protect the fishery resource relating to the fourth unit.

- C. Pursuant to the above recitals and for the purpose of this agreement the mitigation items are primarily about game fish resources. Wildlife and Tacoma (collectively called the parties) agree as follows:

III. Agreement

- A. Tacoma agrees to provide an ozone water treatment system at the Cowlitz trout hatchery to control the fish parasite Ceratomyxa shasta.
1. Tacoma will construct, operate and maintain the ozone system. The ozone system will be capable of treating a maximum of twenty cubic feet per second of river water each year for the normal period of July 1 through October 31. Changes in this time period can be made if acceptable to the parties.
 2. The Wildlife hatchery evaluation biologist (see Item H of this agreement and Item III. A.3.a of the June 26, 1986 agreement) will provide monitoring of the ozone system for fish protection.
 3. Evaluation studies will be done to assess the ozone system relative to fish survival. If the parties cannot agree to the studies, the dispute resolution process in the June 26, 1986 agreement will be used.
 4. Wildlife has no plans to seek other water treatment facilities from Tacoma during the present license period.
 5. In the event that the ozone treatment system proves to be unsatisfactory or other methods of treating the disease problems appear to be

more economical or feasible, Tacoma may initiate and undertake modifications and revisions to said treatment system. Provided that substantial revisions will be subject to approval by Wildlife, which approval shall not be unreasonably withheld.

- B. Tacoma agrees to provide for maintenance of the Barrier Dam and trout hatchery boat launches. This includes maintaining roads and parking lots, toilets, and garbage service. The facilities at these two areas will be maintained in a manner acceptable to Tacoma and Wildlife. Major improvements to the existing facilities will be at the discretion of Tacoma, as approved by Wildlife.
- C. Tacoma agrees to make best efforts to maintain Riffe Lake elevation at or above 767 feet from June 1 through September 1 each year, provided however:
 - 1. Riffe Lake elevation for flood control, power transactions, downstream minimum fish flows, and other existing regulatory constraints will take priority;
 - 2. The parties will identify respective staff contacts so Wildlife can be notified as soon as Tacoma anticipates the elevation of Riffe Lake will fall below 767 feet during the identified period.
- D. Article 63 of the FERC license required cooperative studies to determine if flows above 12,800 cubic feet per second significantly impact the steelhead sports fishing opportunity. These studies have been conducted and although the parties cannot reach total agreement on conclusiveness of the study data, the following agreement has been reached that should protect the steelhead resource:
 - 1. Tacoma will make a concerted effort to minimize instances where flows will be higher than the following schedule from December 1 through February 28;

a. WEEKDAY FLOWS:

1. 6:00 a.m. to 2:00 p.m. Mayfield discharge not to exceed 12,800 cfs except when spill is anticipated or is occurring.
2. 2:00 p.m. to 6:00 a.m. Mayfield may be operated at full generation.

B. WEEKEND AND HOLIDAY FLOWS:

1. 5:00 a.m. to 2:00 p.m. Mayfield discharge not to exceed 10,900 cfs except when spill is anticipated or occurring.
2. 2:00 p.m. to 5:00 a.m. Mayfield may be operated at full generation.

2. The above regime is intended as a guide for normal operations. Upon occasion, high water runoff or other weather conditions or unusual operating problems may require higher discharges. Tacoma will inform Wildlife when higher discharges are anticipated. When higher discharges occur, but are not anticipated, Tacoma will inform Wildlife as soon as possible after the event.

- E. The agreement dated June 26, 1986 identified 50,000 pounds of resident fish as Tacoma's annual mitigation target goal for resident fish losses. That agreement did not identify the fish species to be used; therefore, following clarification is provided:

1. Wildlife agrees to provide full one-to-one, in-kind mitigation credit to Tacoma for coho planted in Riffe Reservoir up to 18,000 pounds for 1988, 1989, and 1990;
2. By December 31, 1990, Wildlife will, in cooperation with Washington Department of Fisheries (Fisheries) and Tacoma, determine numbers, size, and species of fish to plant in Riffe Reservoir. Tacoma

will not be responsible to produce more than 50,000 pounds of resident fish no matter which combination is selected.

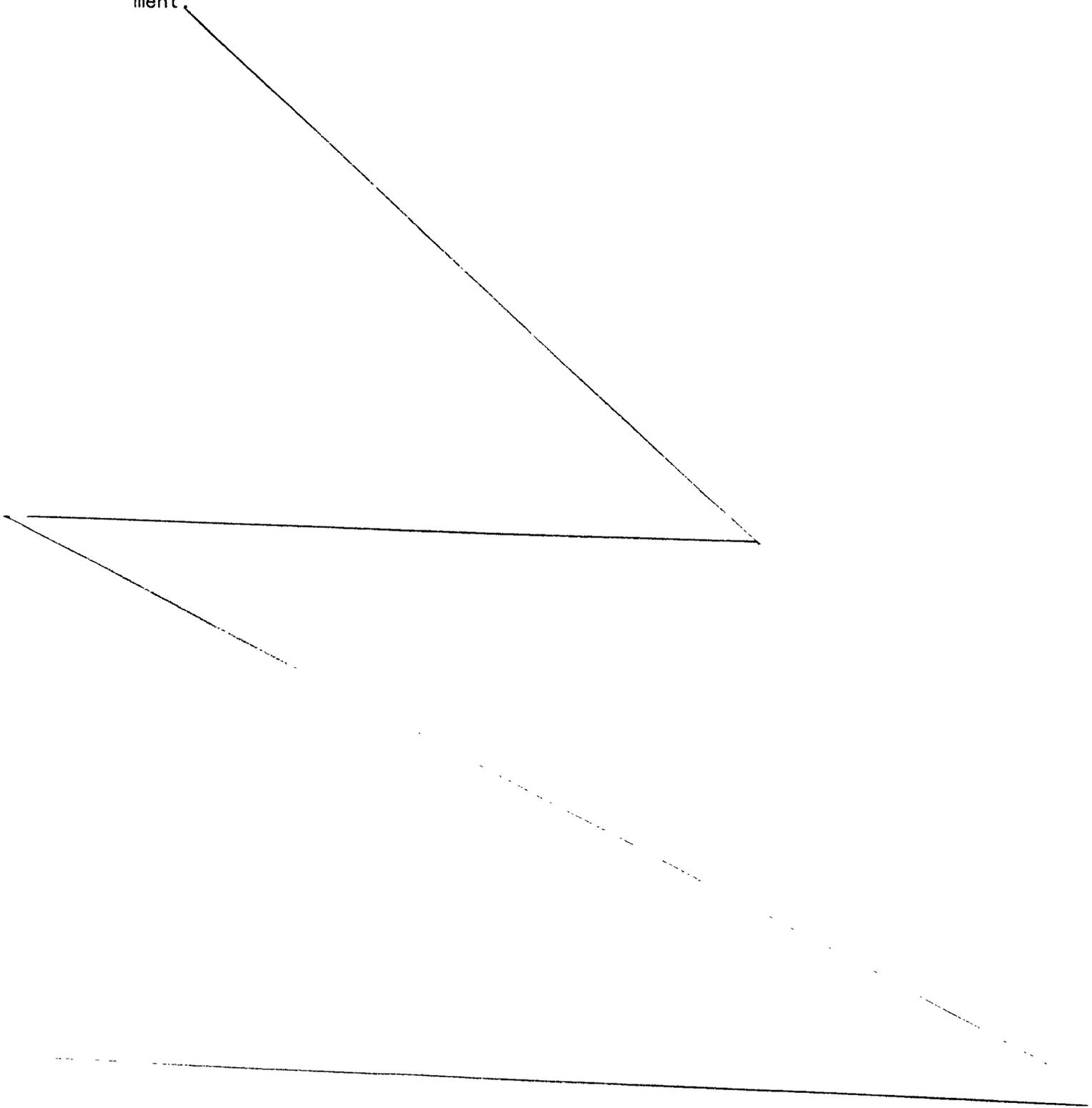
3. Wildlife desires to work with Fisheries and possibly the Washington State Legislature to reclassify landlocked coho in selected bodies of water, such as Riffe Reservoir, as a game fish. If requested by Wildlife, and if legally permissible, Tacoma agrees to actively assist in obtaining public support in this effort.
 4. Wildlife agrees to continue to provide facilities at Mossyrock trout hatchery to produce mitigation resident fish until December 31, 1990, or a brief period after that date until the resident fish facility explained in number five below is operational.
 5. Tacoma will hire a consultant to analyze the operations and methodologies available in an attempt to satisfy the remaining balance of the resident fish mitigation obligations starting by January 1, 1989. Tacoma, Wildlife, and the consultant will cooperate to develop a mutually acceptable facility to grow resident fish. The goal is to have the facility operating by December 31, 1990. If the facility is not available by then, Wildlife may request Tacoma to arrange for production of the resident fish from a private fish grower;
 6. The parties will pursue a mutually acceptable system to credit Tacoma for resident fish substitutions against the 50,000 pounds of annual resident fish.
- F. Wildlife will support Tacoma in any effort to change the part of license article 34 that pertains to Riffe Lake refill constraints.

