

APPLICATION REVIEW FOR
LOW IMPACT HYDROPOWER INSTITUTE
RE-CERTIFICATION of the
PELTON - ROUND BUTTE PROJECT NO. 2030



Pelton Dam

Round Butte Dam



Re-regulating Dam



September 18, 2015
Application Reviewer: Patricia McIlvaine

REVIEW OF APPLICATION FOR RE-CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE PELTON-ROUND BUTTE PROJECT

Prepared by:
Patricia McIlvaine
September 18, 2015

I. INTRODUCTION AND OVERVIEW

This report reviews the application for re-certification submitted jointly by Portland General Electric Company and Confederated Tribes of the Warm Springs of Oregon (CTWSO) (Applicants) in October 2014 to the Low Impact Hydropower Institute (LIHI) for re-certification for the Pelton – Round Butte Hydroelectric Project (the Project).

The Pelton Round Butte Project is located on the Deschutes, Metolius, and Crooked Rivers in Jefferson County, Oregon and holds a 50-year term license from the Federal Energy Regulatory Commission (FERC) issued in 2005. The project consists of three developments located in sequence from upstream to downstream: the Round Butte, Pelton, and Reregulating developments, each with a powerhouse integral to its associated dam, and no bypassed reaches. The total Project capacity is a 390.15 megawatt project with a reported annual production of 1,444.076 MWh.

LIHI's recertification process asks two questions:

- Have LIHI's certification criteria been revised since the previous certification was issued by LIHI in 2007?
- Have there been "material changes" at the facility that would affect the certification?

It is my understanding that neither LIHI's criteria, or the Board's interpretation of one or more criteria, that are applicable to the circumstances of the Pelton – Round Butte Project have changed in meaningful ways since the date of the original certification.

In accordance with the Recertification Standards, "material changes" mean non-compliance and/or new or renewed issues of concern that are relevant to LIHI's criteria. A preliminary review of the application indicated that "material changes" have occurred at the Project, primary associated with the construction and operation of the Selective Water Withdrawal (SWW) facility in 2009, following initial LIHI certification in 2007. The SWW was a fundamental feature of the 2004 Settlement Agreement (and adopted in the FERC license), given the anticipated water quality improvements (via return to a more natural state) and enhancement of downstream fish passage expected from its operation. However, the operation of this experimental but state-of-the-art facility however, has resulted in both some deviations from

license or WQC requirements, but more importantly, new issues of concern, as identified primarily in a comment letter received from the Deschutes River Alliance (DRA).

The LIHI process requires that projects applying for re-certification that have “material changes” must undergo a full Intake Review and full review confirming criteria compliance using the standard “certification” report format. Given this, a formal LIHI Intake Review was completed February 25, 2015. The applicants provided supplemental information for review in response to the Intake Review and subsequent inquiries from the application Reviewer between March 2015 and June 2015, with a complete response provided in June.

Abbreviated description information, much of which has been excerpted from the original reviewer’s report, is contained in this report as this is a recommended recertification of the project. Additional information can be found in the original certification report from 2007.

II. PROJECT’S GEOGRAPHIC LOCATION

The Project is located on the Deschutes River, a tributary to the Columbia River whose watershed drains 10,500 square mile region in north central Oregon. The project impounds approximately 9 miles of the Deschutes River, 7 miles of the Crooked River, and 13 miles of the Metolius River. The Project boundary encompasses a total of approximately 14,300 acres, with nearly 10,800 acres of that being undeveloped uplands managed for wildlife habitat. The majority of all project lands are federal, administered by the U.S. Forest Service and Bureau of Land Management, and tribal, mostly within the Warm Springs Reservation. Other property owners include Portland General Electric, the State of Oregon, and private citizens. Considering only shoreline along the project’s three impoundments, 55% is publicly-owned, 30% is owned by the Tribes, 5% is owned jointly by the applicants, and 10% is owned by private parties other than the applicants. There are three dams upstream of Pelton-Round Butte on the Crooked River and four dams upstream on the Deschutes River but no downstream dams on either river. The most downstream of the three Project dams is approximately 100 miles upstream from the confluence of the Deschutes and Columbia Rivers. The map on the next page illustrates the Project’s location and these upstream dams.

III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

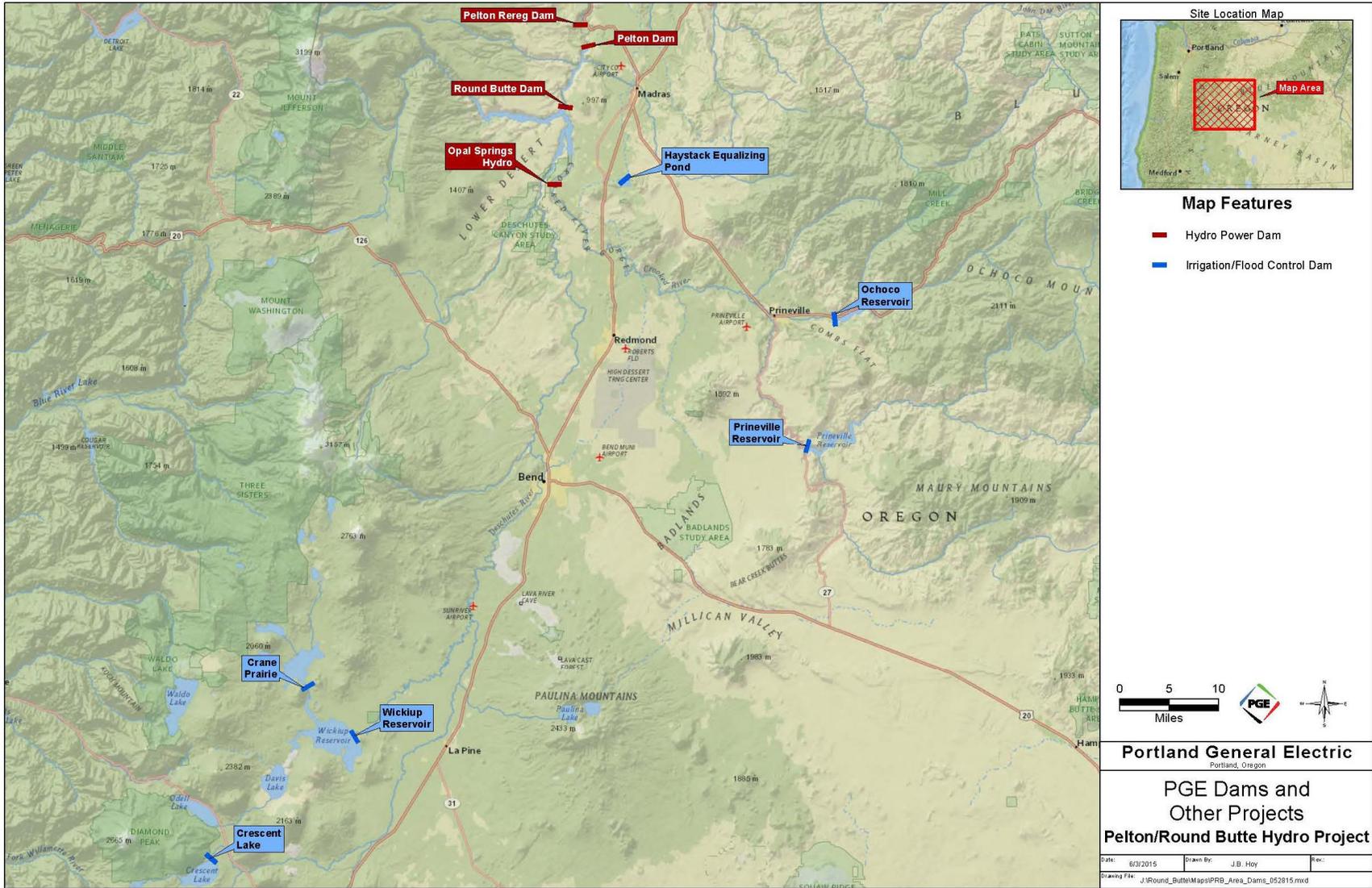
The Project boundary encompasses approximately 14,3000 acres, most owned by the US government and administered by the US Forest service, US Bureau of Land Management and US Bureau of Indian Affairs. About 2,162 acres of this are in the Warm Springs Reservation. Deschutes National Forest and Crooked River National Grassland are close to the Project.

