

**Review of Application  
For  
LIHI Certification of the  
Lake Chelan Hydroelectric Project  
Chelan County, Washington**

**Prepared by  
Fred Ayer, Executive Director**

**Introduction and Overview**

This report reviews the application submitted by Public Utility District No. 1 of Chelan County, Washington to the Low Impact Hydropower Institute (LIHI) for Certification of the Lake Chelan Hydroelectric Project (project or facility) in Chelan County, Washington.

The Federal Power Commission (FPC) issued the original license for the Lake Chelan Project on May 8, 1926.

On May 21, 1981, the Federal Energy Regulatory Commission (the successor to FPC) issued Chelan PUD a new license that was made retroactive to 1974; the license expired on March 31, 2004. Since that time, project operations have continued pursuant to an annual license.

On March 28, 2002, Chelan PUD filed an application for a new license for the project using the Commission's alternative licensing procedures. On April 29, 2002, a public notice accepting the license application was issued, setting June 28, 2002, as the deadline to file comments, protests, and motions to intervene, as well as terms, conditions, prescriptions, and recommendations. Interventions were timely filed by the U.S. Department of Agriculture; U.S. Department of the Interior (Interior); NMFS; jointly by the City of Chelan and Lake Chelan Valley Collaborative Stakeholders; Ecology, Washington Fish and Wildlife; American Whitewater; jointly by the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation (Umatilla Tribes), and the Columbia River Inter-Tribal Fish Commission (CRITFC); and American Rivers. None of the intervenors oppose the project.

On November 25, 2002, the Commission staff issued for comment a draft Environmental Assessment (EA) that evaluated the potential environmental impacts of continued operation of the project. Comments on the draft EA were filed by Manson Park and Recreation District, American Rivers, Ecology, American Whitewater, Washington Fish and Wildlife, Chelan PUD, NMFS, Interior, CRITFC, and the Forest Service.

On October 8, 2003, a settlement agreement (Agreement) was reached between Chelan PUD, Forest Service, Park Service, NOAA National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (FWS), Washington Department of Fish and Wildlife (Washington Fish and Wildlife), Washington Department of Ecology (Ecology), the Confederated Tribes of the Colville Reservation (Colville Tribes), American Whitewater, and the City of Chelan. On

October 17, 2003, Chelan PUD, on behalf of the signatories, filed the comprehensive settlement agreement with the Commission requesting that the measures set forth in the proposed license articles in National Recreation Area, and the Ross Lake National Recreation Area as components thereof. Attachment A to the Agreement be incorporated, without material modification, as articles in the new license.

On October 10, 2003, Commission staff issued a final EA for the project.

On October 24, 2003, the Commission issued public notice of the Agreement filed October 17, 2003. The Forest Service, NMFS, Interior, American Whitewater, Washington Fish and Wildlife, North Cascades Conservation Council, City of Chelan, and Park Service filed comments in support of the Agreement. The Umatilla Tribes and CRITFC jointly filed comments opposing the Agreement.

The motions to intervene, comments, and recommendations were considered by FERC in determining whether, and under what conditions, to issue this license.

Project and site characteristics. The Lake Chelan Hydroelectric Project is located on the Chelan River, near the City of Chelan, in Chelan County, Washington. The project occupies 465.5 acres of federal lands administered by the U.S. Forest Service (Forest Service) and U.S. Department of the Interior, National Park Service (Park Service).

The Lake Chelan Project consists of (a) Lake Chelan, a 1,486-foot deep, 55-milelong natural glacial lake that was raised 21 feet by the construction of the dam to a normal maximum water surface elevation of 1,100 feet mean sea level (msl); (b) a 40-foot-high, 490-foot-long concrete gravity dam; (c) a reinforced-concrete side discharge intake structure that is integral with the dam; (d) a 14-foot-diameter, 2.2-mile-long power tunnel; (e) a 45-foot-diameter by 125-foot-high steel surge tank; (f) a 90-foot-long penstock that transitions from 14 feet in diameter to 12 feet in diameter before bifurcating to two 90-foot-long, 9-foot-diameter steel penstocks; (g) a powerhouse containing two vertical-shaft, Francis-type turbine generators with a rated capacity of 24,000 kilowatts (kW) each for a total rated capacity of 48,000 kW; and (h) a 1,700-foot-long excavated tailrace adjacent to the confluence of the Chelan River and the Columbia River that returns the project flows to the Columbia River. The average annual electric generation by the project was 380,871 megawatt-hours (MWh) for the 20-year period, 1980-1999.

The Lake Chelan Project, which can be operated locally or remotely from Chelan PUD's Wenatchee Dispatch Center, operates at full or near full capacity almost year round. Chelan PUD operates the project to maintain reservoir elevations between 1,100 and 1,079 feet msl, with the reservoir maintained above 1,098 feet for most of the summer recreation period. The reservoir is drawn down annually for power generation and storage of spring snowmelt beginning in early October, with the lowest lake levels being reached in April. The lake is refilled through May and June, to attain an elevation of 1,098 feet on or before June 30, where it is maintained above 1,098 feet through September 30. Spills typically occur during May, June, and July, when inflows exceed the hydraulic capacity of the powerhouse units (2,300 cubic feet per second (cfs)) or when generation is curtailed. Water is spilled over the spillway into the 4.5-mile-long reach of the Chelan River that is bypassed by the project.

Under the new license, Chelan PUD would have slightly greater flexibility in managing lake levels by establishing target elevations to be achieved between May 1 and October 1, rather than a fixed elevation by a date certain. Chelan PUD proposes to manage minimum lake elevations based on snow pack conditions, lake levels, predicted precipitation and runoff conditions, and operational objectives of maintaining minimum instream flows in the Chelan River, reducing high flows (greater than 6,000 cfs) in the Chelan River, providing usable lake levels for recreation (between 1,090 and 1,098), and ensuring the project can pass the probable maximum flood without dam failure, among other objectives. The previous license did not require a minimum flow release to the bypassed reach of the Chelan River. Chelan PUD proposes a minimum flow for the entire bypassed reach, supplemented with pumping of additional water from the tailrace into the lower portion of the Chelan River (Reach 4) to improve spawning habitat for listed salmon and steelhead. The proposed minimum flow varies depending on the time of year and whether it is a dry, normal, or wet water year.

Lake Chelan is a 32,560-acre reservoir at normal maximum water surface elevation of 1,100 feet msl, with a gross storage capacity of 15.8 million acre-feet and a useable storage of 677,400 acre-feet between elevations 1,079 and 1,100. Approximately 2,000 acres of land lie within the Lake Chelan Project boundary which follows the 1,100-foot contour line from the upper end of Lake Chelan near Stehekin, Washington, to the City of Chelan then continues down both sides of the 4.5-mile-long bypassed reach of the Chelan River to the confluence of the Chelan and Columbia rivers. About 1,300 acres of the project lands are inundated and project facilities occupy the other 700 acres. The project lands are owned by the Forest Service, Park Service, several state agencies, Chelan PUD, and private property owners. Approximately 465.5 acres are inundated federal lands.

There are no primary transmission lines included in the Lake Chelan Project. A project switchyard located 70 feet from the powerhouse connects the project power to Chelan PUD's interconnected transmission system.

**Reviewer's Note:** As a result of the comprehensive nature of the various agreements and authorities<sup>1</sup> that the Applicant has entered into with the stakeholders, there is a tremendous amount of information, detailed requirements and procedures described in the project documents. I have attempted where possible to summarize this information to answer the LIHI's criteria's requirements. In summarizing, it is possible that I have not included some detailed information that you might like to see as part of your analysis, so I have provided a link to the Applicant's FTP site. Which should give you access to an incredible amount of information:

<ftp://lihiftp:lihiftp387!@ftp.chelanpud.org/extaffairs/LIHI/>

Please note that some attachments are in PDF and therefore are separate files; other attachments are in the application document itself (which is in Word).

