

**APPLICATION REVIEW FOR  
LOW IMPACT HYDROPOWER INSTITUTE  
CERTIFICATION  
of the  
PROSPECT NO. 3 PROJECT NO. 2337**



**June 17, 2013**

**Application Reviewer: Patricia McIlvaine**

**WRIGHT-PIERCE**   
Engineering a Better Environment

# **REVIEW OF APPLICATION FOR CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE PROSPECT No. 3 HYDROELECTRIC PROJECT**

Prepared by:  
Patricia McIlvaine  
June 17, 2013

## **I. INTRODUCTION AND OVERVIEW**

This report reviews the application submitted by PacifiCorp Energy (PacifiCorp or Applicant) to the Low Impact Hydropower Institute (LIHI) for Low Impact Certification for the Prospect No. 3 Hydroelectric Project (Prospect No. 3 or the Project). Prospect No.3 Project was granted a 30-year license as Project Number 2337 by the Federal Energy Regulatory Commission (FERC) on January 30, 1989 to Pacific Power and Light Company. Pacific Power and Light Company changed its name to PacifiCorp in 1984. The station has an estimated annual production of 37.3 GWh. As noted later, a Water Quality Certificate was not issued to the Project.

Prospect No. 3 is one of four hydroelectric developments operated by PacifiCorp in the Rogue River basin. The other three developments, Prospect Nos. 1, 2, and 4 are operated under FERC License No. 2630 and are not subjects of this application.

The original application for LIHI certification was submitted on December 31, 2009. An initial report was prepared dated September 15, 2010, in which certification was not recommended due to the lack of a Water Quality Certificate and lack of water quality data proving that the water quality in the vicinity of the Project meets all of the qualitative and quantitative standards established by Oregon Department of Environmental Quality (ODEQ). Based on a September 24, 2010 conversation between Fred Ayer (LIHI Executive Director in 2010) and Monte Garrett (PacifiCorp Program Manager) it was agreed to place the certification process “on-hold” until sufficient water quality data could be collected to address LIHI’s water quality criterion. More detailed discussion of this data collection activity is presented in ***Section VIII - Detailed Criteria Review, B-Water Quality***. This data was subsequently submitted to LIHI on April 29, 2013.

This current report is based on assessment of this new water quality data, updated review of overall license compliance issues through consultation with PacifiCorp and eLibrary review, and review findings of the other criteria conducted in 2010.

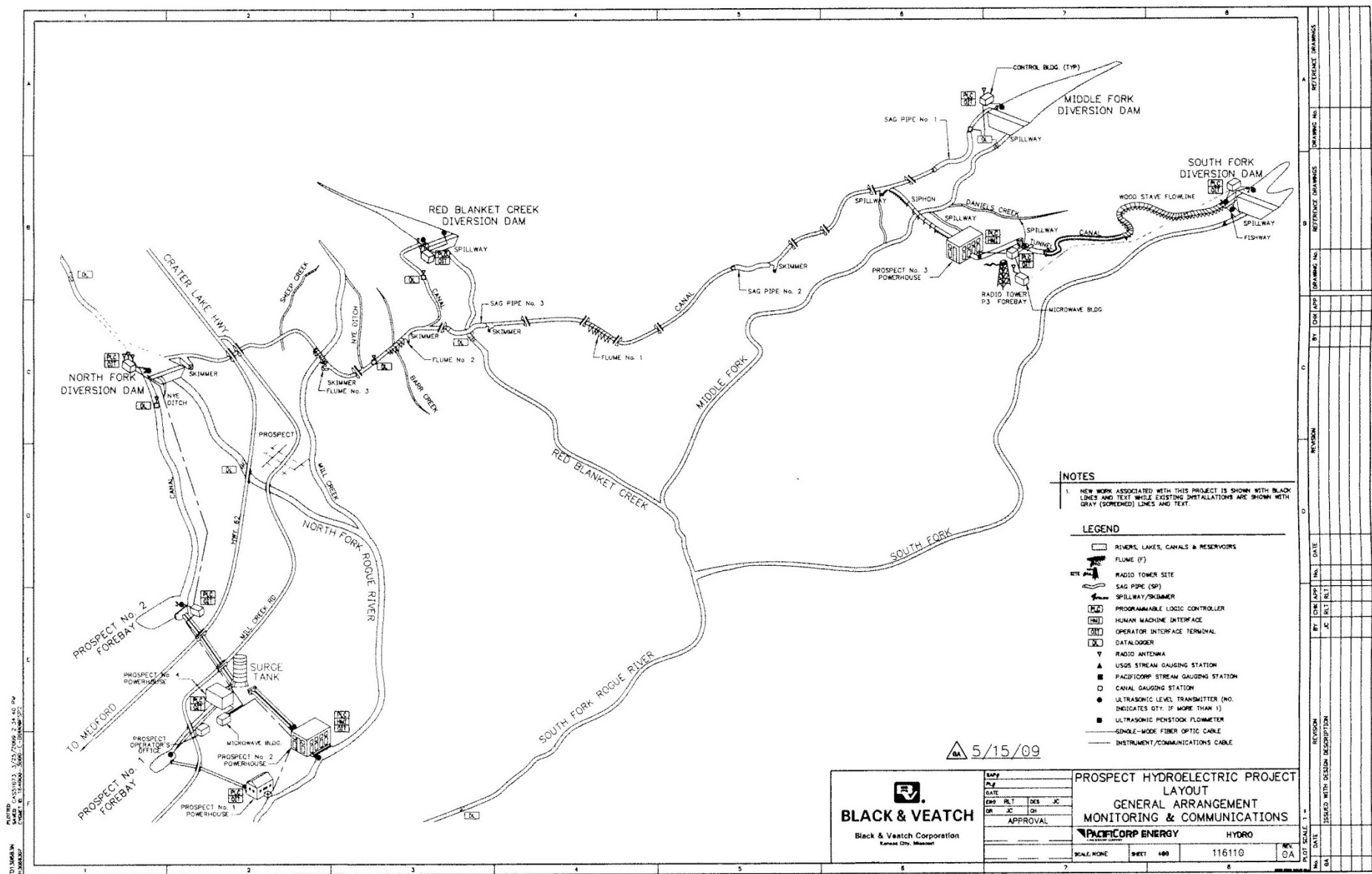
## **II. PROJECT’S GEOGRAPHIC LOCATION**

The Prospect No. 3 Project located on the South Fork of the Rogue River, Jackson County, Oregon, is currently licensed by the Federal Energy Regulatory Commission (FERC) as Project Number 2337. The Rogue River basin encompasses 3,300,000 acres in southwest Oregon and northern California. The Rogue River originates at Boundary Springs in the southern Cascade

Mountains before flowing approximately 220 miles west to the Pacific Ocean. The Rogue River was one of the eight waterways originally protected by the Wild and Scenic Rivers Act.

The South Fork of the Rogue River originates in the Sky Lakes Wilderness Area of the Cascades and flows 25 miles to a confluence with the mainstem of the Rogue River. In the vicinity of the Prospect No. 3 Project, the South Fork flows through a steep-sided canyon composed of volcanic rock before passing through a relatively flat plateau. The drainage area above the Prospect No. 3 diversion dam (also called the South Fork Dam) is 83.8 square miles.

The diversion dam for the Prospect #3 project is the only dam on the South Fork Rogue River. Discharge from the Project flows to the Middle Fork canal, which empties into the North Fork Reservoir that is part of the Prospect Nos. 1, 2, and 4 Project. (See diagram on the next page.) Dams for these later three developments (all part of FERC Project No. 2630) are on separate tributaries to the Rogue River. The South Fork joins the Rogue River approximately six miles downstream of the Prospect #3 diversion dam. There is only one downstream dam on the Rogue River, the William L. Jess Dam, located approximately 21 miles downstream. Other dams that historically existed below Lost Creek, (Jess Dam reservoir) have been removed.



### **III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS**

The Prospect No. 3 Project was originally built in 1931-32, with the only major modification being the realignment of the forebay section of the canal in 1951. The project boundary occupies 38 acres within the Rogue River-Siskiyou National Forest; the entire impoundment is located within this undeveloped National Forest land. The Project has a 172-foot-long, 24-foot-high concrete diversion dam with a 98-foot-long ogee crest.



**Prospect No. 3 diversion dam, canal and fish ladder.**

The project dam creates a 1-acre impoundment with a gross capacity of 10-acre-feet. Prospect No. 3 diverts water from the South Fork and discharges it to the Middle Fork of the Rogue River. The Project has a fish ladder located at the diversion dam, and a fish screen and downstream fish-bypass system located on the canal just below the diversion intake.



**Close-up of the fish ladder. South Fork Rogue River is visible on the left.**

The Project has a 15,952-foot-long conduit system that consists of two concrete-lined canal sections (6,200 feet total), 5,306-foot-long woodstave pipe, a 699-foot-long, concrete lined horseshoe type tunnel, a canal to penstock transition with a 473-foot-long side channel spillway, and a 3,274-foot-long, riveted steel penstock.



**Section of woodstave water conveyance system.**

The Prospect No. 3 Project powerhouse contains one generating unit with a rated capacity of 7,200 kW. A 20 foot concrete tailrace structure extends from the powerhouse. A project siphon diverts up to 150 cubic feet per second (cfs) water from the Prospect No. 3 tailrace to the Middle Fork canal, which empties into the North Fork Reservoir that is part of the Prospect Nos. 1, 2, and 4 Projects. The Prospect No. 3 Project generates an annual average of 37,322 Mwh.