The following table summarizes the project features:

Development	Dam	Reservoir	Generation	Other
Round Butte (RM 110.4)	1,382-foot-long, 440-foot high compacted, rock-filled embankment dam	4000 acre (535,000 acre-foot) reservoir, Lake Billy Chinook on the Metolius, Crooked, and Deschutes Rivers	Three 82.35-MW turbine generating units and one 70-kilowatt generating unit; total installed capacity: 247.12 MW.	Fish hatchery (Round Butte Hatchery) located adjacent to the dam.
Pelton (RM 103.4)	636-foot-long, 204-foot-high concrete arch dam with a crest elevation of 1,585 feet mean sea level (msl);	7-mile-long, 540-acre (31,000 acre feet) reservoir Lake Simtustus on the Deschutes River	Three turbine generating units with a total installed capacity of 100.8 MW.	n/a
Reregulating (RM 100.1)	1,067-foot-long, 88-foot high rock-filled embankment dam with a spillway crest elevation of 1,402 feet msl;	2.5-mile-long, 190-acre (3,500 acre feet) reservoir	One 18.9-MW, bulb-type turbine generating unit.	Non-operating 3-mile-long fishway extending from the tailrace upstream to the Pelton forebay.

The Round Butte and Pelton developments are operated as peaking facilities, typically generating between the hours of 6 a.m. and 11 p.m. daily. The Reregulating development is operated to attenuate high and low peak flows produced by the upstream developments. Flow releases are controlled to maintain an average daily flow in the Deschutes River downstream of the Reregulating Dam that approximates the average daily inflow to the project, which equals or exceeds the allowed minimum flow, as defined according to a schedule of target flows that range from 3,000 to 4,571 cfs by month. River fluctuations below the Regulating Dam are limited to 0.1 feet per hour and 0.4 feet per day, except from May to October 15, when fluctuations are limited to 0.5 feet per hour and 0.2 feet per day.

Location of the Pelton-Round Butte Project along with the Upstream Non-PGE Opal Spring Project



The following photographs show the three developments and the Selective Water Withdrawal facility which will be discussed later.



Round Butte and Lake Billy Chinook

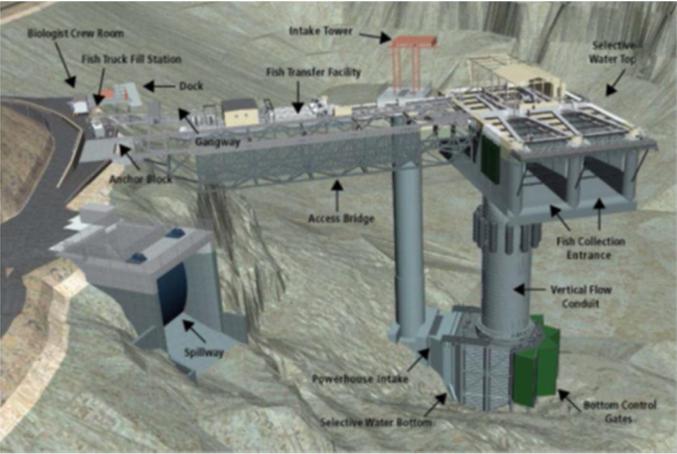


Pelton Dam and Lake Simtustus



Regulating Dam

Selective Water Withdrawal Shown Below



IV. REGULATORY AND COMPLIANCE STATUS

FERC License

The Federal Energy Regulatory Commission (FERC) issued the project a 50-year license in 2005 for the operation of the project. The license incorporated most, but not all the provisions of a wide-ranging settlement agreement signed in 2004, among 22 organizations and government agencies. It covers operating conditions and long-term resource protection, mitigation, and enhancement measures at the project. Many of these 22 organizations are members of the four working groups established by the Settlement Agreement to assist in confirming compliance with the terms of the Agreement. These groups include the Fish Committee, Terrestrial Resources Working Group, Recreation Resources Working Group, and Shoreline Management Working Group. Each of the committees includes representatives from the licensees, Forest Service, BIA, BLM, the Tribes Branch of Natural Resources, and Oregon DFW, and others, depending on the Committee. The committees are consulted entities in the development and implementation of various study plans, reports, facility designs, and operational plans and have a pivotal role in the administration of a large variety of post-licensing activities, including changes in protection and enhancement measures on behalf of fish and wildlife, water quality, and recreation. A fifth group, the Pelton Round Butte Fund Governing Board, is responsible for making decisions on the use of the Pelton Round Butte Fund. Its membership includes representatives of most of the same organizations.

The principal elements of the Settlement Agreement are:

- **General provisions** establishing the terms and conditions governing the relationship among the parties to the Settlement Agreement, including the establishment of a variety of implementation committees, an adaptive management framework to guide the implementation of untested mechanisms and approaches, and a dispute resolution process.
- **Operating conditions** setting stringent requirements for managing flows and reservoir levels, and monitoring and responding to long term low flow conditions primarily to benefit fishery resources and improve water quality.
- **Aquatic resources requirements** primarily to achieve fish passage and improve water quality, including many complex and experimental measures to be developed through an adaptive management process; the Fish Passage Plan with its requirement for a Selective Water Withdrawal Mechanism is the centerpiece of the aquatic resources provisions (see discussion below).
- **Terrestrial resource management measures** to achieve improvements to wildlife and watershed protection.
- **Recreation, aesthetic, and cultural resource** protection and improvement measures.
- **Lower Deschutes River** aquatic habitat improvements.
- **Establishment of a Pelton Round Butte Fund** to underwrite projects that produce in-stream flows that benefit aquatic habitat and for other mitigation and enhancement projects for fish and wildlife resources and habitats affected by the project.

The mechanism at the heart of many of the environmental gains sought by the Settlement Agreement is the “Selective Water Withdrawal Facility” (SWW) which was constructed in Lake

Billy Chinook approximately 700 feet upstream of Round Butte Dam. The SWW, is a 270-foot tall tower capped by an intake module that collects migrating fish and separately sends water to the generators. The SWW was constructed and became operational in 2009. Expected benefits from use of the SWW benefits include: the ability to draw and blend a combination of water from the surface and at depth in the impoundment (instead of only at depth, which is currently the case), to alter the currents in Lake Billy Chinook, and to trap anadromous fish, including salmon and steelhead, migrating downstream. The inability of fish to find their way downstream from the upper Deschutes, Metolius, and Crooked Rivers once they hit the swirling currents of Lake Billy Chinook is suspected as the reason past downstream passage was not highly successful. The SSW was designed to:

- Improve water quality in Lake Billy Chinook by drawing warmer water off the surface to blend with cold water drawn at depth, cooling overall temperatures in the lake and improving dissolved oxygen levels in all the reservoirs. If needed, selective spills will be implemented at the Reregulating Dam to ensure that project discharges to the lower Deschutes River comply with dissolved oxygen standards.
- Improve water quality below the project by improving temperature and dissolved oxygen conditions in the lower Deschutes River and eliminating any project impact on these criteria in this reach. The SWW is expected to shift the annual temperature patterns of the water released from the project's Reregulating Dam towards pre-project patterns, improving aquatic habitat in the project's reservoirs and in the lower Deschutes River.
- Achieve downstream passage of anadromous and riverine fish by using an optimum "blend" of surface and deep water withdrawal that reorients reservoir currents in Lake Billy Chinook to guide downstream migrants to a collection facility prior to transport below the project.

It is important to note that the Pelton-Round Butte Fish Committee is the technical group that is involved in the water quality and fish management issues for the Project. This Committee meets monthly, with conference calls in the interim if needed, to address the issues noted on the previous page. This committee has decision-making authority and must approve any operational changes proposed by PGE. The Fish Committee is composed of:

- Scot Carlon - NMFS
- Bonnie Lamb - ODEQ
- Peter Lickwar - USFWS
- Terry Shrader - ODFW
- Robert Dach - Bureau of Indian Affairs
- Jimmy Eisner - BLM
- Brad Houslet - CTWS
- Mike Riehle - USDA-FS
- Chandra Ferrari - Trout Unlimited

Project requirements also include measures intended to achieve upstream passage of fish and their reintroduction, after 50 years, to 226 stream miles of habitat above the project (contingent

in part on installation of a fish ladder at Opal Springs Dam on the Crooked River). The measures, include return of spring Chinook and sockeye salmon to the Metolius River and steelhead to the Crooked River and the Deschutes River, and conversion of currently land-locked kokanee to sockeye salmon. Currently adult salmon and steelhead returning to the Deschutes are captured at the Reregulating Dam, then trucked upstream past the dams to an adult release facility at the Round Butte forebay. Once the permanent downstream passage facilities are completed, and if they, along with the SWW, are found to operate as anticipated, the applicant is to study the feasibility of replacing the trap-and-haul upstream system with mechanisms to achieve volitional upstream passage. Construction of these upstream facilities has been delayed until 2018, as approved by Oregon Department of Fish and Wildlife (ODFW) in their letter dated February 5, 2015.

