

# **COVER SHEET**

FEDERAL ENERGY REGULATORY COMMISSION

FINAL ENVIRONMENTAL IMPACT STATEMENT  
FOR THE ROCKY REACH HYDROELECTRIC PROJECT

Docket No. P-2145-060

Section 2

Proposed Action and Alternatives

Pages 9 through 28

FEIS

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 NO-ACTION ALTERNATIVE**

The Commission typically defines the no-action alternative as continuing to operate the project under the terms and conditions of the existing license, with no additional environmental protection, mitigation, or enhancement measures being implemented that would change the existing environmental conditions in the project area. Thus, the no-action alternative is intended to describe the environment as it exists today, and by which we judge the benefits and costs of any needed measures that would be applied under a new license.

In this instant case, the Commission recently amended the existing license (June 2004) to include the Anadromous Fish Agreement and Habitat Conservation Plan for the Rocky Reach Project (HCP) (see appendix B) (107 FERC ¶61,281). In accordance with the amended license, Chelan PUD has begun to implement the HCP, but implementation is still in the early stages. Much of the cost of implementing the HCP is still to be expended and the expected benefits of the HCP have not begun to accrue; most of these costs and benefits would begin to accrue during the term of any new license that may be issued. Including future HCP measures as part of the no-action alternative would not reflect the environment as it exists today and would pre-judge the benefits and costs of including those measures in a new license.

Therefore, to accurately differentiate between the no-action alternative (baseline), the proposed action (Chelan PUD's proposal, which includes implementation of the HCP), and any other alternatives, we define the no-action alternative as project operations as they stood on January 12, 2005, when the Commission issued its Ready for Environmental Analysis (REA) notice. Under the no-action alternative, the project would continue to operate as it did at that time, without implementation of future HCP-mandated measures. No additional change to the current environmental setting in the project area would occur, and power generation would remain the same. No additional enhancement measures, including those contained in the Settlement Agreement would be implemented.

#### **2.1.1 Existing Project Facilities**

The project is located on the Columbia River at river mile (RM) 473.7 in Chelan County, Washington, approximately 7 miles upstream of the city of Wenatchee. The project reservoir extends 43 miles upstream to the Public Utility District No. 1 of Douglas County's (Douglas PUD) Wells Project (FERC No. 2149). The project is a run-of-river project, with run-of-river defined in this case as average daily inflow equaling the average daily outflow.

The initial application for the project was filed January 13, 1956. The license was issued by order dated July 11, 1957, and expires in 2006. Five amendments to the initial license had been approved at the time of Chelan PUD's submittal of its application for a new license.

The existing Rocky Reach Project consists of:

1. a reservoir, with a current normal maximum headwater elevation at the dam of 707 feet<sup>9</sup> above mean sea level (msl) and an average flow of about 115,400 cubic feet per second (cfs);
2. a 130-foot-high and 2,847-foot-long concrete-gravity dam (including the powerhouse);
3. a spillway that is integral to the dam with twelve 50-foot-wide bays separated by 10-foot-wide piers, with flows being controlled by a 58-foot-high radial gate;
4. a 1,088-foot-long, 206-foot-wide, 218-foot high indoor powerhouse with 11 generating units (Units 1 through 7 with installed capacities of 68,392 kilowatt (kW) each and Units 8 through 11 with installed capacities of 96,554 kW) each and a service bay;
5. transformers, located on the powerhouse intake deck, which step up from 14.8 kilovolts (kV) to 230 kV, and five sets of 230-kV transmission lines that convey power from the powerhouse to the switchyard;
6. a forebay wall, which is integral to the dam and is formed by 10 blocks varying in heights and widths between the powerhouse and west abutment;
7. two 125-foot-high by 60-foot-wide non-overflow east abutment blocks that are integral to the dam;
8. a roughly 2,000-foot-long by 200-foot-deep (maximum depth of the cutoff) east bank seepage cutoff, which is buried and extends from the east end of the concrete portions of the dam;
9. a fishway with three entrances (between spillway bays 8 and 9, at the center of the dam, and at the powerhouse service bay) to provide for upstream adult fish migration;
10. three hydraulic turbine-driven pumps with a total capacity of 3,500 cfs to provide attraction water for the fishway passages;

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<sup>9</sup> All elevations in this document are referenced to the National Geodetic Vertical Datum of 1929. To convert to the newer U.S. Coast and Geodetic Survey datum commonly used on the Columbia River, subtract 1.78 feet.