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<sup>1</sup> Settlement Agreement, Water Quality Certification conditions, Chelan River Biological Evaluation and Implementation Plan, New FERC license conditions, etc.

# LIHI HYDROPOWER CERTIFICATION CRITERIA

## Goals, Standards and Applicant's Responses

*The Low Impact Hydropower Institute certifies those hydropower facilities that meet its eight criteria:*

### **A. River Flows:**

**Goal:** *The facility (dam and powerhouse) should provide river flows that are healthy for fish, wildlife, and water quality, including seasonal flow fluctuations where appropriate.*

**Standard:** *For instream flows, a certified facility must comply with recent resource agency recommendations<sup>2</sup> for flows. If there were no qualifying resource agency recommendations, the applicant can meet one of two alternative standards: (1) meet the flow levels required using the Aquatic Base Flow methodology or the “good” habitat flow level under the Montana-Tennant methodology; or (2) present a letter from a resource agency prepared for the application confirming the flows at the facility are adequately protective of fish, wildlife, and water quality.*

The Applicant is in compliance with the terms of the FERC license and is adhering to the settlement agreements' Chelan River Biological Evaluation and Implementation Plan.

Chelan PUD, federal and state agencies worked together to develop the Chelan River Biological Evaluation and Implementation Plan. This plan describes Chelan PUD's commitments for reestablishment of the Chelan River. The plan was incorporated into a Comprehensive Plan for the Project and into the new license.

Under the new license, Chelan PUD has three years to complete three engineering projects associated with the new year-round minimum flow. Chelan PUD will construct a low-level outlet structure at the dam that can release the 80 cfs minimum flows into a restored Chelan River at all lake elevations. The structure will be capable of releasing up to 500 cfs to ensure fish habitat in the Chelan River is protected.

The new license incorporates the Washington State Department of Ecology's water quality certification that requires the District to provide 320 cfs flow in Reach 4 of the Chelan River during the steelhead and late-run Chinook spawning period. The flow will be provided by

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<sup>2</sup> “recent resource agency recommendations” are defined as final recommendations made by state, federal, or tribal resource agencies in a proceeding, such as a Federal Energy Regulatory Commission (FERC) licensing proceeding. Qualifying agencies are those whose mission includes protecting fish and wildlife, water quality and/or administering reservations held in the public trust. Agencies such as a state or tribal department of fish and game, or the U.S. Fish and Wildlife Service are considered a “resource agency” but the FERC, with its balancing responsibilities, is not. The agency recommendations must be recent, which means they were issued after 1986 (after enactment of the Electric Consumers Protection Act, which amended the Federal Power Act to increase the profile of recommendations from fish and wildlife agencies in the FERC licensing process). If there are a number of resource agency recommendations, then the most stringent (most environmentally protective) is used. In the case of settlement agreements, the final settlement terms will be considered the agency's “recommendation.”

combining the 80 cfs year-round flow of the Chelan River with 240 cfs supplemented by a pumping station that will be constructed by Chelan PUD.

The new license also requires Chelan PUD to design and construct additional fish habitat suitable for successful spawning and rearing of Chinook salmon and steelhead in Reach 4 of the Chelan River and the Project tailrace. Fish already take advantage of the available spawning opportunities, but the license requires that a minimum of two acres of spawning and rearing habitat in Reach 4 and 1 acre of new spawning and rearing habitat in the Project tailrace be developed. These enhancements are expected to provide more and better habitat than what would be available otherwise.

The Chelan River restoration plan is designed to achieve certain biological objectives concerning restoration and/or enhancement of biological resources in four separate reaches of the river and to support, maintain, and protect the designated and existing beneficial uses of the Chelan River basin. Chelan PUD shall implement the following habitat protection and restoration measures:

(1) Minimum flows and ramping rates. Chelan PUD shall comply with the minimum flows and ramping rates provisions set forth in the Comprehensive Plan as soon as the structures needed to provide such flows are constructed, which shall occur no later than two years after the effective date of the New License. The structures for which construction is needed are a new flow release structure at the dam, and modifications to the channel in Reach 4. Prior to the date such structures are completed, Chelan PUD shall provide flows consistent with the Comprehensive Plan for the purposes of testing designs or structures or gathering other data, including water quality data.

(2) Habitat modification in Reach 4 and the tailrace. Not later than two years after the effective date of the New License, Chelan PUD shall complete modifications to improve habitat in Reach 4 and the tailrace. Chelan PUD shall use standard river habitat restoration techniques to provide and maintain gravel areas for spawning, create pools, increase channel sinuosity, and moderate velocities, as described in the Comprehensive Plan, or as agreed to by the Chelan River Fishery Forum (CRFF).

(3) Anadromous Fish Spawning Flows in Reach 4. 90 days after the habitat modification in (2) Chelan PUD shall comply with the provisions for the pumping of tailrace water into Reach 4 of the Comprehensive Plan. These additional flows into Reach 4 during the steelhead and late-run chinook spawning periods are to provide greater depths and velocities, which will improve spawning habitat conditions for these species.

(4) Redd Protection. Upon the effective date of the New License, Chelan PUD shall comply with the redd protection provisions set forth in the Comprehensive Plan. This measure is for the purpose of preventing damage to salmon redds that might occur as a result of powerhouse shutdown. Detection of low dissolved oxygen (DO) levels in redds in the tailrace could trigger implementation of several alternatives, including intermittent powerhouse operation or installation and use of flow release pipes buried in the gravel.

(c) Implementation Program. Chelan PUD shall undertake the following program to monitor, evaluate, and adaptively manage the protection and restoration measures:

(1) Monitoring and evaluation. Chelan PUD shall begin implementation of all monitoring, evaluation, and reporting requirements of the Comprehensive Plan as soon after the effective date of the New License as practically feasible, but no later than two and one-half years after the effective date of the New License. The monitoring and evaluation program shall provide the basis for determining whether the biological objectives have been met. The monitoring and evaluation program shall also provide information needed to make changes to the habitat protection and restoration or monitoring and evaluation measures as may be appropriate to facilitate achievement of the biological objectives and of effective monitoring and evaluation. The monitoring and evaluation program will be used to determine if measures beyond those defined in subsection (b) should be implemented.

(2) Reporting and evaluation of success and recommendation of new or modified measures. By no later than April 30, in each of years 4, 6, 8, and 10 following the effective date of the New License, Chelan PUD shall provide to the CRFF a final Biological Objectives Status Report that (1) summarizes the results of the monitoring and evaluation program, and evaluates the need for modification of the program, (2) describes the degree to which the biological objectives have been achieved, and the prospects for achieving those objectives in the next reporting period, (3) reviews measures implemented to meet those biological objectives, and (4) recommends any new or modified measures, including monitoring and evaluation, needed to achieve the biological objectives, to the extent practicable. Such recommendations shall contain a schedule for implementation. No later than February 28 of each such year, Chelan PUD shall provide a draft of such final report to the CRFF and consult with its members prior to issuing the final report.

(3) Management options to achieve compliance with biological objectives. The Comprehensive Plan sets forth a number of additional management options that Chelan PUD may implement to address specific problems that may arise in achieving biological objectives.

(4) Implementation if agreement reached on new or modified measures. If Consensus is achieved by the CRFF and Chelan PUD as to new or modified measures needed to achieve the biological objectives or to carry out monitoring and evaluation, the recommended measures shall become part of the plan and implemented in accordance with an agreed schedule or, absent an agreed schedule, by August 1 of the reporting year. These new and modified measures are deemed to be part of the New License if Consensus is achieved by the parties. If, however, such measures require an amendment to the New License or FERC approval, Chelan PUD shall petition FERC to so amend the New License.