From the onset, the experimental nature of the measures called for in the agreement, and especially those of the SWW, was recognized by the Settlement Agreement signatories. Reliance on adaptive management techniques to drive the evolution and implementation of the fish passage other measures was likewise understood. It was also acknowledged that success or failure in this project has implications for fish restoration at US western high-head dams.

As discussed further under Water Quality and Fish Passage and Protection, it appears that the river changes reported to be occurring, expressed as negative implications of operation of the SWW by the Deschutes River Alliance in their comment letters and conference calls with the Reviewer and the Executive Director of LIHI, may be unanticipated temporary conditions that are indicative of a return to more naturally occurring water quality conditions, one of the above-noted goals of the Settlement Agreement. The agreed upon adaptive management techniques and consistent involvement of agency representatives in planning and review of river conditions, should ensure that if hoped for water quality improvements are not demonstrated once an agreed upon period of time has passed, that any needed facility modifications will be made.

Several FERC license amendments were issued since the last LIHI certification as listed below. None were found to be significant in regard to challenging this re-certification review for the reasons noted.

- Three amendments in 2012, 2014 and 2015 were associated with revisions to the capacity description due to generator rewinds.
- On April 02, 2008 changes to the reporting frequency of certain reports required by the license were approved by FERC. The FERC Order documented the required resource agency consultation and support from the commenting agencies finding the changes agreeable.
- One February 24, 2010 FERC approved the request to (1) discontinue the use of the new U. S. Geological Survey (USGS) Madras gage installed pursuant to the current license and instead use the original gage for monitoring; (2) modify the language of Articles 409 and 412 to eliminate wording inconsistencies that exist between the articles; and (3) modify the Project Operating Plan and the Operations Compliance Plan (Article 415) to provide for the use of the previous USGS Madras gage for monitoring. Following response to questions from resource agencies, these changes were to be agreeable to these agencies and therefore approved by FERC.

- On October 19, 2012, similar to the amendment listed above, filing requirements of some reports were approved by FERC given resource agency support in the license amendment.

Water Quality Certification (WQC)

Water Quality Certifications were issued to the Project from Oregon Department of Environmental Quality and the Confederated Tribes of the Warm Springs Reservation Water Control Board (CTWSR) in June 2002. These certifications have been directly incorporated into the FERC license.

V. PUBLIC COMMENT RECEIVED BY LIHI

The deadline for submission of comments on the re-certification application was January 7, 2015. Three letters were received by LIHI by this date, included in the list below, can be found on LIHI's website. However several letters were received subsequent to this deadline and accepted as part of the recertification review. These four letters, denoted by their dates in **bold** in the list below. The agency letters are posted on LIHI's website. Potential conditions recommended by DRA should the Project receive re-certification are addressed under the applicable Criterion.

- Oregon Department of Environmental Quality (ODEQ) on September 18, 2014, supporting recertification.
- Oregon Department of Fish and Wildlife (ODFW) on October 13, 2014, supporting recertification.
- Deschutes River Alliance (DRA) on January 5, 2015. This letter does not support recertification.
- DRA submitted a second letter on **April 7, 2015**, in response to the letter received by LIHI from PGE dated **February 27, 2015**. This PGE letter responded to DRA's initial letter of January 5, 2015.
- NOAA, National Marine Fisheries Service (NMFS) on **May 12, 2015**, supporting recertification.
- US Department of Interior, US Fish & Wildlife Service (USFWS) on **June 29, 2015**, supporting recertification.

Three comment letters addressed to PGE were provided to LIHI as part of the application submitted by PGE. These letters included:

- From Deschutes Land Trust on September 11, 2014, supporting recertification.
- From Crooked River Watershed Council on September 15, 2014, supporting recertification.
- From Warm Springs GeoVisions on September 16, 2014, supporting recertification.

The content of these letters are discussed under the applicable criterion.

VI. SUMMARY OF COMPLIANCE WITH CRITERIA AND ISSUES IDENTIFIED

Criterion A - Flows – The FERC license incorporates strict requirements limiting stage changes, gaging of project inflow and outflow, procedures during long-term low flow conditions, and seasonal drawdown and fluctuation limits. While 17 deviations occurred between 2007 and 2015 none were found to be FERC license violations, and the majority of these occurred between 2007 and 2010. None have occurred since 2014. While the project is in compliance with this criterion a condition has been issued in regard to recurring deviations from flow requirements.

Criterion B - Water Quality – The Project appears to be in compliance with the requirements of the two WQCs issued to the Project, and adopted into the FERC License as demonstrated by materials provided in the application, and comments issued by ODEQ. Nonetheless, water quality changes may be occurring, possibly on a temporary basis, are of key interest to PGE and other members of the Fish Committee, as well as the DRA. As such, a condition is recommended to improve sharing of data and concerns regarding potential water quality changes that may or may not be tied to the operation of the SWW.

Criterion C - Fish Passage and Protection. The Project appears to remain in compliance with all aspects of this criterion, based on review of numerous documents provided by PGE. Letters from NMFS, USFWS and ODFW support this position. Delays in implementation of certain aspects of upstream passage have all been approved by the resource agencies. A condition has been issued in regard to this criterion.

Criterion D - Watershed Protection - The project continues to be in compliance with this criterion. As of 2014, \$10,046,552.28 (\$5,838,026.06/Water Fund and \$4,208,526.22/General Fund) has been awarded to various projects that enhance riparian and riverine systems and for acquisition of land, water, and water rights. As the goals for awarding funding are equivalent to that assessed under the Project's initial certification review, which was found to achieve similar benefits within the project's watershed equivalent to development of a buffer zone dedicated for conservation purposes, a recommendation for three extra years of certification is recommended. A condition is recommended regarding annual reporting to LIHI on the Funding Programs.

Criterion E - Threatened and Endangered Species Protection – Steelhead and bull trout (both federally threatened species) are in Project waters. The project continues to be in compliance with requirements designed to protect these species as supported by consultation with USFWS and NMFS. A condition has been issued in regard to this criterion.

Criterion F - Cultural Resources –All measures required by the FERC license to protect the cultural resources on Project lands have been implemented to the satisfaction of the Oregon State Historic Preservation Office. Warm Springs GeoVisions, who is the lead for cultural resources for CTWSO, also reported compliance with resource protection needs. The project continues to be in compliance with this criterion.

Criterion G - Recreation – The Applicants have provided extensive documentation confirming continued compliance with License mandated recreational facility requirements. Funding support required by two conditions included in the Settlement Agreement but not the FERC

license also continues to be provided. The project continues to be in compliance with this criterion.

Criterion G - Facilities Recommended for Removal - No resource agencies have recommended dam removal.

VII. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION

Based on my review of information submitted by the applicant, the additional documentation noted herein and comments obtained through my consultations with various resource agencies, I believe that this project continues to be in compliance with all LIHI criteria and therefore should be re-certified at this time. I suggest that certification of the Project with a certification term of eight years be conditioned as noted below.

Condition 1. As part of the required annual Compliance Statement to LIHI, the facility owner shall identify any deviations from FERC operating requirements and will include copies of all agency and FERC notifications and reports of flow deviations that have occurred in the previous year, as well as incidents reportable under License Article 405 (i.e. injury/death of ESA or non-ESA fish species). This report shall be submitted by June 1 for the previous year's events. This report shall reference and include copies of all notifications made to the FERC during the previous year. Unless otherwise included in the FERC notifications themselves, the report to LIHI shall describe for each instance:

- a. The cause of the event/deviation;
- b. The date, duration and magnitude of the flow deviation. For fish incidents, the date and number / type of species killed;
- c. Confirmation that the required verbal notices have been made to the applicable agencies based on the type of event (flow deviation or fish kill). This data shall list the date of and to whom all notifications were sent;
- d. Ways to minimize future repeat occurrences to the extent possible by the Licensee;
- e. Any proposed mitigation measures and a schedule by which such measures will be implemented; and
- f. Status or confirmation that the previously developed mitigation measures (for the previous year) have been implemented according to the proposed schedule.

