

UNITED STATES OF AMERICA 117 FERC ¶62,129  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of  
Chelan County

Project No. 637-022

ORDER ON OFFER OF SETTLEMENT AND ISSUING NEW LICENSE

November 6, 2006

1. On March 28, 2002, Public Utility District No. 1 of Chelan County (Chelan PUD) filed an application for a new license pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),<sup>1</sup> to continue operation and maintenance of the 48-megawatt (MW) Lake Chelan Hydroelectric Project No. 637 located on the Chelan River, near the City of Chelan, in Chelan County, Washington. The project occupies 465.5 acres of federal lands<sup>2</sup> administered by the U.S. Forest Service (Forest Service) and U.S. Department of the Interior, National Park Service (Park Service).<sup>3</sup>

2. 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

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<sup>1</sup> 16 U.S.C. §§ 797(e) and 808 (2000), respectively.

<sup>2</sup> The federal lands are in the Wenatchee National Forest and the Lake Chelan National Recreation Area of the North Cascades National Park. The Wenatchee Forest Reserve was established by Executive Order No. 825 on June 18, 1908. By Act of October 2, 1968, Pub. L. No. 90-554, Congress established the North Cascades National Park and designated the North Cascades National Recreation Area, the Lake Chelan National Recreation Area, and the Ross Lake National Recreation Area as components thereof.

<sup>3</sup> Because the project occupies lands of the United States, section 23(b)(10) of the FPA, 16 U.S.C. § 817(1) (2000), requires the project to be licensed.

Attachment A to the Agreement be incorporated, without material modification, as articles in the new license. To the extent that I have determined them to be in the public interest, the proposed articles are included in the license, as set forth below.

## **BACKGROUND**

3. The Federal Power Commission (FPC) issued the original license for the Lake Chelan Project on May 8, 1926.<sup>4</sup> 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.<sup>5</sup> Since that time, project operations have continued pursuant to an annual license.<sup>6</sup>

4. On March 28, 2002, Chelan PUD filed an application for a new license for the project using the Commission's alternative licensing procedures.<sup>7</sup> 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;<sup>8</sup> 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.

5. 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

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<sup>4</sup> Sixth Annual Report of the Federal Power Commission at pp. 250-251 (1926).

<sup>5</sup> 15 FERC ¶ 62,168 (1981).

<sup>6</sup> See 16 U.S.C. § 808(a)(1) (2000).

<sup>7</sup> See 18 C.F.R. § 4.34(i)(1-2) (2000).

<sup>8</sup> The Lake Chelan Valley Collaborative Stakeholders include Lake Chelan Chamber of Commerce, Lake Chelan Recreation Association, Lake Chelan School District #129, Lake Chelan Lodging Association, Lake Chelan Public Trails Association, Chelan Business Association, and Lake Chelan Tourism Promotion Group.

Park and Recreation District, American Rivers, Ecology, American Whitewater, Washington Fish and Wildlife, Chelan PUD, NMFS, Interior, CRITFC, and the Forest Service. On October 10, 2003, Commission staff issued a final EA for the project.

6. 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.

7. The motions to intervene, comments, and recommendations have been fully considered in determining whether, and under what conditions, to issue this license.

### **PROJECT DESCRIPTION**

8. The Lake Chelan Project consists of (a) Lake Chelan, a 1,486-foot deep, 55-mile-long 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. A more detailed description of the project works is provided in Ordering Paragraph B. The average annual electric generation by the project was 380,871 megawatt-hours (MWh) for the 20-year period, 1980-1999.

9. 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.

10. 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.

11. 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.<sup>9</sup>

12. There are no primary transmission lines included in the Lake Chelan Project.<sup>10</sup> A project switchyard located 70 feet from the powerhouse connects the project power to Chelan PUD's interconnected transmission system.

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<sup>9</sup> These lands consist of 361.4 acres of Forest Service lands and 104.1 acres of National Park Service lands.

<sup>10</sup> Five 115-kilovolt (kV) transmission lines connect the project switchyard to the electrical system of the Chelan PUD, but none of these lines is part of the licensed project because project power is commingled with other power sources once it leaves the project substation.

## SETTLEMENT AGREEMENT

13. The Agreement consists of 22 sections (discussed below), 14 proposed license articles for inclusion in the new license (Attachment A to the Agreement), and a Lake Chelan Comprehensive Management Plan (Attachment B to the Agreement) composed of 12 individual resource plans, which are to be implemented by 12 of the 14 license articles, and the basis for the measures in each of the plans.

14. Sections 1 through 4 list the parties to the agreement, present background information of the relicensing proceeding, outline the purpose of the Agreement, and provide definitions. Section 5 defines the term of the Agreement to be the same as the license term and any subsequent annual license and includes the signatory parties' intent to support a 45-year license and not to oppose a 50-year license. Section 6 defines the effective date of the Agreement as the effective date of the new license, except for sections 8, 9, and 10 and certain planning provisions identified in the proposed license articles that began October 8, 2003.<sup>11</sup> Sections 7 through 10 bind the parties to the Agreement and address their obligations. Sections 11 and 12 outline the limitations of the Agreement. Section 13 establishes that the Chelan PUD is the responsible party for project operations and costs. Section 14 acknowledges that state and federal agencies can not expend any funds until appropriately authorized. Section 15 describes the procedures to be followed if performance is delayed or prevented by Force Majeure. Section 16 outlines the procedures for dispute resolution. Section 17 states that the parties entered into the Agreement with the express condition that the Commission issues a new license in conformance with the Agreement and defines procedures by which parties may seek to modify or terminate the Agreement if the license is materially inconsistent. Section 18 provides for the establishment, within 180 days of the effective date of the Agreement, of a Lake Chelan Policy Committee<sup>12</sup> and four resource forums to share information, coordinate efforts, and make recommendations regarding implementation of the various plans attached to the Agreement. Section 19 addresses the method of payments from the

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<sup>11</sup> The parties define the effective date of the new license as the date of license issuance, unless the order issuing the new license or any part thereof is later stayed. In that case the effective date of the new license or that part which was stayed is the date such stay is lifted, unless otherwise specified by the Commission.

<sup>12</sup> The Lake Chelan Policy Committee consists of signatories to the Settlement Agreement, their successors or designees, from the NMFS, Forest Service, Park Service, FWS, Chelan PUD, Washington Fish and Wildlife, Ecology, and the City of Chelan who have authority to make decisions on behalf of their respective organizations (*See* section 4.7 of the Settlement Agreement).

Chelan PUD to the various signatory parties. Section 20 discusses general provisions including means by which to modify the Agreement. Section 21 describes noticing procedures and contact information. Section 22 includes the signatures of the parties.

15. Attachment A to the Agreement contains 14 license articles, summarized below: (1) Forest Service Erosion Control Plan; (2) National Park Service Erosion Control Plan; (3) Large Woody Debris Plan; (4) Stehekin Area <sup>13</sup> Plan; (5) Survey Monument Replacement Plan; (6) Lake Chelan Fishery Plan; (7) Chelan River Fishery Plan, (8) Lake Level Plan; (9) Wildlife Habitat Plan; (10) Historic Properties and Cultural Resources Management Plan; (11) Recreation Plan; (12) Unforeseen Resource Needs; (13) Fishways; and (14) Upper Columbia Spring-run Chinook and Steelhead Conservation Measures.

16. To address erosion associated with fluctuating lake levels, the licensee would monitor erosion on Forest Service lands (Agreement Article 1); coordinate, fund and monitor erosion control measures at seven sites on Park Service land (Agreement Article 2); and coordinate and fund the transport of large woody debris to be used for bank protection/stabilization<sup>14</sup> (Agreement Article 3), and coordinate and fund Park Service efforts to control dust and to monitor dust abatement measures at the mouth of the Stehekin River (Agreement Article 4).

17. To assist Forest Service land management activities in the project vicinity, the licensee would coordinate with and provide funding to the Forest Service to locate, reestablish where necessary, and document 26 land survey monuments around the lake that were lost to erosion or construction of the reservoir (Agreement Article 5).

18. To assist in the development of a comprehensive management plan for the Lake Chelan fishery that would be designed to provide guidance for the management of fishery resources in Lake Chelan, maintain a healthy recreational sport fishery, and monitor and evaluate the management actions, the licensee would coordinate activities with the Lake Chelan Fishery Forum.<sup>15</sup> The licensee would (a) partially fund the development of a food

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<sup>13</sup> The Stehekin Area is located at the northern end of Lake Chelan and includes a flat area of approximately 300 acres that is periodically inundated by water fluctuations due to reservoir operations, known as “the flats.”

<sup>14</sup> The large woody debris would also be used for fish habitat improvement projects in Lake Chelan.

<sup>15</sup> Entities identified as eligible for membership in the Lake Chelan Fisheries Forum include: Washington Fish and Wildlife, Forest Service, Park Service, FWS,

web model for the lake; (b) fund the development and implementation of a fisheries monitoring and evaluation program; (c) remove alluvium barriers in 10 high priority tributaries to Lake Chelan to facilitate adfluvial salmonid access for spawning, and fund monitoring efforts to determine if the alluvial barriers reestablish; (d) fund Washington Fish and Wildlife efforts to rear and stock 5,000 pounds of salmonid fingerlings and 33,000 pounds of catchable-size salmonids in Lake Chelan; and (e) conduct 140 days of entrainment sampling over four sampling years in accordance with a sampling plan to be developed in consultation with Washington Fish and Wildlife, Forest Service, and Ecology. If 500 adult spawnable age/size westslope cutthroat trout are captured in the vicinity of the power tunnel entrance, the agencies and the licensee would evaluate the need to install fish protection or exclusion measures (Agreement Article 6).<sup>16</sup>

19. To restore fish and wildlife resources of the Chelan River, the licensee would implement the Chelan River Biological Evaluation and Implementation Plan (Agreement Article 7).<sup>17</sup> The plan consists of a number of measures to achieve reach-specific biological objectives that support, maintain, and protect designated uses and beneficial uses of the river. These measures include (a) time- and water-year-specific minimum flows and ramping rates (see section 2.6.5, table 7-3, and section 3.2, table 7-6, respectively of Chapter 7 of the Lake Chelan Comprehensive Plan); (b) habitat modifications in Reach 4 of the Chelan River and the project tailrace to improve steelhead and salmon spawning habitat; (c) pumping of additional tailrace water into Reach 4 as needed to improve spawning habitat conditions; (d) monitoring of salmon

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Colville Tribes, Yakama Nation, Ecology, Chelan PUD, and the Lake Chelan Sportsman's Association (*See* section 18.2.2 of the Settlement Agreement).

<sup>16</sup> If the licensee objects to the need for such protection measures, the Agreement provides that the licensee may conduct entrainment sampling within the power tunnel. If the licensee can not reach an agreement with the agency requesting the protection measures, it will refer the matter for dispute resolution pursuant to section 16 of the Agreement. If the licensee agrees to the protection or exclusion measures or the dispute resolution requires their installation, the licensee would consult with the Lake Chelan Fishery Forum to design the protection or exclusion devices, conduct tests necessary to determine their effectiveness, and upon successful design install the devices.

<sup>17</sup> Agreement Article 7 refers to the Chelan River Biological Evaluation and Implementation Plan as the Chelan River Fishery Plan; however, Chapter 7 of the Lake Chelan Comprehensive Plan and the 401 water quality certification refer to the plan as the Chelan River Biological Evaluation and Implementation Plan. They are the same plan.

redds and potentially implementing additional measures to prevent damage during a powerhouse shut down; (e) monitoring, evaluating, and reporting on the success of the measures; and (f) adapting and modifying measures as needed to achieve the biological objectives or carry out monitoring.

20. To strike a balance between raising average lake elevations earlier in the spring to promote tourism and recreation and lowering lake elevations earlier in the fall to improve fish habitat and reduce shoreline erosion, the licensee would comply with the lake level practices described in the Lake Level Management Plan (Agreement Article 8).

21. To benefit wildlife resources of the project area, the licensee would coordinate with the Lake Chelan Wildlife Forum<sup>18</sup> and (a) fund the acquisition of conservation easements in perpetuity of privately-owned lands located on the north shore of Lake Chelan important to wintering mule deer, and fund habitat restoration activities on these lands; (b) annually fund upland habitat improvement measures on Forest Service lands; (c) fund for years one through three of the new license, noxious weed control at sites containing rare plant communities; (d) continue to conduct annual wildlife surveys, maintain upland bird feeders, and/or conduct habitat improvements; and (e) fund Park Service, Forest Service, and Washington Fish and Wildlife efforts to improve riparian habitat in the Stehekin area and on other lands in the Chelan River basin (Agreement Article 9).

22. To protect cultural resources, the licensee would implement the Historic Properties and Cultural Resources Management Plan in accordance with Chapter 10 of the Comprehensive Plan (Agreement Article 10) and the programmatic agreement among the Commission, the State Historic Preservation Officer, and the Confederated Tribes of the Colville Reservation Tribal Historic Preservation Officer.

23. To meet current and future recreation needs, the licensee would (a) fund the replacement, repair, and maintenance of Forest Service and Park Service docks to address the effects of reservoir fluctuations; (b) provide funding to Forest Service for standardizing dock design on Lake Chelan; (c) provide funding to the Forest Service and Park Service for recreational enhancements within or adjacent to the Lake Chelan basin;

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<sup>18</sup> Entities identified as eligible for membership in the Lake Chelan Wildlife Forum include: Washington Fish and Wildlife, Forest Service, FWS, Park Service, Chelan PUD, Colville Tribe, Yakama Nation, Wenatchee Sportsman Association, the Lake Chelan Sportsman's Association, NCW Mule Deer Foundation, Foundation for North American Wild Sheep, the Audubon Society, and the National Wild Turkey Federation (*See* section 18.2.2 of the Settlement Agreement).



(d) conduct a study of recreation use and needs in the basin in year 21 and 22 of the license; (e) develop and implement upon FERC approval a 3-year whitewater boating monitoring study in the Chelan River; and (f) enhance recreational opportunities in the lower basin through continued operation and maintenance of Riverwalk, Old Mill, and Manson Bay Parks, the creation and improvement of trails along the south shore and in the bypassed reach, and provide land and funds for the development of micro-parks on the south shore of the lake (Agreement Article 11).

24. To address unforeseen resource needs that may arise over the course of the license period, Agreement Article 12 establishes notification and decision-making procedures for the licensee to evaluate and support the implementation of additional environmental measures,<sup>19</sup> establishes a contingency fund to implement any identified and agreed upon measures after year 25 of the license, and defines the limits of the agencies to reopen the license for additional measures beyond those identified in the Agreement.<sup>20</sup>

25. To address fishways, as may be required by the Secretaries of Interior or Commerce, under section 18 of the FPA, Agreement Article 13 reserves the Commission's authority to require the licensee to construct, operate and maintain such fishways. To improve flows in Columbia River tributaries that provide critical habitat for Upper Columbia River spring-run Chinook and upper Columbia River steelhead, the licensee would coordinate with NMFS and Ecology and provide annual funding for water conservation measures or acquisition of water rights from willing sellers for instream flows (Agreement Article 14).

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<sup>19</sup> In this instance, the parties include provisions to seek Commission approval for actions that would terminate activities authorized by this license or to initiate activities not required by this license.

<sup>20</sup> Except for certain changes that FWS or NMFS may require for fish passage or to protect federally listed species, the signatories to the Settlement Agreement agreed not to petition the FERC to reopen the license until after the 35<sup>th</sup> anniversary of the effective date of the license.

**SECTION 4(e) CONDITIONS**

26. Section 4(e) of the FPA,<sup>21</sup> provides that the Commission may issue a license for a project located within any reservation<sup>22</sup> only if it finds that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired. The Lake Chelan Project occupies 361.42 acres of the Wenatchee National Forest<sup>23</sup> and 104.10 acres of the Lake Chelan National Recreation Area,<sup>24</sup> which are federal reservations under the supervision of the Forest Service and Park Service, respectively. There is no evidence or allegation in this proceeding to indicate that relicensing of the Lake Chelan Project would interfere with the purposes of the Wenatchee National Forest or the Lake Chelan National Recreation Area. Therefore, I find that this license will not interfere or be inconsistent with the purposes for which the Wenatchee National Forest or the Lake Chelan National Recreation Area was created.

27. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation.

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<sup>21</sup> 16 U.S.C. § 797(e) (2000).

<sup>22</sup> Defined at FPA section 3(2), 16 U.S.C. § 794(2) (2000).

<sup>23</sup> At the time, the Organic Administration Act of 1897, 16 U.S.C. § 475, stipulated that all national forest lands were established and administered only for watershed protection and timber production. These are the only purposes that are relevant for a Commission determination under section 4(e) as to whether a project will interfere or be inconsistent with the purpose for which the reservation (National Forest) was created or acquired. *See Rainsong Company v. FERC*, 106 F.3d 269 (9<sup>th</sup> Cir. 1997).

<sup>24</sup>The project predates the North Cascades National Park. The North Cascades Park Act of 1968, Pub. L. No. 90-554, 82 Stat. 926, established the North Cascades National Park, the Lake Chelan National Recreation Area, and the Ross Lake National Recreation Area. The Lake Chelan National Recreation Area was set aside "to provide for the public outdoor recreation use and enjoyment of portions of the Stehekin and Lake Chelan together with the surrounding lands, and for the conservation of scenic, scientific, historic, and other values contributing to the public enjoyment of such lands and waters." 82 Stat. 927. Therefore, as lands acquired and retained by the United States to carry out the public purposes of the Lake Chelan Recreation Area, these lands constitute a reservation. *See generally City of Redding, California*, [63 FERC ¶61,175](#) (1993).

28. On June 28, 2002, Interior filed 14 preliminary conditions under FPA section 4(e) for the national recreation area. On January 12, 2004, Interior filed its final 4(e) conditions. The final conditions identify Agreement Articles 2, 3, 4, 6, 8 through 11, and 12 (and corresponding chapters of the Comprehensive Plan) as containing the “specific language of the modified term and condition ... and meet[ing] the objectives identified” in the related preliminary conditions. Those articles and chapters therefore become mandatory conditions under section 4(e), with one exception I will discuss next. Article 11 contains numerous recreation provisions. These provisions address recreation issues relating to (1) the national forest, (2) the national recreation area, and (3) neither. Because the supporting justification submitted by the Interior with its preliminary condition regarding recreation addresses only national recreation area facilities, I read Interior’s inclusion of Article 11 as a mandatory condition to apply to its facilities only (specifically, Article 11(e) through (g)).

29. By letter filed November 24, 2003, the Forest Service filed a final 4(e) condition that stated in its entirety: “the Licensee shall implement the provisions of License Articles and Comprehensive Plans of the Lake Chelan Comprehensive Settlement Agreement related to the protection, mitigation and enhancement of resources and programs of the Okanogan and Wenatchee National Forests.”<sup>25</sup> The Forest Service did not specify which provisions of the Settlement Agreement addressed “the protection, mitigation and enhancement of resources and programs of the Okanogan and Wenatchee National Forests,” but its supporting justification for certain measures in the Agreement identifies Articles 1, 3, 5, 6, 8, 9, 10, and 11 (and corresponding comprehensive plans). I therefore interpret the Forest Service’s filing to include as mandatory conditions under section 4(e) those specified provisions. In addition, for the reasons discussed above with respect to Article 11, I interpret the Forest Service’s mandatory condition as being limited to Article 11(a) through (d) and 11(g).<sup>26</sup>

30. The Agreement conditions are attached to this license in Appendix A. Forest Service’s and Interior’s mandatory conditions are attached to this license as Appendix B

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<sup>25</sup>The Forest Service also required as a general condition the inclusion of the license articles of the Commission’s Standard Form L-1 (major project affecting lands of the United States) issued by Order No. 540, dated October 31, 1975. The conditions of Standard Form L-1 are included by ordering paragraph G, as this existing major project affects lands of the United States.

<sup>26</sup> Thus, Article 11(h) through (q) are not mandatory conditions under section 4(e). We discuss them, *infra*, under the comprehensive development standard of FPA section 10(a)(1).

and C, respectively, and made a part of this license by ordering paragraphs (D) and (E), respectively.

## **WATER QUALITY CERTIFICATION**

31. Under section 401(a)(1) of the Clean Water Act (CWA),<sup>27</sup> the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has issued water quality certification for the project or has waived certification by failing to act within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that state certification shall become a condition of any federal license that authorizes construction or operation of the project.<sup>28</sup>

32. 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.

34. The certification also includes specific conditions 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

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<sup>27</sup> 33 U.S.C. § 1341(a)(1) (2000).

<sup>28</sup> 33 U.S.C. § 1341(d) (2000).

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.<sup>29</sup> The water quality certification conditions are attached as Appendix D to this order. Ordering paragraph (F) incorporates the certification conditions of Appendix D as conditions of the license.

35. As explained in more detail later, the state numerical water quality standard for temperature is not currently being met in the bypassed reach and would likely not be met even with very high and costly instream flows. The primary aim of the state water quality certification is to meet the state water quality standard by complying with the intent and substance of the standard rather than its numeric form.<sup>30</sup> The measures identified in the Chelan River Biological Evaluation and Implementation Plan are designed to achieve through adaptive management specific biological objectives that the temperature standard was intended to support. Those biological objectives and the initial measures that shall be implemented to achieve those objectives are intended to restore and enhance westslope cutthroat trout, steelhead trout, and fall Chinook salmon. In the water quality certification, Ecology states that within 10 years of license issuance, it is to determine whether Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve the biological objectives, and if so whether water quality standards have been fully achieved.<sup>31</sup> If all such measures have been implemented, but water quality standards have not been fully achieved, Ecology will seek to resolve such non-compliance through a process to make site-specific and/or use-based rule changes to the water quality standards. Article 401 requires the licensee to amend its license to undertake additional measures to achieve the biological objectives.

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<sup>29</sup> The water quality certification references an April 18, 2003 version of the Chelan River Biological Evaluation and Implementation Plan. The Chelan River Biological Evaluation and Implementation Plan apparently was revised when it was attached to the October 8, 2003, Settlement Agreement, such that references to section 4 of the plan in the water quality certification are now found in section 5. A letter dated November 23, 2005, from Ecology clarified that the April 18 date was superceded by the settlement date.

<sup>30</sup> See Pollution Control Hearings Board 03-075 Findings of Fact, Conclusions of Law and Order, April 21, 2004, at 15.

<sup>31</sup> See Washington Department of Ecology, Water Quality Certificate, II. Findings, March 24, 2003.

## **DISCUSSION OF THE SETTLEMENT TERMS**

36. The Commission looks with favor on settlements in licensing cases. When parties are able to reach settlements, it can save time and money, avoid the need for protracted litigation, promote the development of positive relationships among entities who may be working together during the course of a license term, and give the Commission, as it acts on license and exemption applications, a clear sense as to the parties' views on the issues presented in each settled case.<sup>32</sup> At the same time, the Commission cannot automatically accept all settlements, or all provisions of settlements. Section 10(a)(1) of the FPA requires that the Commission determine that any licensed project is "best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)."