11. a juvenile fish bypass system with a surface collection system and a bypass conduit to provide downstream passage to juvenile salmon and steelhead;
12. an 800-kW small turbine generator in the existing attraction water drop structure that provides supplemental flow to the adult fishway spillway entrance (licensed and planned for completion in April 2007);
13. fish rearing facilities on Turtle Rock Island and near the dam's left abutment, both upstream and downstream of the dam;
14. recreation facilities, including a visitor's center, powerhouse galleries, and seven parks; and
15. public safety measures, including a boat barrier, log boom, fencing, and signs to restrict access to parts of the project facilities.

The project has been operating for more than 50 years under the existing license and during this time, the Commission staff has conducted operational inspections focusing on the continued safety of the structures, identification of unauthorized modifications, efficiency and safety of operations, compliance with the terms of the license, and proper maintenance. In addition, the project has been inspected and evaluated every 5 years by an independent consultant and a consultant's safety report has been submitted for Commission review. As part of the relicensing process, the Commission staff evaluates the continued adequacy of the proposed project facilities under a new license. In any new license issued, special articles would be included, as appropriate. The Commission staff would continue to inspect the project during the new license term to assure continued adherence to Commission-approved plans and specifications, special license articles relating to construction (if any), O&M, and accepted engineering practices and procedures.

### **2.1.2 Current Project Operation**

Chelan PUD operates the project reservoir with a normal maximum headwater elevation of 707 feet. The minimum headwater level is at elevation 703 feet, and the maximum headwater level, available for passage of flood flows, is at elevation 710 feet. Project operation, including decisions to start, stop, and adjust the output of the 11 generating units, is completely automated. The project's automated functions are backed up with around-the-clock, on-duty plant operators who monitor operations and can override computer control if needed.

The project has usable storage capacity of 36,400 acre-feet between headwater elevations 707 feet and 703 feet.

Chelan PUD is a signatory to the 1997 Mid-Columbia Hourly Coordination Agreement (Hourly Coordination Agreement), along with Douglas PUD, Public Utility District No. 2 of Grant County (Grant PUD), the Bonneville Power Administration

(BPA), the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation, and other Northwest utilities. The Hourly Coordination Agreement facilitates maintaining the mid-Columbia reservoirs<sup>10</sup> at or near their full levels. All power requests and non-power requirements are collected and tracked by a computer and power management personnel at Grant PUD's headquarters in Ephrata, Washington. At the headquarters, flows are allocated to maximize generation, keeping the reservoirs as full as possible while minimizing spill losses.

Because of operation under the Hourly Coordination Agreement, plant capacity at the project does not change significantly with flow. Currently, the project operates in the top foot of reservoir storage 73 percent of the time and within the top 2 feet 98 percent of the time. As flows reach and exceed 150,000 cfs, tailwater effects reduce plant capacity due to higher tailwater levels and lower available gross head. At average flows, the reservoir's active storage is sufficient to run the plant for about 2 hours without additional inflow.

Chelan PUD is also a signatory to the 2004 Hanford Reach Fall Chinook Protection Program Agreement (Hanford Reach Agreement), along with Grant PUD, BPA, Washington Department of Fish and Wildlife (WDFW), the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), Douglas PUD, and the Colville Confederated Tribes. The Hanford Reach Agreement sets flow fluctuation limits for the protection of fall Chinook salmon.

During a normal water year, the project operates at a plant factor of 55 percent. During high water years, the project operates at a higher plant factor and is more often subject to spill to pass flows in excess of plant turbine capacity. When operating at a higher plant factor, the project is able to operate at or near full load for longer periods without drafting the storage from the reservoir. Under lower water supply conditions, the number of hours that the plant can sustain operations at or near peak load diminishes.

## **2.1.3 Current Environmental Measures**

### **2.1.3.1 Existing Fish Facilities and Programs**

#### **Upstream Passage**

The Rocky Reach dam is equipped with a fishway with entrances located between spillway bays 8 and 9, the center of the dam, and at the powerhouse service bay. Fish

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<sup>10</sup> The Hourly Coordination Agreement applies to the Grand Coulee, Chief Joseph, Wells, Rocky Reach, Rock Island, Wanapum, and Priest Rapids Hydroelectric Project reservoirs.

using these entrances follow passages to the center of the dam, and then along the downstream side of the powerhouse to a fish ladder along the forebay wall.