The owner shall maintain a proactive approach to reducing the frequency and severity of such deviations and incidents to the extent reasonably possible. The annual compliance report to LIHI will be used as confirmation that the facility owner is conducting the necessary actions to minimize such events and ensure compliance with LIHI's flow, fish passage and endangered species criteria.

Condition 2. The owner of the Pelton-Round Butte Project shall provide LIHI with a description of the current status and use of funds from the General Fund and the Water Rights Fund that were part of the Settlement Agreement and current FERC license for the past year, as part of the Annual Compliance Letter to LIHI. In particular, this description shall identify the lands and waters that are benefiting from the funds and be sufficient to determine if the programs funded

continue to achieve the ecological and recreational equivalent of land protection of the buffer zone referred to in Question D.1. This information will be used by LIHI staff to determine if the Pelton-Round Butte certification continues to qualify for three additional years in its term. Submission of a copy of the annual report sent to FERC under Article 436, or a link to it on FERC's eLibrary, would satisfy this reporting requirement.

Condition 3. The goal of this Condition is to ensure that all interested stakeholders have access to relevant monitoring data for water quality and fish passage, and that stakeholders have an opportunity to share their concerns about progress toward the SA goals with PGE on at least a regular, annual basis. Such information access shall be coordinated with the Fish Committee that was established in the SA and FERC license. Such information sharing shall include the monitoring data and modeling results that will come from the Nutrient and Algae Study that PGE started in February 2015, the purpose of which is to understand the complex dynamics of the waters entering and leaving the PRB facilities. The study plan, approved by the ODEQ and Fish Committee, as well as findings expected in 2018, shall be part of the materials shared with other stakeholders. PGE shall establish a means to facilitate sharing of ongoing environmental studies and results from the adaptive management program associated with operations of the selective withdrawal tower with stakeholders who have demonstrated an interest in such Project activities. This information sharing may include newsletters, notices of new study findings, posting of such materials / announcements on PGE's website or other similar methods. Such announcements of new information shall be done at least semi-annually. A method for stakeholders to provide comment to PGE on this information shall also be developed. PGE shall notify LIHI within 60 days of recertification as to the method(s) by which such information sharing will be accomplished. A summary of information so communicated shall be included in the annual compliance reports to LIHI.

THE PELTON-ROUND BUTTE PROJECT CONTINUES TO MEET THE LIHI CRITERIA FOR RE-CERTIFICATION

VIII. DETAILED CRITERIA REVIEW

A. FLOWS

Goal: The Flows Criterion is designed to ensure that the river has healthy flows for fish, wildlife and water quality, including seasonal flow fluctuations where appropriate.

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

Criterion:

- 1) **Is the facility in Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?**

CONDITIONALLY, YES. The FERC license incorporates strict requirements limiting stage changes, gaging of project inflow and outflow, procedures during long-term low flow conditions, and seasonal drawdown and fluctuation limits. The Pelton and Round-Butte developments are operated as peaking and load-following facilities. The purpose of the re-regulating dam is to maintain an average daily flow in the Deschutes River downstream of the Project that approximates the average daily inflow to the Project. Review of data between 2007 and 2015 provided by the Applicant indicated 17 deviations from the flow requirements, none of which were found to be FERC license violations. Of these, ten occurred between 2007 and 2010. None occurred in 2014 or 2015 to date. The Reviewer believe this is evidence of resolution of issues causing problems in the past and greater attention to operational issues that have the potential to cause a deviation. Three past deviations caused by operator have apparently been resolved by more detailed operational procedures. The ODFW reported in their October 2014 letter that they believe the Project is in compliance with all required flow requirements. No other agency or NGO consulted with during this re-certification review indicated concerns with non-compliance with flow requirements. Nonetheless, Condition #1 has been recommended to confirm that continued attention to minimizing flow deviations and timely remediation of issues causing such deviations continues.

This Project Conditionally Passes Criterion A - Flows- Go to B

B. WATER QUALITY

Goal: The Water Quality Criterion is designed to ensure that water quality in the river is protected.

Standard: The Water Quality Criterion has two parts. First, an Applicant must demonstrate that the facility is in compliance with state water quality standards, either through producing a recent Clean Water Act Section 401 certification or providing other demonstration of compliance. Second, an applicant must demonstrate that the facility has not contributed to a state finding that the river has impaired water quality under Clean Water Act Section 303(d).

Criterion:

- 1) **Is the Facility either:**
 - a) **In compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the facility after December 31, 1986? Or in**

compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?

CONDITIONALLY, YES. One of the two key purposes of the SWW is to restore water temperatures downstream of the Regulation Dam to more closely match those that would be expected in the river if the project did not exist. This is accomplished by mixtures of water drawn from the top and bottom of the reservoir such that the resultant discharged water meets the requirements of the Water Quality Certifications (WQC) issued to the Project. This goal forms the basis of many of the WQC requirements. The adaptive management process within the Water Quality Management and Monitoring Plan (WQMMP) required by the FERC License and WQCs acknowledge that changes to operation of the SWW must consider all possible impacts, not just potential changes to a single water quality parameter.

Bonnie Lamb of the ODEQ confirmed that to date the applicant is in compliance with all terms of the 401 Water Quality Certification issued by the ODEQ and incorporated into both the Settlement Agreement and FERC license articles. This confirmation was provided in both a letter dated September 18, 2014, and in a conversation held in June. In this conversation, she acknowledged that apparent changes in algal growth and abundance of various invertebrate species may be occurring, and such changes are likely related to water quality changes. However, she stated that climate change, causing the drought and unusually warmer river temperatures being experienced at this time of the year, may be key to the changes that are being reported. She stated that she does not believe there is sufficient data to develop a cause and effect relationship with the operations of the Pelton – Round Butte Project and especially the SWW. She believes a new two-year water quality study being initiated by PGE will significant help in understanding what changes in water quality are occurring and what is possibly causing the change.

Numerous calls were made to the Confederated Tribes of the Warm springs Reservation of Oregon, Water Control Board (CTWSRO – WCB) but unfortunately none were returned. Thus, their input into whether or not compliance issues have occurred at the Project was not obtained.

Based on comments received by DRA, their opinion is that water quality changes being experienced are the result of the operation of the SWW. These changes in turn are causing algal growth and invertebrate changes that are detrimental to the health of the river and would eventually negatively affect river fisheries. DRA has also asserted that PGE operations have not been in conformance with the dissolved oxygen and temperature requirements of the FERC license and WQCs. They suggest that an interim agreements in 2014 and 2015 between PGE and ODEQ allowing inappropriate relaxation of standards when PGE could not meet the established temperature requirements of the WQC, are indicative of non-compliance with the WQC by PGE, and as such, non-compliance with LIHI’s Water Quality Criterion.

It is the Reviewer’s opinion that based on a review of materials provided by the Applicant, and positions expressed in resource agencies’ letters and consultations, that while some unexpected changes have been occurring in the river, that it was always understood that the experimental nature of the SWW could have some temporary effects, as well as long-term changes. As noted

above, ODEQ does not believe sufficient data exists to determine the cause of these apparent water quality changes. Consultation with NMFS, USFWS and ODFW all indicate that the fisheries in the Deschutes are still at satisfactory populations and do not appear to be concerned that the water quality issues raised by DRA are negatively affecting the fish at this time, or cannot be attributed to the operation of the SWW. The adaptive management program was designed, such that if such unexpected developments do occur, that the remedies will be established and implemented in a timely manner. A key part of this management program is the decision-making authority given to the members of the various committees established under the Settlement Agreement, with the Fish Committee, which also addresses water quality issues, being a key component. Approval must be obtained by the Fish Committee before PGE can alter any operational aspect of the SWW. Representatives from the following organizations, as signatories to the Settlement Agreement, are members of the Fish Committee: NMFS, USFWS, ODEQ, ODFS, Bureau of Indian Affairs, Bureau of Land Management, USDA Forest Service, CTWSO and Trout Unlimited. Through continued adherence to this program, compliance with the FERC License, WQCs and the Settlement Agreement is being achieved, even if temporary issues do arise. As result, satisfaction with this LIHI criterion is also being achieved.