**A. Flows -The Facility is in Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches. FACILITY PASSES.**

**B. Water Quality:**

*Goal: Water quality in the river is protected.*

*Standard: The water quality criterion has two parts. First, a facility must demonstrate that it is in compliance with state water quality standards, either through producing a recent (after 1986) Clean Water Act Section 401 certification, or demonstrating compliance with state water quality standards (typically by presenting a letter prepared for the application from the state confirming the facility is meeting water quality standards). Second, a facility must demonstrate that it has not contributed to a state finding that the river has impaired water quality under Clean Water Act Section 303(d) (relating to water quality limited streams).*

A new water quality certification for the project was issued on June 1, 2004 and incorporated into the new license in 2006. In addition, the Washington State Department of Ecology was an active member of the settlement group that developed the Chelan River Biological Evaluation and Implementation Plan, which sets forth a 10-year water plan for meeting biological objectives.

The project created a bypassed reach which has not seen year-round flow since 1927. Under the water quality certification issued in 2004, which was incorporated into the new license, the Chelan River will be reestablished with 80cfs year-round flow. Chelan PUD has initiated a 10 year compliance program to meet water quality standards in the newly reestablished Chelan River.

On March 27, 2002, Chelan PUD applied to Ecology for water quality certification. On March 24, 2003, Ecology issued water quality certification for the Lake Chelan Project. The water quality certification was appealed by the Confederated Tribes of the Umatilla Reservation. The State Pollution Control Hearings Board upheld the water quality certification with nine specific clarifications, which are included in an amended and re-issued certification dated April 21, 2004. 33. The conditions of the certification consist of seven general requirements that require Chelan PUD: to comply with state water quality criteria and any future changes to those requirements; to implement the measures identified in the certification and the Chelan River Biological Evaluation and Implementation Plan; to prevent the discharge of any solid or liquid waste to water of the state without approval; to allow Ecology access as necessary to inspect the project operations and records required by the certification; to conduct additional monitoring or studies if necessary and required by Ecology to provide reasonable assurance of compliance with the

water quality standards; and to keep copies of certification and other permits, licenses, and approvals on site and readily available to Chelan PUD staff, contractors, and Ecology.

The certification also includes specific conditions (see **A. Flows**) requiring instream flows and ramping rates in the Chelan River; habitat modifications in the river and project tailrace; adaptive management options to meet biological objectives; status reporting, consultation, and resolution of disagreement over new or modified measures to achieve biological objectives for the Chelan River; an implementation schedule; water quality monitoring, modeling and reporting requirements; requirements for conducting instream work to protect water quality; oil spill prevention measures; and a reservation of authority for Ecology to review any project changes that could affect water quality. These conditions restate and, in certain instances, clarify and elaborate on the requirements of Agreement Article 7 and section 5 of Chapter 7 of the Chelan River Biological Evaluation and Implementation Plan.

**B. Water Quality – The Facility is in Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986. The Facility area or the downstream reach is not currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act - FACILITY PASSES.**

**C. Fish Passage and Protection:**

*Goal: The facility provides effective fish passage for riverine, anadromous and catadromous fish, and also protects fish from entrainment.*

*Standard: For riverine, anadromous, and catadromous fish, a facility must be in compliance with recent (after 1986) mandatory prescriptions regarding fish passage (such as a Fish and Wildlife Service prescription for a fish ladder) as well as any recent resource agency recommendations regarding fish protection (e.g., a tailrace barrier). If anadromous or catadromous fish historically passed through the facility area but are no longer present, the applicant must show that the fish are not extirpated or extinct in the area because of the facility and that the facility has made a legally binding commitment to provide any future fish passage recommended by a resource agency.*

*When no recent fish passage prescription exists for anadromous or catadromous fish, and the fish are still present in the area, the facility must demonstrate either that there was a recent decision that fish passage is not necessary for a valid environmental reason, that existing fish passage survival rates at the facility are greater than 95% over 80% of the run, or provide a letter prepared for the application from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service confirming the existing passage is appropriately protective.*

Fish do not migrate from the Columbia River to Lake Chelan, due to natural barriers in the Chelan River Gorge. In a 2000 barrier analysis performed by R2 Resources Consultants and Ichthyological Associates, they said the Chelan River gorge should be “regarded to be totally impassable to the upstream migration of steelhead trout, and thus to all anadromous fish.”

The U.S. Fish and Wildlife Service reserved its authority to prescribe fishway prescriptions for anadromous fish. Article 409 of the Lake Chelan FERC License Order is a Reservation of Authority for Fishways and reads as follows:

“Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce pursuant to section 18 of the Federal Power Act.”

With regard to resident fish, such species can move from Lake Chelan through the facility into the Chelan River. As the year-round flow is established, Chelan PUD will conduct entrainment studies for westslope cutthroat trout to ensure that downstream passage is safe. If more than 500 westslope cutthroat trout are physically captured within a year in the immediate vicinity of the power tunnel entrance, agencies may recommend fish protection devices.

**C. Fish Passage and Protection –The Facility is in Compliance with *Mandatory Fish Passage Prescriptions* for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986 - FACILITY PASSES.**

**D. Watershed Protection:**

**Goal:** *Sufficient action has been taken to protect, mitigate and enhance environmental conditions in the watershed.*

**Standard:** *A certified facility must be in compliance with resource agency recommendations and FERC license terms regarding watershed protection, mitigation or enhancement. These may cover issues such as shoreline buffer zones, wildlife habitat protection, wetlands protection, erosion control, etc. The Watershed Protection Criterion was substantially revised in 2004. The revised criterion is designed to reward projects with an extra three years of certification that have: a buffer zone extending 200 feet from the high water mark; or, an approved watershed enhancement fund that could achieve within the project’s watershed the ecological and recreational equivalent of land protection in D.1. and has the agreement of appropriate stakeholders and state and federal resource agencies. A Facility can pass this criterion, but not receive extra years of certification, if it is in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.*

The lands around the upper lake are National Forest and Park Service lands. These federal agencies manage the lands for conservation and recreational purposes. Buffer zones are not needed due to federal ownership.

One-third of the water-front property is privately-owned. Chelan PUD has easements where needed, and works with relevant permitting agencies to address land use activities. Many new license measures address fish and wildlife habitat enhancement (particularly in the newly-established Chelan River) and erosion control.

The Applicant has developed an administrative process to review and track uses on project lands. Chelan PUD worked closely with the primary permitting authorities in the Lake Chelan Project vicinity responsible for managing development activities along the project shoreline. Notification of Chelan PUD's project boundary management responsibilities and how to contact Chelan PUD is provided when contacting any permitting agency. These permitting authorities include the US Army Corps of Engineers, the Washington State Department of Ecology, the Washington State Department of Fish and Wildlife, and either Chelan County or the City of Chelan, as appropriate. Further, Chelan PUD is an active member of the Lake Chelan Water Quality Committee consisting of governmental and private interests working cooperatively on baseline water quality information, regular lake monitoring, education programs, and implementation of specific enhancement measures.