### **Hatchery Programs and Fish Production Facilities**

The original FERC license for the project has provisions requiring Chelan PUD to construct, operate, and maintain facilities to conserve fish and wildlife resources. Ultimately, Chelan PUD entered into agreements with both the Washington Department of Fisheries and the Washington Department of Game, now merged and called WDFW, to develop facilities and programs for fish production (Chelan PUD, 1961, 1963a,b, 1965). The facilities constructed as a result of these and subsequent agreements include the Chelan Hatchery, Rocky Reach Hatchery, and Turtle Rock Hatchery.

Prior to implementation of the HCP, hatchery-based compensation program goals consisted of releases of summer/fall Chinook salmon (200,000 yearlings and up to 1,620,000 subyearlings), 200,000 steelhead, and 90,000 rainbow trout. Under the HCP, the 1.6 million subyearling Chinook salmon program has been converted to a program of 400,000 fish reared at 25 fish per pound and 660,000 fish released at 50 fish per pound. These production goals are subject to broodstock availability and other constraints related to changes in the genetic management for steelhead, which is listed under the Endangered Species Act (ESA). The production goals are intended to produce enough fish to meet the 7 percent hatchery compensation level necessary to achieve No Net Impact for all Plan Species.

### **Current Salmonid Fisheries Conservation Measures**

Current anadromous salmon and steelhead fisheries habitat conservation measures within the project area evolved through a number of processes that date back to 1979, when FERC initiated an administrative proceeding known as the Mid-Columbia Proceeding. The purpose of the Mid-Columbia Proceeding was to develop a system-wide approach to protect the downstream migration of salmon and steelhead in the mid-Columbia River in the area stretching from the tailrace of Chief Joseph dam downstream to the Hanford Reach; this area includes the project.

Over the years, a FERC administrative law judge approved several interim stipulations related solely to the Rocky Reach portion of the Mid-Columbia Proceeding. The most recent revised interim stipulation, approved on May 23, 1996, is the Fourth Interim Stipulation. In the Fourth Interim Stipulation, Chelan PUD agreed to: (1) develop fish protection measures (which can include guidance and bypass systems) to facilitate downstream fish migration; (2) evaluate the effectiveness of the fish protection measures; (3) provide hatchery fish production; and (4) work with interested parties concerning long-term compensation options.

The Fourth Interim Stipulation expired on December 31, 1998. Despite its expiration, the Fourth Interim Stipulation continued to guide project operations while negotiating parties tried to reach agreement on a Fifth Interim Stipulation and a final conservation plan for anadromous species. These discussions were concurrent with negotiations on the HCP. For various reasons, the Fifth Interim Stipulation was not signed, and most parties agreed to defer to the HCP process.

The HCP is a 50-year agreement to protect five species of Columbia River steelhead and salmon: spring and summer/fall Chinook salmon (*Oncorhynchus tshawytscha*), sockeye salmon (*O. nerka*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss*) (collectively, the Plan Species). Its goal is to result in no net impact on the Plan Species by using a combination of mitigation tools to improve fish passage survival rates and achieve a virtual 100 percent survival of fish passing the project. These mitigation tools include fish passage measures for juvenile and adult Plan Species, hatchery programs, and a fund for habitat improvements.

In August 2003, NMFS issued an incidental take permit (ITP) for four of the Plan Species: Upper Columbia River spring-run Chinook salmon, Upper Columbia River summer/fall Chinook salmon, Okanogan River and Lake Wenatchee sockeye salmon (*O. nerka*), and Upper Columbia River steelhead. The permit would apply to non-listed Plan Species if and when such species are listed (68 FR 53351). Coho salmon are not included in the ITP because the native stock of this species was extirpated early in the 1900s.

On November 24, 2003, Chelan PUD and the HCP signatories filed the HCP with FERC as an amendment to be incorporated in the original project license, and as a settlement of the Rocky Reach portion of the Mid-Columbia Proceeding. The HCP amendment was approved by FERC in June 2004 and is referred to in this EIS as part of Chelan PUD's proposal. The specific measures associated with the HCP are described in more detail in fisheries resource section 3.5.2, *Environmental Effects*.

On April 19, 2004, Grant PUD filed with the Commission the Hanford Reach Agreement under the proceedings for FERC Project No. 2114, Priest Rapids.<sup>11</sup> Parties to the Agreement include Grant PUD, NMFS, WDFW, Chelan PUD, Douglas PUD, the Colville Tribe, and BPA.<sup>12</sup> The Hanford Reach Agreement replaces the June 16, 1988, Vernita Bar Agreement to protect and enhance fall Chinook salmon on Vernita Bar during the spawning, pre-hatch, post-hatch, and emergence periods and provides for

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<sup>11</sup> See Public Utility District No. 2 of Grant County, Washington (FERC No. 2114) Offer of Settlement with the attached Hanford Reach Fall Chinook Protection Program Agreement. Docket No. P-2114-000. Filed April 19, 2004.