It is also the Reviewer's opinion that LIHI's certification program measures satisfaction of LIHI criteria by examining compliance with the latest resource agency recommendation. Thus, the 2014 and 2015 agreements which modified certain water quality standards that must be met at the Project, represent the ODEQ's "latest recommendation" on these requirements, and therefore is what LIHI would include for re-certification review. Similarly, DRA's suggested "certification conditions" establishing requirements to meet Oregon standards for pH and chlorophyll-a by July 2016, and management of pH as the top priority, would not be appropriate, as the legal requirements are set by the Water Quality Certifications and any interim agreements otherwise approved. Finally, continuing and new water quality studies designed and approved through the Fish Committee, appear to address the same issues identified in DRA's condition for additional studies.

The proposed Condition #3 has been recommended to address the intent of DRA's suggested conditions regarding DRA input into the design of such studies, as well as their suggestion that notification shall be made to Settlement Agreement parties, and DRA, whenever changes in operations and relaxation of requirements may affect water quality. The Licensees contact ODEQ and CTWS-WCB (Water Control Board) anytime an adjustment that may affect a targeted standard is being requested. PGE also sends updates during the temperature management season (typically from May through November), which is when it is important to calculate and target the temperature that would occur if the Project were not in place. It is not appropriate for LIHI to require notice that must be given to agency authorities, also be given to DRA. However, Condition #3 should provide for increased information sharing between all interested stakeholders and PGE on key water quality and similar issues.

Go to B2

- 2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?**

YES. The Deschutes River below the Project is included on the State's 303(d) list for not meeting water quality standards for Flow modification, dissolved oxygen, pH and temperature. Lake Billy Chinook and Lake Simtustus are listed for not meeting pH and chlorophyll-a standards.

Go to B3

3) If the answer to question B.2. is yes, has there been a determination that the Facility is not a cause of that violation?

YES. According to the ODEQ, the determination that the Project was not the cause of these issues was made as part of the original 401 certification process. A goal of the operation of the SWW under an adaptive management approach is to improve these water quality parameters. Through regular monitoring, PGE is acquiring the experience and knowledge on adjustments needed to the SWW operations to better meet water quality standards. PGE, ODEQ and CTWSR are in regular communications to ensure compliance with the terms of the WQCs.

This Project Conditionally Passes Criterion B - Water Quality - Go to C

C. FISH PASSAGE AND PROTECTION

Goal: The Fish Passage and Protection Criterion is designed to ensure that, where necessary, the facility provides effective fish passage for riverine, anadromous and catadromous fish, and protects fish from entrainment.

Standard: For riverine, anadromous and catadromous fish, a certified facility must be in compliance with both recent mandatory prescriptions regarding fish passage and recent resource agency recommendations regarding fish protection. If anadromous or catadromous fish historically passed through the facility area but are no longer present, the facility will pass this criterion if the Applicant can show both that the fish are not extirpated or extinct in the area due in part to the facility and that the facility has made a legally binding commitment to provide any future fish passage recommended by a resource agency. When no recent fish passage prescription exists for anadromous or catadromous fish, and the fish are still present in the area, the facility must demonstrate either that there was a recent decision that fish passage is not necessary for a valid environmental reason, that existing fish passage survival rates at the facility are greater than 95% over 80% of the run, or provide a letter prepared for the application from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service confirming the existing passage is appropriately protective.

Criterion:

1) Is the facility in compliance with Mandatory Fish Passage Prescriptions for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?

CONDITIONALLY, YES. The second key purpose of the SWW is to enhance downstream passage of anadromous salmon and steelhead to allow their return to the ocean. This is to be

accomplished by restoring flows in Lake Billy Chinook that encourage their movement in the downstream direction and by their capture at the SWW. Juvenile Chinook salmon and steelhead collected in the SWW and then trucked and released downstream of the re-regulating dam to continue their migration to the sea. Returning adults are captured at the Pelton trap, trucked and released upstream at a new adult release facility into Lake Billy Chinook. Desirable native riverine species are returned to Lake Billy Chinook.

Both NMFS and USFWS submitted comment letters stating that PGE is complying with requirements to develop passage facilities for anadromous fish that were required in Section 18 prescriptions issued by these agencies. Downstream passage via the Selective Water Withdrawal (SWW) and Fish Capture Facilities has been operational since December 2, 2009. The Round Butte Adult Release Facility, Lower Deschutes Juvenile Release Facility, Pelton Fish Trap Upgrades and Lake Simtustus Juvenile Release Facility were all completed in December 2010. In February 2015, several other upstream passage facilities have been delayed until 2018 pending guidance from the Fish Managers (ODFW and CTWS). This delayed was supported by the federal agencies. While some issues have been experienced with the downstream fish passage facility, including accidental kills of a limited number of fish, in general it appears that the facility is meeting its current goals, based on agency comments. As a result of the adaptive management process in place for this Project, changes are implemented by PGE when issues have arisen and such changes are approved by the Fish Committee. A support letter was issued by ODFW stating that in their opinion, while the goals of volitional upstream passage are not yet realized, the approach laid out in the Settlement Agreement and FERC license is being followed. NMFS, USFWS and ODFW all support LIHI recertification. Consultation with a representative of Trout Unlimited, who is also on the Fish Committee along with these agencies and others, reported that the relationship between PGE and these agencies seems to be very productive.

DRA stated they do not believe that PGE is in compliance with these requirements, and that fish passage goals have not been achieved. A point of reference is the reported low percentage of hatchery-bred steelhead smolts that were tagged and released in the upstream hatcheries, that were caught at the SWW in 2014, as noted in an email from DRA. The capture rate of naturally bred ("native") steelhead was also reported to be low. DRA contends this suggests a very low survival rate, while PGE's position is that it is uncertain at this time how many of these individuals simply remained in the river, rather than not surviving. It should be noted that the Fish Committee is well aware of this issue and is working to figure out the survival patterns, both upstream and down, and the movement patterns in the large reservoir. PGE is also in the process of upgrading their reservoir modeling in an attempt to better understand these dynamics. Signatories to the Settlement Agreement, many of whom sit on the Fish Committee, were aware that issues may arise from SWW operation. The adaptive management program being actively implemented at the Project promotes the identification of, and development of solutions, to issues that arise from the SWW or other Project operations.

DRA also suggested that should the Project be recertified, two conditions should be established for this criterion: one setting measurable numerical fish passage benchmarks and timelines by January 1, 2016 and the second regarding juvenile fish mortality studies. It is this Reviewer's opinion that such conditions are not recommended, as such issues are best left to be developed by the state and federal agencies who have been involved extensively with the fisheries issues on

the Project for many years, especially since the passage facilities are being driven by Section 18 prescriptions from NMFS and USFWS. Their active participation on the Fish Committee which meets monthly, and establishes conference calls when an issue needs more timely discussion, would appear to allow for timely development of passage goals and assessment of juvenile mortality, when deemed warranted. To help confirm future compliance with this criterion, Condition #1 has been recommended.

Go to C5

5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream or downstream passage of riverine fish?

YES. Letters submitted by USFWS and ODFW specifically state that the Project is in compliance with requirements for riverine species. The letter from NMFS does not specifically address riverine species. As directed by the ODFW and CTWS, all native non-anadromous species collected by the SWW are returned to Lake Billy Chinook.

Go to C6

6) Is the facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?

YES. All generation was screened per license requirements during construction of the SWW. Compliance as also reported by ODFW, NMFS and USFWS in their support letters.

The Project Conditionally Passes Criterion C - Fish Passage and Protection - Go to D

D. WATERSHED PROTECTION

Goal: The Watershed Protection criterion is designed to ensure that sufficient action has been taken to protect, mitigate and enhance environmental conditions in the watershed.

Standard: A certified facility must be in compliance with resource agency and Federal Energy Regulatory Commission (“FERC”) recommendations regarding watershed protection, mitigation or enhancement. In addition, the criterion rewards projects with an extra three years of certification that have a buffer zone extending 200 feet from the high water mark or an approved watershed enhancement fund that could achieve within the project’s watershed the ecological and recreational equivalent to the buffer zone and has the agreement of appropriate stakeholders and state and federal resource agencies. A Facility can pass this criterion, but not receive extra years of certification, if it is in compliance with both state and federal resource agencies recommendations in a license-approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.