- G. Wildlife will develop a mutually acceptable management plan for Swofford Pond which is consistent with Tacoma's goal to encourage the most cost effective use of the pond for wildlife mitigation, including:
1. Tacoma and Wildlife will continue cooperative efforts with Washington State Department of Ecology to eradicate Eurasian milfoil from Swofford pond;
 2. Wildlife agrees that future requests for recreation facilities (small parking area and boat primitive boat ramp) will be consistent with the wildlife mitigation plan which will provide the most cost effective use of the pond. Therefore, Wildlife will accept reduction in wildlife credits caused by fisherman use of the pond.
- H. Tacoma will annually fund Wildlife for a mutually acceptable biologist for fishery evaluation work.
1. Wildlife agrees to provide Tacoma before June 1 yearly, a detailed work plan outlining the biologist work for the next year (starting July 1). The work plan will contain sufficient detail to describe the purpose, justification, duration, cost, and objective of the evaluation programs proposed.
 2. Studies to assess mitigation will require mutual consent of the parties.
 3. Wildlife will submit to Tacoma a full annual report regarding the biologist's evaluation work by July 1 of each year.

Other Items

This Supplemental Agreement is hereby incorporated into and made a part of the agreement between the parties dated June 26, 1986. Therefore, all provisions

of that prior said agreement are applicable to this agreement except to the extent of express clarification or amendment stated in this Supplemental Agreement.



The foregoing Agreement is signed, attested to, and executed by the signatures of the Parties' authorized representatives as of the date first written.

CITY OF TACOMA

WASHINGTON STATE DEPARTMENT OF WILDLIFE



Director of Utilities
Date 11/28/88



Director, Department of Wildlife
Date 10/31/88



Superintendent, Light Division
Date 11-16-88

APPROVED AS TO FORM:

APPROVED AS TO FORM:



Assistant Attorney General
Date 10/25/88



Assistant City Attorney
Date 11/15/88

AGREEMENT RELATING TO THE OPERATION OF THE
COWLITZ RIVER SALMON HATCHERY AND RELATED FACILITIES

This agreement is made and entered into this 9th day
of August, 1967 by and between City of Tacoma, Department of
Public Utilities hereinafter referred to as City, and State of Washington,
Department of Fisheries, hereinafter referred to as Department.

Recitals

1. The City is the licensee for Project No. 2016, issued
by the Federal Power Commission, effective January 1,
1952, for the construction, operation and maintenance
of the Mayfield and Mossyrock Hydroelectric Project.
2. The Commission has amended said license by Order Further
Amending License (Major) dated November 17, 1964 and,

Article 37 of said Order provides:

"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 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 and upon findings based on substantial
evidence that such facilities and modifications are
necessary and desirable, reasonably consistent with
the primary purpose of the project, and consistent
with the provisions of the Act."

City of Tacoma
1967
sp

Now therefore it is agreed by the parties hereto:

Part I - Intent

It is the intent of the parties to this agreement to provide for construction, operation and maintenance of fish facilities for the Cowlitz River, in connection with Project Number 2016, that are designed to maintain the numbers of salmon returning to the Adult Separation Facility at the level as herein defined. The methods used to accomplish this aim will be: to make the best possible use of the Cowlitz watershed above Mayfield Dam in the spawning and rearing of salmon; and to supplement this production with the Cowlitz Salmon Hatchery in order to maintain the levels of adult return to the adult separation facilities desired and specified in Part IV of this agreement.

Part II - Term and Restrictions

The term of this agreement shall commence on the date hereof and end with the term of the Federal Power Commission license for Project No. 2016 unless terminated earlier or extended further by mutual agreement.

This agreement is subject at all times to the terms and conditions of the said license irrespective of the effect of any

other wording or expression of intent otherwise set forth herein.

This agreement shall not be assigned without prior written mutual approval of the parties hereto and all terms, restrictions and conditions of this agreement shall be fully binding on the respective successors and assigns.

Part III - Construction of Facilities

The City will construct, or has constructed, all fish facilities agreed upon as being a necessary adjunct to the construction of Project No. 2016. The terms of the City's obligation to construct, operate and maintain the fish facilities hereinafter provided for shall be the same as for Project No. 2016. These facilities, include, but are not limited to:

1. Adult release site and access thereto.
2. Downstream migrant trapping facility in the Mossyrock Reservoir and related facilities.
3. Downstream Migrant Louvers, Bypass and related facilities at Mayfield Dam.
4. The Cowlitz Salmon Hatchery, including main building, ponds, emergency generation equipment, landscaping, housing, and other related facilities.

5. Barrier Dam, Fish Ladder, Adult Separation Facility

and related tank truck haul facilities.

6. River water intake with pumps, secondary water intake

from wells with pumps, incubation water intake from

wells with pumps and the associated denitrogenation

tower and pipe distribution networks for these

Hatchery Water Supplies.

Drawings relative to the above facilities, which have been approved by the Department, are on file in City's records.

Part IV - Level of Hatchery Operation

The production of juvenile salmon will originate from both the natural production above Mayfield Dam and the salmon hatchery located below Mayfield Dam.

The purpose of this production is to maintain the yearly return of adult salmon to the Cowlitz River adult separation facilities at the following level:

Coho or (Silver Salmon) (Oncorhynchus kisutch)	25,500
Spring Chinook (O. tshawytscha)	17,300

Fall Chinook (O. tshawytscha)

8,300

The Department has supplied to the City the best criteria available for hatchery production in pounds of juvenile salmon (approximately 231,820 lbs. Coho; 196,590 lbs. Spring Chinook; 66,400 lbs. Fall Chinook) capable of supporting adult runs of salmon at these levels.

Those pounds of downstream migrant juvenile salmon that are produced naturally and collected in the downstream collection facilities shall be deducted by species from the number of pounds of downstream migrant salmon to be produced by the hatchery.

The relationship between the pounds of juvenile fish taken in the downstream collection facilities and the pounds of fish produced from the hatchery shall be reviewed annually and the initial 100% hatchery production adjusted accordingly.

Part V - Species Replacement

In the event that the returning adult count of a species falls below the specified level (Part IV) and the Department determines it to be impossible or impracticable to rebuild this species to the

specified level by either natural, hatchery or combined natural and hatchery production, then a different species (of the three listed) may be increased above its specified level to compensate on a poundage-value basis as determined by an equivalence formula mutually acceptable to the Department and the City. The intent of this formula is to maintain the equivalent numbers of adults at the specified level.