The Prospect No. 3 Project is operated remotely in a run-of-river mode with water rights of 150 cfs. The Project is operated in a coordinated manner with the downstream Prospect Nos. 1, 2 and 4 facilities.

#### **IV. REGULATORY AND COMPLIANCE STATUS**

On January 30, 1989, FERC issued a new license to the Pacific Power and Light Company for the continued operation of the Prospect No. 3 Project for a 30 year period. Pacific Power and Light Company changed its name to PacifiCorp in 1984.

No protests or motions to intervene were filed and no commenting agency objected to issuance of the 1989 License. No comments were received from federal or state fish and wildlife resource agencies under Section 10 (j) of the Federal Power Act in regard to the license application. A number of license conditions, such as upstream and downstream fish passage were incorporated by FERC into Articles 403, 404 and 405 of the License in response to mitigation measures proposed by the applicant following consultation with federal and state agencies. Such measures

also allowed the Project to be found consistent with the requirements of the then Oregon House Bill 299 which addressed protection of natural resources in the siting and operation of hydroelectric facilities.

A review of the FERC eLibrary database indicated that since license issuance in 1989 through May 3, 2013, no variances from license conditions have been issued. In the past ten years, since 2000, only three deviations from license conditions, all associated with Article 402 minimum flow requirements, have occurred. None of the deviations were found by FERC to constitute license violations. These events are further discussed in *Section VIII-Detailed Criteria Review - Criteria A - River Flows*.

With the exception of extensions associated with the riverine fish passage facilities, all original license deadlines appear to have been satisfied. Starting in 1990 through 1995, annual schedule extensions were requested and granted in regard to compliance with the fish passage facilities required under Articles 403, 404 and 405. Much of the delay was attributed to a delay in establishment of Oregon's statewide criteria to be used in the design of fish passage structures. Additional detail on this issue is presented in *Section VIII-Detailed Criteria Review - Criteria C - Fish Passage and Protection*.

Given that no license variances have been requested, that the license condition extension requests appeared to have been attributable to a delay in availability of state fish passage design criteria, and the limited number of license deviations, PacifiCorp appears to have demonstrated conscientious attention to the environmentally related issues associated with the Project.

## **V. PUBLIC COMMENT RECEIVED BY LIHI**

The application was originally posted for public comment with a deadline of March 2, 2010. LIHI received comments from the Rogue Riverkeepers and the Oregon Department of Fish and Wildlife (ODFW). PacifiCorp also submitted letters to the Rogue Riverkeepers and ODFW, as well as LIHI, in response to these two comment letter. Copies of all four letters are contained in Appendix A. In summary, the Rogue Riverkeepers did not offer a recommendation for or against low impact certification. The ODFW recommended that the Prospect No. 3 Project not receive certification for two reasons:

- the recommendations made by ODFW in the 1980's are not as stringent as current requirements, and as such, Prospect No. 3 does not have the mitigation measures that would be required if undergoing licensing at this time; and
- ODFW believes that Prospect No. 3 Project has a watershed and operation nexus with Prospect Nos. 1, 2 and 4 facilities, thus impacts of all four facilities should be considered jointly. These three later facilities, licensed as a single Project, were not required by its FERC license to implement fish protection measures recommended by the ODFW. Thus, if taken together as proposed by ODFW, Prospect No. 3 would not meet LIHI certification criteria for fish passage and protection.

## **VI. SUMMARY OF COMPLIANCE WITH CRITERIA AND ISSUES IDENTIFIED**

**Criterion A - Flows** - The facility appears to be operated in compliance with the established minimum flow requirements and deviation reporting. A representative for ODFW expressed concern that the 10 cfs minimum flow requirement may be partly the cause for a depressed fish population in the river, although acknowledged that this flow is what was set in the license based on original agency consultation.

**Criterion B - Water Quality** – A Water Quality Certificate was not issued for the Project. The facility appears to be operated in compliance with all quantitative water quality standards based on sampling conducted in 2012 under an ODEQ approved sampling plan. The Project is not responsible for the 303d listing of the project waters.

**Criterion C - Fish Passage and Protection.** No mandatory anadromous fish passage prescription, nor reservation of authority for future passage, was issued by federal or state resource agencies during the licensing of the Project in 1989. The William L. Jess Dam (formerly known as Lost Creek Dam) was constructed in 1977 without fish passage facilities, and it presents a complete fish passage barrier to upstream migration on the Rogue River. However improved upstream and downstream riverine fish passage facilities were installed and tested to be effective. Improved fish screening has also been installed.

**Criterion D - Watershed Protection** - There are no requirements for a buffer zone, shoreline protection fund or shoreline management plan for the Facility. Project land surrounding the impoundment is all within undeveloped National Forest land and is managed in accordance with US Forest Service (USFS) regulations. Thus, as all LIHI stipulated watershed protection requirements, of which there are none, are nonetheless being met, this Facility passes for this criterion. No additional term for certification is appropriate.

**Criterion E - Threatened and Endangered Species Protection** – Three federally listed species, Northern Spotted Owl, Canada Lynx (both threatened) and Gray Wolf (endangered) and one state threatened species Bald Eagle are potentially present in the Facility area, The Project is in compliance with the Recovery Plan adopted for the Northern Spotted Owl, the only listed species in the Project area having an approved Recovery Plan. An "incident take" authority was not required for the Project

**Criterion F - Cultural Resources** – The Facility is in compliance with all requirements regarding cultural resource protection, mitigation or enhancement

**Criterion G - Recreation** - The Project was found to be in compliance with all recreational requirements.

**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, the public comments submitted in writing or through my consultations with various resource agencies and other entities, I believe that the Project is in compliance with the LIHI criteria. Therefore, I recommend that the Prospect #3 Project be certified to be in compliance with LIHI's criteria with a certification term of five years.

### **THE PROSPECT #3 PROJECT MEETS THE LIHI CRITERIA FOR 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 instream 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?**

**YES** – PacifiCorp's Prospect No. 3 Project is in substantial compliance with resource agency recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection. When the project was relicensed in 1989, the ODFW was consulted regarding the establishment of appropriate minimum in-stream flows. The ODFW agreed with the results of a PacifiCorp study indicating that a minimum release of 10 cfs would protect and maintain habitat for resident rainbow trout. This recommended minimum flow was adopted in Article 402 of the project license. In a letter dated January 5, 1988, the U.S. Fish and Wildlife Service (USFWS) deferred to ODFW on operational recommendations for fish and wildlife protection.

A United States Geological Survey (USGS) gage located 0.25 mile downstream of the Prospect No. 3 diversion dam monitors the flow released to the bypass reach, as required in Article 402.

Review of FERC's database indicated that from January 2000 through May 2013, there were limited deviations from the minimum flow requirements. FERC did not find these deviations to be a violation of the license. These events are summarized below:

- From late night July 11 through the morning of July 13, 2000, discharge dropped to approximately 8.7 cfs, which is below the required 10 cfs. Heavy rains on July 11, 2000 caused high flows and increased headpond elevations. A head gate opened to pass these flows, however failure of the motor operator shaft, resulting in failure to close a head gate, resulting in reduction of discharge flows when the headpond level dropped.
- On December 18, 2000, discharge was reduced below the minimum flow of 10 cfs for approximately six hours, from 5am to 11am. The lowest flow discharge recorded during this period was 5 cfs. A pressure transducer upstream of the fishscreen was found to have failed. Although the control system properly responded to the false "pressure differential reading" by implementing a screen washing sequence, the alarm indicating a problem at the completion of the sequence was not detected until staff were onsite.
- On October 11, 2001 equipment malfunction associated with the screen washing sequence again occurred, resulting in failure to discharge the minimum flow for approximately 9 ½ hours. The lowest flow during this period was 9.4 cfs. Adjustment to the screen cables and recalibration of a limit switch, which had not been re-connected following cable replacement, was implemented to remedy the problem.
- In late October of 2007, the USGS made a flow measurement adjustment in the bypass, resulting in a shift in the rating for that gage, but did not notify PacifiCorp. This resulted in several excursions due to PacifiCorp's use of an inaccurate rating curve. Another rating shift took place in February 2008 which was reported to PacifiCorp, at which time the earlier adjustment was identified. PacifiCorp discovered that the October adjustment resulted in minimum flow deviations in early November and mid-December 2007. PacifiCorp has since worked with the USGS to implement more reliable notification procedures for rating changes on the Rogue.

Consultation with Mr. Dave Harris of the ODFW on August 24, 2010 indicated some concern as to the adequacy of the 10 cfs minimum flow established at the time of licensing of this Project. He reported that more current studies performed for the nearby Prospect Nos. 1, 2 and 4 Project require a minimum flow of 30 cfs and 60 cfs, dependent on the season, for healthy fisheries. His opinion is that while the Prospect No. 3 Project is generally in compliance with its license minimum flow condition of 10 cfs, limited data collection from 2009 and 2010 in the South Fork, indicates that trout populations are somewhat depressed. He believes this in part, due to these low minimum flow levels. Further discussion of potential causes for the population condition is located in *Section VIII-Detailed Criteria Review Criteria C - Fish Passage and Protection*.