Criterion:

1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline?

NO. A dedicated buffer zone is not established for the project although as identified in the original certification report, the federal, state and tribal ownership of a majority of projects lands including along the shoreline, combined with the numerous Project resource management plans, may be considered to provide equal natural resource protection.

go to D2

2) Has the facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1), and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?

YES. The Pelton Round Butte Fund has two funds: the General Fund and the Water Rights Fund. Contributions from these funds will be made over the term of the license and will total \$11.5 million (2003\$) for the General Fund and \$10 million for the Water Rights Fund. As of 2014, \$10,046,552.28 (\$5,838,026.06/Water Fund and \$4,208,526.22/General Fund) has been awarded to 44 General Fund projects and 22 Water Fund projects that enhance riparian and riverine systems and for acquisition of land, water, and water rights. Support letters for Project recertification from several fund recipients, namely Deschutes Land Trust and Crooked River Watershed Council have been received by LIHI.

Applications for funding are evaluated against the following three priorities, as well as considerations regarding whether it provides a measurable positive cost-benefit compared to similar activities and that it provided benefits at least for the life of the license, or in the case of water rights, for at least the length of the license.

- 1) Proposed project is upstream of the Project and supports the anadromous reintroduction program by helping to achieve a self-sustaining Chinook salmon population and a sustainable salmon harvest.
- 2) Proposed Project is in the lower Deschutes River mainstem and tributaries increase the likelihood of adult and juvenile salmonid survival as the fish pass through the Project to and from the upper basin.
- 3) Proposed Project enhances existing and reintroduced populations of resident and anadromous fish and terrestrial wildlife above or below the Project.

It appears that projects receiving such funding do provide benefits that are comparable to those that would be achieved by a buffer zone dedicated to conservation. Thus, based on the evaluation process for funding awards and the level of funding provided, the Project continues to be in compliance with this criterion and is recommended to be certified for an eight-year period. Condition #2 has been recommended to provide LIHI with necessary data to confirm ongoing compliance with this criterion as justification for this extended certification period.

The Project Passes Criterion D - Watershed Protection - Go to E

E. THREATENED AND ENDANGERED SPECIES PROTECTION

Goal: The Threatened and Endangered Species Protection Criterion is designed to ensure that the facility does not negatively impact state or federal threatened or endangered species.

Standard: For threatened and endangered species present in the facility area, the Applicant must either demonstrate that the facility does not negatively affect the species, or demonstrate compliance with the species recovery plan and receive long term authority for a “take” (damage) of the species under federal or state laws.

Criterion:

1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?

YES. Steelhead and bull trout (both federally threatened species) are in Project waters. The steelhead is an anadromous species while the bull trout is a riverine species.

Go to E2

2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?

NA. Recovery plans for these species have not been developed.

Go to E3

3) If the Facility has received authority to Incidentally Take a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental take statement; (ii) Obtaining an incidental take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authorization?

YES. The project has received authority to incidentally take bull trout and steelhead as a result of U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) ESA Section 7 consultations with FERC in the course of the relicensing of the project. Two fatalities involving bull trout and one involving steelhead smolts have occurred since 2011. Agency officials from USFWS and NMFS report that the applicant is in compliance with all conditions pursuant to that authority and the biological opinions of each agency. ODFWS deferred to the federal agencies for comment on this criterion. Under article 405, potential harm or kills of ESA or non-ESA species must be reported verbally to specified agencies with specified deadlines, followed by a more detailed written report about the incident. Since operation of the SWW, it appears that eight such incidents have occurred. One 2014 incident involved no fish mortalities, and only three incidents involved death of ESA fish, one each in 2011 and 2014, each involving

the death of single bull trout and loss of 18 steelhead smolts in a June 2015 incident which was caused by a lightning strike on a non-project transmission line resulting in power disruption causing the SWW headworks and fish passage facilities to trip off-line. PGE is examining options to provide a water supply in the event of future abnormal shut down events.

Go to E5

5) If E2 and E3 are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?

YES. The applicant reported the following results from their 2006-2010 review under article 420 of their license which demonstrates they are meeting the planned goals:

The spring Chinook program is consistent with all identified guidance documents and directives

- The steelhead program is consistent with all but one of the relevant guidance documents - Oregon's Native Fish Conservation Policy;
- Reintroduction of hatchery-produced spring Chinook and summer steelhead upstream of the Project is attaining the licensing order and settlement agreement goals. (Note that Chinook Salmon are not a listed ESA species in the Deschutes River.);
- The Chinook and steelhead programs are making a contribution to harvestable fisheries in the lower Deschutes River as well as in the lower Columbia River, both below and above Bonneville Dam;
- Round Butte Hatchery release goals for yearling Chinook releases have been fully attained and goals for steelhead smolt releases have been attained in 3 out of 4 years of record (in the non-compliant year, the maximum target was exceeded); and
- Round Butte facilities determined to be in fair to good condition and adequate for achieving the current goals.

Both USFWS and NMFS support the efforts of Applicant and find them very cooperative in dealings with protected species, including notifications when required regarding accidental kills of protected species. Nonetheless, to ensure continued compliance with this criterion, Condition #1 has been recommended.

The Project Conditionally Passes Criterion E - Threatened and Endangered Species Protection - Go to F

F. CULTURAL RESOURCE PROTECTION

Goal: The Cultural Resource Protection Criterion is designed to ensure that the facility does not inappropriately impact cultural resources.

Standard: Cultural resources must be protected either through compliance with FERC license provisions, or through development of a plan approved by the relevant state or federal agency.

Criterion:

1) If FERC-regulated, is the Facility in compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?

YES.

All cultural resource requirements have been satisfied during the period 2007 through 2014 (2015 activities are still ongoing). All annual Cultural Resources Reports have been filed since certification in 2007. Only one extension of time was requested to meet the annual filing deadline which was approved. Each report summaries resource protection activities undertaken that year as well as a listing of concerns raised associated with cultural resources, such as vandalism, and measures undertaken by the Applicants to repair any damage and minimize the potential for future vandalism. The five-year review of the Cultural Resource Management Plan required by Article 432 was submitted in January 2014 and approved by FERC in May 2014. A letter of support for recertification was received from Warm Springs Geo Visions who is the lead for the CTWSRO on cultural resources. They complemented the activities being undertaken by PGE in ensuring preservation of archaeological and historic resources at the Project, including training of staff who may encounter such resources. Consultation with Oregon State Historic Preservation Office indicated PGE is in compliance with the cultural resource protection requirements established for the Project.

The Project Passes Criterion F - Cultural Resource Protection - Go to G

G. RECREATION

Goal: The Recreation Criterion is designed to ensure that the facility provides access to the water without fee or charge, and accommodates recreational activities on the public's river.

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

Criterion:

1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?

2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?

YES. Many of the required recreational facilities incorporated into the FERC license were implemented prior to initial LIHI certification. Since 2007, improvements or additional facilities were added to all ten Project recreational areas. Improvements included expansion of the facilities such as trails, campsites, access road improvements, additional interpretative signage,

replacement or upgrade of facilities such as outhouses, beach area enhancements and many modifications to comply with ADA requirements. The two recreational requirements included in the Settlement Agreement but not the FERC license (funding support for the BLM Lower River Recreation Sites and Jefferson County Road maintenance) are being complied with as the settlement Agreement is a binding document. Documentation provided by the Applicants also demonstrates regular repair activities to the recreational facilities are being conducted. Consultation with the Oregon Parks and Recreational Department confirmed that PGE is very cooperative and timely in their interactions with the Department and is a “great partner” when dealing with recreational issues at the Project.

Go to G3

3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?

YES. The Project continues to provide free access to project waters.

The Project Passes Criterion G - Recreation - Go to G

H. FACILITIES RECOMMENDED FOR REMOVAL

Goal: The Facilities Recommended for Removal Criterion is designed to ensure that a facility is not certified if a natural resource agency concludes it should be removed.

Standard: If a resource agency has recommended removal of a dam associated with the facility, the facility will not be certified.

Criterion:

1) Is there a Resource Agency recommendation for removal of the dam associated with the Facility?

NO. No resource agency has recommended removal of this dam.