37. Consequently, in reviewing settlements, the Commission looks not only to the wishes of the settling parties, but also at the greater public interest, and whether settlement proposals meet the comprehensive development/equal consideration standard. In doing so, I have included in this license the substance of most of the license articles in the Agreement, with certain modifications. I discuss below those portions of the proposed license articles that I do not adopt or would not adopt, were they not mandatory under the FPA (section 4(e) ) and the Clean Water Act (section 401). I also discuss those modifications or additions necessary for the Commission to effectively administer this license and ensure that the measures achieve project purposes and are in the public interest.

38. Ordering Paragraphs D and E incorporate the mandatory conditions submitted by the Secretaries of Agriculture and Interior, respectively, under section 4(e) of the FPA. Ordering Paragraph F incorporates the conditions of the Water Quality Certificate submitted by Ecology. Because most of the proposed Agreement license articles or portions therein have been included as mandatory conditions under section 4(e) of the FPA and the water quality certification, I have attached them in their entirety to this license order as Appendix A.

39. As described further below, I am also including conditions in this license

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<sup>32</sup> *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 at P 2-12 (2006).

necessary to reserve the Commission's authority to review and modify as necessary proposed resource plans (Article 401), to hold the licensee responsible for implementing tasks without limits of spending caps (Article 402), to obtain additional detail regarding the measures that would be implemented (Articles 403, 404, 406, and 407), to ensure compliance with the license's operational requirements (Article 405), to protect threatened and endangered species and comply with terms of NMFS's incidental take statement (Article 408), to protect cultural resources (Article 410), to reserve the Commission's authority to require fishways (Article 409) and fish and wildlife measures that may be needed to take into account the Columbia River Basin Fish and Wildlife Program (Article 411), and to grant authority to the licensee to permit certain types of use and occupancy of project lands and waters and to convey certain interests in lands and waters without prior Commission approval (Article 412). Where additional lands are necessary to meet project purposes, I am requiring the licensee to bring the additional lands into the project boundary (Article 203).<sup>33</sup>

#### 1. Approval of Plans and License Amendments

40. Eleven of the 14 proposed Agreement articles reference a corresponding plan in the Lake Chelan Comprehensive Management Plan (Appendix B to the Agreement) for their implementation. These plans provide the parties' support for the need for the measures and a description of the types of measures that would be implemented. However, several of the proposed Agreement articles and corresponding plans are incomplete and contemplate that the licensee will develop additional measures that would require the approval of other agencies before implementation. While the Commission does not need to be involved in the day-to-day management decisions, it must be able to account for the actions that are authorized by its license, ensure compliance with the terms of the license, and ensure that the measures being implemented are related to and benefiting project resources.<sup>34</sup> Article 401(a) requires that the plans be developed after consultation with interested parties and, then, filed with the Commission for approval before implementation. The plans shall include an implementation schedule.

41. A number of the Agreement articles contemplate changes to project operations or facilities over the course of the new license based upon the collection of additional data. These adaptive management provisions are contained in the project's water quality certification and Interior's and Forest Service's 4(e) conditions. They provide to certain

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<sup>33</sup> See *Pacific Gas and Electric Company*, 97 FERC ¶ 61,084 (2001).

<sup>34</sup> *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 at P 37-38 (2006).

parties, specifically the Policy Committee, Chelan River Fishery Forum, Forest Service, and Park Service, the authority to make material changes to measures made part of this license.<sup>35</sup> For example, the Agreement contains provisions to potentially alter minimum flows, construct downstream fish protection or exclusion devices, or undertake other unspecified measures needed to achieve biological objectives in the Chelan River. Because the "comprehensive development" standard of FPA Section 10(a)(1) continues to govern regulation of a project throughout the term of its license,<sup>36</sup> it is the Commission's responsibility to approve, through appropriate license amendments, all material changes to the project and its maintenance and operation before such changes are made.<sup>37</sup> For this reason, Article 401(b) in this license provides for Commission review and approval of any proposed material changes in the project.<sup>38</sup>

## 2. Use of Funds and Funding Caps

42. Most articles in the Agreement provide that the licensee shall give funds to an agency to use in the construction and maintenance of facilities or to implement various environmental measures. While it is not unusual for licensees to arrange for other entities to undertake certain required measures, I remind the licensee that it bears the ultimate responsibility for the performance of all license requirements. Additionally, the Commission prefers to see conditions which address resource needs by requiring specific measures, rather than simply providing funding for activities,<sup>39</sup> which in some cases in

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<sup>35</sup> Although the Lake Chelan Policy Committee and the Chelan River Fishery Forum will oversee studies and monitoring and make recommendations for changes to the environmental protection and recreation enhancement measures, it is ultimately the responsibility of the licensee to meet the requirements set forth in this license.

<sup>36</sup> See, e.g., *S.D. Warren Co.*, 68 FERC ¶ 61,213 at p. 62,022 (1994).

<sup>37</sup> The Commission's regulations, as well as the terms of the license and basic due process principles, govern what types of alterations require what sorts of submittals or public notice.

<sup>38</sup> See, e.g., *PacificCorp*, 105 FERC ¶ 62,207 at P 25-29 (2003). A license article can not provide for automatic amendment of the license based on future occurrences. Rather, the licensee is free to file with the Commission for an amendment of its license, if future conditions warrant. Also see e.g., Standard Articles 2 and 3 of the license, Form L-1, which is incorporated by reference in ordering paragraph (G) below.

<sup>39</sup> *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 at P 16, 25-26 (2006).



this Agreement are not clearly defined. Nonetheless, I have no choice but to include the funding as part of the license because they are mandatory section 4(e) conditions.

43. Further, most of the articles in the Agreement establish limits on the licensee's responsibility to fund various resource mitigation and enhancement measures and studies. I understand the licensee's desire to fix the costs that it may incur for resource protection and enhancement measures. It is likely that the specified funding will be sufficient for the measures in question. However, the Commission cannot constrain the fulfillment of its statutory responsibilities by agreeing to such spending caps.<sup>40</sup> The Commission has stated that it is the licensee's obligation to complete the measures required by the license articles, in the absence of authorization from the Commission to the contrary, and that dollar figures agreed to by settlement parties are not absolute limitations.<sup>41</sup> Accordingly, Article 402 of this license reserves the Commission authority to require the licensee to fulfill the requirements of this license notwithstanding the limitations on expenditures specified herein.

44. Similarly, Agreement Article 12(f) requires the licensee to make "available" \$500,000 and \$800,000 on the 25<sup>th</sup> and 30<sup>th</sup> anniversaries of the license, respectively, to be used to meet unforeseen resource needs. These contingency funds would only be used if the Policy Committee unanimously agrees following a defined decision making and funding process that a project-caused impact to natural resources has occurred, that the impact has arisen from materially changed factual circumstances, that the impact was not addressed or anticipated by the measures in the Agreement, and that additional funding or other measures are needed in order to mitigate the impact. Under the terms of Agreement Article 12(h)(2), agency signatories to the Agreement agree not to invoke any reopener provision in the new license until after the 35<sup>th</sup> anniversary of the license and then only if the contingency funds have been exhausted. Under the terms of Agreement Article 12(h)(3), the licensee would seek the Commission's approval if the agreed upon measures were not authorized by the license.

45. Unlike the other funds established by the Agreement, the contingency fund lacks any specificity in the measures that would be implemented, a basis for why such mitigation or enhancements would be needed, and justification as to why the funding

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<sup>40</sup> See *City of Seattle, WA*, 71 FERC ¶61,159 at 61,535 (1995), and cases cited therein.

<sup>41</sup> See *Virginia Electric Power Co.*, 110 FERC ¶ 61,241 (2005) and *Portland General Electric Company and Confederated Tribes of the Warm Springs Reservation of Oregon*, 111 FERC ¶ 61,450 (2005).

levels would be appropriate.<sup>42</sup> I do not see a need for this additional funding provision in the license because the license contains a comprehensive set of requirements to prevent, minimize, and mitigate for the environmental impacts of the project, and if unanticipated impacts should occur, the Commission may reopen the license for the purpose of requiring any additional measures. Additionally, I am unable to make a public interest determination with regard to the fund because the measures have yet to be identified and there is uncertainty with regard to the need for the measures. Further, such a license provision presumes a cost for as yet unidentified measures. Regardless, I am unable to eliminate this requirement from the license, because upon issuance of this license establishment and use of these funds become mandatory. As with all other aspects of the settlement, the licensee will be required to file any unanticipated mitigation and enhancement measures proposed by the licensee for approval by the Commission.

### 3. Large Woody Debris Management Plan

46. Agreement Article 3 requires the licensee to provide Washington Fish and Wildlife \$5,000 annually for its use in obtaining and transporting large woody debris and other bioengineering materials for bank protection and in-lake habitat restoration. The materials would be used, in part, to satisfy expected mitigation requirements of state and federal permits<sup>43</sup> that would be obtained to implement the erosion control measures on Park Service and Forest Service lands required by Agreement Articles 1 and 2. Because other conditions of this license require the use of large woody debris and because the licensee will be responsible for implementing the requirements of those conditions, including obtaining any necessary permits and authorizations to undertake those requirements, I see no need for the proposed large woody debris plan or Commission oversight of the plan. However, Agreement Article 3 is a mandatory section 4(e) condition, thus it is required.

### 4. Stehekin Area Implementation Plan

47. Agreement Article 4 requires the licensee to fund Park Service's efforts to address

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<sup>42</sup> The Commission must have substantial evidence to support its licensing decisions. If parties want the Commission to accept the terms of a settlement, they must provide substantial evidence to support the measures they ask the Commission to impose.

<sup>43</sup> For example, the hydraulic project approval permit pursuant to Title 77 RCW (Revised Code of Washington) and the section 404 permit of the Clean Water Act (33 U.S.C. 1344) may be required to undertake actions in wetlands and along shorelines. These permits can contain mitigation measures that utilize large woody material.

dust control in the Stehekin area<sup>44</sup> and to monitor dust abatement efforts. The licensee would be responsible for implementing the abatement and monitoring efforts only if, and to the extent, the Park Service was unable to do so. These requirements are mandatory conditions under FPA section 4(e).

48. While the terms of the Agreement and the Stehekin Area Implementation Plan filed with the Agreement are explicit on the funding levels and the methods used to monitor dust emissions, they are vague regarding how the Park Service (or the licensee) will conduct additional biological monitoring required by the implementation plan. For example, they do not describe with any detail how the effects of using the large woody debris or the success of reestablishing riparian vegetation would be monitored.<sup>45</sup> The Agreement also does not include any provision for reporting the monitoring results to the Commission. Accordingly, Article 403 requires the licensee to file a Stehekin Area Implementation Monitoring Plan for Commission approval that provides the details for the above monitoring efforts, as well as, requiring periodic reporting of the monitoring results with any recommended measures for achieving the objectives of the Stehekin Area Implementation Plan.

#### 5. Lake Chelan Fishery Plan

49. Agreement Article 6 requires that the licensee provide, as part of the Lake Chelan Fishery Plan, for the development of a food web model, a monitoring and evaluation program to determine if management actions are achieving desired objectives in the lake, removing fish migration barriers at the mouths of tributaries to the lake, stocking salmonids in Lake Chelan and its tributaries, and conducting fish entrainment monitoring. These are mandatory conditions set forth under FPA section 4(e). Article 405 requires the licensee to file a Lake Chelan Fishery Plan for Commission approval that provides the details for (a) tributary barrier removal monitoring, (b) fish stocking, and (c) entrainment sampling.

50. The purpose of the entrainment monitoring is to determine if significant numbers (more than 500) of adult spawnable age/size adfluvial westlope cutthroat trout could be

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<sup>44</sup> The Stehekin area is located at the north end of Lake Chelan and includes a relatively flat area of about 300 acres that is periodically inundated by water fluctuations due to project operations.

<sup>45</sup> Funding for riparian habitat improvements and monitoring of the habitat improvements is provided through the requirements of Agreement Article 9(c)(1). These requirements are mandatory conditions set forth under FPA section 4(e).

entering the project tailrace and tunnel. Studies conducted during the application process indicate few native cutthroat trout are leaving the lake system via project intakes or spill. However, Commission staff recommended that the licensee continue the monitoring because this situation could change if the measures provided in the Lake Chelan Fishery Plan are successful in recovering native cutthroat populations. Agreement Article 6(e) would have the licensee prepare an entrainment sampling plan to enumerate westslope cutthroat trout in the vicinity of the project intakes, consistent with the sampling efforts undertaken in 2000 and 2001, when requested by Washington Fish and Wildlife. Because it is unknown when such conditions may warrant the implementation of the sampling plan, Article 404 requires the licensee to file an entrainment sampling plan for Commission approval that describes the conditions that would determine when sampling would begin. It also requires the licensee to file reports with the Commission that make recommendations for addressing entrainment or to continue sampling based on sampling results.

51. Agreement Article 6 also requires the licensee to fund Washington Fish and Wildlife to annually rear about 5,000 pounds of salmonid fingerlings and 33,000 pounds of catchable-sized salmonids, until Washington Fish and Wildlife decides to reduce or eliminate fish stocking in Lake Chelan. At that time, any subsequent savings would be used by Washington Fish and Wildlife for other fish management activities. The Agreement is unclear where and what fish will be stocked, the criteria for discontinuing stocking, or what the alternative fish management activities might be. As noted earlier, it is the licensee's obligation to complete the measures required by the license articles, in the absence of authorization from the Commission to the contrary. Accordingly, Article 405 also requires the licensee to file as part of the Lake Chelan Fishery Plan, a detailed stocking plan for the project. Modifications to the stocking plan can be filed with the annual reports required by Article 404 that describe the fishery enhancement measures undertaken during the previous year.

52. Similarly, Agreement Article 6(c) requires the licensee to remove alluvial barriers to cutthroat trout from 10 high priority tributaries to Lake Chelan, to monitor whether the lake level operating regime required by this license is effectively naturally removing alluvial barriers from the tributaries, and to monitor whether the alluvial barriers reestablish. Article 404 requires the licensee to file a description of the monitoring methods.

## 6. Operation Compliance Monitoring Plan

53. This license requires that the licensee provide the minimum instream flows and ramping rates stipulated in Agreement Article 7 and the water quality certification. This license also requires that the licensee make a reasonable effort to comply with the lake level management practices defined in the Lake Level Plan stipulated in Agreement

Article 8. Article 405 requires the licensee to file an Operations Compliance Monitoring Plan that describes how it will demonstrate compliance with the above operational requirements, including maintaining a record and reporting any incidents of deviations from the required operations.

#### 7. Wildlife Habitat Plan

54. Agreement Article 9 requires the licensee to provide the Park Service, Forest Service, and Washington Fish and Wildlife funds for the purpose of providing wildlife habitat restoration, upland habitat improvements, and riparian habitat improvements on lands involving both reservation and non-reservation lands.

55. Under the wildlife habitat restoration measures of Agreement Article 9(a), the licensee is to make available \$220,000 to the Chelan-Douglas Land Trust to acquire conservation easements in perpetuity on 400 acres of privately-owned lands along the north shore of Lake Chelan and to provide \$32,000 to the trust and Washington Fish and Wildlife to improve shrub-steppe habitat for wintering mule deer. Beyond providing the funding for habitat improvements, the licensee would not be responsible for the success of the restoration efforts or any subsequent management obligations.

56. In the final EA, staff concluded that annual reservoir fluctuations in the range of 16-20 feet result in areas during the winter drawdown that provide poor wildlife habitat and that improving habitats on the north shore would improve winter survival for a deer herd that does not have access to other large wintering areas, particularly during harsh winters. However, staff concluded that acquisition of easements on additional lands was not necessary because improvements on lands already under state and federal control would also improve winter survival.<sup>46</sup> However, I have no choice but to include this requirement in the license because it is a mandatory section 4(e) condition.

57. Agreement Article 9(b)(1) makes \$20,000 available to the Forest Service annually for upland habitat improvements and \$5,000 per year for the first three years of the license for noxious weed control at sites containing rare plants. The Wildlife Habitat Plan described in Chapter 9 of the Lake Chelan Comprehensive Plan describes the types of upland habitat actions that may be implemented, but does not describe where or when they would be implemented. Similarly, Agreement Article 9(c)(2) makes funds available to the Forest Service, Park Service, and Washington Fish and Wildlife to make improvements to riparian habitats in the basin, but the Wildlife Habitat Plan described in Chapter 9 of the Lake Chelan Comprehensive Plan provides no indication as to how these

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<sup>46</sup> Final EA at 232.

one-time payments would be used by the respective agencies.

58. As noted earlier, the Commission generally does not favor such funds but prefers to require licensees to undertake specific measures. Establishment of the funds is a mandatory section 4(e) condition. Article 406 requires the licensee to file for Commission approval a Wildlife Habitat Plan that describes in detail the upland habitat, and riparian habitat measures that will be implemented over the first five years of the license and to update the plan every five years thereafter. The updated plan shall include a report on the implemented measures, any monitoring results to ensure the success of the measures, and detailed plans for the next five years. Where the measures require annual or periodic maintenance to ensure their success, Article 406 requires the lands to be brought into the project boundary.

#### 8. Recreation Plan

59. Agreement Article 11 sets forth the recreation measures that the licensee would provide on both reservation and non-reservation land. As stated above, I read the mandatory section 4(e) conditions as relating to only those recreation measures that provide funding to the Forest Service and Park Service for dock improvements and other recreation enhancements, and conducting a recreation use study in year 20 of the license (Agreement Article 11(a) through (g)). The recreation plan required under Article 407 shall include the recreation components for the reservation lands, as well as recreation measures on non-reservation lands, except as noted below.

60. Under the terms of proposed Agreement Article 11(a) and (b), the licensee will make available to the Forest Service \$700,000 for the purpose of repairing, expanding, and replacing Forest Service docks; \$100,000 for engineering services to standardize dock design; and \$39,000 annually for operation and maintenance of the docks.<sup>47</sup> Staff analysis found that project reservoir fluctuations are responsible in part for increased operation and maintenance of floating docks, but the project's share of those costs was much less (about \$136,857).<sup>48</sup> Because these conditions are required by the Forest Service's mandatory 4(e) conditions, I have no authority to reject these conditions.

61. Under the terms of Agreement Article 11(c), the licensee will also make available

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<sup>47</sup> The total includes \$450,000 for a contingency fund for funding replacement of 18 docks over the course of the license (*See* Table 11-13, USDA Forest Service Dock Measures, of the Recreation Resources Management Plan).

<sup>48</sup> Final EA at 182.

to the Forest Service \$980,000 for recreation facility improvements within or adjacent to the Lake Chelan Basin at Forest Service recreation sites and provide \$6,000 annually for operation and maintenance of those improvements. Then in year 30 of the license, the licensee would make available \$340,000 for additional enhancements at Forest Service recreation sites in the basin based on the results of a recreation use study conducted in year 20.<sup>49</sup> Neither the terms of the Agreement nor the Recreation Resources Management Plan (Chapter 11 of the Comprehensive Plan) describe these enhancements. The demand assessment provided in the Recreation Resources Management Plan suggests that these funds would be used for improvements to toilets and expansion of campgrounds on reservation lands outside of the project boundary.

62. In the final EA, staff found that recreation sites in the middle and upper lake zones would be sufficient to meet recreation needs well into the new license (about 20 years).<sup>50</sup> I am unable to make a public interest determination on the appropriateness of the above funds because the enhancement measures have yet to be identified, there is uncertainty as to the need for the measures, and such a license provision assumes a cost for as yet unidentified measures. Because I am unable to evaluate the benefits that would be provided by these funds and because enhancements in middle and upper lake basin do not appear to be warranted now, I would not require the licensee to provide the funds. However, I have no authority to reject the section 4(e) condition requiring the funds.

63. Similarly, Agreement Article 11(e) requires that the license provide \$149,000 to the Park Service for repairing, replacing, and maintaining Park Service boat docks. Again, while this amount appears to exceed the project's share of the cost for dock installation, replacement, and maintenance, it is a mandatory condition of the license.

64. Agreement Article 11(e) also requires the licensee to make available \$871,000 to the Park Service to enhance and stabilize recreation sites and to cover administrative costs associated with the recreation projects. The Agreement and Recreation Resources Management Plan are not clear on what enhancements would be provided with the funds, only noting that \$791,000 would be used for recreation enhancements and site stabilization, \$50,000 would cover administrative costs, and \$30,000 would be used for

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<sup>49</sup> See Table 11-14, USDA Forest Service Recreation Measures, of the Recreation Resources Management Plan.

<sup>50</sup> Final EA at 234. See also Table 11-11, Summary of Middle Chelan Basin Facilities Current and Projected Peak Day Facility Utilization, of the Recreation Resources Management Plan.

Manley Wham and Purple Point toilet improvements or replacement.<sup>51</sup> I am unable to parse how much of the funds would be used for site stabilization and how much would be used for unidentified enhancements. In year 30, \$130,000 would be made available to the Park Service for implementing recreational enhancements based on the recreational use study in year 20.<sup>52</sup>

65. Staff found that controlling erosion associated with reservoir fluctuations at the recreation sites would improve recreation access at the project and access to emergency response and administration facilities.<sup>53</sup> However, as noted above, recreational sites in the upper lake zones are expected to be sufficient to meet recreation needs well into the new license (about 20 years).<sup>54</sup> For these reasons and those described previously for establishing the Forest Service recreation funds, I am unable to determine the appropriateness of these funds. However, establishing these funds is a mandatory section 4(e) condition.

66. I do agree that another recreation use assessment, as identified in Agreement Article 11(g), should be conducted during the license term because the lake is a popular destination with expectations for increasing use.<sup>55</sup> Information from this study may identify future recreation needs that can be required through Article 407, which reserves the Commission's authority to modify the project recreation plan.

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<sup>51</sup> See Table 11-15 in Recreation Resources Management Plan (Chapter 11 of the Lake Chelan Comprehensive Plan)

<sup>52</sup> The Recreation Resources Management Plan suggests that these funds likely would be used for development of Riddle Creek Campground and a vault toilet at Purple Point Campground (Table 11-15 in Recreation Resources Management Plan of Chapter 11 of the Lake Chelan Comprehensive Plan).

<sup>53</sup> Final EA at 32.

<sup>54</sup> Final EA at 234. See also Table 11-12, Summary of Upper Chelan Basin Facilities Current and Projected Peak Day Facility Utilization, of the Recreation Resources Management Plan

<sup>55</sup> Article 401 requires the recreation use study to be filed for Commission approval. In addition, Form No. 80 requires that the licensee file with the Commission information with respect to existing and potential recreational uses at the project. 18 C.F.R. § 8.11 (2006).