**D. Watershed Protection – the facility owner/operator established through a settlement agreement with appropriate stakeholders and that has state and federal resource agencies agreement an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation) - FACILITY PASSES.**

**E. Threatened and Endangered Species Protection:**

**Goal:** *The facility does not negatively impact state or federal threatened or endangered species.*

**Standard:** *For threatened and endangered species present in the facility area, the facility owner/operator must either demonstrate that the facility does not negatively affect the species, or demonstrate compliance with the species recovery plan and any requirements for authority to “take” (damage) the species under federal or state laws.*

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) 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. When a federal agency determines that a proposed action may affect a threatened or endangered species, it must consult with FWS or NMFS and obtain a biological opinion on whether the action is likely to result in a violation of the ESA. After the initiation of formal consultation, section 7(d) of the ESA prohibits an agency from making any irreversible or

irretrievable commitment of resources that would foreclose the formulation or implementation of any reasonable and prudent alternative measures that would not violate section 7(a)(2).

Federally listed species that occur in the area of the Lake Chelan Hydroelectric Project are bull trout, Upper Columbia River (UCR) steelhead, UCR spring-run Chinook salmon, bald eagle, Canada lynx, northern spotted owl, gray wolf, grizzly bear, and Ute ladies-tresses. The final EA issued for the Lake Chelan Hydroelectric Project found that relicensing the project would not affect the Canada lynx, northern spotted owl (or its critical habitat), gray wolf, and grizzly bear; would not be likely to adversely affect the bald eagle, Ute ladies-tresses, bull trout, and UCR spring-run spring Chinook salmon; but would be likely to adversely affect UCR steelhead due to displacement and disturbance of juvenile, and perhaps adult steelhead, during construction of habitat improvements in the bypassed reach and tailrace.

On November 29, 2002, Commission staff requested FWS's concurrence on its effect determinations for the bald eagle, Ute ladies-tresses, and bull trout. Commission staff notified FWS on December 2, 2003, that the terms of the Agreement did not alter its effects determination on the bald eagle, Ute ladies-tresses, and bull trout and again requested its concurrence based on the terms of the Agreement. On December 30, 2003, FWS filed its concurrence with Commission staff's determination.

On November 29, 2002, the Commission staff requested formal consultation with NMFS under section 7(a)(2) of the ESA on UCR steelhead. NMFS requested additional information on other salmon and steelhead evolutionary significant units (ESU), which was provided on March 7, 2003. On December 14, 2004, NMFS noticed a proposed rule to designate critical habitat for 13 ESU's of Pacific Salmon, including UCR steelhead, UCR spring Chinook salmon, Columbia River chum salmon, Snake River (SR) steelhead, Middle Columbia River (MCR) steelhead, Lower Columbia River (LCR) Chinook salmon and LCR steelhead. On August 12, 2005, NMFS produced a final critical habitat rule. On August 24, 2005, the Commission requested that NMFS consider the proposed action on all designated critical habitat.

On October 20, 2005, NMFS filed its biological opinion on relicensing the Lake Chelan Project in accordance with the terms of the Agreement. NMFS determined that relicensing the Lake Chelan Project would not jeopardize the continued existence of the UCR spring-run Chinook salmon, UCR steelhead, Snake River (SR) spring/summer Chinook salmon, SR fall Chinook salmon, SR steelhead, SR sockeye salmon, MCR steelhead, LCR Chinook salmon, LCR steelhead, LCR coho salmon, Columbia River chum salmon, Upper Willamette River (UWR) Chinook salmon, and UWR steelhead; or result in the adverse modification or destruction of any designated critical habitat for the above species. NMFS' biological opinion includes an incidental take statement with reasonable and prudent measures to minimize take of listed salmon and steelhead along with terms and conditions to implement the measures.

The conditions of the license address these measures and terms and conditions by requiring the licensee to implement the following provisions of the Agreement relating to the protection of anadromous salmonids: Agreement Article 7, Chelan River Fishery Plan; Agreement Article 8, Lake Level Plan; and Agreement Article 14, Upper Columbia Spring-run Chinook and steelhead Conservation Measures (also known as tributary streamflow enhancement fund). In addition,

license Article 408 requires the licensee to develop, for Commission approval, a plan for complying with these provisions of the license, including measures to protect salmonids during construction activities on or near project waterways.

FERC included as conditions of this license those terms and conditions that place requirements on the licensee. I note that the reasonable and prudent measures and two of the incidental take terms and conditions in NMFS' Biological Opinion attempt to require actions by the Commission, not the licensee, and thus are not appropriate for inclusion in the license

**E. Threatened and Endangered Species Protection – There are threatened or endangered species in the Facility area. A recovery plan has been adopted pursuant to Section 4(f) of the Endangered Species Act or similar state provision, and the Facility is in Compliance with all recommendations in the plan relevant to the Facility. The Facility has received authority to incidentally *Take* a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authority. biological opinion applicable to the Facility for the threatened or endangered species has been issued, and the Applicant can demonstrate that: The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan and was issued pursuant to or consistent with a recovery plan for the endangered or threatened species. - FACILITY PASSES.**

**F. Cultural Resource Protection:**

***Goal:*** *The facility does not inappropriately impact cultural resources.*

***Standard:*** *Cultural resources must be protected either through compliance with FERC license provisions, or, if the project is not FERC regulated, through development of a plan approved by the relevant state, federal, or tribal agency.*

Chelan PUD collaborated with affected Tribes and the Washington State Office of Historic Preservation when developing its cultural resources management plan for the new license. Under the new license, Chelan PUD will implement a Programmatic Agreement (among the Federal Energy Regulatory Commission, the Washington State Historic Preservation Officer, and the Confederated Tribes of the Colville Reservation Tribal Historic Preservation Officer) for managing historic properties that may be affected by license issuance. The Comprehensive Settlement Agreement also included a Historic Properties and Cultural Resources Management Plan.

Article 410 of the FERC license describes in more detail, the Programmatic Agreement and Historic Properties Management Plan. The licensee shall implement the “Programmatic Agreement Among the Federal Energy Regulatory Commission, the Washington State Historic Preservation Officer, and the Confederated Tribes of the Colville Reservation Tribal Historic Preservation Officer for Managing Historic Properties that May be Affected by a License Issuing to Public Utility District No. 1 of Chelan County for the Continued Operation of the Lake Chelan Hydroelectric Project in Chelan County, Washington was executed on September 28, 2005, and including but not limited to the Lake Chelan Historic Properties and Cultural Management Plan (HPCMP) for the project filed on October 8, 2003. The HPCMP was approved and FERC reserved the authority to require changes to the HPCMP at any time during the term of the license.

***Article 10. Historic Properties and Cultural Resources Management Plan***

During the term of the New License, and during any subsequent annual licenses, Chelan PUD shall implement a Historic Properties and Cultural Resources Management Plan, in accordance with Chapter 10 of the Comprehensive Plan, which is incorporated herein by reference, and the Programmatic Agreement (PA) among FERC, the SHPO, and the Advisory Council on Historic Preservation. Specifically:

(a) **Lake Chelan Cultural Forum.** Within 180 days of the effective date of the Agreement, Chelan PUD shall form a Lake Chelan Cultural Forum (LCCF). The membership and procedures of the LCCF are governed by section 18 of the Agreement.

(b) **Permitting and Consultation.** Chelan PUD shall adhere to the permitting and consultation guidelines provided in the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), 36 CFR Part 800, and other applicable cultural resources laws and regulations. As described in section 5.7 of Chapter 10, Chelan PUD shall consult with appropriate federal and/or state agencies regarding its undertakings that affect cultural resources on Agency lands, and shall consult with the Confederated Tribes of the Colville Reservation (CCT) and Yakama Nation (YN) regarding actions affecting cultural resources of interest to those respective tribes. Chelan PUD shall acquire landowner permission prior to any activities on private lands.