The Project Passes Criterion H -Facilities Recommended for Removal

APPENDIX A

INDEX OF PRIMARY CONTACT INFORMATION FOR LIHI CRITERIA

The following lists direct consultation initiated by the Reviewer and a summary of these communications. Emails were sent to 14 stakeholders provided by PGE in their application. Individuals reached are noted in the table below. A conference call was also held with members of the DRA on April 7, 2015. Particular out-reach was made to the following individuals for the issues noted starting on June 24, but no return response by email or phone was received. Agencies who submitted comment letters were generally not called unless specific additional information was needed.

- Water Quality - Roy Spimo, Confederated Tribes of the Warm springs Reservation of Oregon, Water Control Board (CTWSRO – WCB)
- Cultural Resources - Robert Brunoe, CTWSRO Natural and Cultural Resources

LIHI CRITERION	PRIMARY CONTACT INFORMATION
Flows	None required
Water Quality	Bonnie Lamb, Oregon Department of Environmental Quality (ODEQ); and
Fish Passage & Protection	Ted Wise, Oregon Department of Fish & Wildlife (ODF&W); Chandra Ferrari, Trout Unlimited
Watershed Protection	None required. Letters received as part of LIHI application.
Threatened & Endangered Species	Ted Wise, Oregon Department of Fish & Wildlife (ODF&W); Scott Carlon, NOAA, National Marine Fisheries Service, (NMFS)
Cultural Resources Protection	Dennis Griffin, Oregon State Historic Preservation Office (SHPO); and
Recreation	David Slaght, Oregon Parks and Recreation Department (OP&RD)
Facilities Recommended for Removal	None required

RECORD OF CONTACTS

NOTE: The information presented below was gathered by telephone communication between the Reviewer and agency representative listed below. Email communications are contained in Appendix B.

Date: 4/7/15

Contact Person: C. Groner, G.McMillian, R.Halfele, D. Moskowski, S. Prbyl, A.Dutterer

Contact Information: camgroner@gmail.com

Area of Expertise: Deschutes River Protection

A call was held between six members of DRA and M. Sale, LIHI executive Director and P. Mcilvaine, Project Reviewer. In general, DRA reiterated the concerns expressed in their January 2015 letter, and again stated they do not believe the Project meets LIHI's criteria because they are not in compliance with the water quality certification. They identified that DRA was not in existence during the re-licensing period and therefore not part of the Settlement Agreement. In addition to the technical issues repeated from the letter, DRA also expressed frustration from not being involved in the various committee meetings, even though in the past PGE stated they would involve DRA in the discussions. They stated they would forward a series of recommended conditions they feel would be appropriate if in fact the Project does get recertified.

Date: 7/6/15

Contact Person: Ted Wise; ODFW; High Desert Hydropower Coordinator

Contact Information: 541-633-1115

Area of Expertise: Fisheries and Endangered Species

Ted reported they have a good working relationship with PGE. He stated the goals are challenging, especially the experimental aspects of what is being attempted through the SWW. He stated that those involved with the project from the Settlement Agreement timeframe understand that the project activities are a "work in progress" and that immediate results are not necessary possible given the experimental nature of the SWW. In his opinion the fisheries in the river are still in "good shape". He acknowledges that the river is experiencing some changes in invertebrate populations and algae growth and that nutrients and high temperatures are generally causes of algae growth. However, he does not believe there is sufficient data to identify any one "item" as causing the problems. He stated that agricultural activities in the upstream sections of the Crooked River could be a nutrient source. He also noted that the past several years have had unusually high temperatures and that the current drought and lack of snow are exacerbating the problems. He believes all western river systems are being affected by climatic changes. He commented that DRA was in attendance at the last Fish Committee meeting. Discussion was held suggesting that some of the allegations being made that the SWW is the cause of the changes being seen in the river is not well supported by facts to date; sufficient data does not yet exist.

Date:6/25/15

Contact Person: Scott Carlon

Contact Information: 503-231-2379; scott.carlon@noaa.gov

Area of Expertise: Fisheries and Endangered Species

A follow-up email was sent to and received from Scott Carlon of NMFS to obtain information regarding his thoughts on the Project's activities regarding protected species. The email is contained in Appendix B.

Date: 7/2/15

Contact Person: Bonnie Lamb; ODEQ; Basin Coordinator

Contact Information: 541-633-2027

Area of Expertise: Water Quality

Bonnie stated that she believes PGE is taking the reported concerns with water quality seriously and is going beyond the requirements of the 401 Water Quality Certification. She pointed to a new ambitious 2-year study PGE is just beginning to try to understand the relationship between the reported algae issues and the potential role the SWW may have in causing them. In her opinion there is insufficient data to point to a cause of the reported issues. She noted that there have been algae blooms in past years before the SWW went into operation. She did state that there are some agricultural uses upstream of the Project on the Crooked River, but much of this is grazing and hay agriculture which she does not believe are a major nutrient loading source. Stream flows of 15000 cfs just upstream of Lake Billy Chinook may be diluting the nutrients that may be entering from these agricultural areas. The Metolius River is spring-fed, steep canyon with volcanic soils and undeveloped. She also stated there are few point sources in the Deschutes Basin, with the fish hatcheries and the town of Muffin being downstream and very small sources above the Project. She feels that climate change may be key to the changes that are being reported. Overall she stated that PGE is very response to any requests made at the Fish Committee meetings. In response to my question, she stated that ODEQ did not request a study of possible algae growth impacts to recreational uses of the River as she felt the new 2-year water quality study was more important in that it would hopefully determine the cause of the algae growth rather than seeing if the algae growth was impacting recreation.

Date: 7/15/15

Contact Person: Chandra Ferrari, Trout Unlimited

Contact Information: 541-480-6976

Area of Expertise: Fisheries

Chandra is new to the Project as TU's representative on the Fish Committee so she was not very familiar with the Project details, but she reported her impressions from the meeting she recently attended. She stated that PGE appears very willing to promote open discussion with members of the Fish Committee as well as meeting invitees, including DRA who was in attendance at this meeting. The agency representatives appeared to not be concerned with the fisheries challenges being faced by the Project and appear to all have a very good working relationship with PGE representatives. She stated that the discussions suggested that the drought could be a key

problem associated with the algae growth problem. She stated that both DRA and PGE agreed that open communication between the groups would be beneficial so both can take advantage of the knowledge base each has. However, in her opinion, there is still likely a lack of trust that could challenge the openness / productiveness of such discussions. She summarized one of DRA positions is that “remedies to potential problems” should be discussed/developed in advance of final study reports so there is no lag time between confirmation of a problem and remedy implementation. She stated she was surprised to learn of the press releases made by DRA on their website shortly after the Fish Committee meeting.

Date: 7/21/15

Contact Person: Dennis Griffin; Oregon State Historic Preservation Office

Contact Information: 503-986-0674

Area of Expertise: Cultural Resources

Dennis stated he was very familiar with the Project and was very complementary about the efforts PGE conducts regarding cultural resource protection and preservation. He feels that are in compliance with their license requirements. He was very familiar with the consultants used by PGE (Heritage Resources Associates) and the work done by Geo Vision and felt they both do very good work. He stated that PGE is very attentive to any questions/issues that do arise.

Date: 7/24/15

Contact Person: David Slaght, Oregon Parks and Recreation Department

Contact Information: 541-546-3412 x 225

Area of Expertise: Recreational Facilities

David stated he regularly coordinates with PGE on their recreational facilities at the Project. In summary he stated he very pleased with the efforts undertaken by PGE, and reported they respond very quickly if a problem is identified. He stated they are a “great partner” in ensuring that the recreational requirements at the Project are in compliance with what they are required to provide by the Settlement Agreement, as well as items identified by his department.

APPENDIX B

KEY EMAIL COMMUNICATIONS PROVIDED AS PART OF THE APPLICATION

The following email correspondence was incorporated into the certification assessment for this project. These documents were obtained during the course of the project's certification review.

Patricia McIlvaine

From: Scott Carlon - NOAA Federal <scott.carlon@noaa.gov>
Sent: Thursday, June 25, 2015 1:21 PM
To: Patricia McIlvaine
Subject: Re: Question on Pelton Round-Butte

Hello Patricia,

Yes, the measures in place for the Pelton Round Butte Project are designed specifically with listed species (Middle Columbia River steelhead and bull trout) in mind. The criteria used for facility design and operation apply to most salmonids (including bull trout) but more specifically to Pacific anadromous salmonids. The ongoing monitoring and evaluation is applied primarily to listed steelhead and the non-listed spring Chinook. The bull trout is a US Fish and Wildlife species but I can say that their numbers are quite robust in the Project area.