67. I will now turn to the non-mandatory components of the Agreement beginning with the whitewater boating monitoring study and the licensee's concerns of liability associated with providing whitewater boating flows. Chelan PUD has consistently expressed concern about its potential liability for accidents that could occur from attempting to boat the Chelan River due to the difficulty of access in the Chelan River gorge, the difficulty of the whitewater runs, and the difficulty of rescue. Working with American Whitewater, Chelan PUD has agreed to develop and conduct a three-year monitoring study during which it would release boating flows on the second and fourth weekends in July and September,<sup>56</sup> provided that a minimum of six kayakers make a reservation on the Thursday prior to the scheduled release date, are physically present at the designated put-in by 10 am on the date of release, and liability insurance protecting Chelan PUD is in place. Additionally, only non-motorized, hard-shelled kayaks suitable for Class V whitewater would be allowed; no kayaker under 18 would be allowed to float; and each kayaker must sign a liability waiver in a form satisfactory to Chelan PUD prior to launching his or her kayak in the Chelan River. Following the three-year study, Chelan PUD in consultation with American Whitewater would evaluate whether to modify flow levels (not to exceed 450 cfs), the number of boaters required to make the release (no less than six), and the reservation system. Chelan PUD would continue to provide releases on the second and fourth weekends in July and September for the remainder of the license term provided that the above conditions are met (Agreement Article 11(h)(8) ).

68. The whitewater boating feasibility study conducted at the project found that at flows from 275 to 475 cfs, the Chelan River is boatable by skilled Class V paddlers and would likely attract boaters because of the scenic beauty of the canyon; clear, warm water; and the number of challenging rapids in a short reach. In the final EA, staff recommended monitoring actual use of the flow releases to enable a more informed decision on whether the releases should continue, because it is unknown just how much use this resource would attract.<sup>57</sup> Staff also concluded that any long-term release program and the monitoring study should be contingent on a threshold number of participants. Thus, the information obtained from the monitoring study would be helpful in designing a release program. Although American Whitewater and Chelan PUD intend to work together to obtain liability insurance and legislative changes to state statutes to reduce liability concerns, requiring suitable liability insurance or legislative changes to be in place prior to providing any whitewater flow releases could unduly delay or obviate

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<sup>56</sup> Flows on Saturday shall be between 300 cfs and 375 cfs; flows on Sunday shall be between 400 cfs and 450 cfs (Agreement Article 11(h)(1)).

<sup>57</sup> Final EA at 227.

the monitoring study and its full implementation. Furthermore, safety and liability concerns are not uncommon issues associated with whitewater boating and the fact that there is risk involved has not precluded the Commission from requiring whitewater access and flow releases.<sup>58</sup> Therefore, I have included in Article 407 the substance of Agreement Article 11(h) that requires the licensee to implement the whitewater boating monitoring study, but without the provisions requiring liability insurance or, in the alternative, changes in state liability laws to be in place prior to providing the releases (see Agreement Articles 11(h)(10) and (11)).

69. Staff recommended in the final EA and Article 407 requires the following measures from Agreement Article 11 which do not fall under the mandatory 4(e) conditions: (1) continued operation and maintenance of the Riverwalk, Old Mill and Manson Bay Parks;<sup>59</sup> (2) design and construction of Reach 1 Access Trail; (3) design and construction of the Riverwalk loop trail extension; (4) operation and maintenance of the sidewalk and handrails under the Dan Gordon Bridge; and (5) reserving project lands located in Reach 1 of the Chelan River bypassed reach for future recreation purposes. Current and projected use estimates for recreation facilities in the lower portion of the lake indicate that existing day use facilities will be over-utilized in the near future and a need exists for additional trails and beach access. The above measures will help meet those needs.

70. Under the terms of Agreement Article 11(n), the licensee would turn over a quit claim deed to three parcels of lands owned by the licensee at Water Street<sup>60</sup> along the south shore of Lake Chelan to the City of Chelan to develop public access areas or micro parks. The licensee would also provide the City of Chelan \$20,000 toward development of the micro parks, but development, implementation, and operation and maintenance of the micro parks would be the sole responsibility of the City of Chelan. As noted above, demand for recreational access in the lower portion of the lake is increasing and providing for the micro parks would help meet current and projected future beach access needs. However, staff did not recommend developing the micro parks because they were unconvinced, as am I, that these facilities could be constructed considering that the

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<sup>58</sup> See, e.g., *Northern States Power Company*, 79 FERC ¶62,170 (1997) and *Georgia Power Company*, 77 FERC ¶62,002 (1996).

<sup>59</sup> Article 408 also requires the Old Mill and Manson Bay Parks be brought into the project boundary.

<sup>60</sup> Chelan PUD owns a strip of shoreline property located on Water Street and an adjacent street right-of-way. The lands are within the current project boundary.

majority of the property is located on a steep bank.<sup>61</sup> However, we will need additional information to determine if these lands are necessary or appropriate for project purposes.<sup>62</sup> As an alternative to conveying the property and funding the City's efforts, I am requiring the licensee to file the results of a feasibility assessment for developing the micro parks, which will describe any site constraints for developing the parks as well as make recommendations for their development considering those constraints [Article 407(b)].<sup>63</sup> Based on these recommendations and any comments filed in response to the assessment, the Commission can evaluate whether providing the parks would be feasible and in the public interest.

71. Under the terms of Agreement Article 11(o), the licensee agreed to remove primary overhead transmission lines above the sidewalk along Johnson Avenue and State Highway 150 near Campbell's Resort and to install the transmission line in a trench to be dug by the City of Chelan. The project has no primary transmission lines under Commission jurisdiction, and thus I can not require the licensee to implement this measure. The licensee is free to provide these services outside of the license.

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<sup>61</sup> See Final EA at 235.

<sup>62</sup> No land may be removed from a project boundary until the Commission has examined the current and potential need for these lands for project purposes, such as public assess, shoreline control, aesthetic values, and protection of environmental and wildlife resources. See *Wisconsin Public Service Corp.*, 104 FERC ¶ 61,295 (2003), *reh'g denied*, 105 FERC ¶ 61,191 (2003) and *PUD No. 2 of Grant County*, 89 FERC ¶ 61,197 (1999), *aff'd*, *Crescent Bar Homeowners Association, et al. v. FERC*, 248 F.3d 1170 (9<sup>th</sup> Cir. 2001) (unpublished). Conveyance of the properties shall include reservation of any easements necessary to satisfy the requirements of the license. See *Erie Boulevard Hydropower, L.P.* 100 FERC ¶ 61,318 (2002).

<sup>63</sup> Between September 18, 2006 and October 27, 2006, comments opposing the donation of the lake front parcels to the City of Chelan were filed by Scott and Connie McKellar, Terry Luker, Robert Gillbertson, Cliff and Dixie Phillips, Don and Diane Newman, Myrtle Manor, Marge Giesbrecht, Pat and Pearl Nardone, Eloise Harle, and Larry and Linda Bradley. They have residencies along Terrace Avenue adjacent to the parcels proposed to be turned over the City of Chelan. They fear that the City of Chelan may require the removal of the docks they currently lease from Chelan PUD, reducing local access to the reservoir. They are also concerned that the narrow street and rocky shoreline make the area impractical for development and, if developed, could increase traffic congestion and exacerbate local parking problems. The feasibility assessment would consider existing and adjacent land uses.

72. Under the terms of Agreement Article 11(p), the licensee would develop and construct modifications to entrances and exits to Old Mill Park, Manson Bay Park, and Riverwalk Park to accommodate the integration of future trails that may be developed by other entities. I am requiring the licensee to notify the Commission when these modifications are made (Article 401) and to file revised exhibits as appropriate (Article 301).

73. Finally, in Agreement Article 11(q), the licensee would provide the City of Chelan engineering services and equipment for the purposes of controlling erosion at Don Morris Park beach area and marina breakwater. In the final EA, staff did not recommend any beach erosion control measures at Don Morse Park because they were unconvinced, as I am, that the erosion is project related. Therefore, I am not requiring the licensee to implement this measure. The licensee is free to provide these services outside the license.

## **TRIBAL ISSUES**

74. The Umatilla and CRITFC state that the Agreement in its current form will not provide an appropriate level of protection and enhancement to restore healthy biological conditions in the Chelan River for fish.<sup>64</sup> Specifically, the Umatilla and CRITFC state that the flows proposed under the Agreement are insufficient to protect and enhance fish populations and meet water quality standards for temperature in the Chelan River. They assert that the terms of the Agreement and the water quality certification substitute biological objectives for water quality standards. They believe that the biological objectives are weak, easily achievable targets that do not ensure the viability of fish populations and do not protect the fisheries' beneficial use.

75. During the previous license, no minimum flows were released to the 3.9-mile-long bypassed reach of the Chelan River and no permanent fish habitat existed between the spillway and the confluence with the tailrace. The analysis presented in the final EA demonstrates that the 80-cfs minimum flow required by this license will create and maintain at least 5.93 acres of adult cutthroat trout habitat in reaches 1 and 2 of the Chelan River. This is approximately 77 percent of the maximum amount of habitat that

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<sup>64</sup> They recommend that the Commission defer any decision on the license until their appeal of the state water quality certification resolves the water quality issues. However, the water quality certification appeal process was concluded on April 21, 2004, when the Washington State Pollution Control Hearings Board upheld the water quality certification, with nine specific clarifications to address the issues raised by the appellants.

could be created by higher flows. The required flows will also create habitat in reaches 1 and 2 for other fish species.

76. The minimum flows required by this license for Reach 4 of the bypassed reach will create and maintain approximately 1 acre of chinook salmon and steelhead spawning habitat and at least 0.66 acres of juvenile steelhead rearing habitat. Channel modifications and habitat improvements that will be implemented in Reach 4 will increase the amount of salmon and steelhead habitat above these estimates.

77. In regard to water temperature, the final EA includes an analysis of several flow alternatives and finds that under all scenarios, water temperatures in the bypassed reach will occasionally exceed cutthroat trout temperature thresholds and state standards for class A waters. These exceedences will occur due to the warm temperatures of surface water in the Wapato Basin of Lake Chelan.<sup>65</sup> These waters serve as the source for releases into the Chelan River and regardless of project operations, these waters will occasionally exceed water temperature thresholds for cutthroat trout.<sup>66</sup> To reduce warming in the bypassed reach, Chelan PUD will release higher daytime flows and/or modify habitat in the stream channel.<sup>67</sup>

78. As part of the water quality certification, Ecology indicated that studies predict that the proposed minimum flows for the bypassed reach would at times result in water temperatures exceeding state standards. Ecology states that Clean Water Act regulations allow Ecology to modify criteria assigned to protect a designated use if other criteria would sufficiently protect that use. Ecology indicates that because the bypassed reach has been dewatered for 76 years, it is not known what uses can be supported in the

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<sup>65</sup> Lake Chelan consists of two distinct basins separated by a relatively shallow sill 135 feet below the surface of the lake at its narrowest point. The Wapato Basin is a relatively broad and shallow basin, with a length of 12 miles and a maximum depth of 400 feet, located in the downstream portion of the lake.

<sup>66</sup> Final EA at 49.

<sup>67</sup> Modeling performed by Chelan PUD demonstrated that warm ambient conditions have less influence on high flows than lower flows. Therefore, increasing daytime flows will result in less warming within the bypassed reach than would occur with continued releases of the lower minimum flows. Chelan PUD also indicated that warming within the bypassed reach can be reduced by modifying the stream channel to increase shading or by decreasing the width-to-depth ratio, which would reduce the area exposed to ambient air temperature and solar radiation.

bypassed reach. Therefore, as part of the water quality certification, Ecology required Chelan to implement a ten year adaptive management plan with the objective of restoring and enhancing westslope cutthroat trout, steelhead, and fall Chinook salmon in the bypassed reach. If implementation of the plan indicates the standard can not be achieved, either in substance (biological objective) or form (numeric standard), Ecology would initiate a process to modify the applicable standards.

79. The Umatilla and CRITFC claim that the Agreement and the process used to develop the agreement failed to explore a full range of alternative measures and mitigation actions, such as higher flows and cold-water withdrawal from Lake Chelan for meeting water temperature standards. The record indicates otherwise. The Chelan River Biological Evaluation and Implementation Plan includes descriptions of at least 12 separate alternatives and mitigation measures for reducing water temperatures in the bypassed reach that were considered in developing the Agreement and by the Commission. Among these alternatives are releasing natural flows to the bypassed reach, increasing flows during periods of warm water temperatures, and piping cool water from below the Lake Chelan thermocline into the bypassed reach.<sup>68</sup> After analysis and consideration by the settling parties, each of these alternatives was rejected in favor of the settlement proposal. Staff's analysis in the final EA also examined other alternatives; however, staff recommended the measures stipulated in the water quality certification because of the benefits to the resources and the high cost of the alternative measures.<sup>69</sup>

80. The Umatilla and CRITFC state that the effects of periodic flood flows in the Chelan River from project operations were not addressed in the Commission's environmental review or by the Agreement. The Umatilla and CRITFC state that flood flows result in high total dissolved gas levels and the destruction of fish populations and habitat. The Umatilla and CRITFC provide no evidence to support this claim and information presented in the final EA suggests this is not the case. The shallow stilling basin and turbulent conditions within the bypassed reach limit the potential for excessive total dissolved gas levels.<sup>70</sup> Moreover, during pre-filing consultation total dissolved gas levels were monitored in the bypassed reach during high and low flow periods and no

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<sup>68</sup> Chelan River Biological Evaluation and Implementation Plan at 7-36 to 7-45.

<sup>69</sup> Several alternatives examined by staff indicated that some were more effective at reducing water temperatures, but extremely costly. Alternatives included deep water withdrawal from Lake Chelan, well pumping, and higher flows (Final EA at 75-85, 229-230).

<sup>70</sup> Final EA at 49.

elevated dissolved gas levels were recorded.<sup>71</sup> The reduced spill flows from the modified operation required by this license could reduce scouring and erosion in the bypassed reach that would degrade usable fish habitat, thus protecting fish populations and habitat.<sup>72</sup>

## COASTAL ZONE MANAGEMENT

81. Under section 307(c)(3)(a) of the Coastal Zone Management Act (CZMA),<sup>73</sup> the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

82. The Lake Chelan Project is not located within a coastal county defined in the state of Washington's coastal zone program and Chelan PUD was not required to file a consistency certification by Ecology which administers the state's CZMA program.<sup>74</sup>

## FISHWAY PRESCRIPTIONS

83. Section 18 of the FPA,<sup>75</sup> provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as may be prescribed by the Secretaries of Commerce or the Interior, as appropriate. By letter filed

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<sup>71</sup> *Id.*

<sup>72</sup> *Id.* at 33 and 73.

<sup>73</sup> 16 U.S.C. §1456(3)(A) (2000).

<sup>74</sup> Final EA at 19. Washington State's Coastal Zone Management Program (CZMP) was approved in 1976. The program applies to the fifteen coastal counties which front on salt water. Washington's CZMP applies to activities within the 15 counties as well as activities outside these counties, which may affect Washington's coastal resources. According to Ecology's website (<http://www.ecy.wa.gov/programs/sea/czm/fed-consist.html>) most, but not all, activities and development outside the coastal zone are presumed to not impact coastal resources. Ecology did not require a Coastal Zone Management Consistency Statement for the Lake Chelan Project.

<sup>75</sup> 16 U.S.C. § 810 (2000).

November 24, 2003, the Secretary of Commerce requested that the Commission reserve authority to prescribe fishways for upstream and downstream passage of anadromous fish. By letters filed on June 28 and July 5, 2003, the Secretary of Interior requested that the Commission reserve authority to prescribe fishways for bull trout, Westslope cutthroat trout, Chinook and sockeye salmon, steelhead trout, Pacific lamprey, and any other fish to be managed, enhanced, protected, or restored to the Lake Chelan and Chelan River Basin during the term of the license. Agreement Article 13 contains this reservation, but further identifies “actions that Chelan PUD may take if such authority is exercised.” Consistent with Commission policy, Article 409 of this license reserves the Commission’s authority to require fishways that may be prescribed by Interior or Commerce for the Lake Chelan Project, as requested.

### **ESSENTIAL FISH HABITAT**

84. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act<sup>76</sup> requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A)<sup>77</sup> of the Magnuson-Stevens Act, NMFS is required to provide EFH Conservation Recommendations for actions that would adversely affect EFH. Under section 305(b)(4)(B) of the Act,<sup>78</sup> an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency’s activity on the EFH.<sup>79</sup>

85. The Pacific Fisheries Management Council has designated EFH for three species of Pacific salmon: coho, Chinook, and Puget Sound pink salmon.<sup>80</sup> NMFS included an

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<sup>76</sup> 16 U.S.C. § 1855(b)(2) (2000).

<sup>77</sup> 16 U.S.C. § 1855(b)(4)(A) (2000).

<sup>78</sup> 16 U.S.C. § 1855(b)(4)(B) (2000).

<sup>79</sup> The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

<sup>80</sup> See Pacific Fishery Management Council. 1999. Amendment 14 to the Pacific salmon plan. Appendix A: Description and identification of essential fish habitat,

(continued)



analysis of effects on EFH in its Biological Opinion provided in response to the Commission's November 29, 2002 request to initiate formal consultation under the Endangered Species Act. In this case, NMFS concluded that EFH extends from the Columbia River plume in the Pacific Ocean to the first impassable barrier in Reach 3 of the Chelan River. In the Biological Opinion, dated October 20, 2005, NMFS concluded that the proposed action will adversely affect designated EFH for Chinook salmon and coho salmon. NMFS adopted the terms and conditions of the incidental take statement (discussed further below) as conservation measures to minimize the effects on EFH. NMFS' conservation measures are included in this license as part of the Threatened and Endangered Species Protection Plan required by Article 408.

### **THREATENED AND ENDANGERED SPECIES**

86. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)<sup>81</sup> 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<sup>82</sup> 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).

87. 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.<sup>83</sup> 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

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adverse impacts and recommended conservation measures of salmon. Portland, Oregon.

<sup>81</sup> 16 U.S.C. § 1536(a) (2000).

<sup>82</sup> 16 U.S.C. ' 1536(d) (2000).

<sup>83</sup> Final EA at section 5.

of juvenile, and perhaps adult steelhead, during construction of habitat improvements in the bypassed reach and tailrace.

88. 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.

89. 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.

90. 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.

91. 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).<sup>84</sup> In addition, license Article 408 requires the licensee to

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<sup>84</sup> As discussed earlier, the Commission would prefer to see conditions which  
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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.

92. I have 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.<sup>85</sup>

### **RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES**

93. Section 10(j)(1) of the FPA,<sup>86</sup> requires the Commission, when issuing a license, to include conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act<sup>87</sup> to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by a project.

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address resource needs by requiring specific actions, rather than simply providing funding for activities. However, I am including this condition because it is part of the incidental take statement.

<sup>85</sup> For example, one of the conditions purports to require the Commission to retain sufficient authority over the ongoing project operation to allow for future unilateral changes to protect endangered species through the term of the license. Standard Article 15 of the license (*see* Ordering Paragraph (G)) permits the Commission to reopen the license to require, after notice to the licensee and an opportunity to comment, reasonable measures for the conservation and development of fish and wildlife resources. Another condition would require the Commission to enforce the conditions of the license. The Commission's mandate to enforce the requirements of its licenses comes from the FPA, not NMFS. To this end, the Commission has established a compliance and administration program to ensure that a licensee complies with the requirements of an issued license.

<sup>86</sup> 16 U.S.C. § 803(j)(1) (2000).

<sup>87</sup> 16 U.S.C. § 661, *et seq.* (2000).

94. On June 27, 2002, June, 28, 2002, and July 5, 2002,<sup>88</sup> Washington Fish and Wildlife, NMFS, and FWS, respectively, timely filed fish and wildlife recommendations pursuant to section 10(j) of the FPA. On November 3, 2003, November 12, 2003, and January 12, 2004, NMFS, Washington Fish and Wildlife, and FWS, respectively, notified the Commission that the Agreement terms and conditions constitute their final 10(a) and 10(j) recommendations. This license includes those recommendations as Agreement conditions in Appendix A and Appendix D, and as modified by Articles 404 (Lake Chelan Fishery Plan) and 406 (Wildlife Habitat Plan). Articles 404 and 406 modify the recommendations to require additional detail on the proposed methods and measures contained in the plans.<sup>89</sup>

### **NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT**

95. In 1980, Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act).<sup>90</sup> This act created the Northwest Power Planning Council (now known as the Northwest Power and Conservation Council) and directed it to develop a Columbia River Basin Fish and Wildlife Program. The Program is to protect, mitigate, and enhance fish and wildlife resources affected by the development and operation of hydroelectric projects on the Columbia River and its tributaries, while assuring the Pacific Northwest an adequate, efficient, economical and reliable power supply.<sup>91</sup> Section 4(h)(11)(A) of the Northwest Power Act,<sup>92</sup> provides that federal agencies operating or regulating hydroelectric projects within the Columbia River Basin shall exercise their responsibilities to provide equitable treatment for fish and wildlife resources with other purposes for which the river system is utilized and shall take the Council's Program into account "at each relevant stage of decision-making processes to the fullest extent practicable."

96. To mitigate harm to fish and wildlife resources, the Council has adopted specific provisions to be considered in the licensing or relicensing of non-federal hydropower projects (Appendix B of the Program). The license, among other things, includes erosion

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<sup>88</sup> FWS's recommendations were filed 5 days late.

<sup>89</sup> See Settlement Agreement discussion in sections B5 and B7.

<sup>90</sup> 16 U.S.C. §§839 (b) *et seq.*(2000)

<sup>91</sup> 16 U.S.C. §839 b(h)(5) (2000).

<sup>92</sup> 16 U.S.C. §839 (h)(11)(A) (2000).

control and bank protection (Agreement Articles 1, 2, and 4 and Article 403); enhancements to Lake Chelan fisheries (Agreement Article 6 and Article 404); enhancing and restoring Chelan River fisheries (Agreement Article 7); lake level management (Agreement Article 8); wildlife habitat improvements (Agreement Article 9 and Article 406); reservation of fishway prescriptions (Article 409); entrainment monitoring (Agreement Article 6 and Article 404); and salmon and steelhead conservation measures (Agreement Article 14 and Article 408). These requirements are consistent with the applicable provisions of the Program, as discussed in more detail in the final EA. As part of the Program, the Council has designated over 40,000 miles of river in the Pacific Northwest region as not being suitable for hydroelectric development (“protected area”). The project is not located within a protected area designated under Appendix B of the program. Article 411 reserves to the Commission the authority to require future alterations in project structures and operations to take into account, to the fullest extent practicable, the applicable provisions of the Program.

### **NATIONAL HISTORIC PRESERVATION ACT**

97. The National Historic Preservation Act (NHPA),<sup>93</sup> requires federal agencies to manage cultural resources under their jurisdiction and authorizes the Secretary of Interior to maintain the National Register. Section 106 of the NHPA and its implementing regulations,<sup>94</sup> require federal agencies to take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

98. On April 16, 2004, the Washington State Historic Preservation Officer, the Colville Tribal Historic Preservation Officer, and the Commission executed a programmatic agreement for managing historic properties that may be affected by relicensing of the Lake Chelan Project. Agreement Article 10, as set forth in Appendix A, requires the licensee to implement the programmatic agreement, including but not limited to the Historic Properties and Cultural Resources Management Plan for the project included in Chapter 10 of the Comprehensive Plan. Article 410 requires implementation of the programmatic agreement and approves the management plan. The programmatic agreement and management plan serve to satisfy the Commission’s

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<sup>93</sup> 16 U.S.C. § 470 *et seq.* (2000).