***This Project 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?**

**Yes.** The Oregon Department of Environmental Quality (ODEQ) waived issuing a Section 401 Water Quality Certification for the Prospect No. 3 project in a letter dated June 7, 1985 because the project was operated under a National Pollution Discharge Elimination System general permit

The Environmental Assessment prepared in May 1988 for the Project's license application states that "Water quality of the South Fork in the project vicinity is generally excellent...Water quality in the project area meets or exceeds the standards established for all uses in the Rogue River Basin by the state of Oregon." Moreover, the ODEQ 2004/2006 Integrated Report on Water Quality Status also provided information that confirms the continued health of the river. ODEQ designated the South Fork Rogue River as a "Category 2" waterway. This classification indicates that state water quality standards are being met, although data are lacking to document compliance with all standards.

PacifiCorp reported that they requested a letter from the ODEQ on September 21, 2009 regarding the facility's compliance with water quality standards but, the agency declined to provide such a letter, citing a lack of resources to commit to the review of water quality data. He noted that "no information exists with which to assess TDG in Project tailraces, thermal stratification in impoundments, Project-related algal activity, Anti-degradation, or many of the other parameters which comprise the numeric and narrative components of Oregon's water quality rules".

In the absence of a Water Quality Certification, LIHI certification criteria for Water Quality require that the applicant demonstrate actual compliance with the quantitative standards established by the state to support the designated uses for that body of water. During the 2010

LIHI review, PacifiCorp was advised by LIHI on September 24, 2010 that the project could not be certified unless such data was available and demonstrated compliance with applicable standards. It was agreed to put the certification application “on-hold”.

The sampling plan to collect this data was approved by ODEQ in September 2012 and the sampling implemented by PacifiCorp. A report dated January 29, 2013 containing the results of the sampling was submitted to LIHI. In a letter from the ODEQ dated April 12, 2013 (see Appendix B) Chris Stine of ODEQ found that the project waters are in compliance with the numerical state standards.

## **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.** Verbal consultation on August 24 2010 with Chris Stine of the ODEQ, and in an email from him on September 1, 2010, he confirmed that no TMDLs have been designated for the South Fork of the Rogue River, nor has the South Fork been identified as "impaired waters" under the Clean Water Act Section 303(d). He reiterated this position in his April 12, 2013 letter.

## **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?**

**NA.** The Project waters are not considered to be “impaired”.

### ***The Project 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?**

**NA.** No mandatory anadromous fish passage prescription, nor reservation of authority for future passage, was issued by federal or state resource agencies during the licensing of the Project in 1989.

***Go to C2***

**2) Are there historic records of anadromous and/or catadromous fish movement through the facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish run is extinct)?**

**YES.** The Environmental Assessment conducted in 1988 in conjunction with relicensing of the Prospect No. 3 Project, as well as the Environmental Assessment conducted in 2006 for relicensing of the nearby Prospect Nos. 1, 2, and 4 Project, found that anadromous fish were extirpated from the area due to downstream migration barriers that were unrelated to the Prospect facilities.

The 2006 Environmental Assessment conducted for the neighboring project, Prospect Nos. 1, 2, and 4, reported that Spring Chinook salmon (*Oncorhynchus tshawytscha*) and winter steelhead (also called rainbow trout) (*Oncorhynchus mykiss*) may have historically migrated to the area. In all but the wettest years, however, a series of waterfalls on the South Fork Rogue River downstream of the diversion blocked passage. The William L. Jess Dam (formerly known as Lost Creek Dam) was constructed in 1977 without fish passage facilities, and it presents a complete fish passage barrier to upstream migration on the Rogue River. The William L. Jess Dam is operated by the Army Corps of Engineers and is located approximately 21 river miles downstream of the Prospect No. 3 diversion dam.

***Go to C2a***

**a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?**

**YES.** See discussion above under C2 above. ***Go to C2b***

- b) If a Resource Agency recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?**

**NOT APPLICABLE.** No recommendations for future upstream or downstream anadromous fish passage facilities have been recommended at this time.

**Go to C5**

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

**NOT APPLICABLE.**

LIHI certification criteria do not require fish passage for riverine species when there is no mandatory prescription for anadromous or catadromous species. However, the following discussion of the riverine fish passage activities at Prospect No. 3 has been provided for full understanding of fish protection issues at this facility.

Improvements to existing fish passage facilities for riverine species were proposed by Pacific Power and Light Company following consultation with ODFW and USFWS, and adopted by FERC, as license Articles 403, 404 and 405. These facilities primarily benefit resident brook trout (*Salvelinus fontinalis*) and rainbow trout. Articles 403 and 404 of the license require modifying the existing upstream passage facility as well as the fish screening and downstream bypass facility. Article 405 requires PacifiCorp to develop a plan to evaluate the efficiency of the new upstream and downstream facilities.

Both the ODFW and the USFWS were consulted during the development of the fish passage designs and monitoring plans. As noted previously, design and implementation of the fish passage facilities were delayed for 6 years, pending adoption of statewide criteria to be used in the design process. In a letter dated September 7, 1994, which was provided as part of PacifiCorp's LIHI application, ODFW stated that PacifiCorp could proceed with implementing Articles 403, 404, and 405 because the Interim Fish Screen Policy had been finalized by the agency.

FERC approved the plans for the upstream and downstream fish passage facilities, as well as the plan for passage effectiveness studies, as required by Article 405, in their Order dated May 21, 1996. PacifiCorp completed the planned modifications to the fish passage facilities in the fall of 1996. Physical modifications to enhance approach velocities recommended by ODFW and USFWS were implemented in 1998 and 1999. In accordance with Article 405 of the project license, PacifiCorp filed a monitoring report on the effectiveness of fish passage in September 2000. In a letter dated August 20, 2002, FERC accepted the findings, noting that no resource agencies had commented on the report and that the results "indicate that the facilities are functioning as designed."

Reviewer discussions on August 24, 2010, with Dave Harris of the ODFW identified that limited studies conducted in 2009 and 2010 on the South Fork have suggested that the trout population appears to be somewhat depressed. Although the data set is somewhat limited, it shows limited spawning trout and juveniles present. He believes that the presence of the numerous dams on the Rogue River system in this area, including Prospect No. 3, are preventing proper movement of the trout up and down the river, thus minimizing proper genetic mixing of the population. He stated that the fish passage at Prospect No. 3 has nine inch high steps, rather than the six inch steps more appropriate for trout. He also raised a concern regarding the 10 cfs minimum flow that is required by the FERC license at this Project. More current evaluations, such as those conducted for the Prospect Nos 1, 2 and 4 Project, indicate that 30 to 60 cfs is more appropriate for healthy fisheries in the river.

As noted in Section 4.0, concerns raised by Mr. Robert Burns of the USFWS in a discussion on August 31, 2010 were primarily related to those associated with Prospect Nos. 1,2 and 4 and as he believes are related to the Prospect No. 3 Project.

*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.** As part of the downstream fish passage improvements, improved fish screening was designed and constructed in compliance with policy established by ODFW as discussed above simultaneous with the downstream passage facility.

***The Project 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, *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?**

**NO, *go to D3***

**3 ) Has the facility owner/operator established through a settlement agreement with appropriate stakeholders, with state and federal resource agencies' agreement, an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation)**

**NO, *Go to D4***

**4 ) Is the facility 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.**

**NOT APPLICABLE.** No Shoreland Management Plan, buffer zone or enhancement fund was required for the Prospect #3 Project.

The entire impoundment is located on undeveloped National Forest land and is managed in accordance with US Forest Service (USFS) regulations. The FERC license also has specific Articles (101 through 109) requiring coordination with the USFS for items such as land disturbance, measures to protect natural resources, wastewater and solid waste management, oil or chemical spill response, and use of pesticides/ herbicides. Review of FERC's eLibrary indicates that PacifiCorp consults with the USFS annually (per Article 102) to ensure compliance with federal requirements associated with occupation on these federally owned lands and submits a report to FERC on its priorities for this program. Consultation with Mr. Kerwin Dewberry of USFS on September 1, 2010 has indicated that the consultation process between PacifiCorp and the USFS has been working well.

The FERC license also requires that a Soil Erosion and Sediment Control Plan be developed through consultation with the ODFW for any land disturbance activities. PacifiCorp's Plan was found to be satisfactory to the USFS, ODFW and USFWS and was approved by FERC Order dated March 2, 1990.

***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.** The Environmental Assessment that was conducted in 1988 for relicensing the project cited no threatened or endangered species in the project area. A more recent 2006 Environmental Assessment for the neighboring downstream projects, Prospect No. 1, 2, and 4, noted that the following federally listed species may potentially occur in the project area: Northern Spotted Owl (*Strix occidentalis caurina*), Gray Wolf (*Canis lupus*), and Canada Lynx (*Lynx canadensis*). The Gray Wolf is considered an "endangered", while the Northern Spotted Owl and Canada Lynx are listed as "threatened" under federal listing. It is interesting to note that the USFWS on their published list of protected species, does not indicate the presence of Gray Wolf or Canada Lynx in Jackson County, but does show both species of occurring within the state of Oregon.

