## **ATTACHMENT 1**

## Resource Agency Contacts

	Authorized		
Organization	Representatives	Contact Information	
Oregon State Historic	Dr. Dennis Griffin,	725 Summer St NE, Suite C	
Preservation Office	State Archeologist	Salem OR 97301	
		Phone: 503-986-0674	
		Email: <u>dennis.griffin@state.or.us</u>	
Oregon Department of	Chris Stine	165 East 7th Ave., Suite 100	
Environmental Quality		Eugene, OR 97401	
		Phone: (541) 686-7810	
		Email: <u>stine.chris@deq.state.or.us</u>	
United States Forest Service	Mitchell Wilkinson,	High Cascades Ranger District	
	District Ranger	47201 Highway 62	
		Prospect, OR 97536-9724	
		Phone: (541) 560-3406	
		mgwilkinson@fs.fed.us	
Oregon Department of Fish	Dave Harris,	Umpqua Watershed District Office	
and Wildlife	Hydropower Coordinator,	4192 North Umpqua Highway	
	SW Region	Roseburg, OR 97470	
		Phone: (541) 440-3353	
		Email: <u>Dave.A.Harris@state.or.us</u>	
United States Fish and	Rob Burns,	Roseburg Field Office	
Wildlife Service	Fish and Wildlife	2900 NW Stewart Parkway	
	Biologist	Roseburg, OR 9/4/1	
		Phone: (541) 957-3477	
		Email: <u>rob_burns@tws.gov</u>	

## ATTACHMENT 2

## **Overview of the Rogue River Basin and Associated Facilities**

## 2.0 OVERVIEW OF THE ROGUE RIVER BASIN

The Rogue River basin encompasses 3,300,000 acres in southwest Oregon and northern California. The Rogue River begins its journey at Boundary Springs in the southern Cascade Mountains before flowing approximately 220 miles west to the Pacific Ocean. The basin has a complex geologic structure and corresponding vegetation patterns. The Rogue River flows from the lava and pumice of the southern Cascade volcanoes to the irrigated farms and orchards surrounding the population centers of Medford and Ashland. More than half the basin is owned by the federal government, with 37 percent owned by the United States Forest Service. The Rogue River was one of the eight waterways originally protected by the 1968 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 project vicinity, the South Fork flows through a steep-sided canyon composed of volcanic rock before passing through a relatively flat plateau. Average annual precipitation in the area is 40 inches, most of which falls as snow. The drainage area above the South Fork (Prospect No. 3) diversion dam is 83 square miles.

## 2.1 PROJECT DESCRIPTION

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 Federal Energy Regulatory Commission (FERC) License No. 2630 and are not subjects of this application. Each of the four developments diverts water from a separate tributary to the Rogue River (Figure 2.1-1). Prospect No. 3 diverts water from the South Fork to the Middle Fork Rogue River (Figure 2.1-2). Prospect No. 3 project boundary occupies 38.1 acres within the Rogue River-Siskiyou National Forest.

Prospect No. 3 is a run-of-river project that has a 172-foot-long, 24-foot-high concrete diversion dam with a 98-foot-long ogee crest. The South Fork dam creates a 1-acre impoundment with a gross capacity of 10-acre-feet at an elevation of 3,375 feet. The project has a fish ladder located at the diversion dam and a fish screen and downstream fish-bypass system are located on the canal just downstream of the diversion intake. The project has a 15,952-foot-long conduit system that consists of two concrete-lined canal sections (6,200 feet total), a 66-inch-diameter, 5,306-foot-long woodstave pipe, a 5-foot-wide by 6.5-foot-high, 699-foot-long, concrete lined horseshoe type tunnel, a canal to penstock transition with a 473-foot-long side channel spillway, and a 66-inch to 68-inch-diameter, 3,274-foot-long, riveted steel penstock. The Prospect No. 3 powerhouse contains one generating unit with a rated capacity of 7,200 kW. A concrete tailrace structure approximately 20 feet by 20 feet by 5 feet extends from the powerhouse. A project siphon diverts up to 150 cubic feet per second (cfs) of 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 project. Prospect No. 3 generates an annual average of 36,266 Mwh (1984-2013) that are transmitted via a 6.8-mile-long, 69-kV transmission line.