If it is determined by the Department and the City that the numbers of returning adults fall below the specified levels and that the cause thereof is beyond the City's control and is not a result of the City's actions or failure to discharge its obligations under this agreement, the City shall not be held responsible for the reduction in the numbers of fish. In the event of such a circumstance

the respective obligations of the Department and the City will be set forth under an amendment to this agreement.

Future modifications to the hatchery or related facilities which may be required to maintain the numbers of salmon set forth in Part IV will be accomplished in accordance with design criteria established by mutual agreement between the Department and the City, subject to the approval of the Federal Power Commission, and the cost of construction, operation and maintenance shall be borne by the City.

Part VI - Operation and Supervision

Operation and supervision of all fish facilities shall be conducted in accordance with the best and most modern practice and the responsibility for operation and supervision of the facilities shall be allocated between the City and the Department in the following manner:

1. The City shall conduct all fish hauling, except such hauling as is necessary in connection with the operation of the Cowlitz River Salmon Hatchery. Criteria for fish hauling will be established by mutual agreement between the Department and the City.

2. The City shall conduct all downstream migrant trapping in Mossyrock Reservoir, and the fish transfer and hauling necessary to transport downstream migrants to the Cowlitz River below the barrier dam. The Department will assist in initial training of City personnel for this purpose. Criteria for the operation of downstream migrant facilities will be established by mutual agreement between the Department and the City.
3. The City shall operate the downstream migrant louvers, bypass and related facilities at Mayfield Dam in accordance with presently established criteria.
4. The City and the Department shall mutually conduct the fish counting and fish separation activities in connection with the operation of the barrier dam and fish ladder at the hatchery. Initially, the Department shall conduct fish counting and separation activities until sufficient operating experience has been obtained

on which to base a mutually agreeable permanent counting and separation program. The permanent program may be established under this agreement by an exchange of correspondence and acknowledgements setting forth the details of the program. Criteria for the operation of the fish counting and separation activities will be established by mutual agreement between the Department and the City.

5. The Department shall operate and supervise the Salmon Hatchery and related facilities to achieve the levels of production as set forth in Part IV.

In the event unusual conditions or circumstances prevent agreed criteria from being followed in any of the above operations, the Department or the City, as appropriate, must be immediately notified. After notification, the parties will meet to determine the most expeditious means to correct the situation.

Part VII - Maintenance

All fish facilities, or parts thereof, and associated

equipment, shall be maintained or replaced in accordance with the best modern practice in order to efficiently fulfill the obligations of the City for the term of this agreement. The responsibility for maintenance or replacement of the facilities is to be allocated in the following manner:

1. The City shall be responsible for maintenance of those facilities it operates and supervises.
2. The City shall be responsible for major maintenance of the Salmon Hatchery operated and supervised by the Department. With the City's concurrence, the Department is authorized to order services from private concerns in emergencies where the City is unable to respond. The Department shall do such minor maintenance and housekeeping as will not interfere with fish cultural activities and can be accomplished by the normal hatchery personnel complement.

Part VIII - Costs and Expenses

The City shall pay all costs and expenses incurred as a result of the City's activities necessary to fulfill the terms of this agreement.

The Department shall be reimbursed at monthly intervals by the City for only those costs and expenses incurred in fulfilling the Department's obligations under this agreement.

Purchase of operating supplies and equipment may be made by either the Department or the City on a mutually agreeable basis as determined in the annual budget meetings or as provided by an exchange of correspondence and acknowledgements at any time.

Part IX - Limitation of Liability

The construction, operation and maintenance of fish facilities, and the cost and expense thereof, for Project No. 2016, in accordance with present plans, will not necessarily terminate the City's liability under its license from the Federal Power Commission. In compliance with license requirements and the aims and intent referred to in Recitals under this agreement, the City is obligated to provide, operate and maintain, at its own expense, such additional or improved future facilities as may become necessary and are ordered by the Federal Power Commission.

Part X - Ownership of Facilities and Equipment

Title to all fish facilities and appurtenant equipment, necessary for and relating to Project No. 2016, is retained by the City.

The Department shall have operating control of the Salmon Hatchery facilities and equipment and establish mutually agreeable criteria for all other salmon trapping, guiding, hauling and handling facilities, considering the requirements of the Washington Department of Game and the Bureau of Commercial Fisheries.

Part XI - Reports and Records

The Department shall maintain, and make available for inspection, records in accordance with usual state procedures for accounts and expenditures of funds allotted to the Department by the City annually in accordance with the provisions of Part XIII covering all the costs and expenses incurred by the Department in fulfilling the Department's obligations under the agreement relating to the operation of the Cowlitz River fish facilities.

All reports, records and findings of studies made, kept or conducted by either party hereto relative to the maintenance or operation of the facilities shall be made readily available to the other party. On or before the 1st day of July, 1968, and each succeeding year, on or before July 1, the Department shall make a full report of the operation

of the hatchery and other facilities for the preceding calendar year of operation in such detail as the Department maintains information on similar operations under its jurisdiction, and the City shall on or before July 1 of each year, make to the Department a full report of its activities under this agreement for the preceding calendar year, including the costs thereof.

Part XII - Amendments

Since the subject matter covered by this agreement is, in part, new in the experiences of both parties, it is agreed that this agreement can be amended by mutual consent of both parties.

Proposed amendments shall be submitted in writing to the other party including the reasons therefore. The other party shall respond within thirty (30) days. Proposed amendments not mutually agreed upon by both parties shall be submitted to the Federal Power Commission for decision.

Amendments to this agreement shall become effective upon the date of the final signature thereto.

Part XIII - Annual Review for Operation
Maintenance, Budget and Reimbursable Contract

1. On or before June 1 of each year, the parties hereto shall meet to review the entire fish facilities operations and the maintenance thereof and prepare a budget estimate for the succeeding calendar year. This budget estimate shall be submitted by the Department prior to July 1 for inclusion in the City's annual budget.
2. Approval of the budget by the City and subsequent notification to the Department with the issuance of a Purchase Order will authorize the Department to spend funds in accordance therewith.

Part XIV - Provisions for Hatchery Operations Above Required Levels

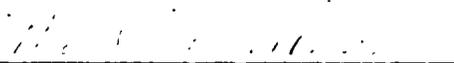
In the event that hatchery production combined with natural river production result in increases in the numbers of fish set forth in Part IV and it is determined that all or a portion of the capacity of the hatchery is surplus to that required to discharge the City's

obligation to maintain those numbers, the Department may at its own expense use such surplus capacity for its own purposes under a mutually acceptable program established by an amendment to this agreement to be prepared at the appropriate time.

CITY OF TACOMA, DEPARTMENT OF
PUBLIC UTILITIES

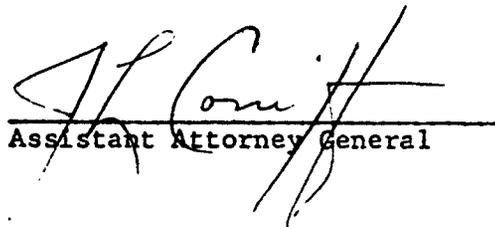
By 
Title
Ass't. Director of Utilities

STATE OF WASHINGTON, DEPARTMENT
OF FISHERIES

By 
Title Director

JUN 22 1967

APPROVED AS TO FORM:


Assistant Attorney General


Chief Assistant City Attorney

RESOLUTION NO. U-2924

WHEREAS the City of Tacoma, consistent with the requirements of its Federal Power License No. 2016 relating to the Mayfield and Mossyrock Hydroelectric Project, has negotiated an agreement with the State of Washington, Department of Fisheries, properly providing for the operation and maintenance of the Cowlitz Salmon Hatchery. Said agreement is intended to provide for the preservation of existing runs of salmon in the Cowlitz River, and the construction of the hatchery as the most feasible plan for maintaining the salmon runs has been approved and directed by the Federal Power Commission, and

WHEREAS a copy of the said agreement is attached hereto and by this reference incorporated herein and has been approved by the State of Washington, Department of Fisheries, the Bureau of Commercial Fisheries and the U. S. Fish and Wildlife Service, staff of the Federal Power Commission, and the staff of the City of Tacoma, Department of Public Utilities, and the agreement has been executed by the Director of Fisheries, and

WHEREAS it is in the best public interest that the agreement be formally approved and the Director of Utilities authorized and directed to execute the same; Now, therefore,

BE IT RESOLVED BY THE PUBLIC UTILITY BOARD OF THE CITY OF TACOMA:

That the said agreement is approved and the Director of Utilities is authorized and directed to execute the same on behalf of the City of Tacoma, Department of Public Utilities, in form substantially the same as that referred to herein and to be approved by the City Attorney.