<sup>94</sup> 36 C.F.R. Part 800 (2004).

responsibilities under section 106 of the National Historic Preservation Act.<sup>95</sup>

## **OTHER ISSUES**

### **A. Annual Charges**

99. The Commission collects annual charges from licensees for administration of the FPA and for the use, occupancy and enjoyment of federal lands. Article 201 provides for the collection of funds for administration of the FPA and for recompensing the United States for the use of its lands.

### **B. Exhibit A, F and G Revisions**

100. Exhibit A descriptions and the Exhibit F drawings filed with the license application are approved and made part of the license (Ordering Paragraph C). The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of these drawings.

101. The Exhibit G drawings that were filed with the license application do not meet the current Commission requirements for project boundary maps, because a project boundary map must: (1) enclose all the principal project works necessary for operation and maintenance of the project within the project boundary line; (2) provide the project boundary data in a geo-referenced electronic format; (3) have three control points with latitude and longitude or state plane coordinates; and (4) be stamped by a Registered Land Surveyor. Article 203 requires the licensee to file revised Exhibit G drawings meeting all of the requirements pursuant to 18 CFR sections 4.39 and 4.41, within 90 days.

102. Article 301 requires that the licensee shall file for Commission approval revised Exhibits A, F and G within 90 days of completion of construction of any new facilities or modification of project boundaries authorized by this license.

### **C. Headwater Benefits**

103. Some projects directly benefit from headwater improvements that were constructed by other licensees, by the United States, or by permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

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<sup>95</sup> 16 U.S.C. ' 470s (2000).

D. Use and Occupancy of Project Lands and Waters

104. Requiring a licensee to obtain prior Commission approval for every use or occupancy of the project would be unduly burdensome. Therefore, Article 412 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

E. Project Safety

105. Because this license imposes reservoir operation limitations, Article 302 requires the licensee to file, within 60 days of the issuance date of the license, with the Commission, a reservoir drawdown limitation and safety report. The report shall evaluate the ability of the project to pass flood flows and discuss the likelihood of local flooding.

F. Review of Final Plans and Specifications

106. This license authorizes several construction-related actions, including modifications to project features to release minimum flows and channel modifications in the bypass to improve spawning habitat for listed fish species. Article 301 requires the licensee to file for Commission approval, within 90 days of completing construction, revised exhibits describing and showing the facilities as built. Article 303 requires the licensee to file for Commission approval a supporting design report and final construction plans and specifications at least 60 days before starting any license-related construction. Article 304 requires the licensee to submit approved cofferdam construction drawings and specifications at least 30 days prior to starting construction of the cofferdams. Article 305 requires the licensee to file, at least 60 days prior to starting construction, for Commission approval, a Temporary Emergency Action Plan for any construction activities involving cofferdams, or any other water retaining structure that could endanger workers or the public.

## **STATE AND FEDERAL COMPREHENSIVE PLANS**

107. Section 10(a)(2) of the FPA<sup>96</sup> requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.<sup>97</sup> Under

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<sup>96</sup> 16 U.S.C. § 803(a)(2)(A) (2000).

<sup>97</sup> Comprehensive plans for this purpose are defined at 18 C.F.R. §2.19.

section 10(a)(2)(A), federal and state agencies filed 71 comprehensive plans that address various resources in Washington. Of these, the staff identified and reviewed 16 comprehensive plans<sup>98</sup> that are relevant to this project. No conflicts were found.

## **APPLICANT'S PLANS AND CAPABILITIES**

108. In accordance with sections 10(a)(2)(c) and 15(a) of the FPA,<sup>99</sup> Commission staff evaluated Chelan PUD'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; and (H) actions affecting the public. I agree with staff's findings in each of the following areas.

### **A. Conservation Efforts**

109. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electric consumption efficiency programs in the case of license applicants primarily engaged in the generation or sale of electric power. Chelan PUD is such an applicant. Chelan PUD has programs to promote cost-effective conservation for its residential, commercial, industrial, and agricultural customers. Through these programs, Chelan PUD is making satisfactory efforts to conserve electricity and reduce peak hour demands.

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

110. Commission staff reviewed Chelan PUD's compliance with the terms and conditions of the existing license. Staff finds that Chelan PUD's overall record of making timely filings and compliance with its license is satisfactory. Thus, Chelan PUD has or can acquire the resources and expertise necessary to carry out its plans and comply with all articles and terms and conditions of a new license.

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

111. Commission staff reviewed Chelan PUD's management, operation, and maintenance of the Lake Chelan Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's

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<sup>98</sup>The list of applicable plans can be found in section IX of the Environmental Assessment for the project at page 250.

<sup>99</sup> 16 U.S.C. §§ 803(a)(2)(C) and 808(a) (2000).



Safety Inspection Reports. Staff determined that the dam and other project works are safe, and that there is no reason to believe that Chelan PUD cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

112. Commission staff reviewed Chelan PUD's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Chelan PUD has been operating the project in an efficient manner within the constraints of the existing license and is likely to continue to do so under a new license. Staff concludes that Chelan PUD is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

113. Under the terms of this license, the Lake Chelan Project will generate an average of 364,982 MWh of electric energy per year which is available to serve the homes and businesses of Chelan County, Washington, and its Pacific Northwest power purchasers. The project, which has a nameplate capacity of 48 MW, has a dependable capacity of 57.5 MW based on the actual operating hydraulic head and flow conditions.

114. Chelan PUD serves nearly 30,000 residential accounts, more than 1,117 irrigation customers, more than 4,525 commercial accounts and 27 industrial accounts within Chelan County. The load from these customers amounts to more than 1.3 million MWh annually. Further, Chelan PUD transmits about 63 percent of the power it generates to more than seven million customers and to its four major power purchasers in the Pacific Northwest. Chelan PUD projected the load it serves will increase to more than 2.2 million MWh over a 10-year period beginning in 2002.<sup>100</sup>

115. The project is located in the Northwest Power Pool Area (NWPP) of the Western Electricity Coordinating Council (WECC) region of the North American Electric Reliability Council. The peak demand and annual energy requirements for the NWPP area are projected to grow at an average annual compound rate of 1.6 percent and 1.8 percent, respectively, over the 10-year period from 2004 through 2013.<sup>101</sup>

116. Based on the above projections, the power from the Lake Chelan Project would

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<sup>100</sup> Final License Application, Lake Chelan Project No. 637, March 31, 2002.

<sup>101</sup> Western Electricity Coordinating Council 10-Year Coordinated Plan Summary, September 2004.

continue to be useful in meeting local as well as part of the regional need for power. The project would continue to displace some of the fossil fueled electric power generation the regional utilities now use, and thereby conserve nonrenewable resources and reduce the emission of noxious byproducts caused by the combustion of fossil fuels.

F. Transmission Services

117. The project's transmission facilities that are required to be licensed include the generator leads, station transformers, buses and switchyard located at the powerhouse. Lake Chelan proposes no changes that would affect transmission facilities.

G. Cost Effectiveness of Plans

118. Chelan PUD is not proposing, nor does this order approve any change in the installed capacity at the Lake Chelan Project. Chelan PUD investigated the feasibility of capacity expansion and concludes that additional capacity would not likely be cost-effective at this time. Staff found no evidence to the contrary. Chelan PUD does propose plans and operational procedures for the protection, mitigation and enhancement of environmental resources in the Lake Chelan Basin. Chelan PUD's past record as a licensee indicates it is likely to carry out these plans in a cost-effective manner.

H. Actions Affecting the Public

119. In its license application, Chelan PUD cited numerous examples of actions it has taken that affect the public including: acquiring land for park and recreation development; fish stocking; and providing funding for recreation facilities and programs. Staff concludes that the various environmental and recreational enhancement measures approved in this license would benefit the public.

## **PROJECT ECONOMICS**

120. In determining whether to issue a new license for an existing hydroelectric project, 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 Corp.*,<sup>102</sup> the Commission 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 Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of

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<sup>102</sup>72 FERC ¶ 61,027 (1995).

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.

121. In applying this analysis to the Lake Chelan Project, I considered two options: the no-action alternative and the project as proposed by Chelan PUD in accordance with the Agreement. Under the no-action alternative, the levelized annual cost of operating the project is about \$7.921 million or \$21/MWh. The Lake Chelan Project would generate about 384,020 MWh of energy annually. When we multiply our estimate of average annual generation by the alternative power cost of \$38/MWh,<sup>103</sup> we get a total value of the project's power of \$14.593 million. To determine whether the project is currently economically beneficial, we subtract the project costs from the value of the project's power. Therefore, the project would cost \$6.672 million or \$17/MWh less than the likely alternative cost of power.

122. As proposed by Chelan PUD and licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$10.431 million, or about \$29/MWh. Based on an estimated average generation of 364,982 MWh, the project would produce power valued at \$13.937 million when multiplied by the \$38/MWh value of the project's power. Therefore, the project power would cost \$3.525 million or \$9/MWh less than the likely cost of alternative power.

123. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). For projects with useable water storage, 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 Lake Chelan Project will continue to provide a broad range of ancillary service benefits to the region.

## **COMPREHENSIVE DEVELOPMENT**

124. Sections 4(e) and 10(a)(1) of the FPA<sup>104</sup> require the Commission to give equal

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<sup>103</sup>Generation, production costs, and power value estimates are based on the cost of purchasing the equivalent generation from Bonneville Power Administration at its new resource rate of firm power (Final EA at 198-199) and supplemented by information contained in the Agreement.

<sup>104</sup>16 U.S.C. §§ 797(e) and 803(a)(1) (2000).

consideration to the power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

125. The EA for the Lake Chelan Project contains the background information, analysis of effects, and support for related license articles. We conclude based on the record of this proceeding, the Lake Chelan Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

126. Based on our independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I have selected the proposed Lake Chelan Project, and find that it is best adapted to a comprehensive plan for improving and developing Lake Chelan and the Chelan River.

127. I selected this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and an inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreation resources and historic properties; and (3) the 48 MW of electric energy generated from renewable resource will continue to offset the use of fossil-fueled, steam-generating electric generating plants, thereby conserving nonrenewable energy resources and reducing atmospheric pollution.

## **LICENSE TERM**

128. Section 15(e) of the FPA<sup>105</sup> provides that any new license shall be for a term that the Commission determines to be in the public interest, but not be less than 30 years nor more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.

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<sup>105</sup>16 U.S.C. ' 808(e) (2000).

129. This license requires extensive long-term environmental measures, including providing minimum instream flows, channel modifications, and pumping water to improve salmon habitat in the bypass reach; removing barriers in tributaries to Lake Chelan to facilitate adfluvial salmonid access to spawning habitats and stocking salmonids in the lake; funding erosion control measures; providing recreational enhancements throughout the life of the license, and providing for wildlife habitat improvements for the term of the license. Furthermore, because the comprehensive settlement agreement provides a framework for long-term adaptive management of the project and related environmental resources and support for a longer license term, a term of 50 years is appropriate.<sup>106</sup>

The Commission orders:

(A) This license is issued to Public Utility District No. 1 of Chelan County (licensee) to operate and maintain the Lake Chelan Project, for a period of 50 years, effective the first day of the month in which this order is issued. The 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 these lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 490-foot-long concrete gravity dam with a maximum height of about 40 feet and containing a 202-foot-wide spillway section equipped with eight, 20-foot-wide by 14-foot-high Taintor gates and a 10-foot-wide sluiceway; (2) a reinforced concrete intake structure containing seven, 17-foot-wide inlet openings protected by manually cleaned, steel trashracks; (3) an unused intake structure containing ten, 17-foot-wide inlet openings without trashracks, and connected to a short 17-foot-diameter tunnel stub (designed for possible future expansion); (4) Lake Chelan, a 32,560-acre reservoir at normal maximum water surface elevation of 1,100 feet mean sea level (USGS datum), with a gross storage capacity of 15.8 million acre-feet and a useable

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<sup>106</sup> While the parties did not agree on a specific license term, the agencies indicated they would support a 45-year license and would not oppose a 50-year license sought by Chelan PUD (see section 5.1 of the Settlement Agreement).

storage of 677,400 acre-feet between elevations 1,079 and 1,100; (5) a water conveyance system consisting of: a 10,578-foot-long, 14-foot-diameter concrete tunnel at 0.3 percent grade; a 1,000-foot-long, steel-lined tunnel at 35 percent grade; and a 45-foot-diameter by 25-foot-high steel surge tank; (6) an indoor, above ground, 140-foot-long by 100-foot-wide by 124-foot high, reinforced concrete powerhouse; (7) two, vertical-axis, Francis-type turbines each rated at 34,000 horsepower and connected to a 24,000-kW generator for a total nameplate capacity of 48,000 kW; (8) a switchyard containing two, 3-phase main transformers, eight 115-kilovolt circuit breakers; and (9) other appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of exhibits A and F shown below:

Exhibit A: The following sections of exhibit A filed on March 28, 2002:

Sections A2.1.1(detailed description of dam), A2.1.2 (spillway), A2.1.3 (intake), A2.1.4 (water conveyance structures), A2.1.5 (powerhouse), A2.1.6 (tailrace), A.2.3 (turbines and generators), A.2.5 (switchyard) and A.2.6 (additional mechanical, electrical, and transmission equipment appurtenant to the project).

Exhibit F: The following sections of exhibit F filed on March 28, 2002, and revised in part (Exhibit F drawings Sheet 2 only) on August 11, 2003:

<u>Exhibit F-</u>	<u>FERC Drawing No. 637-</u>	<u>Showing</u>
1	1001	Diversion and Control Dam Plan
2	1002	Diversion and Control Dam Sections
3	1003	Power Tunnel Profile, Sections and Detail
4	1004	Powerhouse Sectional Plan
5	1005	Powerhouse Sections
6	1006	Switchyard and Powerhouse General Plan
7	1007	Tailrace Channel General Plan

(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) The Exhibits A and F described above are approved and made part of this license. The exhibit G drawings filed as part of the application for license do not

conform to Commission regulations and are not approved. Article 203 requires filing of revised exhibit G drawings.

(D) This license is subject to the conditions submitted by the U.S. Department of Agriculture under section 4(e) of the Federal Power Act, as those conditions are set forth in Appendix B to this order. Therefore, Agreement Articles 1, 3, 5, 6, 8, 9, 10, and 11(a) through (d) and 11(g) in Appendix A of this order are made part of the license.

(E) This license is subject to the conditions submitted by the U.S. Department of the Interior under section 4(e) of the Federal Power Act, as those conditions are set forth in Appendix C to this order. Therefore, Agreement Articles 2, 3, 4, 6, 8, 9, 10, 11(e) through (g), and 12 in Appendix A of this order are made part of the license.

(F) This license is subject to the conditions submitted by the Washington Department of Ecology under section 401 of the Clean Water Act, 33 S.S.C. § 1431(a)(1) (2000), as those conditions are set forth in Appendix D to this order.

(G) This license is subject to articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States (*see* 54 FPC 1799 *et seq.*) , " and the following additional articles.

Article 201. Annual Charges. The licensee shall pay the United States annual charges, effective the first day of the month in which this license is issued, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purposes of:

(1) reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 48 megawatts, and

(2) recompensing the United States for the use, occupancy and enjoyment of 465.5 acres of its lands (other than for transmission line right-of-way);

Article 202. Exhibit Drawings. Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

a) Four sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-637-

1001 through P-637-####) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards along with form FERC-587 shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. The remaining set of aperture cards and a copy of Form FERC-587 shall be filed with the Bureau of Land Management office at the following address:

State Director  
Bureau of Land Management  
Land services Section (ID-943-A)  
1387 S. Vinnell Way  
Boise, ID 83709-1657  
ATTN: FERC Withdrawal Recordation

b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-637-####, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file  
FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4  
RESOLUTION – 300 dpi desired, (200 dpi min)  
DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)  
FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of the effective date of the license, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including the existing Old Mill Park and Mason Bay Park. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.



Article 204. Headwater Benefits. If the licensee's project was directly benefited 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. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. Revised Exhibits and As-built Drawings. Within 90 days of the completion of any construction of facilities, modifications of project boundaries, or any other action required by this license that results in changes to Exhibits A, F, and G, the licensee shall file for Commission approval revised Exhibits A, F, and G, as appropriate, to show and describe those project facilities and lands as built or modified. The exhibits shall have sufficient detail to adequately delineate the relative location of project features. The licensees shall submit six copies of the revised exhibits to the Commission, one copy to the Commission's Division of Dam Safety and Inspections Portland Regional Engineer, and one to the Director, Division of Hydropower Administration and Compliance.

Article 302. Reservoir Drawdown Limitation and Safety Report. Within 60 days of the date of this license, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Portland Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of a report describing the effects of reservoir drawdown limitations imposed by this license on local flooding and spillway adequacy of the project dam.

The report shall include a flood routing study that evaluates the ability of the project to safely pass flows up to the Inflow Design Flood. The frequency that the non-overflow structures would be overtopped under the historical and limited drawdowns should be compared. The report shall discuss if there would be an increased likelihood of low-lying structures located upstream and downstream of the reservoir being flooded under the new operating scenario. If necessary, the report shall include a plan and schedule for performing any remedial measures necessary to ensure the continued safe operation of the project during high flows.

The licensee shall implement any remedial measures required by the Division of Dam Safety and Inspections' Portland Regional Engineer.

Article 303. Contract Plans and Specifications. At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections, Portland Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The licensee may not begin construction until the Regional Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied. The submittal to the Regional Engineer must also include as part of the preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

Article 304. Cofferdam Construction Drawings. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdams, the licensee shall submit one copy to the Division of Dam Safety and Inspections, Portland Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.


Article 305. Temporary Emergency Action Plan. At least 60 days before starting construction, the licensee shall submit one copy to the Division of Dam Safety and Inspections, Portland Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structure, or any other water retaining structure could endanger construction workers or the public. The TEAP shall include a notification list of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 401. Scheduling and Reporting Requirements and Amendment Applications.

(a) Requirement to File Plans for Commission Approval and Requirement to Consult

Various conditions of this license required by Ordering Paragraphs D, E, and F and found in Appendices A, B, C, and D, require the licensee to prepare plans for approval by some or all of the signatories of the Lake Chelan Settlement Agreement.

Each such plan shall also be submitted to the Commission for approval and include an implementation schedule. These plans are listed below.

Condition	Plan	Due Date
Appendix A, Article 1(a)(1)	<b>Erosion Control Implementation Plan</b>	Within one year of the date of issuance of the license
Appendix A, Article 1(a)(2)	<b>Site Specific Erosion Control Plans</b>	At least one year before ground-disturbing activity occurs
Appendix A, Article 1(a)(3)	<b>Erosion Monitoring and Maintenance Plan</b>	Within two years of the date of issuance of the license
Appendix A, Article 2(d)	<b>Plans to Address Increased Costs of Erosion Site Projects</b>	At least one year before ground-disturbing activity occurs
Appendix A, Article 7(c) and Appendix D, Condition IV.E	<b>Biological Objectives Status Report</b>	By April 30 in years 4, 6, 8, and 10 of the license
Appendix A, Article 10(f)	<b>Traditional Cultural Properties Management Plan</b>	Within one year of the date of issuance of the license
Appendix A, Article 10(j)	<b>Education Program and Interpretive Plan</b>	Within three years of the date of issuance of the license
Appendix A, Article 11(g)	<b>Recreation Use Study Plan</b>	At least 180 days before the scheduled implementation of the plan
Appendix D, Condition V.B	Quality Assurance Project Plan for water quality monitoring and temperature modeling 	Within one year of the date of issuance of the license and any proposed revisions to the plan by April 30 of year 6 of the license.

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. The licensee shall allow a minimum of 30 days for the consulted entities to comment and to make recommendations before 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 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 project operations or facilities, including any changes required by the Commission.

(b) Requirement to File Amendment Applications

Certain conditions in the Appendix contemplate unspecified long-term changes to project operations, requirements, or facilities for the purpose of protecting and enhancing environmental resources. 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.

Condition No.	Modification
Appendix A, Article 1(b)	Modifications to approved plans for erosion control
Appendix A, Article 6(e)(3)	Installation of fish protection or exclusion measures for the power tunnel or other actions recommended to mitigate entrainment of adult adfluvial cutthroat trout
Appendix A, Article 7(c)(2), (c)(3) and (c)(4); and Appendix D, Condition IV.E, and IV.F.	Any new or modified measures, including monitoring and evaluation, needed to achieve the biological objectives for the Chelan River and the schedule of implementation.

Article 402. Funding. Notwithstanding the limitation on expenditures as expressed in the mandatory conditions and included in this license, the Commission reserves the right to require the licensee to undertake such measures as may be appropriate and reasonable to implement approved plans and other requirements in this license.

Article 403. Stehekin Area Implementation Monitoring Plan. Within one year of the issuance date of the license, the licensee shall file for Commission approval, a plan to monitor the measures implemented in accordance with the Stehekin Area Implementation Plan required by Article 4 of the Lake Chelan Settlement Agreement and contained in Chapter 4 of the comprehensive plan attached to the settlement agreement. The purpose of the plan is to provide details on the measures that would be implemented to monitor reductions in dust emissions, establishment of native riparian vegetation, and reductions

in non-native plants in the reservoir drawdown zone and along the reservoir shoreline in the area of Stehekin. The plan shall include, but not be limited to, the following:

(a) a detailed description of the methods that will be used to monitor the environmental effects of large woody debris placed in the drawdown zone to reduce dust emissions and establish native riparian vegetation.

(b) a detailed description of the methods that will be used to monitor the success of efforts to establish native riparian plants and remove non-native plants;

(c) a schedule for filing a report for Commission approval in years 5, 10, 15, and 20 of the license detailing the measures implemented to reduce dust emissions, results of the total suspended particulate sampling, and any recommendations for additional measures to achieve a reduction in the magnitude and duration of dust events by 50 percent by year 20 of the license; and

(d) a schedule for filing a report for Commission approval every 5 years of the license describing the success of establishing native riparian vegetation and reducing non-native species and any recommendations for additional measures.

The plan shall be developed in consultation with the U.S. Park Service (Park Service). The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the Park Service, and specific descriptions of how the Park Service' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the Park Service to comment and to make recommendations before filing the plan with the Commission. If the licensees do not adopt a recommendation, the filing shall include the licensees' reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the plan is approved by the Commission. Upon Commission approval, the licensees shall implement the plan, including any changes required by the Commission.

Article 404. Lake Chelan Fishery Plan. Within one year of the issuance date of the license, the licensee shall file for Commission approval a Lake Chelan Fishery Plan to restore and enhance, where feasible, native fisheries in Lake Chelan and its tributaries and to support the lake's recreational sport fishery. In addition to the measures set forth in Article 6 of the Lake Chelan Settlement Agreement (included in Appendix A), the plan shall include the following measures for the plan components below:

(a) *Tributary Barrier Removal.* The Lake Chelan Fishery Plan shall contain a detailed description of the methods to be employed to determine if the alluvial barriers reform and a schedule for implementing the monitoring plan.