I hope this answers your question. Feel free to call (503.231.2379) or email if you have further questions or need clarification on anything.

Scott

On Thu, Jun 25, 2015 at 8:26 AM, Patricia McIlvaine <Pat.McIlvaine@wright-pierce.com> wrote:

Good morning

Recently, Portland General Electric and the Confederated Tribes of the Warm Springs Reservation of Oregon filed for re-certification to the Low Impact Hydropower Institute (LIHI for the Pelton Round Butte Project). I am the independent reviewer for the LIHI on this review for re-certification. I have the letter sent by NMFS dated May 12, 2015 which nicely discusses the efforts being made on compliance with fish passage and protection issues. This letter also supports the re-certification. Just to “close the loop” I was wondering if you can share your thoughts on how the project is doing regarding compliance with measures required for protection of steelhead trout and bull trout. Can we assume that since the May 2015 letters support re-certification, that this opinion extends to protection measures for these listed species?

Thanks for your help on this. Please feel free to respond by email or if needed, you can give me a call at the direct line listed below. If I am not at my desk, leave a message and I will get back to you.

Thanks

Patricia McIlvaine

From: Patrick Griffiths <pgriffiths@bendoregon.gov>
Sent: Thursday, July 02, 2015 7:11 PM
To: Patricia McIlvaine
Subject: RE: Seeking your thoughts on the Pelton-Round Butte Project

Hi Pat

After further review, the City of Bend has no information to add to your review process at this time and believe the license holders are meeting the terms of the agreement. Staff have been responsive with any information needs we have (very minor over the years) and they have been terrific providing tours and sharing information in a proactive manner. Thanks for the opportunity to comment

Cheers

pg



UTILITY DEPARTMENT

Patrick Griffiths
Water Resources Manager
City of Bend
O: 541-317-3008 | M:541-419-6188
pgriffiths@bendoregon.gov
www.bendoregon.gov

WaterWise: Water Isn't All You Save
www.WaterWiseTips.org



From: Patricia McIlvaine [mailto:Pat.McIlvaine@wright-pierce.com]
Sent: Wednesday, June 24, 2015 5:13 PM
To: Patrick Griffiths
Subject: RE: Seeking your thoughts on the Pelton-Round Butte Project

Ideally within the next two weeks. I would be happy to call you for you to share your thoughts if that is easier for you.

Thanks
Pat

From: Patrick Griffiths [<mailto:pgriffiths@bendoregon.gov>]
Sent: Wednesday, June 24, 2015 4:39 PM
To: Patricia McIlvaine; jan@avionwater.com; scott.aikin@BIA.gov; chummel@blm.gov; jimmyEisner@blm.gov; mmorgan@ci.madras.or.us; laurie.Craghead@co.deschutes.or.us; jeff.rasmussen@co.jefferson.or.us; rbonacker@fs.fed.us; john@waterwatch.org
Subject: RE: Seeking your thoughts on the Pelton-Round Butte Project

Hi Pat

Thanks for the email and for reaching out, much appreciated.
What is your preferred timeline for responses?

pg



UTILITY DEPARTMENT

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WaterWise: Water Isn't All You Save
www.WaterWiseTips.org



From: Patricia McIlvaine [<mailto:Pat.McIlvaine@wright-pierce.com>]
Sent: Wednesday, June 24, 2015 12:27 PM
To: jan@avionwater.com; scott.aikin@BIA.gov; chummel@blm.gov; jimmyEisner@blm.gov; Patrick Griffiths; mmorgan@ci.madras.or.us; laurie.Craghead@co.deschutes.or.us; jeff.rasmussen@co.jefferson.or.us; rbonacker@fs.fed.us; john@waterwatch.org
Subject: Seeking your thoughts on the Pelton-Round Butte Project

Dear Stakeholders

Recently, Portland General Electric and the Confederated Tribes of the Warm Springs Reservation of Oregon filed for re-certification to the Low Impact Hydropower Institute (LIHI). I am the independent reviewer for the LIHI on this review

for re-certification. You have been provided as a contact for me to reach out to regarding your thoughts on issues important to you and your organization that are associated with the operation of this hydropower project. It is important that we hear your thoughts on the following questions, as a stakeholder. You may feel free to respond by email or call me at the number listed below. My usual approach to doing such reviews is to call you within about a week of sending this email to follow-up in case I have not heard from you. If you prefer to respond in a more general fashion rather than answering these specific questions, please feel free to do so.

My general questions are:

1. Do you believe that the activities being undertaken for the Pelton-Round Butte Project have met with your satisfaction regarding efforts to protect the issues important to you? When responding, please identify your specific area(s) of interest. Topics important to LIHI include fish passage and protection and other aquatic resources, wildlife protection, water quality, water flow, endangered and threatened species (both federal and state), cultural resources, recreational uses and watershed protection.
2. Do you believe these activities have been in compliance with the terms of the project's Settlement Agreement and FERC license?
3. Do you believe that the project should again be certified under LIHI's "low impact certification program"?
4. Do you have any other comments you wish to share with me regarding the activities of these owners and your working relationship with them? If you have some concerns about certain activities or events that may have occurred or did not occur, please share those with me also.

If you are unsure of LIHI's certification program and would like to better understand it before you answer question #3, please feel free to visit LIHI's website at the link below. From here you can navigate around the website to see the specific criteria and certification process.

<http://lowimpacthydro.org/about-us/overview/>

Viewing the LIHI website will also allow you to see comment letters issued by others on this project.

If you still have questions about the program or just wish to ask other questions please feel free to give me a call. If you simply do not have any specific comments or concerns to share, please let me know that also by a quick email response so that I do not start bothering you with my calls!

Thanks for your time. I do hope to hear from you soon.

Pat McIlvaine

Patricia McIlvaine | Project Manager

99 Main Street | Topsham, ME 04086
Office 207.725.8721 | **Direct** 207.798.3785 |

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Patricia McIlvaine

From: Laurie Craghead <Laurie.Craghead@deschutes.org>
Sent: Wednesday, June 24, 2015 4:32 PM
To: Patricia McIlvaine
Subject: RE: Seeking your thoughts on the Pelton-Round Butte Project

Hi, Pat.

Deschutes County asked for a seat at the negotiating table back in 2003/04 in order to assure sufficient water supply for its citizens that would not be diminished by a stipulation between the applicants and other governmental and NGO interests. Since then, quite frankly, we haven't been concerned much because we felt the settlement protected the County's interest. Thus, we haven't followed closely the activities of the applicants. What we have seen has not caused us any concern to date.

That's not very descriptive, but I hope it helps.

*Laurie E. Craghead
Assistant Legal Counsel
Deschutes County
(541) 388-6593*

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From: Patricia McIlvaine [mailto:Pat.McIlvaine@wright-pierce.com]
Sent: Wednesday, June 24, 2015 12:27 PM
To: jan@avionwater.com; scott.aikin@BIA.gov; chummel@blm.gov; jimmyEisner@blm.gov; pgriffiths@ci.bend.or.us; mmorgan@ci.madras.or.us; Laurie Craghead; jeff.rasmussen@co.jefferson.or.us; rbonacker@fs.fed.us; john@waterwatch.org
Subject: Seeking your thoughts on the Pelton-Round Butte Project

Dear Stakeholders

Recently, Portland General Electric and the Confederated Tribes of the Warm Springs Reservation of Oregon filed for re-certification to the Low Impact Hydropower Institute (LIHI). I am the independent reviewer for the LIHI on this review for re-certification. You have been provided as a contact for me to reach out to regarding your thoughts on issues important to you and your organization that are associated with the operation of this hydropower project. It is important that we hear your thoughts on the following questions, as a stakeholder. You may feel free to respond by email or call me at the number listed below. My usual approach to doing such reviews is to call you within about a week of sending this email to follow-up in case I have not heard from you. If you prefer to respond in a more general fashion rather than answering these specific questions, please feel free to do so.

My general questions are:

1. Do you believe that the activities being undertaken for the Pelton-Round Butte Project have met with your satisfaction regarding efforts to protect the issues important to you? When responding, please identify your specific area(s) of interest. Topics important to LIHI include fish passage and protection and other aquatic resources, wildlife protection, water quality, water flow, endangered and threatened species (both federal and state), cultural resources, recreational uses and watershed protection.
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