<sup>12</sup> On February 10, 2006, Grant PUD filed a settlement agreement as part of the Priest Rapids Project relicensing proceeding and indicated that the FWS is now a signatory of the Hanford Reach Agreement.

minimum flows and regulation of flow fluctuations in the Hanford Reach to protect fall Chinook salmon fry during the rearing period. The Hanford Reach Agreement does not reduce the flow regulation requirements of the Vernita Bar Agreement, but establishes reservoir operating procedures that would be followed by Chelan PUD and Douglas PUD during the rearing period for the purpose of assisting Grant PUD in reducing flow fluctuations in the Hanford Reach and provides for the maintenance of an instantaneous minimum release at all times of at least 36 thousand cubic feet per second (kcfs) in the Hanford Reach.

### **2.1.3.2 Other Environmental Measures**

Other environmental measures that are part of Chelan PUD's ongoing operations include the following:

1. Managing spill to minimize total dissolved gas (TDG) while meeting fish survival goals;
2. Monitoring water temperatures;
3. Implementing a Spill Prevention Control and Countermeasure Plan;
4. Executing a fish predator control program;
5. Maintaining a fish counting program;
6. Stocking rainbow trout;
7. Funding periodic wildlife studies such as those related to mule deer, bald eagles, and goose nesting;
8. Operating and maintaining recreation facilities, including a visitor center, powerhouse galleries, educational and interpretative displays, and seven parks;
9. Maintaining a shoreline development tracking system;
10. Maintaining a milfoil harvest program; and
11. Maintaining public safety measures, including a boat barrier, log boom; fencing and signs to restrict access to parts of the project facilities.

### **2.1.4 Current Project Boundary**

The current project boundary is defined by contour lines on each side of the reservoir beginning at elevation 707 feet at the project dam upstream to the Wells Project tailrace. The elevation of the boundary lines increases with distance upstream of the project dam to take into account the anticipated water level at high flows. The project boundary encompasses about 1,500 acres of land, of which Chelan PUD owns about 600 acres.

## **2.2 CHELAN PUD'S PROPOSAL**

### **2.2.1 Operational and Environmental Enhancement Measures**

As described in the Settlement Agreement filed with the Commission on March 20, 2006 (Chelan PUD, 2006a), Chelan PUD proposes to implement the following operational and enhancement measures as part of a new license for the project, which Chelan PUD requests a 50-year license:

1. Establish a Rocky Reach (RR) Fish Forum, RR Wildlife Forum, RR Recreation Forum, RR Cultural Forum, and RR Policy Committee to serve as coordinators between Chelan PUD and other parties regarding implementation of the management plans included in the Settlement Agreement
2. Implement the Rocky Reach Shoreline Erosion Management Plan (Shoreline Erosion Plan) that includes:
  - a. an erosion control demonstration project
  - b. distribution of erosion control information
  - c. a shoreline erosion control inventory and monitoring program
3. Implement the Rocky Reach Water Quality Management Plan (Water Quality Plan) that includes:
  - a. measures to meet TDG numeric criteria and standards, including:
    - i. TDG monitoring
    - ii. spill management to continue meeting TDG numeric criteria while meeting the HCP survival objectives
    - iii. monitoring aquatic life for gas bubble trauma (GBT)
    - iv. determining TDG compliance
    - v. taking actions if TDG numeric criteria are not achieved
  - b. water temperature measures, including:
    - i. water temperature monitoring
    - ii. temperature modeling to confirm compliance
    - iii. participating in the development and implementation of the EPA water temperature total maximum daily load (TMDL)
    - iv. participating in tributary water temperature improvement planning