Approved as to form & legality:

John J. Majeres
Assistant City Attorney

Jean Maurer
Clerk

Jay Grenley
Chairman

Leo McGavick
Secretary

Adopted August 9, 1967

VISTORS
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eter
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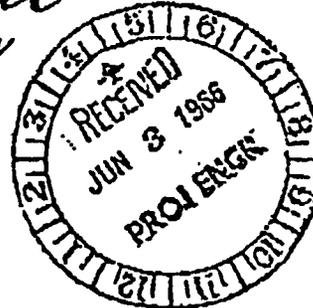
Please address reply to:
City of Tacoma
Department of Public Utilities
P. O. Box 11007
Tacoma, Washington 98411

Attention:



City of Tacoma WASHINGTON

DEPARTMENT OF PUBLIC UTILITIES
C. A. Erdahl, Director
June 2, 1956



Federal Power Commission
Washington, D. C. 20426

Attention: Jos. H. Gutridge
Secretary

Subject: City of Tacoma, Washington
Project #2016 - Wash.
Fish Facility Exhibit Drawings

Gentlemen:

Supplementing our transmittal of Exhibit L drawings for fish facilities on May 27, 1956 for the Commission's approval, we are submitting herein a description of the proposed method of operation of fish facilities for the Cowlitz River Project. The operation described herein has resulted from a long period of negotiation with the Fisheries Agencies and has been approved by them.

In general, the facilities will consist of a salmon hatchery and a game fish hatchery, both on the Cowlitz river below Mayfield dam, a fish transportation system, adult unloading facilities above Mossyrock reservoir and a downstream migrant trapping system at the upper end of Mossyrock reservoir. In addition, initial trapping of downstream migrants will be conducted at a reservoir location near Mossyrock dam and if determined feasible, will become a part of the permanent operation. There will be no upstream migrant fish facilities at Mossyrock dam itself. A fish barrier and collection system will be built adjacent to the salmon hatchery and the existing Mayfield upstream migrant facilities will be abandoned. The existing Mayfield downstream migrant facilities will continue in operation to provide passage for downstream migrants from the Tilton river and other sources.

FISH TRANSPORTATION SCHEME. Upstream migrant salmon and trout will be collected and separated by species at facilities adjacent to the salmon hatchery site. Adult fish will be attracted to an entrance incorporated in the barrier dam, then proceed by ladder and transportation channel to the separation device where they will be diverted into holding tanks or, in the case of those salmon destined for salmon hatchery production, allowed to proceed directly into the salmon hatchery ponds. An operator positioned over the separation chute will direct the movement of fish by pushbutton controls. The operation and maintenance of the collection and separation facilities will be the responsibility of the City. Those salmon entering the hatchery holding ponds then become the responsibility of the Washington Department of Fisheries, who will operate the salmon hatchery.

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DEPARTMENT OF PUBLIC UTILITIES

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The fish diverted into the holding tanks will be hauled to the game fish hatchery downstream in the vicinity of Blue Creek and those not required for hatchery purposes will be transported to a release location above the Mossyrock reservoir. The game fish hatchery will receive steelhead and searun cutthroat trout. These fish will be transported by tank truck from the separation facility holding tanks and released into holding ponds at the game fish hatchery where they become the responsibility of the Washington Department of Game, who will operate the station.

All fish surplus to the needs of the hatcheries will be hauled by tank truck from the holding tanks at the separation facility to an unloading site in the Cowlitz river between Cowlitz Falls and the mouth of the Cispus river. Tank truck hauling and the operation and maintenance of the unloading facility will also be the responsibility of the City. The trucks used for hauling are being designed to transport either adult fish or juvenile fish. They can be used solely for fish transportation from the separation facility or for special needs of the hatcheries.

Downstream migrant fish which are the progeny of those adults hauled upstream to spawn will be collected as effectively as possible by mechanized Lake Marwin type traps or comparable devices positioned in the upper section of the Mossyrock reservoir. If more efficient devices are developed in the future for capturing downstream migrants, they may replace the Lake Marwin type traps. "Backup trapping" to capture fish passing the upper traps will be located at or near Mossyrock dam. These traps will be designed from criteria furnished by the Fisheries Agencies and will be operated by the City. Downstream migrants collected by the reservoir traps will be transported to a shore station by boat or barge and transferred to tank trucks for transportation to the Cowlitz river below the barrier dam.

Downstream migrants resulting from natural production in the upper river system and successfully collected in Mossyrock reservoir will be used in determining the numbers of fish to be produced in the hatcheries.

SALMON HATCHERY OPERATION. The Cowlitz salmon hatchery is being designed to sustain runs of salmon at the following levels:

Spring Chinook	17,300
Fall Chinook	8,300
Silver Salmon	25,500

To produce these numbers of fish, the following number of adults will be taken by the salmon hatchery:

Spring Chinook	3,846
Fall Chinook	5,728
Silver Salmon	6,995

The propagation of these fish will be conducted in accordance with the latest fish cultural techniques developed by the Fisheries Agencies. Many new innovations to facilitate the hatchery operation are being incorporated in the design. The main water supply will be pumped directly from

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DEPARTMENT OF PUBLIC UTILITIES

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Page three

the Cowlitz river. The maximum quantity is about 165 cubic feet per second. Well water will also be furnished with 5.4 cfs supplied for egg incubation purposes and 4.15 cfs for temperature controlled water to especially facilitate the production of fall and spring chinook salmon. The egg capacity of this hatchery will be 28,625,650. These eggs will be incubated in stacks of incubation trays similar to those used at other modern salmon hatcheries. The young fish will be reared in large rearing ponds, fourteen of which have been designed for holding adult fish as well as rearing juvenile fish. Thirty-six rearing ponds are provided to rear 495,000 pounds of downstream migrants. The majority of feed will be the Oregon moist pellet now successfully used to raise both salmon and trout. Provisions have been made to store large volumes of this food to effect an efficient and economical operation. When the fingerling salmon have attained sufficient growth and at the correct time of year, they will be released directly into the Cowlitz river for seaward migration. Since there are three species of salmon with different life histories, the hatchery will be in continual operation throughout the year.