(b) *Fish Stocking Plan.* The Lake Chelan Fishery Plan shall contain a detailed stocking plan, developed to maintain the recreational sport fishery and promote the recovery of native west slope cutthroat trout in Lake Chelan and its tributaries, that includes, but is not limited to: (1) a provision for stocking of 5,000 pounds of salmonid fingerlings and 33,000 pounds of catchable-size salmonids in Lake Chelan and its tributaries; (2) a description of the stocking locations and species; (3) an implementation schedule; and (4) a provision and schedule for an annual review and revision of the stocking plan and management objectives with the U.S. Park Service (Park Service), U.S. Forest Service (Forest Service), U.S. Fish and Wildlife Service, NOAA National Marine Fishery Service (NMFS), Washington Department of Fish and Wildlife (Washington Fish and Wildlife), Washington Department of Ecology, Confederated Tribes of the Colville Reservation, Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, City of Chelan, and the Lake Chelan Sportsman's Association. The licensee shall file the annual report with the Commission 30 days following the review by the consulted entities. The annual report shall include any recommendation for reducing or eliminating the stocking program and any recommended fish enhancement measures to be implemented in place of stocking. The licensee shall not implement the measures until approved by the Commission.

(c) *Entrainment Sampling Plan.* The Lake Chelan Fishery Plan shall contain an entrainment sampling plan designed to determine the potential for entrainment of adult westslope cutthroat trout at the project intakes. The entrainment sampling plan shall include a description of: (1) the methods that would be used to enumerate westslope cutthroat trout in the vicinity of the project intakes, including a schedule of sampling events and (2) the conditions that would trigger entrainment sampling and how the licensee will determine when those conditions have been met. This plan shall be filed for Commission approval at least one year prior to its planned implementation. Annual results of any entrainment sampling shall be compiled in a final report and filed with the Commission no later than March 1 of the subsequent year. The report shall also contain any recommendations for continued sampling, or other studies to evaluate entrainment of cutthroat trout.

The Lake Chelan Fishery Plan shall be developed in consultation with the U.S. Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, NOAA National Marine Fishery Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Confederated Tribes of the Colville Reservation, Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, City of Chelan, and

the Lake Chelan Sportsman's Association. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the consulted entities, and specific descriptions of how the entities' and the Forum's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the Lake Chelan Fishery Forum to comment and to make recommendations before filing the plan with the Commission. If the licensees do not adopt a recommendation, the filing shall include the licensees' 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.

Article 405. Operations Compliance Monitoring Plan. Within six months of the issuance date of the license, the licensee shall file with the Commission, for approval, an Operations Compliance Monitoring Plan that describes how the licensee will comply with the instream flows, ramping rates, and tailrace flows as set forth in Article 7 of the Lake Chelan Settlement Agreement and Chapter 7 of the Comprehensive Plan attached to the settlement agreement; and the lake levels as set forth in Article 8 of the Settlement Agreement and Chapter 8 of the Comprehensive Plan. The plan shall include, but not be limited to the following:

(a) a description of the exact location of any gages and/or measuring devices that would be used to monitor compliance, the method of calibration for each gage and/or measuring device, the frequency of recording for each gage and/or measuring device, and a monitoring schedule; a provision to electronically post recorded flows; provisions to notify the Commission no later than 48 hours after the licensee becomes aware of any deviation from the minimum flow requirements; and a provision for filing an annual report, beginning in the year in which the new release structure is installed that documents compliance with the instream flows, ramping rates, and tailrace security flows, including hourly and daily inflow records, as appropriate, to document compliance with the relevant project operating constraints;

(b) a provision to file with the Commission within one year of the issuance date of the license, and annually thereafter, a report comparing monthly actual and target lake levels; and runoff volume forecasts and other factors influencing achievement of targeted lake levels; and

(c) an implementation schedule.

The licensee shall prepare the plan after consultation with the Washington

Department of Ecology; NOAA National Marine Fisheries Service (NMFS, U.S. Geological Survey (USGS), U.S. Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, Washington State Parks and Recreation Commission, Washington Interagency Committee for Outdoor Recreation, Confederated Tribes of the Colville Reservation, the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, City of Chelan, Lake Chelan Sportsman's Association, Manson Parks and Recreation Department, Lake Chelan Recreation Association, and American Whitewater. The licensee shall include with the plan, copies of comments and recommendations on the completed plan after it has been prepared and provided to the above entities, and specific descriptions of how the comments of the above entities are accommodated by the plan. The licensee shall allow a minimum of 30 days for the above entities to comment and to make recommendations before filing the plan with the Commission.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the plan is approved by the Commission. Upon Commission approval, the licensees shall implement the plan, including any changes required by the Commission.

Article 406. Wildlife Habitat Plan. Within one year of the issuance date of the license, the licensee shall file for Commission approval, a Wildlife Habitat Plan for upland habitat improvements in the Lake Chelan basin, and riparian habitat improvements in the Lake Chelan basin. The plan shall be updated and filed for Commission approval, at a minimum, every five years thereafter. In addition to the funding measures set forth in Article 9, the plan shall contain the measures set forth below.

(a) *Upland Habitat Improvements.* The Wildlife Habitat Plan shall include a detailed description of the upland habitat improvement measures that will be implemented over the first five years of the license. The plan shall include: (1) a detailed description of the habitat improvement measures, including the methods to be used, (2) a detailed description of the location where the improvements will occur, including maps and drawings, (3) a description of any annual or periodic maintenance and monitoring needed to ensure the success of the measures, and (4) a detailed implementation schedule. All lands requiring annual or periodic maintenance to ensure the success of the habitat improvements shall be brought into the project boundary and shown on the exhibit drawings filed pursuant to Article 301. The 90-day deadline for filing the revised exhibits stipulated in Article 301 shall be referenced to the completion date of the measures.

The plan shall also include provisions and a schedule for maintaining upland bird feeders, conducting annual winter mule deer and mountain goat surveys and bald eagle



surveys, and reporting the results to the Washington Department of Fish and Wildlife. The annual wildlife surveys shall be conducted in coordination with the Washington Department of Fish and Wildlife and may be altered upon agreement with the Washington Department of Fish and Wildlife.

(b) *Riparian Habitat Improvements.* The Wildlife Habitat Plan shall include a detailed description of the measures for improving riparian habitats on lands in the project area, including: (1) a description of the lands subject to riparian habitat enhancements, (2) a detailed description of the measures to be implemented and any annual or periodic maintenance and monitoring required to ensure the success of the measures, and (3) a schedule for conducting the improvements. All lands requiring annual or periodic maintenance to ensure that the success of the habitat improvements shall be brought into the project boundary (if not already in the project boundary) and shown on the exhibit drawings filed pursuant to Article 301. The 90-day deadline for filing the revised exhibits stipulated in Article 301 shall be referenced to the completion date of the measures.

The plan shall include provisions for filing with the updated Wildlife Habitat Plan a summary of the upland habitat improvement measures and riparian habitat improvement measures implemented during the previous five years, as well as the measures proposed for the next five years. It shall also contain a summary of the results of the wildlife surveys and a report of any deviations from the approved wildlife survey protocols.

The Wildlife Habitat Plan shall be developed in consultation with the U.S. National Park Service (Park Service), U.S. Forest Service (Forest Service), U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Confederated Tribes of the Colville Reservation, the Yakama Nation, the Wenatchee Sportsman's Association, Lake Chelan Sportsman's Association, the NCW Mule Deer Foundation, the Foundation for North American Wild Sheep, the Audubon Society, and the National Wild Turkey Federation. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the above entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before 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.

Article 407. Recreation Resources Management Plan. Within one year of the issuance date of the license, the licensee shall file for Commission approval, a Recreation Resources Management Plan. The plan shall include the enhancements set forth in Article 11 (a) through (g); (h)(1) – (9); (i); (j); (k); (m) and (p) of the Lake Chelan Settlement Agreement (included in Appendix A); and the elements set forth below.

(a) *Sidewalk, Handrail, and Landscaping under the Dan Gordon Bridge.* The plan shall contain detailed descriptions of proposed measures to stabilize the sidewalk and replace the handrail along the north shore of the Chelan River, under the Dan Gordon Bridge. The plan shall contain a schedule for completing these measures. Beginning within one year of the issuance date of the license, the licensee 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.

(b) *Micro Park Feasibility Study.* The plan shall contain the results of a feasibility assessment for developing a micro park at the following licensee-owned parcels near Water Street near the City of Chelan: parcel #272214662242, #272214662229, and #272214662440. The purpose of the feasibility assessment is to determine if and how a micro park can be developed and whether the lands are needed for project purposes. The feasibility assessment shall include a description of the site topography and any constraints to site development; a description of adjacent land uses; detailed recommendations for developing the site, including costs for developing the site and anticipated benefits and use of the developed site; and an implementation schedule for any development recommendations.

(c) *Modifications for Future Trails.* The licensee shall notify the Commission within 30 days of completing the modifications to the entrances and exits of the Old Mill Park, Manson Bay Park, and Riverwalk Park to accommodate the integration of future trails. Revised exhibit drawings shall be filed, as appropriate, in accordance with Article 301. The 90-day deadline for filing the revised exhibits stipulated in Article 301 shall be referenced to the completion date of the measures.

The Recreation Resources Management Plan shall be developed in consultation with the U.S. National Park Service (Park Service), U.S. Forest Service (Forest Service), Washington State Parks and Recreation Commission, Washington Interagency Committee for Outdoor Recreation, City of Chelan, Manson Parks and Recreation Department, the Lake Chelan Recreation Association, American Whitewater, and the landowners adjacent to the licensee-owned parcels identified in paragraph (b) above. The licensee shall include with the Recreation Resource Management Plan, an implementation schedule, documentation of consultation, copies of recommendations on

the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensees' reasons, based on project-specific reasons.

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.

Article 408. *Threatened and Endangered Species Protection Plan.* Within six months of the issuance date of the license, the licensee shall file for Commission approval, a Threatened and Endangered Species Protection Plan. The plan shall include, but not be limited to, provisions for the following: (a) timely development of a system to release water at the Lake Chelan Dam or pump water from the project powerhouse tailrace to the Chelan River, and subsequent operation of that system at rates sufficient to continuously maintain flows equal to or greater than the flows required by this license for Chelan River Reach 4; (b) timely development of final designs and implementation of channel improvements in Chelan River Reach 4 and the powerhouse tailrace, and timely maintenance of anadromous fish habitat value of those improvements throughout the life of the license; (c) timely determination of the need to take actions to improve water quality characteristics adversely affecting anadromous fish, and identification and implementation of appropriate actions; (d) timely annual payments to the tributary streamflow enhancement program pursuant to Article 14 of the Lake Chelan Settlement Agreement (included in Appendix A to this license); (e) ensuring that any construction activities in or near waterways at the project comply with the construction practices described in Appendix E to this order; (f) monitoring of flows in the project tailrace and in Reach 4 of the Chelan River, electronic posting (e.g., on a website) of information, and annual reporting of monitoring results; and (g) filing of an annual implementation and monitoring report with the National Marine Fisheries Service (NMFS) and the Commission by January 31 of each year to document all measures completed in the previous year in accordance with Article 14 of the Lake Chelan Settlement Agreement.

The plan shall be prepared after consultation with NMFS. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' 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 for approval.

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.

Article 409. Reservation of Authority—Fishways. 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.

Article 410. 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 (FERC No. 637-022)" 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 is approved. The Commission reserves the authority to require changes to the HPCMP at any time during the term of the license.

Article 411. Columbia River Basin Fish and Wildlife Program. 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 and Conservation 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.

Article 412. Use and Occupancy. (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 type 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 ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; 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 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 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.

(H) 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.

(I) This order is final unless a request for rehearing is filed within 30 days of 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 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 order.

J. Mark Robinson  
Director  
Office of Energy Projects



**Form L-1**  
(October, 1975)  
**FEDERAL ENERGY REGULATORY COMMISSION**  
**TERMS AND CONDITIONS OF LICENSE**  
**FOR CONSTRUCTED MAJOR PROJECT AFFECTING**  
**LANDS OF THE UNITED STATES**

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

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

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

**Article 4.** The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the

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

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

**Article 6.** In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall

make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

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

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

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

**Article 10.** The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other

projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

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

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

**Article 13.** On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant

possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

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

**Article 17.** The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable

modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

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

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

**Article 20.** The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

**Article 21.** Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the

Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

**Article 22.** The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

**Article 23.** The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

**Article 24.** The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

**Article 25.** The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

**Article 26.** In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

**Article 27.** The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

**Article 28.** The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

**Article 29.** The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice ad opportunity for hearing.

**Article 30.** If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to



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

**Article 31.** The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

**Article 32.** The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

## APPENDIX A

### LAKE CHELAN SETTLEMENT AGREEMENT LICENSE ARTICLES

Filed October 17, 2003

#### *Article 1. USDA Forest Service Erosion Control Plan*

(a) For the term of the New License, including any subsequent annual licenses, Chelan PUD shall be responsible for carrying out erosion control and monitoring measures on USDA Forest Service lands, in accordance with Chapters 1 and 3 of the Lake Chelan Comprehensive Management Plan (Comprehensive Plan), which are incorporated herein by reference. Specifically:

(1) Within one year of the effective date of the New License, Chelan PUD shall develop an erosion control implementation plan acceptable to Chelan PUD and the USDA Forest Service, as detailed in section 2.2 and table 1-4 of Chapter 1 of the Comprehensive Plan. The implementation plan and any updates or revisions shall be subject to the approval of Chelan PUD and the USDA Forest Service, and Chelan PUD shall file the plan and any updates or revisions with FERC. If Chelan PUD and the USDA Forest Service disagree regarding the plan or any updates or revisions, such disagreement shall be subject to dispute resolution pursuant to section 16 of the Agreement.

(2) Site-specific plans shall be prepared by Chelan PUD in consultation with, and with the approval of, the USDA Forest Service, for habitat and ground-disturbing activities on National Forest System Lands necessary to implement the erosion control implementation plan. The site-specific plans shall be completed at least one year before the habitat or ground-disturbing activity occurs. The site-specific plans shall include: (a) a map showing the location of the proposed activity; (b) a description of the USDA Forest Service land management area designation for the location of the proposed activity, and the applicable standards and guidelines regarding habitat and ground-disturbing activities at such location; (c) a description of the alternative designs and mitigation measures considered; (d) data collected from surveys, biological evaluations, or consultation conducted pursuant to applicable regulations; (e) a statement of the integrated weed management measures to be implemented, if any; and (f) an environmental analysis of the proposed action that meets applicable USDA Forest Service requirements for implementing the National Environmental Policy Act (NEPA). Chelan PUD shall conduct or fund such environmental analysis, including, but not limited to, scoping, site-specific resource analysis, and cumulative effects analysis sufficient to meet applicable USDA Forest Service regulations for compliance with

NEPA. Chelan PUD may refer to or rely on any previous NEPA analysis for the activity to the extent that the analysis is not out of date, as determined by the USDA Forest Service. Any contractor or contractors selected by Chelan PUD to conduct the NEPA process shall be approved by the USDA Forest Service in advance of initiating such process.

Following scoping, Chelan PUD shall submit the scope of work for the environmental analysis, including, but not limited to, the range of alternatives that shall be addressed, to the USDA Forest Service for review and approval prior to completion of the environmental analysis, as described in section 2.2.1 of Chapter 1 of the Comprehensive Plan.

(3) Within two years of the effective date of the New License, Chelan PUD shall develop a monitoring and maintenance plan to address the need for ongoing monitoring of shoreline erosion on USDA Forest Service lands, and the need for maintenance of treated sites, as detailed in section 2.3 of Chapter 1 of the Comprehensive Plan. If Chelan PUD and the USDA Forest Service disagree regarding the plan or any updates or revisions, such disagreement shall be subject to dispute resolution pursuant to section 16 of this Agreement. Chelan PUD shall file the plan and any updates or revisions with FERC.

(4) Chelan PUD shall be responsible for the collection and use of large woody debris (LWD) in the erosion control efforts at sites designated in Chapter 1 of the Comprehensive Plan, and as described in Chapter 3 of the Comprehensive Plan.

(5) In consultation with the USDA Forest Service, Chelan PUD shall be responsible for securing any required permits relating to the implementation of this License Article and Chapter 1 of the Comprehensive Plan.

(b) Chapter 1 of the Comprehensive Plan may be modified in writing by mutual agreement of Chelan PUD and the USDA Forest Service at any time during the term of the New License or any subsequent annual licenses. If such modification requires the approval of FERC, Chelan PUD shall submit such modification to FERC for approval, and no actions relating to the modification shall be undertaken until such approval is received.

(c) The Estimated Cost to Chelan PUD of implementing Chapter 1 is \$2.68 million, as detailed in Table 1-1 of Chapter 1 of the Comprehensive Plan.

**Article 2. NPS Erosion Control Plan**

(a) Within 180 days of the effective date of the New License, Chelan PUD shall make available \$576,500, for the benefit of the NPS to implement erosion control work and monitoring at seven sites on NPS lands, as identified in the following table, in accordance with Chapter 2 of Comprehensive Plan, which is incorporated herein by reference. The seven sites are identified as follows:

**NPS Erosion Sites**

<b>Site Number</b>	<b>Location</b>
61	Riddle Creek Cabins
79	Lakeshore Trail
80	Lakeshore Trail
81	Lakeshore Trail
90	Manly Wham
109	Lakeshore Trail
110	Lakeshore Trail

(b) Chelan PUD shall become responsible for implementation of the erosion control work and monitoring described in Chapter 2, 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 erosion control work and monitoring that the NPS is unable to implement, but only until the remaining portion of the \$576,500 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 written notice to Chelan PUD and the FERC that such unanticipated circumstances exist.

(c) Chelan PUD shall be responsible for additional funding as specified in Section 2.6 of Chapter 2 of the Comprehensive Plan. If Chelan PUD and the NPS fail to reach agreement regarding which, if any, additional sites qualify for treatment as specified in Section 2.6, the matter shall be referred to dispute resolution pursuant to section 16 of the Agreement.

(d) If at the time an erosion site project in this Article and Chapter 2 is to be performed, the average cost of materials and fuel necessary to implement erosion control

projects has, over the preceding five years, increased by more than 10 percent above the adjustment provided in section 19 of the Agreement, Chelan PUD and the NPS shall attempt to agree on a plan for completing the remaining work and monitoring. The plan may include, but is not limited to, a reasonable increase in the \$576,500 to be made available by Chelan PUD, a reasonable modification of the timing for implementation of work without modifying the overall schedule provided in the Comprehensive Plan, or use of funds earmarked for future projects as long as the plan provides for funding such future projects. If the NPS and Chelan PUD cannot agree on such a plan, the matter shall be referred to dispute resolution pursuant to section 16 of the Agreement. An increase in the average cost of materials and fuel necessary to implement this License Article and Chapter 2 of less than 10 percent above the adjustment provided in section 19 of the Agreement shall not be the responsibility of Chelan PUD.

### ***Article 3. Large Woody Debris Plan***

(a) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each of the next nineteen years, Chelan PUD shall make available five thousand dollars (\$5,000) for the benefit of the Washington Fish and Wildlife to be used in obtaining or transporting Large Woody Debris (LWD) or other bioengineered bank protection and in-lake fish habitat restoration, enhancement, and mitigation materials (hereafter referred to as “bank and habitat materials”) for use on state or private land within or adjacent to Lake Chelan, in accordance with Chapter 3 of the Comprehensive Plan, which is incorporated herein by reference. LWD consists of trees, logs, rootwads, woody debris, and other similar materials.

(b) The funds may be used by Washington Fish and Wildlife to purchase (as necessary) or transport LWD and other bank and habitat materials to Washington Fish and Wildlife-provided storage sites within the Lake Chelan basin, for eventual use in bioengineered bank protection and fish habitat installation projects on state and private lands within the Lake Chelan basin. LWD and other bank and habitat materials shall be used on state and private lands within the Lake Chelan basin to mitigate the impacts of future erosion control and bank protection projects within the Lake Chelan basin, as specified in Chapters 1 and 2 of the Comprehensive Plan.

(c)(1) For shoreline erosion control work on USDA Forest Service and NPS lands, work to improve tributary access, and other similar work, the quantity of LWD included in the work and/or placed as mitigation as required by permits using the one-to-one ratio, as described in Chapter 3, section 4.2 of the Comprehensive Plan, is expected by the Parties to provide adequate mitigation for natural resources. Because it is understood that the appropriate amount of LWD will vary from site to site, and from

project to project, the ratio described in the preceding sentence shall be applied to the average amount of LWD for the projects performed during any five-year period.

(2) The Parties expect to support the one-to-one ratio on the amount of LWD and any other mitigation requirements in all permitting processes relating to such erosion control and other work, including, but not limited to, permits under Title 77 RCW (Hydraulic Project Approval) and section 404 of the Clean Water Act. If the total mitigation costs required by such permits exceed the costs that would result from the one-to-one ratio, Chelan PUD may reduce the funding provided to Washington Fish and Wildlife under this Article by the amount of the additional cost incurred.

#### ***Article 4. Stehekin Area Plan***

(a) Within 180 days of the effective date of the New License, Chelan PUD shall make available \$160,000 to address dust control, the monitoring of dust, and related efforts, all to be carried out by the NPS. The \$160,000 includes \$100,000 for dust abatement (as specified in Section 4.7 of Chapter 4 of the Comprehensive Plan), \$45,000 to be provided on an as needed basis for additional dust abatement or monitoring efforts (as specified in Section 4.7 of Chapter 4 of the Comprehensive Plan), and \$15,000 for monitoring and evaluation of dust abatement efforts (as specified in Section 6.5 of Chapter 4 of the Comprehensive Plan). NPS management activities related to the Stehekin area are described in Chapter 4 of the Comprehensive Plan, which is incorporated herein by reference.

(b) Chelan PUD shall also perform monitoring and analysis of changes at the Stehekin River mouth, in accordance with section 6.3 of Chapter 4 of the Comprehensive Plan, at a cost not to exceed \$90,000.

(c) Chelan PUD shall become responsible for implementation of the measures identified in License Article 4(a) and Chapter 4 of the Comprehensive Plan only if and to the extent that unanticipated circumstances limit or preclude the ability of the NPS to do so. If such circumstances arise, Chelan PUD shall employ best efforts to implement such portion of the work and monitoring as the NPS was unable to implement, but only until the remaining portion of the \$160,000 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 until the NPS has provided written notice to Chelan PUD and FERC that such unanticipated circumstances exist.

***Article 5. Survey Monument Replacement Plan***

Within 180 days of the effective date of the New License, Chelan PUD shall make available funding to the USDA Forest Service not to exceed \$80,000 for survey work to locate, re-establish where necessary, and document survey monuments, in accordance with Chapter 5 of the Comprehensive Plan, which is incorporated herein by reference.

***Article 6. Lake Chelan Fishery Plan***

In conjunction with the Lake Chelan Fishery Forum (LCFF), Chelan PUD shall implement its responsibilities under Chapter 6 of the Comprehensive Plan, which is incorporated herein by reference. Specifically:

(a) **Food Web Model.** (1) When notified by Washington Fish and Wildlife pursuant to subsection (a)(2) of this Article, but not sooner than 180 days of the effective date of the New License, Chelan PUD shall make available \$100,000 to a contractor selected by Chelan PUD, after consultation with the LCFF, to develop a food web model for Lake Chelan, as described in section 5 of Chapter 6 of the Comprehensive Plan.