- c. continued project operation consistent with existing agreements (Hourly Coordination Agreement and Hanford Reach Agreement)
  - d. water quality sampling in macrophyte beds
  - e. developing and implementing an Aquatic Invasive Species Monitoring and Control Plan
  - f. continuing to implement and revise the Spill Prevention Control and Countermeasure Plan and Columbia-Snake River Spill Response Initiative
4. Continue to implement the HCP for Rocky Reach to protect salmon and steelhead, which would include:
- a. filing final annual and comprehensive progress reports and final results of all studies and testing pursuant to the HCP with the Commission
  - b. filing a license amendment application with the Commission prior to taking any action pursuant to the HCP that requires a change in the authorized project facilities or operations not specifically identified in the HCP
  - c. filing design drawings with the Commission prior to the implementation of any modification or addition to project works that is necessary to implement the HCP
5. Implement the Rocky Reach White Sturgeon Management Plan (White Sturgeon Plan) that includes:
- a. brood stock planning and collection
  - b. juvenile white sturgeon stocking, including:
    - i. initial stocking of yearling white sturgeon
    - ii. adjustments to stocking levels
    - iii. determination of a long-term approach to continuing the supplementation program
  - c. a monitoring program to assess the effectiveness of the supplementation program, including:
    - i. an index monitoring program
    - ii. an investigation of emigration rates and habitat use of the supplemented population
    - iii. supplementation program review
  - d. determining the carrying capacity of available habitat in the Rocky Reach reservoir and adjusting the supplementation program

- e. reporting to the RR Fish Forum and FERC annually summarizing the activities of this plan
6. Continue to implement the Rocky Reach Bull Trout Management Plan (Bull Trout Plan) that includes:
- a. operating upstream fishway and downstream fish bypass facilities including upstream fishway counts
  - b. evaluating adult bull trout upstream and downstream passage, including:
    - i. a bull trout monitoring program
    - ii. reporting and correlation analysis
  - c. monitoring of sub-adult bull trout
  - d. developing and implementing measures to modify the upstream fishway and downstream bypass or operations to reduce the identified impacts to bull trout passage, if any
  - e. participating in the development and implementation of the U.S. Fish and Wildlife Service (FWS) bull trout recovery plan, including:
    - i. meeting attendance
    - ii. tributary enhancement
    - iii. funding collection of tissue samples for genetic analysis
    - iv. participation in information exchanges and regional monitoring efforts
7. Implement the Rocky Reach Pacific Lamprey Management Plan (Pacific Lamprey Plan) that includes:
- a. addressing adult upstream and downstream fish passage, including:
    - i. fishway operations
    - ii. adult upstream passage counts
    - iii. upstream passage improvement literature review
    - iv. modifications to improve upstream passage
    - v. evaluation of upstream passage modifications
    - vi. adult downstream passage
    - vii. periodic monitoring

- b. juvenile downstream passage improvement measures, including:
    - i. operation of the downstream fish passage facilities
    - ii. juvenile impingement monitoring and reporting
    - iii. measurement of effects on juvenile downstream passage
  - c. measuring and addressing ongoing project effects on juvenile lamprey rearing habitat
  - d. identifying and implementing measures to address unavoidable adverse effects on Pacific lamprey in order to achieve No Net Impact
8. Implement the Rocky Reach Resident Fish Management Plan (Resident Fish Plan) that includes:
- a. fish rearing
  - b. resident fish enhancement measures
  - c. recreational fishing evaluation
  - b. resident fish monitoring
9. Implement the Rocky Reach Wildlife Management Plan (Wildlife Plan) that includes:
- a. restoring, maintaining, or improving WDFW lands within the Chelan Wildlife Management Area (Chelan Wildlife Area)
  - b. restoring 1,300 to 1,400 acres in the Chelan Wildlife Area that were previously under cultivation or in need of restoration
  - c. restoring, maintaining, or improving BLM lands within the Rocky Reach Wildlife Area
  - d. restoring, maintaining, or improving Forest Service lands within the Rocky Reach Wildlife Area
  - e. providing a conservation easement on Chelan PUD's Sun Cove property for the purpose of protecting riparian habitat
  - f. implementing an integrated noxious weed program
  - g. conducting annual wildlife surveys and preparing survey reports for species selected by the RR Wildlife Forum
  - h. implementing a noxious weed control program in areas where *S. diluvialis* occurs on public lands adjacent to the project reservoir
  - i. implementing a *S. diluvialis* monitoring program to evaluate the status of the populations in the project boundary