GAME FISH HATCHERY OPERATION. The game fish hatchery is being designed to propagate steelhead trout, searun cutthroat trout, and rainbow trout. The hatchery is sized to sustain the steelhead trout run at 13,000 and the searun cutthroat run at 12,000. To propagate these numbers of fish it will be necessary for the hatchery to receive approximately 900 adult steelhead and 6,000 searun cutthroat trout. These fish will be initially hauled to the hatchery from the separation facility at the barrier dam. The fish will be held in holding ponds until they are ripe and then spawned. An approximate total of 1,350,000 steelhead eggs and 1,600,000 cutthroat eggs can be incubated in the hatchery troughs. The resulting fry will be initially reared in concrete rearing ponds and fed on a standard hatchery diet. The steelhead fry will be transferred to standard rearing ponds at the hatchery and to a large rearing pond at Swofford Valley. Approximately one-half of the steelhead production will be reared at each station. Searun cutthroat trout will be reared in the large earthen ponds adjacent to the hatchery and in the standard rearing ponds. Rainbow trout will be raised for the mitigation program. Adult anadromous fish returning to the hatchery will proceed up Blue Creek to a fish ladder leading directly into holding ponds. The total number of adult steelhead and cutthroat can be obtained from both the barrier dam facilities and fish returning directly from the river. The water supply will be furnished from the Cowlitz river, Blue Creek and from wells. A total of 56 cfs will be available from the Cowlitz river, a minimum of 8 cfs from wells, and an undetermined supply of water from Blue Creek which will, of course, vary with the discharge of the creek. The fish taken to Swofford Valley for rearing will be fed on standard hatchery diets consisting of either dry feed or Oregon moist pellets. At the proper time of year the rearing pond will be drained and the fish will be collected and transported downstream to the Cowlitz river below the barrier dam. The pond will then be refilled by pumping from the Mossyrock reservoir and from the combined flow of Sulfur and Mud Creeks. A new planting of steelhead trout fry will then be released into the pond for rearing. It is anticipated that the steelhead fry will be reared one year before attaining the correct size for seaward migration.

Rainbow trout for the mitigation program will be planted in the Tilton river and upper Cowlitz watershed. The fish will be raised to a size determined by the Game Department to provide the best yield to the sportsmen.

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DEPARTMENT OF PUBLIC UTILITIES

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Page four

TIME SCHEDULE. A barrier dam and collection facility will be constructed in the Cowlitz river adjacent to the salmon hatchery. This facility could be operable late in 1968 or early 1969. Prior to this time fish will be transported from the upstream migrant collection facilities at Mayfield to the salmon hatchery for separation or hauled directly to the game fish hatchery or salmon hatchery ponds, as required. When possible, fish will be hauled directly from Mayfield to the unloading facility above Cowlitz Falls. Priority will be given to hatchery needs with remaining fish released for natural spawning. The City will maintain close coordination with the Washington Department of Fisheries, Washington Department of Game and Bureau of Commercial Fisheries to provide fish passage and fish facilities to best maintain the Cowlitz river runs at the existing levels.

GENERAL. The procedures described above assigns certain responsibilities to both the City and to the State. Continuing discussions with the Fisheries Agencies could result in a change in the areas of responsibility concerning the operation of the fish facilities. It may be desirable at a later date to place responsibility for the entire program with the Agencies.

Construction costs of all facilities will be paid by the City. The cost of operation and maintenance of the facilities will also be at the City's expense. The City anticipates that title to the facilities will remain with the City as long as it continues to pay for the maintenance and operation thereof.

The City, at the request of the Fisheries Agencies, has investigated the economics of the construction of a fish barrier dam adjacent to the salmon hatchery and the abandonment of existing upstream migrant facilities at Mayfield. Two alternatives were studied: one under which a barrier dam would be built at the salmon hatchery and the other under which Mayfield facilities would be continued in operation. Results of this study indicate construction of a barrier dam at the salmon hatchery to be economically feasible. Location of a barrier dam at the hatchery site also provides certain biological advantages. Salmon to be utilized for hatchery purposes can be diverted directly into hatchery holding ponds without any handling or hauling. Game fish collected by these facilities can be transported to the game fish hatchery from this one central collection point and with a reduction in haul distance. There is also a resultant savings in hauling costs due to transporting fish from one central location and the complete elimination of collection and hauling from Mayfield.

We are enclosing copies of letters from the Washington Department of Fisheries and the Bureau of Commercial Fisheries, approving the six Exhibit I drawings pertaining to the Cowlitz fish facilities. It is our understanding that the Washington Department of Game has previously transmitted their letter of approval directly to the Commission.

Your early consideration of the Exhibit Drawings submitted on May 27, 1966, is requested. Our time schedule is critical and it is hoped that we will be able to proceed with construction very quickly. A detailed

CITY OF TACOMA
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schedule of target completion dates is being prepared and will be sent to you immediately. Exhibit drawings for the remainder of the facilities which include the fish barrier dam, the adult unloading site above Mossyrock reservoir and the downstream migrant traps in Mossyrock reservoir will be submitted for approval as soon as designed details have been agreed upon with the Agencies.

Yours very truly,

C. A. Ardahl
Director of Utilities

att.
cc: F.P.C., San Francisco w/att.
Wash. Dept. of Fisheries w/o att.
" " " Care w/o att.
Bureau of Com. Fisheries w/o att.

bcc: Light Division w/att
Quentin Edson w/o att.
John Thompson w/o att.
Jim Thompson w/o att.
Carey & Kramer w/o att.
Harza Engineering Co. w/o att.

MAJOR PROJECTS			
	ACT	COM	INFO
PROJ MGR			✓
GEN ENGR			✓
CIV ENGR			✓
MECH ENGR			
ELEC ENGR			
ACCT			
BIOLOGIST			✓
DIRECTOR			✓ w/att
RES ENGR			
GR SURV			✓
HARZA			✓ w/att
LIGHT DIV			✓
LEGAL			
FILES			2

C

w/att

w/att

FP 1252

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

Before Commissioners: Lee C. White, Chairman; L. J. O'Connor, Jr.,
Charles R. Ross, David S. Black and Carl E. Bagge.

City of Tacoma, Washington

Project No. 2016

ORDER APPROVING DRAWINGS OF FISH
FACILITIES AND AMENDING LICENSE

(Issued June 17, 1966)

On May 31, 1966, the City of Tacoma, Washington, licensee for Project No. 2016, the Mayfield-Mossy Rock developments on the Cowlitz River filed for Commission approval a set of six functional drawings numbered MA-2351 through MA-2356 inclusive (FPC 2016-107 through 172) showing proposed fish facilities for construction at the project pursuant to Article 30 of the license.

In a supplementary letter to the Commission, dated June 2, 1966, the licensee described the proposed method of operation of the fish facilities which comprise a salmon hatchery, a game fish hatchery and rearing pond for game fish at Swofford Valley together with a fish barrier dam located adjacent to the salmon hatchery to replace the present upstream migrant facilities at Mayfield dam, pertinent transportation facilities, and upstream migrant facilities to be developed for operation in Mossy Rock reservoir. The proposed facilities were developed in cooperation with the State of Washington, Department of Fisheries and Department of Game as well as the United States Department of the Interior, Fish and Wildlife Service pursuant to Article 30 of the license.

While the drawings submitted generally describe the proposed facilities, continued cooperation with the fishery agencies would be desirable at the field level in developing details of design and operation of such facilities. We note further that although licensee makes reference in its letter to permanent downstream migrant traps and a fish barrier dam proposed for construction adjacent to the salmon hatchery, functional and design drawings therefor have not been submitted.

We shall provide for continued cooperation with the fishery agencies as well as for the submission of appropriate drawings, for the permanent downstream migrant traps and the proposed fish barrier dam in a new article to be added to the license.



DC 23

The Commission finds:

(1) The following described Exhibit L drawings conform to the Commission's Rules and Regulations and should be approved as part of the license for the project.

<u>Licensee No.</u>	<u>FPC Number</u>	<u>Title</u>
MA-2351	2016 - 107	Game Fish Hatchery - Vicinity Map & Site Plan.
MA-2352	2016 - 108	Game Fish Hatchery - Hatchery Plan
MA-2353	2016 - 109	Salmon Hatchery - Site Plan
MA-2354	2016 - 110	Salmon Hatchery - Plan
MA-2355	2016 - 111	Salmon Hatchery - Sections
MA-2356	2016 - 112	Swofford Valley Rearing Pond

(2) It is appropriate and in the public interest to amend the license for Project No. 2016 as hereinafter provided.