PacifiCorp has stated that there has been no documented occurrence of gray wolves in western Oregon and no documented occurrence of Canada lynx in Oregon since 1974. The 2006 Environmental Assessment for Prospect Nos. 1, 2, and 4 reported that a northern spotted owl had been sighted 0.5 mile east of the Middle Fork diversion (approximately 2 miles north of the Prospect No. 3 South Fork diversion). It also noted that a Bald Eagle (*Haliaeetus leucocephalus*) nest was located near Lost Creek Lake, approximately 20 miles downriver from the project. Although the bald eagle has been removed from the federal Endangered Species list, the state of Oregon continues to list the Bald Eagle as a threatened species.

As noted above, the Bald Eagle is listed as a threatened species under the Oregon Endangered Species Act (ESA) (ORS 496.171 to 496.192 and 498.026). The species-recovery mechanism under the state ESA is limited to state-owned land, state-leased land and land over which the state has a recorded easement. In addition, endangered species management planning is limited to state agencies. Although the state ESA broadly prohibits *take* of listed species, the definition of *take* ("to kill or obtain possession or control") is narrower than that under federal law. Moreover, the state ESA also provides that "nothing in [the state ESA] is intended by itself to require an owner of any commercial forest land or other private land to take action to protect a threatened or endangered species or to impose additional requirements or restrictions on the use of private land." ORS 496.192(1).

**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?**

**Yes.** The only adopted recovery plan for threatened and endangered species that may be present in the project area is the *Recovery Plan for the Northern Spotted Owl*, adopted by the USFWS in May 2008. A Recovery Outline for the Contiguous United States Distinct Population Segment of Canada Lynx (*Lynx canadensis*) has also been prepared by the USFWS, but it has not been finalized and adopted into a Recovery Plan.

The Prospect No. 3 Project is in compliance with the relevant recommendations in the *Final Recovery Plan for the Northern Spotted Owl*. This Recovery Plan provides broad guidance for agencies such as the USFS to manage forest habitat in specified areas for spotted owls on federal land. The reservoir of the Prospect No. 3 Project is located on USFS land. Since adoption of the Recovery Plan in 2008, PacifiCorp has not conducted any major construction activity that could potentially affect spotted owl habitat on USFS land. Project license articles require PacifiCorp to consult with the USFS prior to conducting any land-disturbing actions. PacifiCorp has confirmed that compatibility of those activities with the Recovery Plan would be addressed at the time consultation is made if/when such a land disturbance project arises.

**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?**

**NOT APPLICABLE.** At the time of license issuance, no federally-listed species were known to occur in the Prospect No. 3 Project area requiring issuance of an "incidental take" authority. The Environmental Assessment stated that "the project would not affect any federally listed threatened or endangered species". A Finding of No Significant Impact was issued for Prospect No. 3. To assure continued protection for listed species, Prospect No. 3 license articles 101, 102, and 103 require a special use permit, fish and wildlife habitat mitigation plans, and continued consultation with the USFS and FERC, regarding new land disturbing activities on National Forest land.

**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 1998 Environmental Report notes that no federally or state endangered or threatened species were found in the Project vicinity, thus no impact to protected species was expected. A

February 12, 2013 email received from Ms. Amy Coman of MDFW, Natural Heritage and Endangered Species Program stated that although swamp dock may be onsite, the Massachusetts Endangered Species Act (MESA) would not require review under the Act unless some other permitting action is required. The consultation required with MDFW under Article 14 of the License Exemption before any land disturbance activities are undertaken would trigger review for impacts to this species. As a result, it appears that if present, this species would be protected via this required review.

***The Project 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.** The Facility is in compliance with all requirements regarding cultural resource protection, mitigation or enhancement included in its FERC license. Article 407 of the project license requires PacifiCorp to consult with the SHPO, and develop a cultural resources management plan, prior to conducting any land-disturbance or land-clearing activities not specifically authorized in the original license. SHPO staff by PacifiCorp was contacted with regard to the canal fencing and related activities, however development of a cultural resources plan was found to not be required for these activities. No other land-disturbance activities have been conducted requiring SHPO consultation. No issues have been identified by the SHPO regarding this 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?**

**YES.**

Article 408 of the license required PacifiCorp to submit a recreation monitoring report summarizing recreational use and demand at the project every six years. PacifiCorp submitted monitoring reports that were approved by FERC in Orders dated March 6, 1995 and April 3, 2001, respectively. Due to the consistently low amount of recreational use in the project area, the latter Order also stated that further recreational monitoring under Article 408 was unnecessary. Consultation at that time with the USFS and Oregon Parks and Recreation Division, found they concurred with the finding that there was no reason to develop recreational opportunities in the area. In response to a request made by PacifiCorp on June 8, 2009, FERC, in their Order dated March 3, 2010, exempted PacifiCorp from having to submit future FERC Form 80 Filings for the Project.

No recreationally related deficiencies were found during the three most recent FERC Environmental and Public Use Inspections, conducted in 2007, 2010 and 2011.

***Go to G3***

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

**YES.** PacifiCorp provides free access to all Project lands that are not specifically excluded for operational security. The upstream portion of the Project which includes the impoundment, is on USFS land, and therefore, access is also available without charge. Although accessible to the public, the one-acre impoundment is not considered to be a recreational facility.

***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**

### **COMMENT LETTERS RECEIVED BY LIHI**

Hello,

I have two questions regarding the LIHI Pending Application ---  
(FERC No. 2337) Prospect No. 3 Hydroelectric Project on the South  
Fork of the Rogue River, Oregon.

Are there assessments on how effective release flows at the dam into  
the “bypassed reach” are for producing native fish habitat or on water  
quality?

Are the ladders and fish screens regularly maintained?

Thank you,

lesley.

--

Lesley Adams, Rogue Riverkeeper  
Klamath-Siskiyou Wildlands Center  
PO Box 102  
Ashland, Oregon 97520  
541.488.5789  
[www.kswild.org](http://www.kswild.org)

## **LIHI Pending Application --- (FERC No. 2337) Prospect No. 3 Hydroelectric Project on the South Fork of the Rogue River, Oregon**

LIHI also received a response to the Rouge Riverkeeper from PacifiCorp on March 10, 2010:

"Hi, Lesley,

Thanks for your interest in our application for low impact hydro certification for the Prospect No. 3 hydro project.

Our responses to your questions follow:

Question: Are there assessments on how effective release flows at the dam into the "bypassed reach" are for producing native fish habitat or on water quality?

Response: During the FERC relicensing process, various flows were evaluated through the instream incremental flow modeling (IFIM) and wetted perimeter studies. FERC summarized these studies in the relicensing Environmental Assessment (FERC, 1988, pages 9-12) and concluded that:

"Suitable minimum flows must be maintained in the South Fork for the protection of the trout populations. The instream flow study results and the wetted perimeter observations show that a 10-cfs minimum flow release from the project dam would maintain fry habitat and would increase juvenile and adult habitat in the 3.5-mile-long reach downstream of the dam. Therefore, the licensee should release a 10-cfs minimum flow from the project dam for the protection of the fish resources in the South Fork."

Therefore, it was FERC's conclusion during relicensing that bypass flows provided as part of the new license would be adequate for aquatic resources (presumably, both fish habitat and water quality).

Further, PacifiCorp entered into a settlement agreement with ODFW on October 24, 2006, that provides funding of \$1 million (escalated 2006 dollars) through 2018. The purpose of this funding is, in part, to study resident trout and enhancement of their habitat upstream of Lost Creek Reservoir. We do not yet have results of such studies from ODFW, but this effort should entail evaluation of the effectiveness of bypass flows provided at the Rogue River hydro projects.

Question: Are the ladders and fish screens regularly maintained?

Response: Yes, the ladder and screens are inspected 2-3 times per week. Major maintenance on the screens is scheduled annually.

I hope this addresses your questions. Let me know if you have any further questions, or call me at (503) 813-6629. Monte Garrett, PacifiCorp

Note: LIHI's servers were down during the period that the PacifiCorp response was filed and as a result the response wasn't posted on the web site until late April. We also note that Monte Garret's email response was mailed to Lesley Adams, Rogue Riverkeeper on March 10, 2010.



# Oregon

Theodore R. Kulongoski, Governor

## Department of Fish and Wildlife

Umpqua Watershed District Office

4192 North Umpqua Highway

Roseburg, OR 97470

(541) 440-3353

FAX (541) 673-0372



May 5, 2010

Mr. Fred Ayer  
LIHI Executive Director  
34 Providence Street  
Portland, ME 04103

Subject      Comments on proposed certification of the Prospect 3 Hydropower Project (FERC No. 2337)

Dear Mr. Ayer:

The Oregon Department of Fish and Wildlife (ODFW) received your letter of December 31, 2009, requesting comments from our office on the application for certification of the Prospect 3 Hydroelectric Project (Project) by the Low Impact Hydropower Institute (LIHI).

ODFW was involved with the relicensing of this Project in the 1980's. We have reviewed the eight-certification criteria hydropower projects must meet to be certified through the LIHI Certification process. It is our understanding that a hydropower facility must meet all eight certification criteria to become certified as a Low Impact Hydropower Facility and thus be able to use this certification when marketing power to consumers.

In 2009 LIHI solicited comments regarding proposed modifications to its criteria for certification; however LIHI has not yet implemented the new proposed criteria. The new LIHI criteria would require that fish and wildlife recommendations to be filed post-1990. ODFW's fish and wildlife recommendations for the Project were filed post-1986 but pre-1990,

Recommendations made in the late 1980's for screens, fish ladders, and minimum instream flows would not meet ODFW current criteria. Screen criteria now must meet approach and sweeping velocities, while fish ladder step criteria is now 6 inches, which was not the standard in the 1980's. ODFW now considers other ecological factors while setting instream minimum flows.