- j. pursuing conservation easements on a parcel of private land where *Spiranthes diluvialis* occurs
10. Implement the Rocky Reach Historic Properties and Cultural Resources Management Plan (Cultural Plan) that includes:
- a. twice-annual meetings of the RR Cultural Forum
  - b. adhering to consultation and permitting guidelines, including:
    - i. tribal consultation
    - ii. agency consultation
    - iii. consultation with private landowners
    - iv. annual reporting
  - c. cultural resource surveys within the area of potential effect (APE)
  - d. a protocol in the event that archaeological deposits or human remains are inadvertently encountered during any project-related activity
  - e. evaluating sites found within the APE
  - f. site treatment measures for Historic Properties currently and subsequently identified within the APE, including site monitoring
  - g. developing and implementing a Traditional Cultural Property (TCP) management plan
  - h. appropriate curation, including developing a collections report that contains information about the location and volume of cultural resources for which Chelan PUD is responsible and completing a collections inventory
  - i. an integrated cultural resources information management system
  - j. appointing a Cultural Resources Coordinator to oversee implementation of the Cultural Plan
  - k. developing and implementing an interpretive plan and education program
11. Implement the Rocky Reach Recreation Resources Management Plan (Recreation Plan) that includes:
- a. continued operation of Rocky Reach Park and Visitor Center, Beebe Bridge Park, Lincoln Rock State Park, Daroga State Park, Entiat Park, Chelan Falls/Powerhouse Park, and the continued O&M of the portion of Orondo Park that Chelan PUD owns
  - b. renovating and enhancing Lincoln Rock State Park and Daroga State Park

- c. trail link from Lincoln Rock State Park to a fish bypass viewing station;
- d. designing and constructing an irrigation system at Orondo Park;
- e. the Entiat Park Revitalization Plan, including Entiat Park upgrades, wastewater treatment plant upgrades, design and construction of an Entiatqua Trail link; implementation of a lease/purchase agreement with the City of Entiat, and convening of an annual community meeting
- f. an updated needs analysis/forecast to assess recreational use and needs within the project boundary
- g. a program to monitor and evaluate recreation resources
- h. complete construction of measures b, c, d, and e within 10 years of license issuance.

Additional descriptions of these proposals are provided in section 3.0 of this document and the HCP is provided in its entirety in appendix B.

### **2.2.2 Property Boundary Expansion**

In 1999, Chelan PUD hired a professional land surveyor to survey the project boundary for the project. As part of this process, Chelan PUD had a computer-based river flow analysis performed to verify flood elevations throughout the reservoir. This new analysis, that included aerial mapping techniques, updated riverbed cross-sections. It also included computer modeling that shows 100-year-flood elevations between Beebe Bridge and Wells Hydroelectric Project as several feet greater, in some locations, than those previously identified using earlier hand calculation methods.

The new calculated flood elevations are approximately 6 inches to 4 feet above the previously surveyed elevations, and Chelan PUD amended the License Application Exhibit G project boundary maps to accurately reflect these increases. Lands affected by this increase are located in rural areas that have minimal development. Chelan PUD is currently working with property owners to amend the necessary flowage easements. Table H-2 of the Final License Application for the Rocky Reach Project (Chelan PUD, 2004a) lists parcels of land being secured by Chelan PUD to amend flowage easements.

## **2.3 Staff Alternative**

### **2.3.1 Mandatory Conditions**

Pursuant to the REA notice issued January 12, 2005, various resource agencies and other interested parties provided comments and recommendations (see section 1.3). Chelan PUD responded with reply comments in letters filed with the Commission on April 27, 2005; May 11, 2005; and July 15, 2005.

### **2.3.1.1 Water Quality Certification**

Section 401(a)(1) of the Clean Water Act (CWA) requires an applicant for a federal license or permit for any activity that may result in any discharge into navigable waters to provide to the licensing or permitting agency a certification from the state in which the discharge originates that any such discharge will comply with certain sections of the CWA. On June 29, 2004, concurrently with the filing of its license application with the Commission, Chelan PUD requested a Section 401 water quality certificate from the Washington Department of Ecology (WDOE). On June 13, 2005, Chelan PUD withdrew its June 29, 2004, request and reapplied for a Section 401 water quality certification as settlement negotiations progressed. On February 8, 2006 following reaching a settlement with several parties, Chelan PUD withdrew its June 13, 2005 request and reapplied for Section 401 certification. In a March 17, 2006 order, WDOE issued a Section 401 certificate for the project.

### **2.3.1.2 Section 18 of the Federal Power Act—Authority to Require Fishways**

Section 18 of the FPA, 16 USC § 811, states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of the U.S. Department of Commerce and the U.S. Department of the Interior (Interior) may prescribe. By letter dated March 8, 2005, NMFS provided a preliminary fishway prescription requiring Chelan PUD to carry out its obligations, in their entirety, as set forth in the HCP.

By letter dated March 14, 2005, Interior prescribed that Chelan PUD shall implement the construction, operation, maintenance, and effectiveness monitoring set forth in the HCP. By letter dated June 1, 2005, Interior supplemented its prescription by prescribing upstream and downstream passage for bull trout and upstream passage for Pacific lamprey.