(c) **Area of Potential Effect (APE).** The Historic Properties and Cultural Resources Management Plan contained in Chapter 10 is intended to ensure that continued Project operation will not adversely affect cultural resources identified within the Area of Potential Effect (APE). The APE for the Project includes lands within the Project boundary, as delineated in the expiring FERC license. This includes the operational limits of the reservoir drawdown zone, between 1,079 feet and 1,100 feet above mean sea level elevation. The APE also includes lands outside the Project boundary where Project operations directly affect the character or use of historic properties and/or traditional cultural properties. For example, the APE includes areas of Project-induced erosion that extend outside the Project boundary.

(d) **Surveys.** Chelan PUD shall survey the APE for cultural resources every 15 years, or when the CRF determines that surveys and monitoring are needed after high flow events or unusually low water, in accordance with section 5.1 of Chapter 10.

(e) **Inadvertent Discovery.** In the event that archaeological deposits are inadvertently encountered during any Project-related activity, such activity shall cease, and Chelan PUD shall follow the protocol described in section 5.4 of Chapter 10.

(f) **Traditional Cultural Properties Management Plan.** Within one year of the effective date of the New License, Chelan PUD shall initiate development and implementation of a Traditional Cultural Property (TCP) management plan, as described in section 4.2 of Chapter 10. Chelan PUD's treatment plans for identified TCPs within the APE that are affected by Project operations are subject to the approval of the landmanagement agency responsible for the property on which the TCPs are located. Chelan PUD shall consider any recommendations from the tribes regarding treatment plans.

(g) **Information Management and Curation.** Storage of all artifacts and archival collections shall adhere to applicable federal curation standards and sections 5.8 and 5.9 of Chapter 10 of the Comprehensive Plan. Chelan PUD shall prepare a draft curation plan within one year of the effective date of the New License, and complete a final curation plan within 3 years of the effective date of the New License.

(h) **Evaluation and Nomination of Potential Historic Properties.** Chelan PUD shall be responsible for the evaluation of sites within the APE that have been identified, but not evaluated, for possible inclusion in the National Register of Historic Places (NRHP), as provided in section 5.2 of Chapter 10. Chelan PUD shall be responsible for guiding nominations of potentially eligible sites through the NRHP nomination process. For publicly owned lands, the relevant land management agency is responsible for nominating any sites for listing on the NHRP. For tribal allotments, the Colville Confederated Tribes reserve the authority to approve the adequacy of the nominations.

(i) **Cultural Resources Coordinator.** Within 180 days of the effective date of the New License, Chelan PUD shall appoint a Cultural Resources Coordinator to implement Chapter 10 of the Comprehensive Plan. The Cultural Resources Coordinator shall be the primary point of contact for all cultural resource tasks undertaken by Chelan PUD as provided in section 3.8 of Chapter 10.

(j) **Public Education.** Within three years of the effective date of the New License, Chelan PUD shall develop and implement an interpretive plan and educational program, as described in section 3.4 of Chapter 10 of the Comprehensive Plan.

(k) **Site Protection.** Within 180 days of the effective date of the New License, Chelan PUD shall begin implementing site protection measures for historic properties within the APE, as described in section 3.2 of Chapter 10 of the Comprehensive Plan.

<p><b>F. Cultural Resources – The Facility is in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license - FACILITY PASSES.</b></p>
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## **Recreation:**

**Goal:** *The facility provides free access to the water and accommodates recreational activities on the public's river.*

**Standard:** *A certified facility must be in compliance with terms of its FERC license or exemption related to recreational access, accommodation and facilities. If not FERC-regulated, a facility must be in compliance with similar requirements as recommended by resource agencies. A certified facility must also provide the public access to water without fee or charge.*

There is public access to the lake and significant boating recreation occurs. In fact, during settlement negotiations Chelan PUD agreed to raise lake levels slightly earlier in the spring to enhance the recreation season.

Access to the Chelan River is limited, due to the Class 5 whitewater rapids present in Reach 3 of the River. A three-year white-water rafting study is required by the license, with access for kayakers for four weekends.

## ***Article 11. Recreation Plan***

Chelan PUD shall provide recreational resources in accordance with Chapter 11 of the Comprehensive Plan, which is incorporated herein by reference. Specifically:

(a) **Docks of the USDA Forest Service.** Within 180 days of the effective date of the New License, Chelan PUD shall make available to the USDA Forest Service \$700,000, for the purpose of repairing and replacing the USDA Forest Service docks listed in Table 11-13 of Chapter 11 of the Comprehensive Plan. Within 180 days of the effective date of the New License, and by January 31st of each subsequent year of the New License, including any subsequent annual licenses, Chelan PUD shall also make available to the USDA Forest Service an additional \$39,000 for operations and maintenance of such docks. The implementation of the repair and replacement of such docks, as well as the operation and maintenance of such docks, shall be the sole responsibility of the USDA Forest Service. At any time after the 30th anniversary of the New License, Chelan PUD shall consider any requests made by the USDA Forest Service for additional funds to repair and replace the docks listed in Table 11-13 of Chapter 11, but Chelan PUD shall be under no obligation to grant any such requests.

(b) **In-Kind Engineering Services for the USDA Forest Service.** Beginning not later than 180 days of the effective date of the New License, Chelan PUD shall make available to the USDA Forest Service \$100,000 to pay for consulting engineering services related to standardizing the design of USDA Forest Service docks on Lake Chelan, as described in section 4.2.1 of Chapter 11 of the Comprehensive Plan.

(c) **Recreational Enhancements of the USDA Forest Service (Years 1-30 of the License).** Within 180 days of the effective date of the New License, Chelan PUD shall make available to the USDA Forest Service \$980,000, for use by the USDA Forest Service during the first 30 years of the New License for recreational enhancements within or adjacent to the Lake Chelan basin for USDA Forest Service recreation sites, as generally described in section 4.2.1 of Chapter 11 of the Comprehensive Plan. Within 180 days of the effective date of the New License, and by January 31st of each subsequent year of the New License, Chelan PUD shall also make available to the USDA Forest Service an additional \$6,000 for the operation and maintenance of such recreational enhancements. Implementation of such recreational

enhancements, and their operation and maintenance, shall be the sole responsibility of the USDA Forest Service.

**(d) Recreational Enhancements of the USDA Forest Service (Years 30 to the end of the License).** Chelan PUD shall make available to the USDA Forest Service a maximum of \$340,000, beginning on the 30th anniversary of the New License and ending on the date the New License expires, for the purpose of implementing recreational enhancements within or adjacent to the Lake Chelan basin for USDA Forest Service recreation sites, consistent with the recommendations of the recreational use and needs assessment study funded by Chelan PUD pursuant to subsection (g), below. Implementation of such recreational enhancements shall be the sole responsibility of the USDA Forest Service.

**(e) NPS Docks and Recreation Facilities.** (1) Within 180 days of the effective date of the New License, Chelan PUD shall make available to the NPS \$149,000, for the purpose of repairing, replacing, and maintaining NPS docks at sites within the Project Area, in accordance with Table 11-15 of Chapter 11 of the Lake Chelan Comprehensive Plan. Chelan PUD shall also make available to the NPS a total amount of \$871,000 to enhance and stabilize NPS recreation sites within the Project Area, and for administrative costs associated with recreation projects, in accordance with section 4.2.2 of Chapter 11 of the Comprehensive Plan at locations identified in the table below.