ODFW feels that LIHI's review the of Prospect 3 Hydropower Project should also consider the impacts of the Prospect 1, 2 & 4 Project which shares the same watershed. Prospect 3 generates power by diverting water from the South Fork Rogue River then transfers the same water via a siphon to the to the Prospect 1, 2 & 4 Hydropower Project. The Prospect 1,2 & 4 Hydropower Project was recently licensed by FERC without adopting fish and wildlife agency recommendations for protective screens at an of the three diversions, and fish passage at two of the three diversion dams. The Prospect 3 Hydropower Project should not be certified by LIHI because it has outdated mitigations measures, and it has a watershed and operations nexus with Prospect 1, 2 & 4 Hydropower Project that will impact fish and wildlife resources for the next 30 years.

Therefore, we suggest that this certification not be issued until present mitigations measures can be implemented.

Thank you for the opportunity to review this proposal. Please contact Ken Homolka (503) 947-6090 or myself at (541) 440-3353 to discuss these comments.

Sincerely,

A handwritten signature in cursive script that reads "David A. Harris".

David A. Harris  
Southwest Region Hydropower Coordinator

cc: Ken Homolka, ODFW, Salem, Oregon (e)  
Dan Van Dyke, ODFW, Central Point, Oregon (e)  
Rob Burns, USFWS, Roseburg, Oregon (e)  
Craig Kohanek, OWRD, Salem, Oregon (e)  
Chris Stine, ODEQ, Eugene, Oregon (e)

May 14, 2010

Fred Ayer  
Executive Director  
Low Impact Hydropower Institute  
34 Providence Street  
Portland, Maine 04103

RE: Pending Application for Low Impact Hydropower Certification of the  
Prospect No. 3 Facility

Low impact hydropower certification (Certification) is a process by which hydropower projects may be evaluated to determine that specific projects are 1) well sited and operated so that environmental impacts are minimized; and 2) in compliance with resource agency recommendations with respect to established certification criteria. Hydropower dams, like all generation resources, have both positive and negative environmental impacts. Certification does not require that a hydro project have no environmental impacts (LIHI Guidelines, Part I, p. 7). The objective of Certification is to provide a credible and accepted standard for consumers to use in evaluating hydropower.

PacifiCorp Energy's application for Certification of the Prospect 3 Hydroelectric Project was posted on the LIHI website in December 2009. A comment letter from Oregon Department of Fish and Wildlife (ODFW) was subsequently posted on the LIHI website. The comment letter states objections to Certification of the Prospect 3 facility, based on the age of the agency fish passage recommendations and the relationship of the project to the Prospect Nos. 1, 2 & 4 Hydroelectric Project.

While PacifiCorp Energy (PacifiCorp) respects the right of the ODFW to raise concerns about the impacts of hydropower, PacifiCorp believes that the Prospect 3 project meets criteria established by LIHI for Certification. Specifically, the Prospect 3 project is in compliance with 1) the most recent, environmentally stringent, resource agency recommendations (that were filed after the Electric Consumer's Protection Act of 1986), issued pursuant to a proceeding; 2) requirements of the Clean Water Act and the Endangered Species Act; and 3) license requirements issued by the Federal Energy Regulatory Commission (LIHI Guidelines, Part VI(C)).

The following is a summary of ODFW's comments and PacifiCorp's responses:

ODFW commented that their fish and wildlife recommendations were filed post-1986 but pre-1990. The new proposed LIHI criteria for certification indicate that fish and wildlife recommendations must be filed post-1990. ODFW recommendations made in the late 1980s for screens, fish ladders, and minimum instream flows would not meet ODFW current criteria (including sweeping velocities for fish screens, 6-inch ladder step criteria, and ecological factors

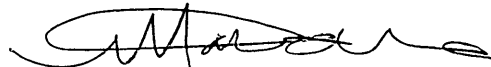
for instream flow). However, the current LIHI criteria require compliance with agency recommendations issued after 1986. Additionally, PacifiCorp continued to work with ODFW and USFWS to adjust the designs of the ladders and screens to meet agency current recommendations *through 1996* when final designs were approved by those agencies. The attachments to the questionnaire document PacifiCorp's cooperation with resource agencies to implement the state-of-the-art ladder and screen designs.

ODFW also commented that the Prospect 3 project has a watershed and operations nexus with the Prospect 1, 2, & 4 project, which was licensed without adopting fish and wildlife agency recommendations for protective screens at any of the three diversions, and fish ladders at two of the three diversion dams. ODFW feels that the impacts of the Prospect 1, 2, & 4 project should be considered. However, PacifiCorp has not applied for Certification at the Prospect 1, 2, & 4 project, so this comment is not relevant. The Prospect 3 project is a separate facility that is licensed independently and located in a different area of the Rogue River watershed, isolated from the Prospect 1, 2, & 4 project. While some of the tailrace water leaving the Prospect 3 project can be diverted into the Prospect 1, 2, & 4 project, the diversion of water is an independent operational decision related to the Prospect 1, 2, & 4 project, and such diversion downstream of the Prospect 3 tailrace is unassociated with operation of the Prospect 3 project.

PacifiCorp feels that the decision by the FERC not to adopt fish passage at the Prospect 1, 2, & 4 project should not be a determining factor in the Certification of the Prospect 3 project. The relicensing environmental assessments for the Prospect 3 and Prospect 1, 2, & 4 projects were conducted independently, each evaluating the respective projects on their own merit. As previously noted, agency recommendations for fish passage were adopted for the Prospect 3 project and the facilities were designed with input from ODFW and USFWS to meet the newest criteria available at that time (mid 1990s).

PacifiCorp is committed to providing low-cost renewable hydropower at its hydroelectric facilities in an environmentally responsible manner. The Prospect 3 project is in compliance with the FERC license and state and federal laws. The goal of PacifiCorp's hydropower project operation is to balance clean, renewable energy for our customers while demonstrating stewardship of resources in the vicinity of our projects, and we appreciate your consideration for low impact hydropower certification.

Sincerely,



*RL*

Randy Landolt  
Hydro Resources, Managing Director

cc: Monte Garrett – PacifiCorp  
Mike Ichisaka – PacifiCorp  
Todd Olson – PacifiCorp

## APPENDIX B

### INDEX OF PRIMARY CONTACT INFORMATION FOR LIHI CRITERIA

The following lists direct consultation initiated by the Reviewer. Extensive consultation with other resource agencies was initiated by the Applicant's representative and provided in the application or as follow-up to questions raised by the Reviewer.

LIHI CRITERION	PRIMARY CONTACT INFORMATION
Flows	None required
Water Quality	Mr. Chris Stine ODEQ, Hydroelectric Specialist
Fish Passage & Protection	Mr. Dave Harris ODFW, Biologist
Watershed Protection	None required
Threatened & Endangered Species	None required
Cultural Resources Protection	None required
Recreation	None required
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.

---

Date:	8/23/10, 8/24/10, 9/1/10 and 4/12/13
Contact Person:	Mr. Chris Stine, Hydroelectric Specialist, ODEQ
Contact Information:	541-686-7810; stine.chris@deq.state.or.us
Area of Expertise:	Water Quality

Mr. Stine initially reported stated he needed to review available data on the project before he could comment fully. In the follow-up 2010 communications, he stated that because there was no data available for the project waters, he could not state whether or not the project was in compliance with state numerical standards. He was not aware of the NPDES permit issued to the project, which I forwarded to him by email. An email and his letter dated 4/12/13 can be found at the end of this Appendix.

---

Date:	08/19, 8/23, 8/25 and 9/1/10.
Contact Person:	Mr. Kerwin Dewberry, District Ranger, USFS
Contact Information:	541-560-3400
Area of Expertise:	Compliance with USFS requirements

Although I did not speak to Mr. Dewberry, he did leave a message in response to several calls I placed. He confirmed that PacifiCorp has been cooperative regarding the annual consultation with the Forest Service. He felt that PacifiCorp has been in compliance with requirements associated with the Forest Service.

---

Date:	08/19 and 8/24/10
Contact Person:	Mr. Dave Harris, Biologist, ODFW
Contact Information:	541-440-3353; Dave.A.Harris@ state.or.us
Area of Expertise:	Fish and Wildlife

Dave Harris identified that limited studies conducted in 2009 and 2010 on the South Fork have suggested that the trout population appears to be somewhat depressed. Although the data set is somewhat limited, it shows limited spawning trout and juveniles present. He believes that the presence of the numerous dams on the Rogue River system in this area, including Prospect No. 3, are preventing proper movement of the trout up and down the river, thus minimizing proper genetic mixing of the population. He stated that the fish passage at Prospect No. 3 has nine inch high steps, rather than the six inch steps more appropriate for trout. Mr. Harris also indicated concern as to the adequacy of the 10 cfs minimum flow established at the time of licensing of this Project. He reported that more current studies performed for the nearby Prospect Nos. 1, 2 and 4 Project require a minimum flow of 30 cfs and 60 cfs, dependant on the season, for healthy fisheries. His opinion is that while the Prospect No. 3 Project is generally in compliance with its license minimum flow condition of 10 cfs, these flow levels may also be impacting the trout populations. In an email dated 8/26/10 Mr. Harris provided data form recent trout investigations,

photographs illustrating the concerns raised about high the flow in the fishway, and information from Justin Miles, a fisheries specialist with the ODFW regarding the health of the trout population in the area of Prospect No. 3. A copy of this email is included. The data and photographs have been provided as back-up information to, but not part of, this report.