By letter dated January 17, 2006, Interior notified the Commission that Interior had received a proposed alternative fishway prescription by Chelan PUD under 43 CFR §45.4(c), and indicated an intent to file modified conditions and prescriptions at a later date. Due to the filing of the Settlement Agreement, Chelan PUD withdrew its alternative fishway prescription on March 27, 2006.

By letter dated May 24, 2006, Interior notified the Commission that the fishway measures contained in the Settlement Agreement constitute Interior's modified fishway prescriptions for relicensing the project, provided the Commission makes no material changes to the Settlement Agreement. If the Commission materially changes the Settlement Agreement in a manner that changes any of the proposed protection, mitigation and enhancement measures, Interior reserves the right to submit amended

fishway prescriptions that parallel the objectives outlined in the original Settlement Agreement.

### **2.3.1.3 Section 4(e) Conditions**

Section 4(e) of the FPA gives the Secretaries of the Interior and Agriculture authority to impose conditions on licenses issued by the Commission for hydropower projects located on “reservations” under the respective Secretary’s supervision. See 16 U.S.C. §§ 796(2), 797(e).

By letter dated March 14, 2005, Interior on behalf of BLM submitted terms and conditions pursuant to section 4(e). By letter dated May 24, 2006, Interior withdrew its previously submitted section 4(e) conditions, stating that the measures contained in the Settlement Agreement address the substantive issues contained in their original section 4(e) conditions.

By letters dated March 8, 2005, and October 28, 2005, the Forest Service submitted two draft section 4(e) conditions: (1) the Commission’s standard Form L-1 and (2) a reservation of authority to issue revised terms and conditions in the event that Chelan PUD, the Forest Service, and other stakeholders enter into a Settlement Agreement resolving some or all of the issues raised in the proceeding in order to provide terms and conditions that are consistent with the terms of the agreement. The Forest Service plans to file final conditions within 90 days after issuance of the final EIS.

### **2.3.2 Parties to the Settlement Agreement**

In addition to Chelan PUD, the parties to the Settlement Agreement include the FWS, BLM, National Park Service, WDFW, WDOE, Washington State Parks and Recreation Commission (Washington State Parks), City of Entiat, Entiat Coalition, Alcoa Power Generating Inc., the Confederated Tribes of the Colville Reservation (Colville Tribes), the Confederated Tribes and Bands of the Yakama nation (Yakama Nation). In this final EIS, we assume that Chelan PUD’s proposal, as set forth in the Settlement Agreement, represents the recommendations of the parties to the Settlement Agreement. We note that NMFS supports the Settlement Agreement but is not a signatory.

### **2.3.3 Staff Recommendation**

After evaluating Chelan PUD’s proposal and recommendations from resource agencies, tribes, and other interested parties, we considered what environmental measures would be necessary or appropriate with continued operation of the project. We recommend including the following environmental measures proposed by Chelan PUD in any license issued for this project, but revising certain specific elements of the measures, as noted:

1. Establish four forums: RR Fish, Wildlife, Recreation, and Cultural Resource forums and a RR Policy Committee;
2. Implement the Shoreline Erosion Plan;
3. Implement the Water Quality Plan;
4. Continue to implement the HCP for Rocky Reach to protect salmon and steelhead;
5. Implement the White Sturgeon Plan (except as noted below);
6. Continue to implement the Bull Trout Plan (except as noted below);
7. Implement the Pacific Lamprey Plan (except as noted below);
8. Conduct a comprehensive evaluation of the effects of predatory fish species on HCP plan species;
9. Implement the Wildlife Plan with refinements (see below)
10. Implement the Cultural Plan;
11. Implement the Recreation Plan with refinements (see below); and

In addition to Chelan PUD's proposed measures, we recommend the following modifications and refinements:

1. Modify the goal of the White Sturgeon Plan from increasing sturgeon abundance to a level commensurate with available habitat to implementing measures that would reduce or eliminate the effects of the O&M of the Project on white sturgeon. Additionally, we are not recommending that Chelan PUD be required to implement an analysis of the carrying capacity of the available habitat.
2. Modify the Bull Trout Plan so that Chelan PUD will not be required to participate in development of FWS' bull trout recovery plan, specifically attending meetings and participating in regional information exchanges and monitoring efforts.
3. Modify the Pacific Lamprey Plan so that Chelan PUD will not be required to achieve the best passage rates found at other Columbia River projects, implement a no-net-loss standard for Pacific lamprey, fund regional research, or participate in regional information exchanges.
4. Implement one element of the Resident Fish Plan—conduct surveys to determine the effects of predatory resident fish on juvenile salmon and steelhead. Exclude from the license the other measures included in the plan, including fish rearing and stocking, fishing enhancement measures,

recreational fishing evaluation, and monitoring resident fish species and abundance.