The Commission orders:

(A) The exhibits described in finding (1) above are hereby approved as part of the license for Project No. 2016.

(B) The license for Project No. 2016 is hereby amended by adding the following article:

Article 57. Licensee shall continue to cooperate with the fishery agencies in the development of details of design, operation, and maintenance of these and of other facilities needed to maintain the existing runs of anadromous fish at the project and in evaluating the degree of success of these facilities to maintain those runs. Licensee shall submit to the Commission for approval functional drawings of permanent downstream migrant fish traps and design drawings of the fish-barrier dam as proposed for construction on the Cowlitz river adjacent to the salmon hatchery, and construction thereof shall not commence prior to Commission approval.

drawings
approved
see Instr. 16
5/17

(C) This amendment in the manner set out above shall not operate to alter or amend the license in any other respect, and shall not in any way constitute a waiver of any other part, provision or condition of the license.

(D) This order shall become final 30 days from the date of its issuance unless application for rehearing shall be filed as provided in Section 313(a) of the Act, and failure to file such an application shall constitute acceptance of this license amendment. In acknowledgement of the acceptance of this license amendment, it shall be signed for the licensee and returned to the Commission within 60 days from the date of issuance of this order.

By the Commission.



Joseph H. Gutride,
Secretary.

Project No. 2016

- 4 -

IN TESTIMONY of its acknowledgement of acceptance of all the provisions, terms and conditions of this license amendment, City of Tacoma, Washington, this 22nd day of July, 1966, has caused its corporate name to be signed hereto by H. M. TOLLEFSON, its _____ Mayor, and its corporate seal to be affixed hereto and attested by JOSEPHINE MELTON, its City Clerk, pursuant to a resolution of its City Council duly adopted on the 20th day of July, 1966, a certified copy of the record of which is attached hereto.

CITY OF TACOMA, WASHINGTON

By *H. M. Tollefson* Mayor

Attest:

Josephine Melton
City Clerk

(Executed in quadruplicate)

DIVISIONS
Light
Water
Telephone Line

Please address reply to
City of Tacoma
Department of Public Utilities
P O Box 11007
Tacoma Washington 98411
(206) 383-2471



City of Tacoma WASHINGTON

DEPARTMENT OF PUBLIC UTILITIES

July 8, 1986

*Wildlife portion of this
agreement is superseded
by 1/5/93 agreement
D. Hudd*

JUL 11 1986

Mr. Brian Hauger
Washington Department of Game
600 North Capitol Way, GJ-11
Olympia, Washington 98504-0091

Dear Mr. Hauger:

On behalf of the City of Tacoma, Department of Public Utilities, Light Division, I am happy to inform you that as of June 25, 1986, the City adopted Resolution U-7445 authorizing the Director of Utilities to enter into the Agreement Regarding Game Fish and Wildlife Mitigation Relative to the Cowlitz River Project. Enclosed are executed copies of each of the respective documents.

We are proud of the cooperative working relationships that the City and the Washington Department of Game have developed over the many years relative to the Cowlitz Project and are confident that the present agreement will serve to maintain this positive approach for the future.

Yours very truly,

D. J. Caha
Power Manager
Light Division

cc: Bruce Crawford
Annette Womac ✓

AGREEMENT REGARDING GAME FISH AND WILDLIFE MITIGATION
RELATIVE TO THE COWLITZ RIVER PROJECT

June 26, 1986

THIS AGREEMENT is entered into between the WASHINGTON STATE DEPARTMENT OF GAME ("WDG") and the CITY OF TACOMA, Department of Public Utilities, Light Division ("Tacoma" or the "City"). This is a real covenant, binding on the Parties and on all assignees, purchasers, or successors in interest.

I. PURPOSE

The Parties intend that this Agreement set forth mitigation responsibilities of Tacoma and of the WDG relative to the Cowlitz River Hydroelectric Project, FERC No. 2016. The provisions of this Agreement shall not constitute approval or precedent regarding any principle or issue in this or any other proceeding.

II. RECITALS

A. On November 28, 1951, Tacoma was issued a license by the Federal Power Commission (whose authority has since been transferred to the Federal Energy Regulatory Commission---the "Commission") for the construction, operation, and maintenance of the Mayfield and Mossyrock Hydroelectric Project, commonly known as the Cowlitz Project (the "Project").

B. Several provisions of the license pertain to fish and wildlife:

1. Article 37 provides:

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 facilities and comply with such reasonable modification 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 and upon findings based on substantial evidence that such facilities and modifications are necessary and desirable, reasonably consistent with the primary purpose of the project, and consistent with the provisions of the Act."

Commission Order Further Amending License (Major), November 17, 1964.

2. Article 57 approved the construction, operation and maintenance of a game hatchery (and of other facilities not pertinent to this Agreement). Order Approving Drawing of Fish Facilities and Amending License (June 17, 1966). Consequently, Tacoma constructed the Cowlitz Trout Hatchery to replace project-related resident and anadromous game fish losses. Agreement, however, regarding funding, hatchery management, operation and maintenance has not been finalized.

3. Article 63 relates to the Mayfield Powerhouse Expansion (the "4th Unit"). Issued by Order of the Commission on September 7, 1978, this article required Tacoma to conduct studies in

cooperation with the WDG to determine the impact of the 4th Unit on the Cowlitz River fishery resource. The article also incorporated by reference a November 3, 1977 joint letter of understanding between Tacoma, the WDG, and the Washington Department of Fisheries which described these studies. Although the studies subsequently were performed to WDG's satisfaction, Tacoma believes more are necessary to develop conclusive information.

C. Both Parties recognize that the development and implementation of a comprehensive management plan is necessary to achieve complex project-related wildlife mitigation. At present, the Parties are conducting a study -- the Habitat Evaluation Procedure ("HEP") -- to determine total project impact, the benefits from habitat improvement, and to ascertain the number of habitat units necessary for total replacement of wildlife losses.

D. Pursuant to the above recitals and for the purpose of this agreement (the "Agreement"), mitigation issues are divided into three categories: fish, wildlife, and 4th Unit-related interim fish protection.

WDG and Tacoma (collectively the "Parties") agree as follows:

III. AGREEMENT

A. GAME FISH.

Operation and supervision of all fish facilities shall be conducted with the best and most modern practice. The responsibilities regarding the Cowlitz Trout Hatchery shall be allocated between Tacoma and WDG in the following manner:

1. Hatchery Management and Operations

a. The WDG shall manage and operate the Cowlitz Trout Hatchery facilities and equipment. In accordance with this responsibility, WDG shall establish mutually agreeable criteria for all other game fish trapping, guiding, hauling and handling facilities. In addition, WDG shall select the numbers and kinds of various species to rear and plant. WDG will inform Tacoma of anticipated changes of species.

b. However, WDG recognizes that Tacoma is conducting, through a consultant, a fish hatchery efficiency study which will be completed by May 30, 1987. Thus, WDG agrees to implement those conclusions of the study that the parties mutually agree will provide a more efficient hatchery operation without adversely affecting production or quality of fish.

c. The Parties agree that minimum length of anadromous smolts will be 180 mm for steelhead and 210 mm for sea-run cutthroat.