(2) Chelan PUD shall contract to develop the food web model when notified by Washington Fish and Wildlife, after coordination with NPS, USDA Forest Service, and US Fish and Wildlife Service, and after consultation with the LCFF, that, in addition to the \$100,000 to be provided by Chelan PUD pursuant to subsection (a)(1) of this License Article, there is funding available from non-Chelan PUD sources sufficient to fund the food web model contract. Chelan PUD may require a written commitment from such non-Chelan PUD source(s) of funding before or at the time Chelan PUD executes a contract for the food web model. If required, the written commitment shall be for the difference between the \$100,000 to be provided by Chelan PUD and the amount to be paid under the contract for the food web model. The food web model contract shall provide that the model and appropriate training shall be provided to the entities that are members of the LCFF.

(b) **Fish Monitoring and Evaluation.** (1) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each subsequent year, including any subsequent annual licenses, Chelan PUD shall make available \$20,000, to be used by the NPS, the USDA Forest Service, or Washington Fish and Wildlife, pursuant to a plan developed and adopted by the NPS, USDA Forest Service, and Washington Fish and Wildlife for monitoring and evaluating fish in Lake Chelan, as described in Chapter 6 of the Comprehensive Plan. The NPS, USDA Forest Service, and Washington Fish and Wildlife plan to consult with the LCFF in the course of developing such plan. If, in any year, the NPS, USDA Forest Service, and Washington Fish and Wildlife fail to develop

and adopt such a plan, and submit it to Chelan PUD by January 10, Chelan PUD shall carryover that year's \$20,000 in funding until such plan has been developed, adopted, and submitted to Chelan PUD.

(2) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each subsequent year, Chelan PUD shall make available an additional \$20,000, to be used by the NPS, the USDA Forest Service, or Washington Fish and Wildlife, pursuant to the plan to be developed and adopted pursuant to subsection (b)(1) of this Article. However, Chelan PUD shall only be required to expend such additional \$20,000 on the basis of a one-for-one match (in cash or in-kind) in such year by the NPS, the USDA Forest Service, the US Fish and Wildlife Service, the Ecology, the Washington Fish and Wildlife, or any other organization approved as a source of matching funds by the LCFF. Funds made available in any such year, but not matched by December 31 of the following year, shall cease to be available. For any year in which a plan pursuant to subsection (b)(1) of this Article is not submitted to Chelan PUD, Chelan PUD shall carryover such additional \$20,000 in available funding until December 31 of the following year. If such plan is not submitted to Chelan PUD by December 31 of such following year, and one or more requests for payment has not been received by Chelan PUD for such additional \$20,000 by December 31 of such following year, such additional \$20,000 shall no longer be available.

(c) **Tributary Barrier Removal.** (1) Chelan PUD shall be responsible for removing alluvium barriers in tributaries to Lake Chelan for the term of the New License, including any subsequent annual licenses, in order to facilitate adfluvial salmonid access for spawning, as described in Chapter 6 of the Comprehensive Plan. Potential sites are listed alphabetically in Table 6-1 of Chapter 6 of the Comprehensive Plan, and in the following table:



**Potential Tributary Barrier Removal Sites**

Bear Creek	Lightning Creek
Big Creek	Little Big Creek
Cascade Creek	Lone Fir Creek
Castle Creek	Mitchell Creek
Coyote Creek	Poison Creek
Deep Harbor Creek	Prince Creek
First Creek	Pyramid Creek
Fish Creek	Railroad Creek
Four mile Creek	Riddle Creek
Gold Creek	Safety Harbor Creek
Grade Creek	25 Mile Creek
Graham Harbor Creek	

(2) Within the first five years of the New License, Chelan PUD shall implement the following actions within the drawdown zone of such tributaries: (i) remove existing barriers in up to 10 high priority tributaries, and (ii) monitor up to an additional 10 tributaries to determine if the new lake level operating regime described in Article 8 and Chapter 8 of the Comprehensive Plan effectively removes existing barriers from the mouths of these tributaries.

(3) Every two years during the remaining term of the New License, or at a frequency recommended by LCFF and approved by NPS and USDA Forest Service, Chelan PUD shall fund monitoring of up to 10 tributaries, to determine if barriers are present or have reformed; and to remove any such barriers from up to two tributaries annually, unless barriers are clearly not caused by the Project (e.g., the result of fire, earthquakes, landslides, etc.). Any Settlement Agreement regarding whether a tributary barrier is Project-caused shall be resolved through dispute resolution pursuant to section 16 of this Settlement Agreement.

(4) The selection of tributaries for barrier removal and monitoring pursuant to this subsection shall be based on the recommendations of the LCFF, and subject to the approval of the NPS regarding tributaries on NPS lands, the USDA Forest Service for tributaries on USDA Forest Service lands, and the Washington Fish and Wildlife for tributaries on state lands. Any Settlement Agreement as to whether a tributary barrier was caused by the Project shall be resolved through the dispute resolution process under section 16 of this Settlement Agreement.

(5) The total Estimated Cost to Chelan PUD of the tributary barrier removal and monitoring work provided in this subsection is \$100,000.

(d) **Fish Stocking.** (1) For fish stocking in Lake Chelan and its tributaries during the term of the New License, including any subsequent annual licenses, Chelan PUD shall make available to Washington Fish and Wildlife for the Chelan Falls Hatchery site sufficient funding to annually rear approximately 5,000 pounds of salmonid fingerlings (for example: 500,000 fish at 100 fish/lb., presently kokanee) and 33,000 pounds of catchable-sized salmonids (for example: approximately 100,000 fish at 3 fish/lb., presently rainbow trout and cutthroat trout), as described in section 4.6.3 of the Comprehensive Plan. The Estimated Cost to Chelan PUD of rearing such poundage of fish is \$30,000 per year.

(2) If Washington Fish and Wildlife, after coordination with the NPS, USDA Forest Service, and US Fish and Wildlife Service, and after consultation with the LCFF, decides, at any time during the term of the New License or any subsequent annual licenses, to reduce or eliminate fish stocking into Lake Chelan, the resulting savings shall be available to Washington Fish and Wildlife for other Lake Chelan fish management activities. Funds to be made available from reductions in fish production shall be determined as equivalent to the proportion of fish production poundage reduced. The funds saved shall be calculated as follows: take the number of pounds of fish production reduced, divide by the 38,000 pounds of fish initially to be produced, and multiply by the \$30,000 (as adjusted under section 19 of the Settlement Agreement up to the year of the decision to reduce production). For example, if 5,000 pounds of kokanee production was eliminated, \$3,950 would be available for other fish management activities ( $5,000/38,000 \times \$30,000$  escalated = \$3,950 escalated).

(e) **Entrainment.** (1) Chelan PUD shall conduct no more than 140 days of entrainment sampling over four sampling years, using the same methodology used during the 2000 and 2001 field seasons, or another methodology of comparable cost recommended by the LCFF, and approved by Washington Fish and Wildlife, US Fish and Wildlife Service, and Ecology. Upon request of Washington Fish and Wildlife, Chelan PUD shall develop a sampling plan in consultation with US Fish and Wildlife Service, Ecology, and the LCFF, subject to approval by Washington Fish and Wildlife. The plan shall specify the sampling years and the allocation of sampling days among such years. The first sampling year shall not be prior to the seventh anniversary of the effective date of the New License, and the last sampling year shall be no later than the 35<sup>th</sup> anniversary of the effective date of the New License. The purpose of the sampling is to determine if significant numbers of adult spawnable age/size adfluvial westslope cutthroat trout are entering the power tunnel entrance.

(2) If less than 500 adult spawning age/size adult adfluvial westslope cutthroat trout are physically captured within any calendar year prior to completion of the four years of sampling, Chelan PUD, in consultation with LCFF, shall prepare an evaluation of the results of the entrainment monitoring and the method used. Chelan PUD, Washington Fish and Wildlife, US Fish and Wildlife Service, and Ecology shall determine whether the remainder of the four years of sampling should be conducted, at what intervals and what method should be used.

(3) If more than 500 adult spawnable age/size adult adfluvial westslope cutthroat trout are physically captured within a calendar year in the immediate vicinity of the power tunnel entrance, the Washington Fish and Wildlife, US Fish and Wildlife Service, or the Ecology may request that Chelan PUD install fish protection or exclusion devices for the power tunnel entrance, or that Chelan PUD implement other actions recommended by the LCFF and approved by Washington Fish and Wildlife, US Fish and Wildlife Service, and Ecology. Chelan PUD may object to the request on the grounds that such fish protection or exclusion devices, or such other actions, as the case may be, are not necessary. To assist in the determination of whether such fish protection or exclusion devices, or other actions, are necessary, Chelan PUD may conduct entrainment sampling in the power tunnel. If Chelan PUD so objects, and it cannot reach Settlement Agreement with the Agency or Agencies making the request, the matter shall be referred to dispute resolution pursuant to section 16 of this Settlement Agreement. If Chelan PUD does not object, or the dispute resolution process results in a decision to install fish protection or exclusion devices, Chelan PUD shall seek recommendations from the LCFF regarding the design of fish protection or exclusion devices or such other actions. Chelan PUD shall conduct such tests as necessary to determine the effectiveness of such fish protection or exclusion devices or such other actions. Upon development of a successful design, Chelan PUD shall install such fish protection or exclusion devices or implement such other actions.

(4) For purposes of this Article, “adult” is defined as naturally-produced (non-stocked), spawnable age or size adfluvial westslope cutthroat trout. The size of adult westslope cutthroat is defined as 9-12 inches in total length, based on current Twin Lakes stock spawner size, but such definition may be adjusted upon a recommendation by the LCFF to Washington Fish and Wildlife, US Fish and Wildlife Service, Ecology, and Chelan PUD.

(5) As of the date of this Agreement, the species identified in this Article are not listed species under the ESA. If any identified species become a listed species under the ESA, this Article may be superceded by the ESA.

**Article 7. Chelan River Fishery Plan**

Within one year of the effective date of the New License, Chelan PUD shall begin implementation of the plan to restore the fish and wildlife resources of the Chelan River, as described in this License Article and Chapter 7 of the Comprehensive Plan, which is incorporated herein by reference.

(a) **Biological objectives.** 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, pursuant to applicable federal and State law. The biological objectives that Chelan PUD shall attempt to achieve for each reach are set forth in detail in section 4 of Chapter 7 of the Comprehensive Plan. The Parties believe that achievement of these biological objectives, through implementation of this License Article, would substantially restore a significant number of environmental values associated with the Chelan River.

(b) **Habitat Protection and Restoration measures.** 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 section 2.6.5, table 7-3, and section 3.2, table 7-6, respectively, of Chapter 7 of 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, estimated to cost \$350,000, and modifications to the channel in Reach 4. Prior to the date such structures are completed, Chelan PUD shall provide flows consistent with Chapter 7 of 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, as set forth in section 3.1 and 3.2, respectively, of Chapter 7 of the Comprehensive Plan. 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 sections 3.1, figure 7-9, and section 3.2, figure 7-10, in Chapter 7 of the Comprehensive Plan, or as agreed to by the Chelan River Fishery Forum (CRFF). This habitat work is estimated to have a capital cost of \$500,000.

(3) **Anadromous Fish Spawning Flows in Reach 4.** Beginning 90 days after the habitat modification in subsection (2) of this Article has been completed, Chelan PUD shall comply with the provisions for the pumping of tailrace water into Reach 4 set forth in section 3.3.6 of Chapter 7 of the Comprehensive Plan. As described in section 3.3.6, 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. The capital cost for the pumping station is estimated to be \$2,500,000, with annual operating costs of \$20,000.

(4) **Redd Protection.** Upon the effective date of the New License, Chelan PUD shall comply with the redd protection provisions set forth in section 4.1.3, table 7-10, and section 4.1.3 of Chapter 7 of the Comprehensive Plan. This measure is for the purpose of preventing damage to salmon redds that might occur as a result of powerhouse shutdown. As described in Chapter 7 of the Comprehensive Plan, 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 adapt, where needed, the protection and restoration measures:

(1) **Monitoring and evaluation.** Chelan PUD shall begin implementation of all monitoring, evaluation, and reporting requirements set forth in section 5.4 and figure 7-13 of Chapter 7 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) of this License Article 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 (hereinafter referred to as “new or modified measures”). 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. If a CRFF member is not in agreement with the draft report or recommendations and has an alternative evaluation or recommendation, Chelan PUD shall include a discussion of that alternative evaluation or recommendation in the final report.

(3) **Management options to achieve compliance with biological objectives.** Section 3.6 of Chapter 7 of 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. Such options include pumping of tailrace water into Reach 4 for rearing salmonids, and actions to reduce the temperature in Reaches 1-3 (site-potential shade, refugia enhancement, flow increases during hot weather or daytime). These options have been identified as potential actions regarding the problems in question; however, future recommendations are not limited to these options.

(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 CRFF and Chelan PUD. 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.

(d) **Dispute Resolution and Reservation of Authority**

(1) **Resolution of disagreements over new or modified measures.** If, within 60 days after issuance of the final Biological Objectives Status Report, the CRFF and Chelan PUD do not reach consensus as to new or modified measures needed to achieve the biological objectives, to the extent practicable, including the implementation schedule, or to carry out monitoring and evaluation, such disagreement shall be subject to dispute resolution pursuant to section 16 of this Agreement. During the pendency of the dispute resolution process, the minimum level of new or modified measures that the CRFF and Chelan PUD can agree upon shall be implemented.

(2) **Compliance with biological objectives and state water quality standards.** Chelan PUD shall comply with the implementation schedule as provided in Tables 7-10 and 7-11 in Chapter 7 of the Comprehensive Plan. No later than 10 years after the effective date of the New License, Chelan PUD shall provide Ecology with the information necessary to make a determination as to whether the biological objectives in Chapter 7 of the Comprehensive Plan and state water quality standards have been achieved. Ecology agrees that it shall confer with the CRFF prior to making a determination whether and to what extent the biological objectives contained in Chapter 7 have been met. If an Agency with relevant authority or Chelan PUD disagrees with Ecology's determination, it may invoke the dispute resolution process pursuant to section 16 of this Agreement. If Ecology determines that the biological objectives have been met but non-compliance with water quality standards exists, Ecology intends to initiate a process, if necessary, to modify the applicable standards through rulemaking or such alternative process as may otherwise be authorized under applicable federal and state law. If Ecology determines that some or all of the biological objectives have not been met and that Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve those objectives consistent with supporting, protecting, and maintaining the designated and existing beneficial uses, Ecology intends to initiate a process to modify the applicable water quality standards to the extent necessary to eliminate any non-compliance with such standards. Such modification of state standards shall not release Chelan PUD from compliance with the implementation and monitoring measures required by this Article or Chapter 7 of the Comprehensive Plan. Chelan PUD shall, upon request by Ecology, fully respond to all reasonable requests for materials to assist Ecology in making determinations under this section and in any resulting rulemaking or other process.

(3) **Actions if Biological Objectives Not Achieved.** Following the issuance of the final Biological Objectives Status Report in year 10, if Chelan PUD concludes that one or more biological objectives cannot be met in whole or in part despite its having undertaken all known, reasonable, and feasible measures to meet those objectives consistent with supporting, protecting, and maintaining the designated and existing beneficial uses, Chelan PUD may consult with the CRFF regarding whether to modify or eliminate a biological objective and/or associated implementation measure. Any disagreement resulting from such consultation shall be subject to dispute resolution pursuant to section 16 of the Agreement. Any changes to such biological objectives or implementation measures require the written consent of the Ecology, which shall not be unreasonably withheld pursuant to applicable federal and state law.

(4) **Ecology reservation of authority.** Ecology reserves the authority to issue orders to require new or modified measures beyond those otherwise provided for in this License Article and Chapter 7 of the Comprehensive Plan as may be reasonable and

necessary to meet applicable water quality standards and other appropriate requirements of state law. In exercising such authority, Ecology shall consider any conflicts that arise between designated and/or existing beneficial uses, and reconcile such conflicts in a reasonable manner consistent with applicable state and federal law. Such new or modified measures may include, but are not limited to, changes to minimum flows and ramping rates. Prior to exercising such authority, Ecology agrees to issue a notice of intent to exercise its authority under this section. An Agency with relevant authority or Chelan PUD may within thirty days of such issuance initiate dispute resolution pursuant to section 16 of the Agreement. However, Ecology's authority shall not be limited by the outcome of the dispute resolution process contained in section 16 of the Agreement. Further, prior to exercising any such authority, Ecology will seek public input; however, if Ecology determines that, under the circumstances, more expeditious action is required, Ecology may limit such opportunities. This reservation of authority is not intended to create a right for Chelan PUD to seek review before the FERC of Ecology's exercise of such authority beyond that which may exist under applicable laws. Further, this provision is not intended to limit Ecology's authority to address unlawful discharges or other unlawful acts involving the Project that are actionable under RCW 90.48.

(5) **Chelan PUD withdrawal and reservation of right to contest.** In the event that Ecology imposes, under section (d)(4) of this Article, new or modified measures that cause the estimated capital costs required in sections (b)(2) and (b)(3) to increase by more than 25 percent, or the flow volumes required in section (b)(1) to increase by more than 2,900 cfs-days (i.e., 10 percent of the 80 cfs minimum flow), Chelan PUD may withdraw from the Agreement, which shall then be null and void. The costs associated with sections (c)(1) and (c)(2) of this Article shall not be considered a cost increase for the purposes of this section. The flow volume associated with Table 7-3 in section 2.6.5 and in section 3.3.7 (5,000 cfs-days) of Chapter 7 of the Comprehensive Plan shall not be considered an increase in volume for the purposes of this section. Prior to withdrawing, Chelan PUD shall engage in dispute resolution pursuant to section 16 of the Settlement Agreement. Chelan PUD reserves the right to contest the requirement of new or modified measures by Ecology on any and all legal grounds.

In the event that measures required to provide for redd protection would exceed the capital cost or flow limitations of this subsection, Chelan PUD may also either exceed such limitations, remove the spawning habitat in the tailrace, or exclude fish from the tailrace. Removal of the spawning habitat or exclusion of fish from the tailrace shall occur only upon approval by the Agencies with relevant authority.



**Article 8. Lake Level Plan**

(a) Beginning within one year of the effective date of the New License, and for the term of the New License, including any subsequent annual licenses, Chelan PUD shall make every reasonable effort to comply with the Lake level management practices described in Chapter 8 of the Comprehensive Plan, which is incorporated herein by reference. Specifically, Chelan PUD shall make every reasonable effort to comply with the following objectives (contained in section 3.1 of Chapter 8 of the comprehensive Plan): (1) maintaining minimum flows in the Chelan River (this objective has priority over lake levels); (2) reducing high flows in the Chelan River (this objective has priority over lake levels); (3) satisfying regulatory requirements for flood control (adjusting lake level); (4) providing usable lake levels for recreation (which varies between elevation 1,090 and 1,098 ft., depending on the slope of the shoreline and boat dock configurations); (5) reduce shoreline erosion; (6) preventing fish passage blockages (due to tributary barriers); and (7) minimizing the effect of refill on attainment of flow objectives for salmon in the mainstem Columbia River.

(b) Table 8-1 in Chapter 8 of the Comprehensive Plan, and included below, indicates the lake level elevations that Chelan PUD shall seek to achieve, to the extent consistent with the objectives listed in subsection (a) of this Article:

**Proposed Lake Elevations (PME14)**

<b>Day</b>	<b>Minimum Elevation (ft)</b>
May 1	1,087.6
June 1	1,094.0
July 1	1,098.0
August 1	1,099.0
September 7	1,098.7
October 1	1,097.2

**Article 9. Wildlife Habitat Plan**

Chelan PUD shall implement its responsibilities under the Wildlife Habitat Plan, as described in Chapter 9 of the Comprehensive Plan, which is incorporated herein by reference. Specifically:

(a) **Wildlife Habitat Restoration.** (1) Within 180 days of the effective date of the New License, Chelan PUD shall make available \$220,000 to the Chelan-Douglas Land Trust, for the acquisition of conservation easements in perpetuity on privately-owned lands located on the north shore of Lake Chelan, in accordance with section 4.1.1 of the Comprehensive Plan. For purposes of this License Article, all references to the Chelan-Douglas Land Trust refer to the Chelan-Douglas Land Trust or another organization selected pursuant to paragraph (a)(6) of this License Article. The goal is to secure easements on 400 acres of land, and priority shall be given to acquiring easements on lands between elevations 1,100 and 1,400 ft.

(2) Within 180 days of the effective date of the New License, Chelan PUD shall make available additional funding of up to 15 percent of the cost of easement acquisition (not to exceed \$33,000) to the Chelan-Douglas Land Trust, for fees associated with easement acquisition. Associated fees include administrative costs, appraisals, baseline inventories, escrow fees, hazardous substance assessments, legal fees, recording fees, stewardship fees, surveys, and fees relating to title reports and insurance.

(3) Within 180 days of the effective date of the New License, Chelan PUD shall make available \$32,000 to the Chelan-Douglas Land Trust, for shrub-steppe/mule deer winter-range habitat restoration efforts on the lands, if any, for which an easement is acquired under paragraph (a)(1) of this Article. Beyond making the \$32,000 available, Chelan PUD shall have no responsibility for the success of the restoration efforts to be carried out by the Chelan-Douglas Land Trust, in coordination with Washington Fish and Wildlife. In its contract with the Chelan-Douglas Land Trust, Chelan PUD shall require the Chelan-Douglas Land Trust to coordinate with Washington Fish and Wildlife in order to assure the highest likelihood of habitat restoration success.

(4) Chelan PUD and Washington Fish and Wildlife recognize the uncertainty of acquiring conservation easements on 400 acres, due to the variability of landowner participation. If less than 400 acres of conservation easements can be acquired, the funds remaining available under paragraphs (a)(1) and (a)(3) of this Article shall be made available by Chelan PUD to Washington Fish and Wildlife for habitat restoration within the Lake Chelan basin.

(5) If easements on 400 acres of land can be acquired for less than the \$220,000 made available under paragraphs (a)(1) of this License Article, 50 percent of any funds remaining available shall become available to Washington Fish and Wildlife for habitat restoration within the Lake Chelan basin, and 50 percent of the funds remaining available shall no longer be available.

(6) To implement this section, Chelan PUD shall enter into a contract with the

Chelan-Douglas Land Trust or another organization that Chelan PUD and Washington Fish and Wildlife find suitable. The contract shall provide that any easements under paragraph (a)(1) of this License Article be acquired and maintained by the Chelan-Douglas Land Trust or other organization. If the organization with whom Chelan PUD initially contracts either dissolves or becomes unsuitable to Chelan PUD and Washington Fish and Wildlife, Chelan PUD shall enter into a contract with another organization that Chelan PUD and Washington Fish and Wildlife find suitable.

(b) **Upland Habitat Improvements.** (1) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each subsequent year, Chelan PUD shall make available to the USDA Forest Service \$20,000 per year during the term of the New License, and any subsequent annual licenses, for habitat and wildlife enhancement measures identified in section 3 of Chapter 9 of the Comprehensive Plan.