**NPS Recreation Sites Identified For Stabilization Projects**

<b>Site Number</b>	<b>Location</b>
71	Weaver Point Dock
72	Stehekin Road
73	Stehekin Landing
75	Stehekin Access Road
76	Lakeshore Trail
82	Lakeshore Trail
83	Flick Creek Dock
113	Lakeshore Trail
210	Stehekin Landing

(2) Chelan PUD shall become responsible for implementation of the recreation enhancement work described in this article and Chapter 11 of the Comprehensive Plan, but only to the extent that unanticipated circumstances limit or preclude the ability of the NPS to do so. If such unanticipated circumstances arise Chelan PUD shall employ best efforts to implement such portion of the recreation enhancement work the NPS was unable to implement, but only until the remaining portion of the funding provided by Chelan PUD is expended by Chelan PUD. Such expenditures by Chelan PUD shall include both payments to outside contractors and the cost of all work performed by Chelan PUD employees, including a reasonable allocation of overhead. Chelan PUD shall have no obligation to perform such work unless the NPS has provided notice to Chelan PUD and FERC in writing that such unanticipated circumstances exist.

**(f) NPS Recreational Enhancements (Years 30 to the end of the License).** Chelan PUD shall make available to the NPS a maximum of \$130,000, beginning on the 30th anniversary of the New License and ending on the date the New License expires, for the purpose of implementing recreational enhancements within or adjacent to the Lake Chelan basin for National Park Service recreation sites, consistent with the recommendations of the recreational use and needs assessment study funded by Chelan PUD pursuant to subsection (g), below.

(g) **Recreation Use Study.** Beginning in the 20th year of the effective date of the New License, and finishing in the 23rd year, Chelan PUD shall conduct a study assessing recreational use and needs within the Lake Chelan basin, at a cost not to exceed \$100,000. The scope and purpose of such study is described in section 4.3 of Chapter 11.

(h) **Whitewater Boating.** Within one year of the effective date of the New License, Chelan PUD shall file with FERC for approval, plans for a three-year whitewater boating monitoring study in the Chelan River in accordance with section 4.2.3 of Chapter 11 of the Comprehensive Plan. The whitewater boating monitoring plan shall be developed by Chelan PUD, in consultation with the American Whitewater Affiliation. Specifically:

(1) Upon FERC approval of such three-year study, Chelan PUD shall provide an annual schedule of whitewater releases for kayaks in the Chelan River during such three-year period. Chelan PUD shall release flows on the second and fourth weekends in July and September, except as provided in subsection (10). Flows on Saturdays shall be between 300 cfs and 375 cfs, and flows on Sundays shall be between 400 cfs and 450 cfs.

(2) Chelan PUD shall develop a reservation system for the whitewater boating monitoring study, whereby the scheduled water releases are made only if six or more kayakers make a reservation by 5:00 P.M. on the Thursday prior to the scheduled release date, and are physically present at the designated kayak put-in location by 10:00 A.M. on the date of the release, and liability insurance protecting the Chelan PUD's liability is in place, as provided in subsection (10) of this License Article. Additionally, each kayaker shall be required to sign a liability waiver in a form satisfactory to Chelan PUD prior to launching his or her kayak in the Chelan River. Only non-motorized, hard-shelled kayaks suitable for Class V whitewater shall be allowed, and no kayaker less than 18 years old shall be allowed. If the conditions contained in this paragraph are met, Chelan PUD shall begin the ramping-up of releases to meet the flows specified in subsection (1) of this License Article at 11:00 A.M., and shall begin ramping-down no sooner than 6:00P.M.

(3) A survey tool shall be designed by Chelan PUD, in consultation with American Whitewater Affiliation, to solicit input from whitewater boaters utilizing the Chelan River whitewater releases. The survey tool shall, at a minimum, query boaters on the suitability of the following: whitewater release dates, daily schedule, whitewater difficulty, spill volumes, access, carrying capacity, reservation system, and real time flow information.

(4) Chelan PUD shall conduct an annual meeting on or before May 1, whereby Chelan PUD and American Whitewater will review the annual whitewater report, as provided in subsection (5) of this License Article, and make adjustments as warranted to the annual schedule and spill volume (subject to the limitations in subsection (8) and (10) of this License Article), reservation system, and methods for liability protection for the upcoming year.

(5) Chelan PUD shall submit annual reports to FERC on or before June 1 for the previous year's whitewater boating monitoring study in the Chelan River for the initial three years after the effective date of the New License.

(6) Chelan PUD shall submit a final report upon completion of the three-year whitewater boating monitoring study by May 1 of the year following completion of such monitoring study. The final report shall, at a minimum, include information on the dates and volumes of each release for the three year study period, annual use patterns, and an analysis of user preferences based on survey data. The report shall also include recommendations for providing whitewater releases, if any, for the remainder of the New License term. The report shall also make recommendations regarding, at a minimum, an annual schedule of releases (including volume and timing), a reservation system, the minimum number of boaters required to trigger a release, and a mechanism for liability protection.

Chelan PUD shall include with the final report documentation of consultation with American Whitewater Affiliation, and copies of comments and recommendations on the final report. Chelan PUD shall allow a minimum of 30 days for the American Whitewater Affiliation to comment and to make recommendations prior to filing the final report with FERC for approval. If Chelan PUD does not adopt a recommendation, the filing shall include Chelan PUD's reasons for not doing so, based on, among other things, any relevant Project-specific information.

In the event that FERC fails to respond to the final report recommendations, the conditions associated with the three-year whitewater boating monitoring study shall remain in effect for a maximum of two years while pending a FERC ruling.

(7) Chelan PUD shall make publicly available for the three-year whitewater boating monitoring study and for the term of the New License real-time flow information via the Internet for the Chelan River. This information may be published on the Chelan PUD Web site or a third party Web site. The Internet site shall include, at a minimum, the annual schedule for whitewater releases, instructions and requirements for the reservation system, and real-time flow data information. Adjustments to the reservation system must be posted by May 1.

(8) Upon completion of the three-year whitewater boating monitoring study and for the remainder of the New License term (except as provided in subsection (10) of this License Article), Chelan PUD shall provide whitewater releases on the second and fourth weekends in July and September, provided that a minimum number of kayakers make a reservation by the Thursday prior to the scheduled release, through a reservation system developed and implemented by Chelan PUD, and are physically present by 10:00 A.M. on the date of the release. Chelan PUD, in consultation with American Whitewater Affiliation, may adjust the flow levels used following the three-year study, but in no event shall the number of releases exceed eight, nor shall the flow levels exceed 450 cfs. Chelan PUD shall also determine, in consultation with American Whitewater, the minimum number of kayakers required for future flow releases, but in no event shall the number be less than six. Chelan PUD may also make changes to the schedule and/or reservation procedures, in consultation with the American Whitewater Affiliation.

(9) Chelan PUD shall not be obligated to provide whitewater boating flow releases in the Chelan River when the previous day's average Stehekin River inflow is less than 333 cfs, or when the

Mid-Columbia Index is greater than \$150/MWh (as adjusted pursuant to section 19.1 of the Agreement).

(10) In order to facilitate whitewater releases in the Chelan River until the Washington State Recreational Use Statute RCW 4.24.210 is changed to Chelan PUD's satisfaction, as described in subsection (11) of section 4.2.3 of Chapter 11 of the Comprehensive Plan, including an amendment that expressly extends the immunity protections of such statute to recreational whitewater releases, or an alternative nonlegislative mechanism is developed, Chelan PUD and American Whitewater intend to work together to secure liability insurance protecting Chelan PUD's self-insured retention (subject to a mutually agreed deductible not to exceed \$25,000) for each whitewater release in the Chelan River. Such liability insurance policy shall: (a) have a rating of A-8 minimum, (b) be Comprehensive General Liability for special events, (c) name Chelan PUD as an additional named insured, (d) be primary to other existing collectible insurance by Chelan PUD, (e) be purchased annually to cover all whitewater boating in the Chelan River as described in this License Article, whether such boating be sponsored by American Whitewater Affiliation or others, and (f) be approved by Chelan PUD in advance of any whitewater release. Once such insurance is obtained, whitewater releases shall be made in accordance with the schedule contained in this License Article.