2. Costs and Expenses

a. Tacoma shall finance all activities necessary to fulfill the terms of this agreement.

b. Tacoma shall provide the funds to operate and maintain the hatchery at a production level (harvest and escapement) that will achieve adult return goals to satisfy mitigation requirements. Target levels, i.e. goals, are:

<u>PROGRAM</u>	<u>JUVENILES/POUNDS</u>	<u>ADULT/ADULT GOAL</u>
anadromous	191,100	38,600
resident	50,000	---

Tacoma also shall fund necessary improvements at the hatchery to attain these production levels.

c. Tacoma shall finance the evaluation of the hatchery programs and project waters. (See section A(3)).

d. Purchase of operating supplies and equipment may be made by either Tacoma or WDG on a mutually agreeable basis as determined in the annual budget meetings (discussed in Section A(6)) or as provided by an exchange of correspondence and acknowledgements at any time.

e. Tacoma shall reimburse WDG at monthly intervals for those costs and expenses incurred by WDG in fulfilling its obligations under this agreement.

determined by the Parties that the numbers of returning adults fall below the target levels and that the cause is beyond Tacoma's control and is neither a result of Tacoma's actions nor failure to discharge its obligations under the Agreement, Tacoma shall not be held responsible for the reduction in the numbers of fish. In the event of such a circumstance, the respective obligations of WDG and Tacoma will be set forth under an amendment to this Agreement.

5. Reports and Records. In accordance with usual state procedures, WDG shall maintain and make available for inspection records of funds allotted annually to WDG by Tacoma for Agreement-related activities. These records shall detail all costs and expenses incurred by WDG in fulfilling its obligation under this Agreement.

In addition, WDG and Tacoma shall make readily available to each other all hatchery-related reports, records, and findings of studies conducted by or in the possession of either party. Further, on or before July 1 of each year, WDG shall submit to Tacoma a full annual report regarding operation of the hatchery and any related facilities. Tacoma, on or before July 1 of each year, shall submit to WDG a full report of its Agreement-related activities for the preceeding calendar year (including costs expended.)

6. Annual Review for Budget. On or before June 1 of each

year, the Parties shall meet to review the operation and maintenance of the entire fish facility. As part of this review, WDG shall submit an annual list of facility-related repair and improvement projects. The Parties shall then prepare a budget estimate for the next calendar year which shall be submitted prior to July 1 for inclusion in Tacoma's annual budget. Approval of the budget by the City and subsequent notification to WDG with the issuance of a Purchase Order will authorize WDG to spend funds accordingly.

7. Ownership of Facilities and Equipment. Tacoma retains title to all fish facilities and inventory that are purchased with City funds.

B. MAYFIELD DAM FOURTH UNIT OPERATION MITIGATION STUDIES

1. Financing. Tacoma shall fund additional studies to determine the impact of the 4th Unit on the Cowlitz River game fishery resource. These studies are targeted to begin no later than December, 1986 and to be completed no later than December, 1989, or earlier subject to mutual agreement of the Parties.

2. Flow Regime During the Study. Before the 4th Unit studies begin, the WDG, in cooperation with Tacoma, shall establish a flow regime to be observed for the duration of the studies. This regime will be based, in part, upon an evaluation of flow releases to

determine the actual time taken for water to move from Mayfield Dam to the barrier dam and trout hatchery.

3. Long-Term Flow Agreement.

The Parties shall use their best efforts to develop a long-term flow agreement within 6 months following completion of and based upon the 4th Unit studies.

C. WILDLIFE MITIGATION

1. The Habitat Evaluation Procedure.

The Parties, with the United States Fish and Wildlife Service (USFWS), are currently conducting a HEP study identified as Phase I: Wildlife Mitigation Plan. The Parties shall use their best efforts to complete Phase I no later than September 15, 1986. In addition, no later than sixty (60) days after the Phase I studies are completed, Tacoma shall provide the funds for HEP, Phase II: Wildlife Mitigation Plan. The Parties, with the USFWS, shall conduct the Phase II studies; the Parties shall use their best efforts to complete this portion of the HEP no later than December 15, 1987. Phase II encompasses the following:

- a. Evaluation of identified wildlife habitat losses;
- b. Review and assignment of habitat units (HU's) to existing mitigation activities;
- c. Identification of mitigation lands based upon HEP studies

including off-project lands as required; and

d. The development of a comprehensive wildlife mitigation plan.

2. Implementation

a. WDG shall implement the cooperatively developed and mutually acceptable Comprehensive Wildlife Mitigation Plan (the "Plan") referred to in Section C(1)(d). Should the Parties fail to agree on a Comprehensive Plan, they will submit the matter to the Commission for a determination of what is a reasonable and appropriate mitigation plan.

b. The WDG shall use its best efforts to complete at least 50% of the Plan within five years. At the end of the five years, to the mutual benefit of the Parties, a jointly developed evaluation of the Plan shall be completed and revisions, additions, and/or deletions shall be incorporated into the Plan. The total Plan, exclusive of monitoring, shall be completed no later than January, 1999.

c. Tacoma shall finance the monitoring, operation, and maintenance of this Plan for the duration of the project license.

D. TORT LIABILITY.

WDG shall hold Tacoma harmless from any claims of loss, expense, or liability for damage or injury to property or persons on or about the project-related facilities that result from WDG's

use of the facilities and are caused by WDG, its agents, contractors, employees, or assigns; provided, however, that Tacoma shall remain liable for its own negligence -- including any negligence in the construction of project facilities -- and for the negligence of its agents, contractors, and employees.

E. TERM.

This Agreement shall go into effect upon execution by both Parties, and shall remain in effect for the duration of the Project license.

F. NONWAIVER.

The execution of this Agreement will not terminate the City's responsibilities under its license from the Commission. In compliance with the license requirements and pursuant to the aims and intent of this Agreement, the City is obligated to provide, operate and maintain at its own expense, such additional or improved future facilities as may become necessary and are ordered by the Commission.

G. DISPUTE RESOLUTION.

In the event of disagreement among the Parties to this Agreement regarding a Party's compliance with the provisions of this Agreement, the Parties will seek to resolve any dispute by

means of discussion. Should agreement not be reached after such discussion, the complaining Party may petition the Commission for enforcement of the provisions of this Agreement, in accordance with the Commission's rules of practice and procedure. In addition, should the Parties fail to mutually agree under any provision of this Agreement requiring such concurrence, the Parties shall submit the matter to the Commission for resolution so that a decision can be made.

H. AMENDMENTS.

In the event of significant, unforeseen effects of this Agreement, either on project operations or on the game fish or wildlife resource of the Cowlitz River, either party may request an amendment to this Agreement. This amendment provision will govern any decision to give a third party, other than WDG, control over hatchery management and operation. Amendments shall become effective only when set forth in writing and signed by both Parties. Should agreement on the requested change not be reached after discussion between the Parties, the complaining party may petition the Commission for resolution of the issue. However, the provisions of this Agreement will remain in effect pending final resolution by the Commission or agreement among the parties.

I. FILING.

The Parties shall jointly file this Agreement with the Commission.

J. SEVERABILITY.

If the Commission, in accordance with its authority, does not approve any category of this Agreement, the other two categories shall remain in effect, and this Agreement shall be construed in all respects as if such category were omitted.

K. ENTIRE AGREEMENT.

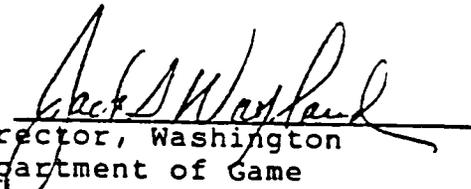
This Agreement sets forth the entire agreement and supersedes any and all prior agreements of the Parties with respect to the subject matter hereof.

The foregoing Agreement is signed, attested to, and executed by the signatures of the Parties' authorized representatives as of the date first above written.