(2) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each subsequent year, Chelan PUD shall make available to the USDA Forest Service \$5,000 per year for years one through three of the New License for noxious weed control at Threatened, Endangered, and Sensitive (TES) plant locations.

(3) Chelan PUD, in coordination with Washington Fish and Wildlife, shall continue to conduct wildlife surveys similar to those conducted during the second FERC license for the Project, maintain upland bird feeders, and/or conduct habitat improvement projects for a cost not to exceed \$10,000 per year during the term of the New License, and any subsequent annual licenses. Chelan PUD shall provide an annual wildlife survey report to Washington Fish and Wildlife.

(c) **Riparian Habitat Improvements.** (1) Within 180 days of the effective date of the New License, and by January 31<sup>st</sup> of each subsequent year, Chelan PUD shall make available to the NPS \$20,000 per year for the first five years of the New License, then \$10,000 per year for the remainder of the New License term, and any subsequent annual licenses, for Stehekin area habitat improvements.

(2) Within 180 days of the effective date of the New License, Chelan PUD shall make available:

(A) \$50,000 to the USDA Forest Service to enhance riparian habitat in the Lake Chelan basin;

(B) \$50,000 to the NPS to enhance riparian habitat in the Lake Chelan basin; and

(C) \$35,000 to the Washington Fish and Wildlife to enhance habitat in the Lake Chelan basin.

(d) **Transferability of Funds.** Upon the recommendation of the Chelan-

Douglas Land Trust to the Washington Fish and Wildlife, and with the concurrence of Washington Fish and Wildlife, or upon the initiative of Washington Fish and Wildlife, Chelan PUD shall transfer available funds among paragraphs (a)(1), (a)(3), and (c)(2)(C) of this Article. If paragraph (a)(5) is applicable, only 50 percent of the remaining (a)(1) funds shall be transferred, and 50 percent of the remaining paragraph (a)(1) funds shall no longer be available.

***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 land management 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.

(l) **Costs.** The estimated annual costs to Chelan PUD for the implementation of subsections (a) through (h) above are \$20,000, throughout the term of the New License. Chelan PUD shall provide annual funding of \$1,000, throughout the term of the New License, to support educational and interpretive activities pursuant to subsection (j). The estimated total capital cost to Chelan PUD to implement subsection (k) is \$225,000. In the event that the costs to Chelan PUD relating to a single site described in Table 10-2 of Chapter 10 of the Comprehensive Plan exceed \$150,000, License Article 12 shall apply. In the event that the funds provided in this section and the contingency fund provided in License Article 12 are exhausted, Chelan PUD shall continue to follow the procedures contained in the Programmatic Agreement.

### ***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 31<sup>st</sup> 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 30<sup>th</sup> 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 31<sup>st</sup> 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 30<sup>th</sup> 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**

Site Number	Location
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 30<sup>th</sup> 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 20<sup>th</sup> year of the effective date of the New License, and finishing in the 23<sup>rd</sup> 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 6:00 P.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 non-legislative 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.

## ***Article 12. Unforeseen Resource Needs***

(a) **Recognition of Potential Needs.** The Parties recognize that unforeseen resource needs may arise during the course of the New License. In order to meet such needs if they arise, while preserving a reasonable degree of certainty for the electric ratepayers of Chelan PUD, this License Article establishes the procedures to be followed. For the purposes of determining unforeseen resource needs, the following needs are not included: (1) measures required by License Article 7; (2) measures required by License Article 13; and (3) any ESA measures required.

(b) **Identification and Notification relating to an Unforeseen Resource Need.** Any Agency may invoke this section by notifying Chelan PUD and all other Agencies in writing that it has reason to believe that an unforeseen resource need has arisen. The notification shall describe in reasonable detail the basis for concluding that: (1) a Project-caused impact to natural resources (other than erosion) or cultural resources has occurred; (2) the impact has arisen from materially changed factual circumstances

(i.e., new facts and/or the relationship among facts) after the effective date of the Agreement; (3) the impact was not addressed or anticipated by the protection, mitigation, and enhancement measures in this Agreement; and (4) additional funding or other measures are needed in order to mitigate the impact. The notification shall also contain any factual information in the possession of the Agency relating to the claimed unforeseen resource need.

(c) **Initial Meeting of the Lake Chelan Policy Committee (LCPC).** Within 60 days after notification has been made under subsection 12(b), Chelan PUD shall convene the LCPC to hold its initial meeting to determine whether conditions (1), (2), (3), and (4) of subsection 12(b) of this License Article have been met.

(d) **Unanimous Agreement Results in Funding and/or Implementation of Other Measures.** At any time during the term of the New License, including any subsequent annual licenses, if the LCPC unanimously agrees that conditions (1), (2), (3), and (4) of subsection 12(b) of this Article have been met, and unanimously agrees to an amount of funding and/or Other Measures that correspond to the estimated percentage of Project impact, such funding and the cost of other measures shall be provided through the use of Unanticipated Agency Savings, if any, or other method of financing unanimously agreed to by the LCPC.

(e) **Lack of Unanimous Agreement Results in No Funding.** Prior to the 25<sup>th</sup> anniversary of the New License, if the LCPC, within 180 days after its initial meeting under subsection 12(c), does not unanimously agree that conditions (1), (2), (3), and (4) of subsection 12(b) have been met, and on an amount of funding and/or Other Measures that correspond to the estimated percentage of Project impact, the LCPC shall promptly notify Chelan PUD and all Agencies of such lack of unanimous agreement, and no further action shall be taken regarding such alleged unforeseen resource need unless and until a subsequent notification is made under subsection 12(b), based on new information or subsequent to the 25<sup>th</sup> anniversary of the New License.

(f) **Contingency Fund.** Chelan PUD shall make available as a contingency fund \$500,000 on the 25<sup>th</sup> anniversary of the effective date of the New License. If the New License is for a term of 45 years or less, Chelan PUD shall make available an additional \$300,000 on the 30<sup>th</sup> anniversary of the effective date of the New License. If, however, the New License is for a term greater than 45 years, Chelan PUD shall make available an additional \$800,000 on the 30<sup>th</sup> anniversary of the effective date of the New License. From the 25<sup>th</sup> anniversary of the effective date of the New License through the expiration of the New License, including any subsequent annual licenses, the contingency fund shall be available to meet unforeseen resource needs through funding, or by compensating Chelan PUD for the costs of Other Measures.

(g) **Decision Making and Funding Processes.** Any notification under subsection 12(b) made after the 25<sup>th</sup> anniversary of the New License may qualify for funding from the contingency fund, pursuant to the requirements of this License Article.

(1) **Consensus of the LCPC.** The LCPC shall attempt to reach Consensus regarding whether conditions (1), (2), (3), and (4) of subsection 12(b) have been met. If the LCPC reaches Consensus that any of such conditions have not been met, the LCPC shall so notify Chelan PUD and all Agencies, and no further action shall be taken with respect to the alleged unforeseen resource need unless and until a subsequent notification is made under subsection 12(b).

If the LCPC reaches Consensus that conditions (1), (2), (3), and (4) of subsection 12(b) have been met, and agrees by Consensus to an amount of funding and/or Other Measures that correspond to the estimated percentage of Project impact, the LCPC shall consider whether there are any Unanticipated Agency Savings available. If Unanticipated Agency Savings are available, such Unanticipated Agency Savings shall be applied toward the agreed upon amount of additional funding or the cost of Other Measures until exhausted. If the amount of Unanticipated Agency Savings is insufficient to cover the agreed upon amount of additional funding or the cost of Other Measures, the contingency fund shall be used to fund the remaining amount.

(2) **Independent Advisory Panel.** If there is a lack of Consensus within the LCPC regarding whether conditions (1) and (2) of subsection 12(b) have been met, Chelan PUD shall convene an independent advisory panel to provide written advice on whether such condition or conditions have been met and, if met, the estimated percentage of impact caused by Project operations. The panel shall consist of one member designated by the relevant Agencies, one member designated by Chelan PUD, and one member chosen by the two designated members. If the two designated members are not able to agree on the selection of the third member within 30 days, the matter shall be referred back to the LCPC for decision. If the LCPC is not able to reach agreement within 30 days, the matter shall be referred to dispute resolution pursuant to section 16 of this Agreement. If the panel unanimously advises that either conditions (1) or (2), or both, have not been met, the LCPC shall accept such advice and promptly notify Chelan PUD and all Agencies that no further action shall be taken with respect to the alleged unforeseen resource need unless and until a subsequent notification is made under subsection 12(b). If the panel unanimously advises that both conditions (1) and (2) have been met, including an estimated percentage of Project causation, the LCPC shall accept such advice and attempt to reach Consensus regarding conditions (3) and (4) of subsection 12(b).



The administrative costs of the independent advisory panel, as well as the costs of the third member of the independent advisory panel, shall be borne 50 percent by the contingency fund and 50 percent by Chelan PUD. In the event that an Agency designates a non-governmental employee as its member of the independent advisory panel, the costs of such member shall be borne by the contingency fund.

(3) **Dispute Resolution.** If, after receiving the non-unanimous advice of the independent panel, there is a lack of Consensus within the LCPC as to whether conditions (1) or (2) have been met, or there is a lack of agreement as to the estimated percentage of impact caused by Project operations, the issue or issues upon which there was a lack of Consensus shall be subject to dispute resolution pursuant to section 16 of the Agreement. During the dispute resolution process, the written advice of the independent advisory panel shall be provided to the mediator.

If there is a lack of Consensus within the LCPC regarding whether either condition (3) or (4) of subsection 12(b), or both, have been met, the issues upon which there is a lack of Consensus shall be subject to dispute resolution pursuant to section 16 of this Agreement.

(h) **General Provisions**

(1) Chelan PUD may, in its sole discretion, apply Unanticipated Agency Savings and any funds available in the contingency fund to the cost of fishways prescribed by NOAA Fisheries or the US Fish and Wildlife Service pursuant to Section 10.2 of the Agreement.

(2) **Petition to Reopen License.** Other than as provided in section 10 of the Agreement, the Agencies shall not petition FERC to reopen the license until after the 35<sup>th</sup> anniversary of the effective date of the New License. Following the 35<sup>th</sup> anniversary of the license, Agencies shall not invoke, or otherwise rely upon any reopener clause set forth in the New License for the purpose of obtaining protection, mitigation, and enhancement measures beyond those required by this Agreement unless the contingency fund is exhausted. Chelan PUD may replenish the contingency fund sufficiently to address the unforeseen resource need that is prompting the reopener. If any Agency violates this subsection, Chelan PUD may withdraw from this Agreement, in which case this Agreement shall be null and void.

(3) **FERC Approval.** To the extent that any determination under this section involves terminating an activity required by the New License, or initiating an activity not authorized by the New License, including any subsequent annual licenses, Chelan PUD shall apply to the FERC for a license amendment. Any action necessitating a license

amendment shall not be undertaken unless and until such license amendment is issued.

**(4) Limitation on Chelan PUD's Obligations, and Reversion of Funds.**

Except as provided in section (g)(2) of this Article (relating to the administrative costs of the Independent Panel), Chelan PUD shall have no obligation to exceed the funds deposited in the contingency fund described in section (f) of this License Article. At the expiration of the New License, including subsequent annual licenses, any funds remaining available shall no longer be available

**(5) Estimating Impacts on Energy Production.** For purposes of estimating future decreases or increases in energy production, pursuant to the definition of "Other Measures" contained in subsection 4.11 of this Agreement, Chelan PUD has established a baseline energy production of 365,366 MWh using a computer model (CHEOPS) and input data (PME14). The baseline shall be the amount of energy initially produced under the Agreement, including the 18,654 MWh per year decrease in production (as calculated by the computer model) associated with the new lake level operating regime provided for in License Article 8, the minimum flows established in section 7(b)(1) of License Article 7, and any whitewater releases under License Article 11. If future changes in Project operations pursuant to the New License increase energy production, Chelan PUD shall annually estimate the dollar value of such increase. The dollar value of such increase shall be used to offset any deductions that previously occurred from the contingency fund as a result of decreases in energy production, or shall be carried as a credit toward any future deductions that may occur as a result of decreases in energy production, but in no event shall the operation of this subsection cause the amount of the contingency fund to increase above the amounts provided in subsection (f) of this License Article. Any disagreements regarding the application of this subsection shall be resolved through dispute resolution pursuant to section 16 of the Agreement.

***Article 13. Fishways***

(a) Authority is reserved to the FERC to require Chelan PUD to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by Secretaries of the Interior or Commerce under section 18 of the FPA. Section 10.2 of the Agreement provides the actions that Chelan PUD may take if such authority is exercised.

***Article 14. Upper Columbia Spring-Run Chinook and Steelhead Conservation Measures***

(a) Within 180 days of the effective date of the New License, and by January 31st of each subsequent year, including any subsequent annual licenses, Chelan PUD shall make available \$20,000, to be used to acquire water for instream flows through funding of water conservation measures or lease/purchase of water rights from willing sellers, as provided in Chapter 12 of the Comprehensive Plan. NOAA Fisheries and Ecology shall develop a list of proposed measures or lease/purchase of water rights, and submit it to Chelan PUD by January 10 of each year. Chelan PUD shall fund the implementation of those actions on such list, pursuant to a contract between Chelan PUD and an organization (such as Washington Water Trust) that Chelan PUD, NOAA Fisheries and Ecology find suitable, to the extent that holders of water rights voluntarily agree to conservation measures or leases/purchases. The water saved shall be dedicated to instream flows through either the Trust Water Rights program or other contractual arrangement. The \$20,000 funding shall be the total amount provided, covering all costs associated with the measures above.

(b) In the event that implementation of conservation measures or leases/purchases in a year do not use all the funding available, Chelan PUD shall carryover that year's \$20,000 in funding, or any unused portion thereof, into future years. In the event that conservation measures or leases/purchases requiring funding in a single year exceed the \$20,000, funding can be borrowed from future years, adjusted pursuant to Section 19.2.9 of the Agreement. Priority will be given to conservation measures and purchases that can be implemented early in the term of the New License. Total advance funding to be provided by Chelan PUD during the term of the New License, including any subsequent annual licenses, shall not exceed either \$500,000 or the value of annual funds for the remaining term of the license, adjusted pursuant to Section 19.2.9, whichever is less.

## **APPENDIX B**

### **U.S. DEPARTMENT OF AGRICULTURE, U.S. FOREST SERVICE FINAL 4(e) TERMS AND CONDITIONS FOR LAKE CHELAN PROJECT**

Filed November 24, 2003

LICENSE CONDITIONS NECESSARY FOR PROTECTION AND UTILIZATION OF THE WENATCHEE NATIONAL FOREST IN CONNECTION WITH THE APPLICATION FOR LICENSED PROJECT NO. 637, LAKE CHELAN HYDROELECTIC PROJECT.

#### **I. GENERAL CONDITION**

License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-1 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the USDA Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Wenatchee 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 National Forest System lands and resources. These terms and conditions are based on those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), 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 Resources 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 protection and utilization of the National Forest System lands shall also be included in any license issued for the Lake Chelan Hydroelectric Project (Project).

#### **II. USDA FOREST SERVICE CONDITION**

##### **Condition No. 1 – Settlement Agreement**

The Licensee shall implement the provisions of License Articles and Comprehensive Plans of the Lake Chelan Comprehensive Settlement Agreement related to the protection,

mitigation, and enhancement of resources and programs of the Okanogan and Wenatchee National Forests.

**APPENDIX C**

**U.S. DEPARTMENT OF INTERIOR, NATIONAL PARK SERVICE  
MODIFIED 4(e) TERMS AND CONDITIONS**

Filed January 12, 2004

Lake Chelan Fishery Management Plan:

Article 6 of the License Articles of the Settlement Agreement and Chapter 6 of the Comprehensive Plan of the Settlement Agreement contain the specific language of the Modified Term and Condition for the Lake Chelan Fishery issues and meets the objectives identified in Park Service Preliminary 4(e) Term and Condition number 14.

Erosion Control:

Article 2 and 11 of the License Articles of the Settlement Agreement and Chapter 2 and 11 of the Comprehensive Plan of the Settlement Agreement contain the specific language of the Modified Term and Condition for Park Service Erosion Control and meet the objective of Park Service Preliminary 4(e) Term and Condition number 4.

Large Woody Materials (LWM):

Article 3 of the License Articles of the Settlement Agreement and Chapter 3 of the Comprehensive Plan of the Settlement Agreement contain the specific language for the Park Service Modified Term and Condition and meet the objectives for resource protection identified by the Park Service in its Preliminary 4(e) Term and Condition number 5 concerning LWM.

Stehekin Area Plan:

Article 4 and 9 of the License Articles of the Settlement Agreement and Chapter 4 and 9 of the Comprehensive Plan of the Settlement Agreement contain the specific language of the Modified Term and Condition for the Stehekin Area and meet the objectives identified in Park Service Preliminary 4(e) Term and Condition numbers 6, 7, 8, and 9.

Lake Level Management:

Article 8 of the License Articles of the Settlement Agreement and Chapter 8 of the Comprehensive Plan of the Settlement Agreement describe the accepted Lake Level regime and meets the objectives identified in Park Service Preliminary 4(e) Term and Condition number 3.

Historic Properties and Cultural Resources Management Plan:

Article 10 of the License Articles of the Settlement Agreement and Chapter 10 of the Comprehensive Plan of the Settlement Agreement describe how mitigation measures will be implemented to address Historical and Cultural Resource concerns of all parties and meet the objectives of Park Service Preliminary 4(e) condition number 13.

Recreation Management:

Article 11 of the License Articles of the Settlement Agreement and Chapter 11 of the Comprehensive Plan of the Settlement Agreement contain the specific language of the Modified Term and Condition for Recreation Management and meet the objectives identified in Park Service Preliminary Term and Condition numbers 10, 11, and 12.

Unforeseen Resource Needs:

Article [12] of the License Articles of the Settlement Agreement, and Section 19.2.2 and Section 16 of the Settlement Agreement contain the specific language of the Modified Term and Condition for Unforeseen Resource Needs and meets the objectives identified in Park Service Preliminary 4(e) Term and Condition number 2.

**APPENDIX D**

**STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY**

**ORDER NO. 1233**

**401 WATER QUALITY CERTIFICATION FOR THE LAKE CHELAN  
HYDROELECTRIC PROJECT (FERC NO. 637)**

Filed April 23, 2003<sup>107</sup>

I. General Requirements

A. All water quality criteria as specified in Chapter 173-201A WAC apply to the various waters affected by this project and the Chelan PUD shall comply with those criteria. Nothing in this order shall be construed to allow the Chelan PUD to violate Washington's water quality standards, with the sole exception of such noncompliance associated with the ten year compliance schedule set forth herein.

B. The Chelan PUD shall implement the measures identified herein and in the Chelan River Biological Evaluation and Implementation Plan (CRBEIP revised April 18, 2003) under the schedule agreed to within the Settlement Agreement. The Settlement Agreement provides for ten years or less to achieve the biological objectives.

C. In the event of changes or amendments to the state water quality standards (Chapter 173-201A WAC), or changes in or amendments to the state Water Pollution Control Act (RCW 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 Settlement Agreements, orders or permits.

D. Discharge of any solid or liquid waste to the waters of the state of Washington without approval from Ecology is prohibited.

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<sup>107</sup> On November 23, 2005, Ecology notified the Commission that the water quality certification should have referenced the Chelan River Biological Evaluation and Implementation Plan dated October 8, 2003 and included in the Settlement Agreement.



E. The PUD shall allow Ecology such access as necessary to inspect the project operations, project area and project records required by this certification in order to monitor compliance with the conditions of this order.

F. Ecology retains the right to require additional monitoring or studies if necessary to provide reasonable assurance of compliance with water quality standards.

G. Copies of this order and associated permits, licenses, approvals and other documents shall be kept on site and made readily available for reference by PUD staff, its contractors and consultants, and by Ecology.

## II. Findings

A. Historically, the Chelan dam has diverted water from most of the 4.1 miles of the Chelan River. This has left the river dry much of the year and hence in some areas eliminated and in others severely limited fish use of the river.

B. Historically, prior to the project, during most of the summer, temperatures in the Chelan River would have exceeded 18.0° C, which is the target under current Class A standards. Ecology Standards do not allow a human activity to increase in water temperature by greater than 0.3° C when water is above 18.0° C. Studies performed for this project predict that the proposed minimum flows for the Chelan River would result at times in temperature more than 0.3 ° C above temperatures that would naturally occur.

C. Where it is not feasible to fully meet water quality standards Clean Water Act regulations allow Ecology to take action to remove or modify a designated use or to modify the criteria assigned to protect that designated use if other criteria would sufficiently protect that use. The process may involve a use attainable analysis and/or standard modification. However, the Chelan River has been dewatered for over 76 years and it is not currently known what level of support for fish and water temperature for such use can reasonably be achieved in the river. To make that determination, Ecology believes that the best approach is to proceed with a ten year adaptive management plan which will allow a sufficiently lengthy period of time to determine what level of fish support and water temperature is reasonable and feasible to achieve.

D. Ecology has worked collaboratively for a number of years with a relicensing team that includes the Chelan PUD, federal and state fishery resource

agencies, and other stakeholders develop biological objectives to be achieved in the Chelan River. Those objectives identify three key species of fish (westslope cutthroat trout, steelhead trout and fall chinook salmon) for restoration or enhancement. The biological objectives and the initial measures that shall be implemented to attain those objectives are described in the Chelan River Biological Evaluation and Implementation Plan (CRBEIP revised April 18, 2003). Once those initial measures are implemented, regular monitoring and evaluation, as prescribed below, will be undertaken to identify any new measures or modification of the initial measures that may be necessary to achieve the objectives or effectively monitor and evaluate conditions. Changes to the implementation measures will be made in coordination with the Chelan River Fishery Forum (CRFF); however, Ecology retains authority to order additional changes or modifications to the extent necessary.

E. The adaptive management plan contemplates, at the end of the ten years or sooner, Ecology will determine whether Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve the biological objectives, and if so whether water quality standards have been fully achieved. If Chelan PUD has undertaken such measures and water quality standards have not been fully achieved, Ecology will seek to resolve such non-compliance through a process to make site-specific and/or use based rule changes to the water quality standards or such other process as may be consistent with state and federal law.

F. The intent of these actions is to support the goals of the State of Washington to “maintain the highest possible standards to ensure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.” (RCW 90.48.010).

G. The reference herein to the Lake Chelan Comprehensive Plan and specifically the CRBEIP (revised April 18, 2003), should not be construed to adopt or approve all of the opinions and statements of a factual nature that are contained therein.

### III. Instream Flows for Fish

#### A. Minimum Instream Flow Requirements

- i) The project shall provide and maintain the minimum instream flows

for the Chelan River as described in the CRBEIP (revised April 18, 2003), Table 7-3. These flows are specified below. The definitions of dry, average and wet years are provided in Section 2.6.5 of the CRBEIP (revised April 18, 2003).