---

Date:	08/19, 8/23, 08/25 and 8/31/10
Contact Person:	Mr. Robert Burns, United States Fish and Wildlife Service
Contact Information:	541-957-3477
Area of Expertise:	Fish Passage

Mr. Burns stated he does not support certification of the project as "low impact". His primary reason is that he believes that Prospect No. 3 must be considered jointly with Prospects Nos. 1, 2 and 4, and that recommendations from both USFWS and ODFW were not adopted in the FERC license for Prospects Nos. 1, 2 and 4. These recommendations included both fish passage and wildlife crossing recommendations. Contrary to the agency recommendations, no fish passage was required in the 2008 license, even though earlier licensing in the 1960's did require fish passage. Also PacifiCorp only agreed to widen the wildlife crossings to 12 feet, and not 36 feet as recommended, and agreed to, by PacifiCorp at another upstream hydro project. He also stated that there have been many unscheduled ramping events at Prospect Nos. 1,2 and 4. Mr. Burns did state that the Northern Spotted Owls known to exist in the area are located sufficient far from Prospect No. 3, such that they would not be impacted by this Project.

---

**Patricia B. McIlvaine**

---

**From:** Patricia B. McIlvaine [pbm@wright-pierce.com]  
**Sent:** Thursday, August 26, 2010 3:42 PM  
**To:** 'Ichisaka, Michael'  
**Subject:** RE: Water Quality Question on Prospect No. 3

Interesting...it was Chris Stine at ODEQ that told me that the NPDES permit could no longer be issued to a hydro...yet here you are.

I think the difference is that this NPDES permit is only for your non-contact cooling water discharge...and technically a 401 certification covers hydro facilities in their entirety. As you know, 401 certificates generally include minimum flow requirements, reservoir elevation limits, ramping rates, etc. as applicable to your facility.

Let me think about this.

Thanks

Pat

---

**From:** Ichisaka, Michael [mailto:Michael.Ichisaka@PacifiCorp.com]  
**Sent:** Thursday, August 26, 2010 3:21 PM  
**To:** pbm@wright-pierce.com  
**Cc:** Garrett, Monte  
**Subject:** RE: Water Quality Question on Prospect No. 3

Hi Pat,

Please see answers inserted in your email below in blue text. Sorry it has taken so long to reply on this. I had to check with the hydro facility to find a copy of the most recent permit and I am still waiting for a call back from ODEQ but I think that I've rounded up all of the information that you were looking for. I saw your email this morning about hydropower not being considered a point source discharge and I too have heard this. For some reason, various states choose to handle this differently and it would be nice if everyone was consistent on what is required by EPA. Nevertheless, PacifiCorp is continuing to operate the Prospect No. 3 project in accordance with the existing ODEQ permit (see explanation below).

Thanks,  
Mike Ichisaka  
(503) 813-6617

---

**From:** Patricia B. McIlvaine [mailto:pbm@wright-pierce.com]  
**Sent:** Thursday, August 19, 2010 11:02 AM  
**To:** Ichisaka, Michael; Garrett, Monte  
**Subject:** Water Quality Question on Prospect No. 3

Mike and Monte

I am reviewing the water quality issues for LIHI certification on Prospect No. 3. It appears that the IDEQ waived the need to issue a 401 Certificate because "the project was permitted under a National Pollution Discharge Elimination System (NPDES) general permit". (See attached document you previously sent me.) My questions are:

1. Is Project No. 3 still under a general NPDES permit? Yes. I see that the state has the program

9/7/2010

authority for these permits, rather than EPA...which doesn't surprise me given the ODEQ position noted above.

2. Assuming that the Project has renewed its general permit (the permits expire five years from issuance) can you either send me a copy of either the current permit or standard conditions that show how the Project protects water quality? See attached pdf
3. If it was determined that the Project no longer needs such a general permit, can you provide me the explanation behind that decision?

The Prospect No. 3 project is still operating under a 100-J general NPDES permit that has been "administratively extended" beyond the expiration date. The last permit was issued by ODEQ on 10/13/97 with a 7/31/01 expiration date (see attached pdf). PacifiCorp applied to renew the permit in 12/28/00 with the appropriate forms and fees. No official communications were received from ODEQ. The application was timely (received on 1/16/01, before expiration of the current permit) and was determined by ODEQ to be "complete" on 5/11/01 according to the ODEQ database (see website screen shot **Oregon DEQ\_Status of Permit Application search results.pdf**). ODEQ has not yet issued a renewed permit so the conditions of the 1997 permit still apply and the permit remains in effect. The second attached pdf file (**Oregon DEQ\_Water Quality – Wastewater Permits Database-Facility Details.pdf**) confirms that the permit for Prospect No. 3 has been administratively extended and that it has active status (Active Permit = true). PacifiCorp has continued to pay the annual ODEQ invoices and file the required monthly reports that demonstrate protection of water quality.

Regarding permit renewal, a recent MOU between ODEQ and EPA dated April 20, 2010, states (section 4.02 - Permit Reissuance, page 8):

*All expiring Oregon NPDES permits for which timely and complete permit renewal applications have been submitted must be reissued on or before their expiration date. If such timely reissuance is not possible, the permit may be administratively continued beyond its expiration date in accordance with state law, but in no event will the expired permit be modified. An administratively extended permit remains in effect and enforceable until such time as the ODEQ permit is revised or reissued.*

Periodically, PacifiCorp's compliance staff asks the same questions about the permit expiration dates and has had conversations with various ODEQ personnel over the years to check the status of ODEQ 100J general permits. I recently spoke to Tom Rosetta, a ODEQ water quality staff person in Portland and he believed that the status of these permits is on hold until ODEQ sets a revision date and goes through a public comment period. He was going to check on this and get back to me later this week. He said that while ODEQ is not issuing new permits for hydropower projects, pre-existing permits with active status are still current.

Thanks

Pat

---

**Pat McIlvaine | Project Manager**

**Wright-Pierce | Water, Wastewater & Infrastructure Engineers**  
[www.wright-pierce.com](http://www.wright-pierce.com)

99 Main Street | Topsham, ME 04086  
 Tel 207.725.8721 x.3785 | Fax 207.729.8414

**Serving New England for Over 60 Years**

**Patricia B. McIlvaine**

---

**From:** Dave Harris [dave.a.harris@state.or.us]  
**Sent:** Thursday, August 26, 2010 4:57 PM  
**To:** Patricia B. McIlvaine  
**Cc:** Justin Miles  
**Subject:** South Fork Rogue\_Prospect 3  
**Attachments:** S.Fk.Rogue Tribs.xls; Brown spawning surveys 2009.xls; FishInventoryData 79\_80.xls; 20070716-0302(17627594)[1].pdf

Pat: Got your phone message yesterday wanted to get you some data from the South Fork Rogue. I included Justin Miles as a cc, Justin is the lead biologist gathering the trout data on the project, he should also have good input in regards to fish, amphibians, and wildlife.

A dam does block all anadromous fish species from getting to the project. Historically, steelhead and chinook made it to the bottom portion of the project. Several falls, and boulder cascades prevented access to the majority of the project.

The attached is a variety of items. Pictures, spawning survey results, old data from the 70-80.

The baseline data we have is from electrofishing (79-80 excel spreadsheet) surveys completed around the project area. Trout numbers appear to be normal, habitat in the South Fork is average. Recent surveys suggests a drop in the number of trout, we are still looking at length's and weight's of captured fish to compare to our 79-80 data.

The problem we have with wild trout populations in the high cascades is for the most part is that the total numbers are typically small. This is due to the fact that trout take longer to develop into adults due to cold water temperatures in the high elevations. Because adults become mature at 6-7 inches, the fecundity (number of eggs per female) is also small. A mature female may have only 500-1000 eggs to bury. The number of fry that emerge is reduced by another 10-20% depending on winter flow conditions. Habitat is compromised by a lack of gravel passed downstream of the diversion dam, and a lack of large woody debris input. Summer low flow due to diversion reduces the amount of usable rearing habitat for juveniles to increase size. Often these smaller fish are forced into pools with larger predacious adult trout and become a meal. A lack of upstream passage denies the genetic exchange between a species. A lack of screens removes a percentage of that population out of the South Fork, again a loss of genetics, juveniles, and mature adults.

We have fragile wild trout populations that are impacted by slight changes in flows, water quality, lack of spawning size gravels, lack of large woody debris, predation, a lack of genetic exchange, loss due to a lack of protective screens, It appears based on the data we have collected that the trout population in the South Fork has been reduced in numbers. Additional data is needed to confirm.

The pictures of the ladder indicate that it is in good shape structurally, but the water flow may be to high for smaller trout to safely migrate upstream. I attached a report from FERC, it is a 2007 onsite inspection with a few photo's.

Justin can also share his thoughts on the South Fork. Below is a recent email he sent regarding the diversion dam and ladder.