Funding for the purchase of the insurance will be derived from foregoing a maximum of four whitewater release per year (September releases). Chelan PUD shall have no obligation to fund the purchase of insurance beyond the amount saved from the foregone releases from the preceding year. Only the whitewater releases that are covered by an insurance policy shall occur. The requirement for liability insurance shall only be removed if legislation is amended acceptable to Chelan PUD, or a mutually agreeable mechanism for liability protection is developed between American Whitewater and Chelan PUD.

(11) Chelan PUD, American Whitewater Affiliation, and other interested parties intend to work collaboratively to seek an amendment to the above-cited statute that expressly extends the immunity protections of such statute to recreational whitewater releases of the kind that would be provided by Chelan PUD pursuant to this License Article and as described in section 4.2.3 of Chapter 11 of the Comprehensive Plan. In the event that such amendments to the statute occur, Chelan PUD shall be responsible for all eight releases described in this License Article. In the event that such amendments to the statute do not occur within the three year whitewater boating monitoring study described in this License Article, Chelan PUD and American Whitewater Affiliation intend to work collaboratively to resolve outstanding issues. If any outstanding issues cannot be resolved within a one year period, the parties agree to use the dispute resolution process pursuant to section 16 of the Agreement.

(i) **Operation and Maintenance of Riverwalk, Old Mill, Manson Bay parks.** Chelan PUD shall continue, for the term of the New License, to own and operate the Riverwalk Park and Loop Trail and to maintain the shore access site, located in the City of Chelan, in accordance with section 4.2.4 of Chapter 11 of the Comprehensive Plan. Chelan PUD shall continue, for the term of the New License and any subsequent annual licenses, to own Old Mill Park and Manson Bay Park, and shall be responsible for oversight of related operation and maintenance

agreements with Manson Parks Recreation District, in accordance with section 4.2.4 of Chapter 11 of the Comprehensive Plan.

(j) **Reach 1 Access Trail.** Beginning within one year of the effective date of the New License, Chelan PUD shall design and construct a non-motorized, non-paved, multi-use trail below the Lake Chelan Dam in Reach 1 of the Chelan River, in accordance with section 4.2.5 of Chapter 11 of the Comprehensive Plan. The trail shall provide managed access to the Chelan River and connect to the Riverwalk Loop Trail. Planning and development shall be conducted by Chelan PUD, in consultation with adjacent landowners, Chelan County, the City of Chelan, the Lake Chelan Trails Committee, and other interested parties. The total capital cost to Chelan PUD for the Reach 1 Access Trail shall not exceed \$250,000. The annual Estimated Cost to Chelan PUD for operation and maintenance of the trail is \$4,500 for the term of the New License.

(k) **Riverwalk Loop Trail Extension.** Beginning within one year of the effective date of the New License, Chelan PUD shall design and construct a paved trail that links Chelan PUD's existing Riverwalk Loop Trail to the Reach 1 Access Trail, in accordance with section 4.2.6 of Chapter 11 of the Comprehensive Plan. Chelan PUD shall seek approval from FERC for crossing the Lake Chelan Dam as part of the trail extension design. If FERC denies approval to cross the Lake Chelan Dam, the trail design and construction shall only include a trail from Riverwalk Loop Trail along the south shoreline of the Chelan River to link with the Reach 1 Access Trail. Planning and development shall be conducted by Chelan, in consultation with adjacent landowners, Chelan County, the City of Chelan, the Lake Chelan Trails Committee, and other interested parties. The total capital cost to Chelan PUD for the Riverwalk Loop trail extension shall not exceed \$500,000. The annual Estimated Cost to Chelan PUD for operation and maintenance of the trail is \$5,000 for the term of the New License.

**(l) Operation and Maintenance Under the Dan Gordon Bridge. (1)**

Beginning within one year of the effective date of the New License, Chelan PUD shall implement efforts to stabilize the sidewalk and replace the handrail along the north shore of the Chelan River, under the Dan Gordon Bridge in accordance with section 4.2.7 of Chapter 11 of the Comprehensive Plan. The total capital cost to Chelan PUD for such sidewalk stabilization and handrail shall not exceed \$17,000. Chelan PUD shall not be responsible for stabilizing the right-of way area owned by the Washington State Department of Transportation, nor be responsible for rectifying any structural problems regarding the Dan Gordon Bridge. Beginning within one year and of the effective date of the a New License, Chelan PUD shall assume responsibility for annual maintenance associated with the sidewalk and landscaping along the north shore of the Chelan River, beneath the Dan Gordon Bridge.

(m) **Reservation of Lands.** Beginning within 90 days of the effective date of the New License, Chelan PUD shall reserve by not selling or otherwise disposing of land located in Reach 1 of the Chelan River Bypassed Reach, within a portion of Parcel A of Chelan County Short Plat No. 3195 lying northeasterly of the Chelan Gorge Road in accordance with section 4.2.8 of Chapter 11 of the Comprehensive Plan. Chelan PUD shall reserve such land for future recreational development, while continuing to protect and maintain Project purposes. Development or maintenance associated with such future recreational facilities shall not be the responsibility of

Chelan PUD. Pursuant to FERC regulation, Chelan PUD shall not allow permanent structures within 200 linear feet of the Chelan Project penstock's centerline.

(n) **Micro Parks.** (1) Beginning within 90 days of the effective date of the New License, Chelan PUD shall quit claim deed to the City of Chelan Parcels #272214662242, #272214662229, and #272214662440, near Water Street. All three Parcels are owned by Chelan PUD, and are located along the south shore of Lake Chelan, approximately three miles from the City of Chelan. Chelan PUD shall include in such quit claim deed any rights it may hold to place docks and buoys in the waters immediately adjacent to such Parcels (subject to a five-year reservation of such rights for the benefit of adjacent landowners, as further specified in the quit claim deed), and subject to any easements and/or damage waivers related to Project impacts that it may hold relating to such Parcels.

(2) Beginning within 180 days of the effective date of the New License, Chelan PUD shall make available to the City of Chelan a total amount of \$20,000 toward the capital costs associated with the development of a micro park at Water Street (Parcels #272214662242, #272214662229, and #272214662440), in accordance with section 4.2.9 of Chapter 11 of the Comprehensive Plan. Development, implementation, and operation and maintenance of such micro park shall be the sole responsibility of the City of Chelan.

(o) **Utility Improvements for Local Trail.** Contingent upon the City of Chelan excavating or trenching from Don Morse Memorial Park to Riverwalk Park, Chelan PUD shall install in such trench primary underground facilities and remove primary overhead lines from the right-of-way area of the sidewalk along Johnson Avenue and State Highway 150 near Campbell's Resort in accordance with section 4.2.10 of Chapter 11 of the Comprehensive Plan. Chelan PUD shall not be responsible for any costs related to trenching, asphalt or concrete work associated with roadway and sidewalk improvements or repair.

(p) **Trail Linkage to PUD parks.** Chelan PUD shall consult with interested organizations and individuals to integrate new trails with existing parks owned and/or managed by Chelan PUD, including Old Mill Park, Manson Bay Park, and Riverwalk Park, in accordance with section 4.2.11 of Chapter 11 of the Comprehensive Plan. Specifically, Chelan PUD shall develop and construct modifications to existing Chelan PUD park entrances and exits to accommodate the integration of new trails. Chelan PUD shall not be responsible for development or operation and maintenance of such new trails.