Figure 2.1-1 Layout of Prospect No. 3 and Prospect Nos. 1, 2, and 4 water conveyance systems showing location of canals, flumes, sag pipes, flowlines, penstocks, and forebays.



Figure 2.1-2. Map of Prospect No. 3 hydroelectric project including diversion dam, flowline, and powerhouse.

## **2.2 PROJECT PHOTOGRAPHS**



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



Close-up of Prospect No. 3 fish ladder. South Fork Rogue River is visible on the left.



Prospect No. 3 fish screen and downstream fish bypass facility. Photo on left is a view looking downstream along the dewatered canal. The right photo is a view looking upstream with the facility in operation.



Example of a woodstave pipe section on the Prospect No.3 water conveyance system.



Another section of woodstave pipe on the Prospect No. 3 water conveyance system.



Prospect No. 3 powerhouse

## **2.3 PROJECT OPERATIONS**

### Prospect No. 3 Project

PacifiCorp monitors Prospect No. 3 project operations real-time from a remote Control Center. An operator is on duty at the project 7 days a week from 8:00 a.m. to 4:30 p.m. to provide operational response, confirmation of proper equipment operation, and manual adjustments of the Control Center's operation of the powerhouse units.

PacifiCorp operates the run of river project in a coordinated manner with the downstream Prospect Nos. 1, 2, and 4 project.

## Prospect 1, 2, and 4 Project

Up to 150 cfs of water is diverted from the tailrace of Prospect No. 3 to the Middle Fork canal where it joins water diverted from the Middle Fork Rogue River (Prospect Nos. 1, 2 and 4 project) (Figure 2.3-1). From there, the combined flow travels 2.72 miles to the Red Blanket canal junction where flows up to 75 cfs delivered from Red Blanket Creek add to the flow in the Middle Fork canal (Figure 2.1-1). The combined flows then continue west-northwest for 2.37 miles to a point just upstream of the east abutment of the North Fork diversion dam, where the canal flow empties into North Fork reservoir. Up to 1,050 cfs of water from the North Fork reservoir, which includes water from the Middle Fork canal, is drawn through an intake located at the west abutment of the North Fork diversion dam. The intake directs the water into the North Fork canal, which conveys the water southwest about 1.4 miles to the Prospect No. 2 forebay before being directed to the Prospect No. 2 or No. 4 powerhouse. Water leaves the powerhouse through a short flowline that carries it to the Prospect No. 1 forebay. From the forebay, the water is directed into a 1,000-foot-long penstock to the Prospect No. 1 powerhouse, whereupon the water discharges to the Rogue River about 400 feet downstream of the Prospect No. 2 powerhouse.



Figure 2.3-1 Siphon from Prospect No 3 tailrace to Middle Fork Canal (Prospect Nos. 1, 2 and 4 Project)

## **ATTACHMENT 3**

### A.1 Flows

**Yes.** PacifiCorp's Prospect No. 3 project is in 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 Oregon Department of Fish and Wildlife (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 cubic feet per second would protect and maintain habitat for resident rainbow trout (see Attachments 3a and 3b). This recommended minimum flow was adopted in Article 402 of the project license, included here as Attachment 3c. In a letter dated January 5, 1988, the US 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.

The current license does not specify any daily/seasonal ramping rates, flushing flows, reservoir operations, or flood control operations.