<b>Reach</b>	<b>Dates</b>	<b>Dry year (cfs)</b>	<b>Average year (cfs)</b>	<b>Wet year (cfs)</b>
<b>1,2,&amp;3<sup>1</sup></b>	July 16- May 14	<b>80</b> all months	<b>80</b>	<b>80</b>
	May 14		ramp up to <b>200</b>	Ramp up to <b>320</b>
	May 15-July 15		<b>200</b>	<b>320</b>
	July 16		ramp down to <b>80</b>	ramp down to <b>80</b>
<b>4<sup>2</sup> Spawning flow</b>	March 15- May 15; <i>and</i> Oct. 15- Nov. 30	80 + 240 pumped ( <b>320</b> )	<b>320</b> by combination of spill & pumping  Incubation flow, as needed	<b>320</b> by combination of spill & pumping  Incubation flow, as needed

<sup>1</sup>Flows measured at the dam by calibrated gate rating.

<sup>2</sup>Flows measured at the dam or through calibrated pump discharge curves.

ii) Minimum flows shall be provided by Chelan PUD 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 license. The structures to be constructed are a new flow release structure at the dam and modification to the channel in Reach 4.

iii) Instream flows shall be maintained in the bypassed reach of the Chelan River and in the tailrace, sufficient to meet water quality goals and standards for the waterway, as provided in Chapters 173-201A, 173-500 WAC, 90.48 and 90.54 RCW and meeting the biological objectives identified in section 4 of the CRBEIP (revised April 18, 2003).

iv) Prior to the date such structures are completed, Chelan PUD shall make good faith effort to provide flows that agencies may request for the purpose of testing designs or structures or of gathering other data, including any water quality data.

v) The minimum instream flow requirements set forth in this certification are considered minimum values and do not preclude other agencies with authority to require minimum instream flows higher than these.

vi) Higher flows may also be determined to be needed by the CRFF or by Ecology, as a result of studies performed as part of the CRBEIP (revised April

18, 2003).

vii) In order to assure continuing compliance with Chapter 173-201A WAC, Ecology retains the right to amend the instream flow requirements specified in this certification to provide adequate habitat and to meet the biological objectives for cutthroat in Reaches 1, 2 and 3 of the Chelan River, or for fall Chinook or steelhead in Reach 4 of the Chelan River, or any species included in the future on a state or federal listing of endangered or threatened species.

viii) This is a non-severable requirement of Ecology's certification. If it is rejected, in whole or part by the Federal Energy Regulatory Commission (FERC), Ecology's water quality certification for the Lake Chelan Project shall be deemed denied.

**B. Ramping Rates**

i) The project shall not exceed the following ramping rate for the purpose of preventing stranding of fish in the Chelan River, of two inches per hour, to be modified in consultation with the CRFF, as described in Section 3.2, table 7-6 of the CRBEIP (revised April 18, 2003).

**C. Flow Security Criteria for Tailrace**

i) The project shall adhere to the flow security criteria for the tailrace as described in Section 4.1.3, table 7-9, 7-10 and Sections 3.6, 4.1.3 and 5.5.1 of the CRBEIP (revised April 18, 2003). This condition is to prevent damage to salmon redds that may occur as a result of a powerhouse shutdown.

**IV. Habitat Modifications and Biological Evaluation**

A. Improvement of Habitat in Reach 4 and the Tailrace: No later than two years after the effective date of the license, Chelan PUD shall complete modifications to improve habitat in Reach 4 and the tailrace, as set forth in Section 3.1 and 3.2 respectively of the CRBEIP (revised April 18, 2003). The Chelan PUD shall use standard river habitat restoration techniques to accomplish the goals of providing and maintaining gravel areas for spawning, boulder placements for cover and pool formation, and increased structural roughness to moderate velocities and provide additional area and habitat diversity, as described in detail in Section 3.1, figures 7 through 9, and Section 3.2, figures 7 through 10 of the CRBEIP (revised April 18, 2003).

B. "As-Built" Plan: An "As-Built" plan shall be prepared by Chelan PUD after

construction and/or modifications to improve habitat in Reach 4 and the Tailrace as set forth in Section 3 of the CRBEIP (revised April 18, 2003). The plan shall be of sufficient detail as necessary to support achievement of the biological objectives identified in Section 4 of the CRBEIP (revised April 18, 2003). The “As-Built” plan shall be included in the first Biological Objectives Status Report, submitted in year four.

C. **Biological Objectives:** The objective of the implementation measures is to meet the biological objectives identified in Section 4, Table 7-9 and 7-10 of the CRBEIP (revised April 18, 2003). The Chelan PUD shall make such adaptive measures as discussed in the CRBEIP (revised April 18, 2003) or as agreed during negotiations of the CRFF.

<b>Goals</b>	<b>Criteria for Success</b>	<b>Evaluation Timeframe</b>
<b>Chinook</b> Adult use of habitat Reach 4/Tailrace	Evidence of adult production from fish produced in Chelan River	Years 1 - 10
<b>Steelhead</b> Outmigrant Success	Evidence of adult production from fish produced in Chelan River — net benefit to the ESU	Years 5 - 10
<b>Cutthroat</b> Habitat Use Reaches 1 -3	200 resident fish	Years 5 - 10

D. **Adaptive Management Options to Meet Biological Objectives:** Section 3.6 of the CRBEIP (revised April 18, 2003) sets forth a number of management options Chelan PUD may implement to address how to meet the biological objectives. Such options include pumping tailrace water into Reach 4 for rearing salmonids, and temperature reduction actions for Reaches 1 through 3, including increasing shade, refugia enhancement, and flow increases during hot weather or daytime.

E. **Biological Objectives Status Reports:** By no later than April 30, in each of years 4, 6, 8, and 10 following the effective date of the license, Chelan PUD shall provide to Ecology and other members of the CRFF a final Biological Objectives Status Report that (1) summarizes the results of 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 management options taken to meet those biological objectives, and (4) recommends any new or modified restoration and/or monitoring and

evaluation measures that are needed to meet, to the extent practicable, the biological objectives. Such recommendations shall contain a schedule for timely implementation. No later than February 28 of each 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. If a CRFF member is not in Settlement Agreement with the draft report or recommendations and has an alternative evaluation or recommendation, Chelan PUD shall include a discussion of that alternative or recommendation in the final report.

F. Implementation of Measures to Achieve Biological Objectives: If consensus is achieved among (the fish and wildlife agencies) Ecology, and Chelan PUD as to new or modified measures needed to achieve biological objectives and the schedule of implementation thereof, the recommendations shall become part of the plan and implemented in accordance with the schedule or absent an agreed schedule, by August 1 of the reporting year. These new and modified measures are deemed to be part of this Order if consensus is achieved by the agencies and Chelan PUD. If however, such measures should require an amendment to the license or Federal Energy Regulatory Commission (FERC) approval, Chelan PUD shall petition FERC to so amend the license.

G. Resolution of Settlement Agreements over new or modified measures: If within sixty (60) days after issuance of each of the final Biological Objectives Status Report, the fish agencies, Ecology and Chelan PUD do not reach consensus as to new or modified measures needed to achieve the biological objectives, including the implementation schedule, or to carry out monitoring and evaluation, the Department of Ecology, in consultation with CRFF members and Chelan PUD as time permits, will make final determination of measures to be implemented. During the pendency of the consultation process, the minimum level of new or modified measures that the agencies and Chelan PUD can agree upon shall be implemented.

H. Compliance with Biological Objectives and State Water Quality Standards: Chelan PUD shall comply with the implementation schedule as provided in tables 7-9 and 7-10 of the CRBEIP (revised April 18, 2003). No later than ten (10) years after the effective date of the license, Chelan PUD shall provide Ecology with the information necessary to make a determination on whether the biological objectives in the CRBEIP (revised April 18, 2003) and the state water quality standards have been achieved. Ecology agrees that it will confer with the fish agencies and the Chelan PUD prior to making a determination whether and to what extent the biological objectives contained in the CRBEIP (revised April 18, 2003) have been met. If Ecology determines that the biological objectives have been met but non-compliance with water quality standards exists, Ecology intends that it will initiate a process to modify the applicable standards through rulemaking or such alternative process as may otherwise be authorized under applicable state and federal law. If Ecology determines that some or all of the biological

objectives have not been met and that Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve those objectives, Ecology intends to initiate a process to modify the applicable water quality standards to the extent necessary to eliminate non-compliance with such standards. Such modifications of state water quality standards shall not release Chelan PUD from compliance with implementation and monitoring measures required by this order. Chelan PUD shall upon request by Ecology, fully respond to all reasonable requests for materials to assist Ecology in making determinations under this order and any resulting rulemaking or other process.

I. Actions if Biological Objectives are not Achieved: Following the issuance of the final Biological Objectives Status Report in year ten (10), if the Chelan PUD concludes that a biological objective cannot be met in part or whole despite its having undertaken all known, reasonable, and feasible measures to meet that objective, Chelan PUD may petition in writing Ecology, NOAA Fisheries, United States Fish and Wildlife Service (USFW), and the Washington Department of Fish and Wildlife (Washington Fish and Wildlife) to modify or eliminate a biological objective and/or associated implementation measure. Ecology reserves the authority to make the final decision.

J. Reservation of Authority: Ecology reserves the authority to issue orders to require new or modified measures beyond those otherwise provided for in this order and the CRBEIP (revised April 18, 2003) as may be reasonable and necessary to meet applicable water quality standards and other appropriate requirements of state law. In exercising such authority, Ecology shall consider any conflicts that arise between designated and/or existing beneficial uses, and reconcile such conflicts in a reasonable manner consistent with applicable state and federal law. Such new or modified measures may include, but are not limited to, changes to minimum flows and ramping rates.

## V. Water Quality Monitoring, Modeling and Reporting

### A. Immediate Implementation

Immediately upon initiation of minimum flows, which must be accomplished no later than two years after the effective date of the new license, Chelan PUD shall begin water quality measurements for the following parameters, at the identified frequencies and locations:

- i) Flows entering the Chelan River bypassed reach and penstock (powerhouse discharge), measured hourly.
- ii) Water temperature measured hourly, for water entering the Chelan River at the Chelan Dam forebay, at the end of Reaches 1, 3 and 4, and in the tailrace.



iii) General water quality assessment, at locations specified, in years 3 and 5, following license acceptance, sufficient to demonstrate that the Chelan River meets water quality standards for dissolved oxygen (Reach 4), total dissolved gas (below spillway), turbidity (Reach 4), and pH (Reach 4). The results of the water quality assessment shall be reported no later than February 28 of years 4 and 6, following license acceptance.

iv) Petroleum products (visible sheen) in the tailrace shall be monitored by visual observation on a weekly basis and reported annually, or in accordance with sections V E (i) and VII C (ii) of this Order as appropriate.

B. Water Quality Monitoring and Modeling Plan

i) Within one year of the date of this order, Chelan PUD shall prepare a quality assurance project plan (QAPP) for water quality monitoring and temperature modeling as required by this Order, and submit the plan to Ecology for review and written approval.

ii) The QAPP shall be prepared in accordance with the Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, February 2001, Ecology Publication Number 91-16.

iii) The QAPP shall describe methods used to sample and monitor the above parameters. The QAPP shall also include proposed methods to assess the data collected. This is likely to include future modeling of temperature using the model SNTEMP.

iv) In year 6, Chelan PUD shall provide the results of a study to determine the geomorphic influences on water temperatures in the Chelan River in order to address temperature, velocity, depth, and substrate to determine the best methods to achieve the biological objectives for cutthroat trout. The plan and results shall be approvable by Ecology. This study shall be incorporated into the second submittal of the Biological Objectives Status Report.

v) Chelan PUD shall re-evaluate and propose needed revisions to the QAPP. Changes to the QAPP need written approval by Ecology before taking effect.

C. Monitoring and Modeling Results

i) Water quality monitoring data for flows and temperature shall be available on a monthly basis from July through September and on a quarterly basis the rest of the year (i.e., Oct-Dec; Jan-March; and April-June). The data shall present any water quality

exceedances and measures taken by Chelan PUD in conformance the CRBEIP (revised April 18, 2003). The data shall be made available no later than the 30th day of the month following the reporting period. The data shall be posted on the Chelan PUD website.

ii) A summary data report shall be prepared and submitted annually, providing the data assessment described in the QAPP to determine compliance with state water quality standards. The report shall be submitted by February 28th of the year following the collection of the data.

iii) Data shall be summarized and reported in a format approved by Ecology. Ecology will use the results to determine compliance with state water quality standards.

iv) Data reports shall be submitted to Department of Ecology, Water Quality Program, Central Regional Office, and to any other party that requests them.

#### D. Modification to Monitoring

i) The Chelan PUD may request that all or part of the above sampling described in this section be suspended or modified after a minimum of three (3) years of complete, reliable data collection.

ii) A more rigorous water quality sampling program for the listed parameters or additional parameters may be required by Ecology if necessary to protect water quality in the future based on monitoring results, regulatory changes, changes in project operations and/or requirements of TMDLs or to otherwise provide reasonable assurance of compliance with state water quality standards.

#### E. Water Quality Violations

i) Any observed values in violation of Class A water quality standards in the bypassed reach of the Chelan River for any of the parameters listed below shall be reported to Washington Department of Ecology, Central Regional Office *immediately upon observation or no later than 48 hours* with explanation for cause and notification of the course of action taken. The parameters include temperature (above modeled natural temperatures), pH, dissolved oxygen, total dissolved gas, turbidity, sheen observed from petroleum products, and fish dying.

### VI. In-Stream Work/Construction of Habitat

#### A. Pollution Prevention

- i) Work in or near the waterway shall be done so as to minimize turbidity and other water quality impacts.
- ii) The work shall include all reasonable measures to minimize the impacts of construction activity on waters of the state. Water quality constituents of particular concern are turbidity, suspended sediment, settleable solids, oil and grease, and pH. These measures include use of Best Management Practices (BMP's) to control erosion and sedimentation, proper use of chemicals, oil and chemical spill prevention and control, and clean-up of surplus construction supplies and other solid wastes.
- iii) During clearing and grading at the various project sites, Chelan PUD shall take all necessary measures to minimize the alteration or disturbance of existing riparian, wetland or upland vegetation.
- iv) All construction debris shall be properly disposed of on land so that it cannot enter a waterway or cause water quality degradation to state waters. Retention areas or swales shall be used to prevent discharging of water from construction placement areas.
- v) Chelan PUD shall ensure that any fill materials that are placed for the proposed improvements to habitat in the Chelan River and the tailrace do not contain toxic materials in toxic amounts.
- vi) Coverage under an NPDES Aquatic Pesticides Permit for the Project shall be obtained prior to the use of any herbicides, pesticides, algicides that may be used in or adjacent to waters of the state, and any other applicable state requirement such as SEPA.

**B. Turbidity Standards**

- i) Certification of this project does not authorize the applicant to exceed the turbidity standard for Class A waters beyond the mixing zone described below. Turbidity in Class A waters shall not exceed 5 NTU over background turbidity when turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
- ii) Consistent with WAC 173-201A-100(7) and –110(3), a mixing zone is established within which the turbidity standard is waived. The mixing zone is established to allow only temporary exceedances of the turbidity criteria during and immediately after project construction. The temporary turbidity mixing zone shall be as follows:

a. For waters up to 10 cfs flow at the time of construction, the point of compliance shall be 100 feet downstream from activity causing the turbidity exceedence.

b. For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be 200 feet downstream from activity causing the turbidity exceedence.

c. For waters above 100 cfs flow at the time of construction, the point of compliance shall be 300 feet downstream from activity causing the turbidity exceedence.

C. Construction Water Quality Protection Plan (WQPP)

i) A water quality protection plan (WQPP) shall be prepared, submitted to Ecology for approval, and implemented for all in-water construction work related to the project. The plan shall include 1) the necessary water quality protection requirements consistent with a Hydraulic Project Approval (HPA) for the project, 2) a description of all applicable Best Management Practices (BMPs) for in and near-water work, 3) a plan for sampling and monitoring during construction, 4) a plan for implementing mitigation measures should a water quality exceedance occur, and 5) a plan for reporting any water quality violations to the Department of Ecology.

ii) The sampling and monitoring plan shall include the performance standards for measuring compliance with turbidity and dissolved oxygen 100 feet upstream of the location where in-water construction is taking place and at the point of compliance during construction. Samples shall be taken of a minimum of once each day during construction in or adjacent to any water bodies within the project area that may be affected by the construction.

iii) Coverage under an NPDES Construction Stormwater Permit shall be obtained prior to the start of construction activities covering more than one acre and any other applicable state requirement such as SEPA.

iv) A copy of the water quality protection plan shall be in the possession of the onsite construction manager, and available for review by Department of Ecology staff, whenever construction work is under way.

v) Chelan PUD shall obtain Ecology review and approval before undertaking Project repair or maintenance activities that might significantly affect water quality (other than repair or maintenance activities required by or considered in this Certification).

Ecology may, at Chelan PUD's request, approve specified repair and maintenance activities on a periodic basis.

VII. Oil Spill Prevention and Control

A. Standards

Chapter 90.56 RCW prohibits any discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters.

B. Oil Spill Prevention, Containment, and Countermeasure Plan

i) An Oil Spill Prevention, Containment, and Countermeasure Plan must be prepared that covers all oil-filled equipment to be used at the site. The plan must include the following Best Management Practices (BMPs), at a minimum. The plan must be kept on site, in the possession of the person in charge of construction oversight, at all times during construction.

ii) The following minimum BMPs apply:

a. Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering the water.

b. Visible floating oils released from construction or project operation shall be immediately contained and removed from the water.

c. All oil, fuel or chemical storage tanks shall be diked and located on impervious surfaces so as to prevent spills from escaping to surface waters or ground waters of the state.

d. 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. No refueling of equipment shall occur over or within 50 feet of rivers, creeks, wetlands, or other waters of the state. Proper security shall be maintained to prevent vandalism.

e. No emulsifiers or dispersants are to be used in waters of the state without prior approval from the Department of Ecology, Central Regional Office.

f. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall be contained fro[m]

proper disposal, and shall not be discharged into state waters.

C. Spill Response

i) 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 clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.

ii) Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to the Department of Ecology, Central Regional Office at (509) 575-2490 (24- hour phone number).

iii) Chelan PUD shall submit a detailed written report to Ecology within five (5) days of the spill event that describes the nature of the violation, corrective action, and/or planned steps to be implemented to prevent reoccurrence, results of samples taken, and any other pertinent information.

iv) Compliance with this condition does not relieve the Chelan PUD from responsibility to maintain continuous compliance with terms and conditions of this order or resulting liability from further failure to comply.

VIII. Project Changes

Chelan PUD shall obtain Ecology review and approval before undertaking any change to the project that might significantly and adversely affect the water quality (other than project changes required or considered by this Order).

IX. Additional Requirements

This certification does not relieve the applicant from the responsibility of meeting applicable regulations of other agencies.

X. Clarifications Required per Pollution Control Hearings Board (PCHB) Order dated April 21, 2004 (Confederated Tribes v. Ecology, PCHB No. 03-075).

A. With respect to instream flows for spawning in Reach 4, incubation flows are added as needed in all years, including dry years. See Section III. A.i (listing incubation flows).

B. The monitoring required under the adaptive management plan is not intended to stop at the end of the compliance schedule in year 10, but should continue throughout the life of the new license. At the end of year 10 under the adaptive management plan, Chelan PUD will submit to Ecology for Ecology's approval a new schedule for monitoring of biological objectives and measures implemented — based upon the data and other information acquired during the 10 year period — under the adaptive management plan.

C. The reference areas selected in the Methow River for salmon and steelhead spawning will be of high-quality habitat, comparable to or better than that of the Chelan River.

D. An additional study of water temperature at the dam face must be performed by Chelan PUD to determine how best to design the new outlet structure to maximize the potential for cold water withdrawal at the base of the dam.

E. A riparian feasibility study must be conducted by Chelan PUD to better characterize the opportunities for the establishment of riparian vegetation on the banks of the Chelan River.

F. To the extent there is any ambiguity between the CRBEIP and this 401 Certification, to change or remove any biological objective — including the objective of 200 westslope cutthroat trout — Chelan PUD must petition Ecology in writing and receive approval in writing. See Section IV. I. Ecology has reserved for itself the authority to make such a decision.

G. The portion of this 401 Certification detailing Ecology's reservation of authority (Section IV J) includes the provision that Ecology has the authority to require new or modified "requirements," as opposed to merely "measures," and that the term "requirements" includes "new or modified biological objectives;"

H. The applicable portions of the documents relevant to this 401 Certification (e.g., the Settlement Agreement, including the CRBEIP and Article 7) are specifically incorporated by reference. Thus, Section IV.C (discussing biological objectives) is clarified to provide that all of the biological objectives contained in the CRBEIP are incorporated into this 401 Certification.

(i) The portions of this 401 Certification referring to the Chelan River fishery Forum ("CRFF") specifically incorporate those portions of the Settlement Agreement explaining the role, functions, and procedures of the CRFF. See Sections II.D, III.A.vi, III.B.i, IV.C, IV.E, and IV.G of the 401 Certification.

## APPENDIX E

### NATIONAL MARINE FISHERIES SERVICE CONSTRUCTION PRACTICES FOR THE LAKE CHELAN PROJECT

Filed with the Biological Opinion on October 20, 2005, at pp. 8-5 to 8-13.

In all proposed actions involving construction in or near waterways, Chelan PUD 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 feet of the edge of bank should be retained to the greatest extent possible.
- e. Timing of in water work. Work below the bankfull elevation will be completed during the State of Washington's or the Corps of Engineers' preferred in water work period as appropriate for the project area, unless otherwise approved in writing by NMFS.
- f. Cessation of work. Construction activities 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 NMFS' 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 NMFS, and maintained after construction for the life of the project. Passage will be designed in accordance with NMFS' "Anadromous Salmonid Passage Facility Guidelines and Criteria" (2004). 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 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 NMFS.
  - 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 bending 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, 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 NMFS' 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. Flag 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 onsite: 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 NMFS.

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 streamflow 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 NMFS.

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 NMFS.
  3. Before operations begin and as often as necessary during operation, steam clean all equipment that will be used below the bank full 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 waterbody.
  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 NMFS.
- 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 NMFS' 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 electro fishing.
  4. Measure conductivity and set voltage as follows:
 

<u>Conductivity (umhos/cm)</u>	<u>Voltage</u>
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 NMFS Law Enforcement Office will be contacted (360-418-4248).
  - vii. Do not transfer ESA-listed fish to anyone except NMFS or US Fish and Wildlife Service 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 NMFS or US Fish and Wildlife Service 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 onsite 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 NMFS 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 four 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. Chelan PUD will submit a monitoring report to FERC and NMFS 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 NMFS' 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 in-water 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 one 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.

NMFS 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 high-flow terms and conditions, or such additional best management practices that NMFS believes are necessary to minimize the effect of any incidental take.

(5) Annual implementation and monitoring report. Chelan PUD will provide NOAA Fisheries with an annual implementation and monitoring report by January 31 of each year that describes Chelan PUD's efforts in carrying out the activities under the Opinion, including how the results of the studies and evaluations are used to adaptively manage water quality conditions and fish population establishment in the Chelan River and powerhouse tailrace.