5. Revise the Wildlife Plan in consultation with WDFW, BLM, the Forest Service, FWS, and other entities that wish to participate in the RR Wildlife Forum and file the Plan with the Commission for approval within 1 year of license issuance. The final Plan, which would be updated every 5 years, would: (a) specifically describe the habitat improvement projects that would be undertaken for the next 5 years, an implementation schedule, and a description of any monitoring or maintenance programs to ensure success of the measures; (b) include a detailed description of an integrated noxious weed control plan, including a description of the areas to be treated in the first five years of license issuance, and the methods of treatment; (c) include a detailed description of the wildlife surveys that would be implemented for the next 5 years, with subsequent 5-year reports including any proposed modifications to survey efforts; and (d) include the provisions of the “Ute-ladies’-tresses along Rocky Reach Reservoir Management Plan.” The final Plan should also contain a provision for including in the project boundary the Chelan Wildlife Area and BLM and Forest Service-owned lands where annual O&M of the implemented measures is required to ensure its effectiveness. The final plan should **not** include measures that are not directly habitat related, or measures that are generally the responsibility of the land managing agency.
6. Incorporate the riparian habitat associated with the Sun Cove property in the project boundary and protect the wildlife habitat for the term of the license (as opposed to acquiring a conservation easement).
7. Revise the Recreation Plan to include the following elements: (a) a description with detailed drawings of the type and location of all proposed recreational facilities and improvements, including proposed design, construction materials and methods; (b) an implementation schedule for all measures and filings with the Commission for approval; (c) a description of the interpretive trails and signs developed in concert with the Cultural Plan; (d) identification of the entity responsible for O&M of the recreation facilities; (e) a discussion of how the needs of the disabled were considered in the planning and design of the recreation facilities; (f) in concert with Article 9(g) (Recreation Resources Monitoring and Evaluation Program) of the Settlement Agreement, recreation use monitoring on an estimated 150 acres of BLM lands, located within the project boundary; and

(g) documentation of consultation with at least, but not limited to, WDFW, BLM, U.S. National Park Service (NPS), Washington State Parks, and the City of Entiat. File the plan for Commission approval within 1 year of license issuance. Components of the plan should be consistent with the proposed Recreation Plan implementation schedule in the Settlement Agreement.

## **2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY**

Other alternatives to the relicensing proposal were considered but eliminated from detailed study because they are not reasonable in this case. They are: (1) federal takeover and operation of the project; (2) issuance of a non-power license; and (3) project retirement.

### **2.4.1 Federal Takeover and Operation**

Federal takeover and operation of the project is not considered to be a reasonable alternative. Chelan PUD is a municipal entity, and therefore, federal takeover of the project was barred by Congress in the Act of August 15, 1953 (67 Stat. 587). Moreover, no party has suggested that a federal takeover would be appropriate, and no federal agency has expressed an interest in operating the project.

### **2.4.2 Nonpower License**

Issuing a nonpower license would not provide a long-term resolution of the issues presented. A nonpower license is a temporary license that the Commission would terminate whenever it determines that another government agency would assume regulatory authority and supervision over the lands and facilities covered by the nonpower license. In this case, no agency has suggested its willingness or ability to do so. No party has sought a nonpower license, and the applicant has no basis for concluding that the project should no longer be used to produce power. Thus, in these circumstances, a nonpower license is not a realistic alternative to relicensing.

### **2.4.3 Project Retirement**

Project retirement could be accomplished with or without dam removal. Either alternative would involve denial of a license application and surrender or termination of an existing license with appropriate conditions. Dam removal has not been recommended by any party, and we have no basis for recommending it or studying it as an alternative.

The second project retirement alternative would involve retaining the dam and disabling or removing equipment that generates power. Project works would remain in place and could be used for historic or other purposes. This would require identifying another government agency with authority to assume regulatory control and supervision of the remaining facilities. No agency has advocated this alternative for the project, though one interested party, the Columbia River Inter-Tribal Fish Commission (CRITFC), has recommended studying it. Because the power supplied by the project is needed in the region, a source of replacement power would have to be identified. In these circumstances, removal of the electric generating equipment is not considered a reasonable alternative.

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