CITY OF TACOMA

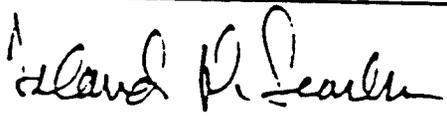
WASHINGTON STATE
DEPARTMENT OF GAME

by 
Director of Utilities

by 
Director, Washington
Department of Game

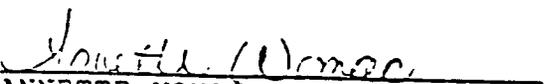
Date: 6-28-84

Date: 6-3-86


Superintendent, Light Division

Date: 6-16-86

APPROVED AS TO FORM
this 3 day of June, 1986


ANNETTE WOMAC
Asst. Attorney General

Approved as to form and legality:

Asst. City Attorney



RESOLUTION NO. U-7445

1
2 WHEREAS the Federal Energy Regulatory Commission
3 (FERC) License for the Cowlitz Hydroelectric Project, FERC No.
4 2016, obligates the City to provide certain mitigation for
5 fish and wildlife losses caused by the Project, and the
6 License implies that cooperative arrangements or agreements be
7 entered into with the State agency responsible for protecting
8 the respective fish and wildlife, therefore, a formal
9 agreement is appropriate with the Washington State Department
10 of Game, and

11 WHEREAS the State of Washington, acting through its
12 Department of Game, and the City of Tacoma desire to enter
13 into an "Agreement Regarding Game Fish and Wildlife Mitigation
14 Relative to the Cowlitz River Project" which agreement will
15 formalize the City of Tacoma's continuing mitigation
16 responsibilities, and it is in the best public interest that
17 such Agreement between the City of Tacoma and the Washington
18 State Department of Game be executed; Now, therefore,

19 BE IT RESOLVED BY THE PUBLIC UTILITY BOARD OF THE CITY OF TACOMA:

20 That the Director of Utilities of the City of Tacoma be
21 and he is hereby authorized to enter into the "Agreement
22 Regarding Game Fish and Wildlife Mitigation Relative to the
23 Cowlitz River Project" with the Washington State Department of
24 Game substantially in the same form as that on file with the
25
26
27
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29



1 Clerk of the Board and approved by the City Attorney.

2 Approved as to form & legality: John A. Willis
Chairman

3 William J. Barker
Chief Assistant City Attorney Pauline N. Yamashita

4 Lorraine Graeber
Secretary

5 Clerk Adopted June 25, 1986

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DIVISIONS
Light
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Line



City of Tacoma WASHINGTON

DEPARTMENT OF PUBLIC UTILITIES
Paul J. Nolan, Director

Please address reply to
City of Tacoma
Department of Public Utilities
P. O. Box 11007
Tacoma, Washington 98411
(206) 383-2471

Attention

September 14, 1981

Mr. James G. Fenton, Wildlife Biologist
Washington Department of Game
600 North Capitol Way
Olympia, Washington 98504

Dear Gary:

Enclosed is a signed copy of the Wildlife Agreement for the Cowlitz hydro project. The Utility Board approved the Agreement document by Resolution at their September 9, 1981 meeting. Thus the mitigation program of development of certain designated Cowlitz project lands for wildlife is funded for 1981 through 1984 as agreed.

Yours very truly,

K. B. Kral,
Supervisor, Fisheries/Recreation
Light Division

KBK:js
Enc.

AGREEMENT

Superseded by
1/5/93 w/ agreement
PM

WHEREAS the City of Tacoma, Department of Public Utilities, Light Division (hereinafter referred to as the "City") and the State of Washington Department of Game, (hereinafter referred to as the "State") do on this 11th day of September 1981, enter into this agreement as set forth hereinafter, and

WHEREAS the City constructed a federally licensed hydroelectric project in Lewis County, known as the Cowlitz Project, and

WHEREAS the dam and reservoirs created by said Cowlitz Project have inundated and made unavailable certain lands which formerly provided habitat for wildlife, and

WHEREAS the City has conducted negotiations with the State to provide measures to mitigate the effect of the Cowlitz Project on wildlife and game habitat, and said entities have reached an agreement for payment of monies and/or certain other steps to reduce City's obligations under its federal hydroelectric licenses; now, therefore,

The City and State mutually agree as follows:

- 1) City will provide funds from February 1981 through December 1984 to initiate wildlife habitat improvements on City owned lands located near and within Cowlitz project boundaries. This wildlife habitat improvement program will be for native species

of deer, elk, grouse, and other species, such as ducks, rabbits, pheasants, and others. The basic development plan is included in the management plan provided to the City developed by Game with funds from the City.

2) City will provide funds for the City or State to develop, monitor, and evaluate wildlife habitat improvement programs on City owned lands.

3) At the end of the four-year period a habitat management plan will be provided by the State to operate and maintain habitat developed on City land for the remaining years of the existing license. This plan in writing will describe by year various activities needed to continue managing land for wildlife. The City and Game will decide who will assume long range wildlife habitat management responsibilities at the end of this contract. The City also agrees to provide annual reports to the State concerning the implementation of the maintenance and operation functions of the wildlife habitat program. Reports will continue until agreed unnecessary by both parties.

4) The services above will require two man-years for 1981 and 1982 (24 months) and one man-year in 1983 and 1984. It is mutually anticipated by the parties that such services will be required through 1984. The following cost figures are exact for 1981 and 1982 and estimated for 1983 and 1984. Monies not spent in one year may be added to the budget of the following year.

The following budget shows anticipated costs. Some funds (\$21,000) have already been spent during late 1980 and early 1981.

<u>Year</u>	<u>Development Cost¹</u>	<u>Biological Services</u>	<u>Total</u>
1981	134,500	34,500	169,000
1982 ¹	150,975	37,250	188,225
1983 ²	75,000	30,000	<u>105,000</u>
1984 ²	50,000	30,000	80,000
	\$410,475	\$131,750	\$542,225

¹Contracts for surveyors, loggers, farmers, and other workers to develop the lands will be administered by the City, and subject to the approval of the State. The State and City must both give approval before the contractors are completely paid.

²Cost estimates only.

b) The State will furnish annual progress reports and management plans to the City on a continuing basis as required. Budgets and programs for each year's work shall be forwarded to the City by June 30 by the State for approval in advance to budget for said tasks for the following year. All data, studies, field notes, writings, and works of any description funded and paid for by the City wholly or partially would be retained by the State and made available to the City upon request. All data developed as the result of City payments and programs undertaken pursuant to this agreement shall be jointly owned by the City and the State. Publications resulting from studies conducted hereunder shall be jointly authored by the City and the State.

6) That any and all monies spent by the City in conjunction with the State for Cowlitz project wildlife enhancement purposes shall be credited to the City as part of their project mitigation obligation. Also, in view of the benefits to the State and others resulting from the wildlife enhancement research and studies which have and will be financed by the City as set forth herein, the total amount to be expended by the City shall be credited to the City as offsetting their mitigation obligation.

7) Other items included as part of this agreement follow:

a) During the existence of this agreement and the faithful performance thereof by the State, the City agrees not to lease any project lands for cattle grazing purposes and existing leases and permits for such purposes shall not be renewed. City agrees to use its best efforts to use City owned lands in Lewis County that have the potential for providing wildlife habitat.

b) City and State will examine City lands now set aside for park development and decide which of those lands can be developed for wildlife. Some of these lands may be developed during 1983 & 1984, but development costs are not included in the 1983-1984 budget. If these lands are developed, additional funds will be needed.

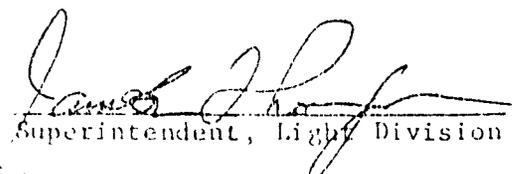
c) City agrees to examine its boat dock policy in the light of reducing the impact on wildlife.

STATE OF WASHINGTON
Department of Game

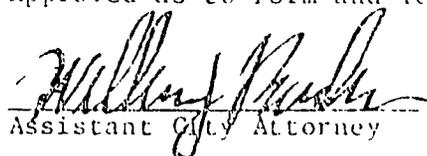
CITY OF TACOMA
Department of Public Utilities.

By 
Director of Game

By _____
Director of Utilities

By 
Superintendent, Light Division

Approved as to form and legality:


Assistant City Attorney