Dave,

Pictures of the South Fork Impoundment dredging are in the prospect folder under photos and under dredging. It is too bad that I don't have any scale really for the fish ladder, but those are steelhead jumps. The pipe up top directs more flow into the ladder. The actual ladder takes a 90 degree turn to the right and into the

canal. The water is flowing pretty fast for small fish to get through it. This particular day they were dredging so they tried to push most of the flow down the canal so they wouldn't muck up the stream so bad, but it is too fast for trout anyway I think. And when there is less flow the jumps are pretty high. This is the ladder they did trapping studies on way back when, when the ladder was in better shape.

I do have e fishing data 1979-80, types of fish present etc.

We did spawning surveys 200 meters above the SF impoundment for rainbow/cutthroat. Did some more spawning surveys downstream of impoundment on a couple tribs plus e traps. Have not done a habitat survey on that river. It is pretty burley to get to and will take a long time to get a hab survey finished. I haven't done much on the SFRR, been spending most of my time recently in the NFRR bypass reach.

Let us know what you need next. I'll send pictures in a separate email.

David A. Harris  
Southwest Hydro Coordinator  
4192 North Umpqua Highway  
Roseburg, Oregon 97470  
(541) 440-3353  
Fax: (541) 673-0372  
[Dave.A.Harris@state.or.us](mailto:Dave.A.Harris@state.or.us)

**Patricia B. McIlvaine**

---

**From:** STINE Chris [Stine.Chris@deq.state.or.us]  
**Sent:** Wednesday, September 01, 2010 1:16 PM  
**To:** Patricia B. McIlvaine  
**Cc:** STINE Chris  
**Subject:** RE: Question on PacifiCorp's Prospect No. 3 Project

Pat –Here are some thoughts based on our previous conversations.

As you know, DEQ did not issue a certification for this Project and, for that reason, we have very little information to draw upon to process your request. The South and Middle Forks of the Rogue are not included on the 303d list of impaired waterbodies. However, 303d monitoring is intended to provide a broad assessment of river health on a basin scale and is an imperfect measure of Project impacts at the local level. For example, no information exists with which to assess TDG in Project tailraces, thermal stratification in impoundments, Project-related algal activity, Antidegradation, or many of the other parameters which comprise the numeric and narrative components of Oregon's water quality rules. Further, since this Project discharges to a reach which directly feeds the related Prospect-1,2,4 Project (FERC 2630), ODEQ would necessarily need to evaluate the cumulative effects of these Projects on downstream water quality.

Regarding your questions below:

1. For the reasons stated above, the statement ODEQ *"has not indicated that there are any water quality concerns for the project"* does not accurately capture our position on potential Project related impacts. Although Project rivers are not identified on our 303d list of impaired waterbodies, no information is available to assess Project-related water quality at the local scale.

2. NPDES permits are issued for a term of 5 years, so any permit issued in conjunction with the 1985 licensing has long expired. Since dams and hydroelectric projects were subsequently recognized as non-point source discharges, I suspect any request to renew authorization under the NPDES program was declined.

I hope this helps,

Chris

---

**From:** Patricia B. McIlvaine [mailto:pbm@wright-pierce.com]  
**Sent:** Monday, August 23, 2010 9:57 AM  
**To:** STINE Chris  
**Subject:** Question on PacifiCorp's Prospect No. 3 Project

Mr. Stine

I am serving as the independent reviewer for the Low Impact Hydropower Institute on PacifiCorp's application for certification of the Prospect No. 3 Hydropower Project as a "low impact facility". Part of my review is to consult with individuals who are knowledgeable of the project, its environmental license requirements and recommendations that may have been made regarding environmental concerns by agencies such as the Oregon Department of Environmental Quality. The purpose of my email is to request your confirmation, if applicable, on the following two items.

1) In their application, PacifiCorp stated that they contacted the ODEQ in September 2009 requesting a letter regarding Prospect No. 3's compliance with water quality standards, but that your office was unable to commit the resources necessary to review existing data in the vicinity of the Project, and therefore could not make a definitive statement on the Project's compliance. **PacifiCorp also stated that the IDEQ "has not indicated that**

9/7/2010

**there are any water quality concerns for the project".** Therefore my first request is: can you confirm that that the statement in bold is correct?

2) It is also my understanding that the IDEQ waived issuance of a Section 401 Water Quality Certificate in 1985 when the Project was undergoing FERC licensing because the facility was operating under a National Pollution Discharge Elimination System general permit. Can you confirm for me that the facility is still operating under a current NPDES general permit? (I understand that the IDEQ now has primacy in the NPDES program.)

Finally, if there are any issues associated with the Project regarding compliance with water quality or other related license requirements, please give me a call. I would be interested in getting your viewpoint. If you believe that you have no specific issues, concerns or comments you wish to share with me, please feel free to let me know that by email if that better suits your needs.

I look forward to hearing from you by email response or by phone. I can be reached at 207-798-3785 from 8am to 1pm East Coast time. You can also try me at my home at 207-688-4236 from 2pm to 7pm East Coast time if that time slot works better for you.

The following link will connect you to the application made by PacifiCorp to the Low Impact Hydropower Institute for this project.

<http://www.lowimpacthydro.org/lihi-pending-application-ferc-no.-2337-prospect-no.-3-hydroelectric-project-on-the-south-fork-of-the-rogue-river-oregon.html>

Thank you for your time.  
Pat McIlvaine

---

**Pat McIlvaine | Project Manager**

**Wright-Pierce | Water, Wastewater & Infrastructure Engineers**  
**[www.wright-pierce.com](http://www.wright-pierce.com)**

99 Main Street | Topsham, ME 04086  
Tel 207.725.8721 x.3785 | Fax 207.729.8414

**Serving New England for Over 60 Years**

**Patricia B. McIlvaine**

---

**From:** Patricia B. McIlvaine [pbm@wright-pierce.com]  
**Sent:** Monday, August 23, 2010 12:57 PM  
**To:** 'stine.chris@deq.state.or.us'  
**Subject:** Question on PacifiCorp's Prospect No. 3 Project

Mr. Stine

I am serving as the independent reviewer for the Low Impact Hydropower Institute on PacifiCorp's application for certification of the Prospect No. 3 Hydropower Project as a "low impact facility". Part of my review is to consult with individuals who are knowledgeable of the project, its environmental license requirements and recommendations that may have been made regarding environmental concerns by agencies such as the Oregon Department of Environmental Quality. The purpose of my email is to request your confirmation, if applicable, on the following two items.

1) In their application, PacifiCorp stated that they contacted the ODEQ in September 2009 requesting a letter regarding Prospect No. 3 's compliance with water quality standards, but that your office was unable to commit the resources necessary to review existing data in the vicinity of the Project, and therefore could not make a definitive statement on the Project's compliance. **PacifiCorp also stated that the IDEQ "has not indicated that there are any water quality concerns for the project"**. Therefore my first request is: can you confirm that that the statement in bold is correct?

2) It is also my understanding that the IDEQ waived issuance of a Section 401 Water Quality Certificate in 1985 when the Project was undergoing FERC licensing because the facility was operating under a National Pollution Discharge Elimination System general permit. Can you confirm for me that the facility is still operating under a current NPDES general permit? (I understand that the IDEQ now has primacy in the NPDES program.)

Finally, if there are any issues associated with the Project regarding compliance with water quality or other related license requirements, please give me a call. I would be interested in getting your viewpoint. If you believe that you have no specific issues, concerns or comments you wish to share with me, please feel free to let me know that by email if that better suits your needs.

I look forward to hearing from you by email response or by phone. I can be reached at 207-798-3785 from 8am to 1pm East Coast time. You can also try me at my home at 207-688-4236 from 2pm to 7pm East Coast time if that time slot works better for you.

The following link will connect you to the application made by PacifiCorp to the Low Impact Hydropower Institute for this project.

<http://www.lowimpacthydro.org/lihi-pending-application-ferc-no.-2337-prospect-no.-3-hydroelectric-project-on-the-south-fork-of-the-rogue-river-oregon.html>

Thank you for your time.

Pat McIlvaine

---

**Pat McIlvaine | Project Manager**

**Wright-Pierce | Water, Wastewater & Infrastructure Engineers**  
[www.wright-pierce.com](http://www.wright-pierce.com)

99 Main Street | Topsham, ME 04086  
Tel 207.725.8721 x.3785 | Fax 207.729.8414

**Serving New England for Over 60 Years**

8/23/2010



# Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality

Western Region Eugene Office

165 East 7<sup>th</sup> Avenue, Suite 100

Eugene, OR 97401

(541) 686-7838

FAX (541) 686-7551

OTRS 1-800-735-2900

April 12, 2013

Kaylea Foster  
PacifiCorp Energy  
925 South Grape Street  
Medford, Oregon, 97501

Re: Prospect P3 Hydroelectric Project, FERC Project No. 2337  
Compliance Monitoring for LIHI Certification

Dear Ms. Foster:

In December 2009, PacifiCorp Energy applied to the Low Impact Hydro Institute (LIHI) for certification pursuant to LIHI's low-impact criteria for their Prospect No.3 Hydroelectric Project (FERC No. 2337). LIHI certification is a voluntary, non-regulatory process which evaluates project impacts in eight areas, including water quality, according to LIHI criteria. LIHI certification requires that operators demonstrate project operations meet certain state water quality criteria. To fulfill this requirement, PacifiCorp requested a concurrence determination from the Oregon Department of Environmental Quality (ODEQ).