(q) **Don Morse Park Erosion.** Within 180 days of the effective date of the New License, Chelan PUD shall make available to the City of Chelan in-kind services not to exceed \$60,000 for engineering and design services and provision of Chelan PUD owned equipment, if available, for the purpose of controlling erosion at Don Morse Park beach area and marina breakwater on Lake Chelan, in accordance with section 4.2.12 of Chapter 11 of the Comprehensive Plan. Prior to the provision of such services, the City of Chelan shall execute an indemnity and/or hold harmless agreement in a form satisfactory to Chelan PUD. Such agreement shall indemnify Chelan PUD for all costs incurred by Chelan PUD as a result of any future litigation regarding the Don Morse Park beach area and marina breakwater, including costs and attorneys' fees incurred in any resulting litigation, and the cost of any money judgment entered.

**G. Recreation – The Facility is in Compliance with all requirements regarding Recreation protection, mitigation or enhancement included in the FERC license and allows access to the reservoir and downstream reaches without fees or charges - FACILITY PASSES.**

**Facilities Recommended for Removal:**

*Goal: To avoid encouraging the retention of facilities that have been considered for removal due to their environmental impacts.*

*Standard: If a resource agency has recommended removal of a dam associated with the facility, certification is not allowed.*

**H. Facilities Recommended for Removal – There are no Resource Agency Recommendations for removal of the dam associated with the Facility - FACILITY PASSES.**

### Reviewer Recommendations

The Lake Chelan facility meets the requirements of all eight of the criteria, and I recommend that the facility be certified by the Low Impact Hydropower Institute as a LIHI Certified facility.

Should the Board certify this project it would be for five years with an effective date of September 26, 2007 and an expiration date of September 26, 2012.

Prepared by Fred Ayer and submitted on January 17, 2008 for LIHI Governing Board action at the January 24, 2008 LIHI Board Meeting.

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## RECORD OF CONTACTS WITH RESOURCE AGENCY STAFF

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Date of Conversation: January 14, 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Bob Sheehan  
US Forest Service  
428 West Woodin Avenue,  
Chelan, WA 98816

Telephone/email: 509-682-2576  
[rsheehan@fs.fed.us](mailto:rsheehan@fs.fed.us)

I had left a message with Bob last week and he returned my call this morning. I explained our program and he was quick to ask whether it was similar to the forestry certification programs and I told him it was a similar concept. I confirmed that he had been the US Forest Service's representative in the Lake Chelan FERC relicensing and Settlement Agreement process. He felt it was a great process and very successful. He said that as far as he knew all parties were satisfied with the final agreement. He was very pleased that the USFS was able to satisfy their interests and, like many others, he said the biggest negative was the fact that to do the process right it took a lot of time and resources. But when successful it was worthwhile. He was not aware of any of the parties walking away from the process or being unhappy with the results. He was impressed with the plan to re-water the Chelan River. He enjoyed working with the Chelan PUD staff and thought they did a good job. Bob had no negative comments.

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Date of Conversation: January 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Jay Witherbee  
City of Chelan  
135 E. Johnson Ave.,  
Chelan, WA 98816

Telephone/email: 509-682-4037  
[mayor@cityofchelan.com](mailto:mayor@cityofchelan.com)

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Date of Conversation: January 10 and 14, 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Steve Lewis  
US Fish and Wildlife Service  
Wenatchee, WA.

Telephone/email: 509-665-3508  
[steve.lewis@fws.gov](mailto:steve.lewis@fws.gov)

I spoke with Steve, who was on his way to a meeting and I was able to confirm his involvement in the Lake Chelan Project. We agreed that I would call him on Monday morning so we could talk about the project.

I connected with Steve at 9:30 am Pacific time, and discussed his role and thoughts about the Lake Chelan FERC Relicensing and Settlement Agreement. Steve was the USFWS technical expert for the USFWS Team. He described a typical large multi-party negotiation: it started with little trust among parties, a lot of personal agendas, and some contentious meetings in the early stages. As time went on, parties began to trust each other and Steve's view was that all the parties left the process satisfied. He thought that the Chelan staff did a great job and were very cooperative. He did not believe anyone was short-changed. I asked him if he was comfortable with the fish passage resolution. He said he was, and that the biology dictated the direction that the parties went in and that at this time the reservation of §18 prescriptive authority was the appropriate resolution. Steve did not have any negative comments.

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Date of Conversation: January 10, 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Mark Miller  
US Fish and Wildlife Service  
Spokane, WA.

Telephone/email: 509-893-8001  
[mark\\_miller@fws.gov](mailto:mark_miller@fws.gov)

Mark, during the Chelan relicensing was in Wenatchee and has subsequently relocated to the USFWS Spokane office. I had a very pleasant talk with Mark, who had nothing but kind words for the Lake Chelan Project and how Chelan PUD had worked with stakeholders to satisfy the various interests. He said it went well and was a good process with multi-agency involvement and many issues.

The process was long, rarely contentious and all parties negotiated in good faith and from his perspective, all parties ended up being satisfied with the results. He is proudest of his part in getting Chelan to come up with flows capable of re-watering the Chelan River, which had been dry for some time. His involvement and interest in re-watering the Chelan dates to the early

1990s. Mark said that the Chelan PUD did a great job and Gregg Carrington was very successful as Chelan's lead. I asked him if the USFWS would be able to stay involved and monitor the adaptive management articles and the complicated settlement agreements. First of all he was confident in their ability to do both and he explained that the USFWS would have a staff person (Steve Lewis, USFWS, Wenatchee Office) charged with continued involvement in implementing the agreements that the USFWS was concerned with. Mark had no negative comments.

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Date of Conversation: January 16, 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Bill Tweit  
Washington State Department of Fish and Wildlife  
600 Capitol Way N.,  
Olympia, WA 98501

Telephone/email: 360-902-2225

Bill returned my call that I had made earlier in the week. Before I started to interview him, he wanted to ask me a couple of questions. His questions were interesting and frankly caught me off guard. He wanted to know whether we were calling about Lake Chelan or Rocky Reach and/or Rock Island (these are two of the large Mid-Columbia projects owned and operated by Chelan PUD). The reason he asked was that he had worked on both of them more than he had Lake Chelan. I asked him whether he could envision large projects like the two mid-Columbias being certified by LIHI. He said he couldn't see a reason why not. Back to Lake Chelan. Bill confirmed what we heard from other folks we had interviewed about the Lake Chelan Project. The state was happy with the terms they reached with Chelan PUD and were pleasantly surprised that FERC did not mess them up. He was particularly pleased that Chelan had accepted biologically based standards and that required mitigation was higher than the ESA standard, i.e., no net loss mitigation. Bill also mentioned climate change and how it had modified his agency's view towards hydropower. Bill said he wanted to check with his staff to see if the implementation was on track---he thought it would be but wanted to check with them before calling his comments final. Bill had no negative comments.

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Date of Conversation: January 15, 2008  
Application Reviewer: Fred Ayer, Executive Director  
Person Contacted: Rich Domingue, Hydrologist  
National Marine Fisheries Service  
1201 NE Lloyd Blvd, Suite 1100  
Portland, OR 97232

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I had a very nice, and fairly long talk with Rich. He is a hydrologist and was NMFS Lead on the Biological Report. The length of our conversation resulted from Rich explaining the complex issues associated with the re-watering proposal and why the NMFS was so happy with the results which they believe will create high quality habitat which will create a terrific potential for a self-sustaining run of Columbia River steelheads. Rich said the negotiations were similar to other large multi-party negotiation he had been involved in. They started with little trust among parties, a lot of personal agendas, and some contentious meetings in the early stages. As time went on, parties began to trust each other and Rich's view was that all the parties left the process satisfied. He thought that the Chelan staff although as tough as nails concerning their interests, did a great job and were very cooperative. He did not believe anyone was short-changed.

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