In 1989, the Federal Energy Regulatory Commission (FERC) relicensed the project to a 30-year term. ODEQ authorized continued project operation under an existing National Pollution Discharge Elimination System (NPDES) permit and elected to not issue a Section 401 water quality certification. Consequently, project-related effects were not evaluated pursuant to Section 401 of the Clean Water Act (CWA) nor did ODEQ require water quality monitoring as a condition of the new license.

To address the LIHI certification requirements, PacifiCorp consulted with ODEQ to develop and implement a plan to monitor water quality in Project-effected reaches. The plan included continuous and discrete monitoring activities at locations above and below the Project for parameters which may be affected by Project activities. In January 2013, PacifiCorp submitted a report to ODEQ summarizing data collected during the 2012 study season. ODEQ has reviewed the report and provides the following comments.

#### LIHI Certification Requirements

LIHI certification requirements which pertain to water quality are given in Section B of the LIHI Certification Questionnaire and are presented in Table 1, below.

<p>1) Is the Facility either:</p> <p>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</p> <p>b) 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?</p>	<p>YES = Go to B2</p>	<p>NO = Fail</p>
<p>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?</p>	<p>YES = Go to B3 NO = Pass</p>	
<p>3) If the answer to question B.2 is yes, has there been a determination that the Facility does not cause, or contribute to, the violation?</p>	<p>YES = Pass</p>	<p>NO = Fail</p>

[http://www.lowimpacthydro.org/assets/files/LIHI%20HandbookDecember%202011\(1\).pdf](http://www.lowimpacthydro.org/assets/files/LIHI%20HandbookDecember%202011(1).pdf)

PacifiCorp established monitoring stations at four locations: Imnaha Creek above the diversion dam (IMCR); South Fork Rogue above the diversion dam (SFAD); South Fork Rogue below the diversion dam (SFBD); and South Fork Rogue 3.5 miles below the dam near Butte Falls Highway (SFHX).

## Results

Temperature: Continuous temperature measurements were recorded at four locations in 2012. Data recovery was at least 87 percent at SFAD and SFBD during the study period. Data recovery was low (38 percent) at IMCR because of reduced seasonal flows. Data recovery was also low at SFHX (42 percent) because ODEQ did not request deployment of a sensor at this location until August 2012.

<sup>1</sup> Monitoring location SFHX was established on August 17, 2012, as requested by ODEQ.

PacifiCorp Energy  
Prospect P3 Hydroelectric Project (FERC No.2337)  
LIHI Low-Impact Hydro Assessment

annual stream temperatures. From these data, ODEQ concludes the numeric temperature criterion is met year round at these locations.

PacifiCorp was unsuccessful in maintaining a submerged thermistor in Imnaha Creek because of receding seasonal flows. The period of record at this location is from May 1 through July 9. The highest 7DAMX temperature of 9.24°C was recorded on July 9. For comparison, continuous measurements at SFBD below the dam indicate the highest 7DAMX temperature at this location occurred on July 12. From this information, it is reasonable to suspect the July 9 7DAMX temperature measurement at IMCR is at or near the seasonal maximum temperature for this location. From these data, ODEQ concludes that the temperature of inflow from Imnaha Creek is well below the numeric criterion.

Temperature monitoring in the lower bypass reach began on August 16 at the request of ODEQ. Stream temperatures were declining at this time and predictably the highest 7DAMX temperature of 10.83°C was collected near the beginning of the period of record.<sup>3</sup> ODEQ concludes that temperature in the lower bypass reach is significantly below the numeric criterion of 18.0°C for the period of record from August 16 through October 31.

Bacteria: PacifiCorp collected monthly grab samples for bacteria analysis at IMCR, SFAD, and SFBD from May through October. E. coli was detected at concentrations up to 9.6 organisms per 100 ml which is well below the ODEQ numeric single-sample maximum of 406 E. coli organisms per 100 ml.<sup>4</sup> Total coliform bacteria were detected at concentrations up to 187.2 organisms per 100 ml. ODEQ has no numeric criterion for total coliform bacteria. The Project does not discharge wastes which may contribute fecal coliform bacteria. From the available data, ODEQ concludes the applicable bacteria water quality standard is met at all locations within the Project area.

Dissolved Oxygen: ODEQ applies a numeric DO criterion of 11.0 mg/l during spawning periods.<sup>5</sup> However, if intergravel dissolved oxygen (IGDO) measured as a spatial mean is at least 8.0 mg/l, then the water column DO spawning criterion is 9.0 mg/l. The water column DO criterion during non-spawning periods is 8.0 mg/l.

PacifiCorp measured DO at SFBD continuously for 72 hours between June 1 and June 15, once in July, and once in August. All measurements were completed during the non-spawning period when numeric criterion is 8.0 mg/l. The lowest DO concentration recorded during continuous measurements at SFBD was 9.58 mg/l (July). PacifiCorp also recorded monthly instantaneous DO measurements at IMCR, SFAD, and SFBD from May through October. The lowest DO concentration recorded during monthly

---

<sup>3</sup> PacifiCorp calculated the 7DAMX using a date-centered approach which includes the three days before and after the date. Using this method, the first date which incorporates the minimum interval occurs on the fourth day of the data record, or August 19<sup>th</sup> at SFHX.

<sup>4</sup> ODEQ applies a numeric criterion of 126 E. coli organisms per 100 ml using a 30-day log mean based on a minimum of 5 samples. Although the minimum sample size was not collected, no single sample contained more than the maximum allowable level.

<sup>5</sup> The spawning period for the Upper Rogue Subbasin is January 1 through May 15.

instantaneous measurements at these locations was 9.14 mg/l (August, SFBD). From these data, ODEQ concludes the numeric criterion of 8.0 mg/l is met during non-spawning periods.

Monitoring data were not collected during the spawning period. However, the lowest DO concentration recorded during continuous measurements from June 7 to June 9, 2012, was 11.07 mg/l which exceeds the numeric spawning DO criterion. Oxygen saturation increases with decreasing temperature. For this reason, it is reasonable to suspect that DO in the Project area is higher than 11.0 mg/l during the spawning period when water temperatures are at seasonally minimum levels. From these data, ODEQ infers that the numeric criterion for DO is likely met during the spawning period.

pH: PacifiCorp recorded monthly pH measurements at IMCR, SFAD, and SFBD between May and October. pH measurements at all locations were within the basin-specific numeric range of 6.5 to 8.5 standard units.

Total Dissolved Solids: PacifiCorp recorded monthly TDS measurements at IMCR, SFAD, and SFBD between May and October. TDS measurements at all locations were below the basin-specific numeric criterion of 500 mg/l.

Toxic Substances: PacifiCorp collected monthly grab samples at IMCR, SFAD, and SFBD between May and October. Monthly samples were analyzed for a broad suite of metals. Concentrations of metals were compared with ODEQ's fresh water acute and chronic aquatic life criteria given in Table 20 of ODEQ's toxic substances water quality standard. Concentrations of all metals were either below applicable acute and chronic aquatic life criteria or were not detected at concentrations exceeding laboratory method reporting limits. Operation of the Project does not discharge metals or toxic substances.

Turbidity: PacifiCorp recorded monthly turbidity measurements at IMCR, SFAD, and SFBD between May and October 2012. Water clarity in the vicinity of the project is very high. Turbidity measurements at all locations ranged from 0.113 NTU to 0.857 NTU. Turbidity levels below the diversion dam ranged up to 0.323 NTU. Although paired turbidity measurements generally suggest lower turbidity levels below the diversion dam, measurements recorded on July 9, 2012, confirm an increase of 0.045 NTU relative to measurements at SFAD. ODEQ attributes this small increase to the normal variation of natural turbidities which occurs spatially throughout the water column rather than the effect of project-related disturbances, such as aggressive ramping, maintenance, or in-water work. ODEQ concludes the monitoring data submitted by PacifiCorp does not violate the ODEQ turbidity water quality standard.

#### LIHI Determination

ODEQ provides the following responses to the questions pertaining to water quality given in Section B of the LIHI Certification Questionnaire:

B1(a): *Is the Project 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?*

ODEQ Response: Not applicable

B1(b): *Is the Project 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?*

ODEQ Response: The Project is in compliance with numeric water quality criteria for the periods supported by available monitoring data as described above.

B2. *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?*

ODEQ Response: No

B3: *If the answer to question B.2 is yes, has there been a determination that the Facility does not cause, or contribute to, the violation?*

ODEQ Response: Not applicable

### Limitations

The preceding evaluation is provided for the express purpose of addressing environmental screening criteria developed pursuant to LIHI's low-impact hydroelectric certification program. Water quality data collected by PacifiCorp in support of this assessment may be used to supplement information necessary to evaluate project impacts pursuant to Section 401 of the Federal Clean Water Act during future FERC relicensing efforts. However, the findings presented herein convey neither an intention nor an obligation by ODEQ to reach similar determinations during future water quality assessments.

If you have any questions, please contact me at 541 686-7810, at [stine.chris@deq.state.or.us](mailto:stine.chris@deq.state.or.us), or at the address above.

Sincerely,



Christopher Stine, PE  
Hydroelectric Specialist

cc: Monte Garrett, PacifiCorp Energy