ATTACHMENT 3a



PACIFIC POWER 920 S.W. Sixth Avenue • Portland, Oregon 97204 • (503) 243-1122

December 15, 1987

Mr. Louis Fredd Oregon Department of Fish and Wildlife 506 S.W. Mill Street Portland, Oregon 97208

RE: FERC No. 2337, Prospect No. 3 Hydroelectric Project

Dear Lou;

I appreciated the time you took last week to discuss fish protection measures necessary at the Prospect No. 3 Hydroelectric Project. During this discussion we concluded that a 10 cfs minimum stream flow release below the Prospect No. 3 diversion was appropriate to protect instream resources. We also concluded that the Prospect No. 3 fishway should be modified to incorporate vertical slot sections in the upper three fishway pools as suggested by Ott Water Engineers in their facilities review conducted last summer. In addition the remaining fishway weirs would be rebuilt and other modifications made to improve fish passage and facility operation. Attachment A illustrates these proposed changes.

We agreed to postpone making a decision on facilities necessary to exclude or remove fish from the Prospect No. 3 power canal. The Oregon Department of Fish and Wildlife is currently reviewing its fish screen criteria. This review is considering both the design criteria and applicability of different facility types at locations such as Prospect No. 3. It is anticipated that this criteria will be available in the next year. It seemed unreasonable to make a final decision while this criteria was in a state of flux. We agreed to consider this issue further after the Department had completed its review.

December 15, 1987 Page 2

I believe this accurately summarizes our discussion. Should you have any comments or questions please feel free to contact me at 464 6471.

Sincerely,

Bruce Eddy Supervisor, Aquatic Biology

A:PRO87.348

Attachment

cc: Weiss (PP&L) Landolt/DeSousa (PP&L) Harman/Revelle (PP&L) Sills (USFWS) Wonderchuck (USFS)





ATTACHMENT	3b

SdeS:mve

COPIED FOR:



## Department of Fish and Wildlife

506 SW MILL STREET, P.O. BOX 59, PORTLAND, OREGON 97207

Boucher - 1314 PSB Weislogel/Phillips-800 PS 380 PFI Hercher - 1300 PSB Seekamp/Landolt

Weiss - 380 PFFC

December 30, 1987

Mr. S. A. deSousa Manager, Civil Engineering Pacific Power 920 S.W. 6th Portland, OR 97204

RE: FERC 2337 - Prospect No. 3

Dear Mr. deSousa:

Thank you for providing us with a copy of your letter of December 15, 1987 and accompanying materials pertaining to the application for relicense. The Department has prevously commented on the materials accompanying your letter, and we generally concur with the statements made in your letter.

The State of Oregon is developing a procedure for coordinating agency responses to hydroelectric licensing matters. The coordination will be accomplished through a Hydroelectric Task Force (HTF) composed of a number of state agencies with significant interests in hydroelectric licensing matters. HTF is chaired by the Water Resources Department. The Chairperson is Weisha Mize (378-3671). I recommend that you contact Ms. Mize to request information on coordinating Prospect No. 3 relicensing with the HTF.

incerely

Louis C. Fredd Aquatic Habitats Program Habitat Conservation Division

lfo

c HTF - Mize

FWS - Ecological Services

## PacifiCorp Prospect No. 3 Hydroelectric License FERC Project No. 2337

Current License, with Subsequent Amendments Incorporated



<u>Please Note</u>: This document does not reflect Amendments to License <u>Exhibits</u>. It treats only Amendments to the text of the license articles, citing the FERC Orders issuing them. Amendments appear in *italics*. Deleted text has actually been deleted. "[]" denote Editor's Notes.

> UNITED STATES OF AMERICA 46 FERC ¶ 62,085 FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp

Project No. 2337

Order Issuing New License (Major Project – Existing Dam) Issued January 30, 1989

### **PROSPECT NO. 3 LICENSE PROVISIONS:**

The Director orders:

(A) This license is issued to Pacific Power & Light Company for a period of 30 years, effective the first day of the month in which this order is issued, to continue to operate and maintain the Prospect No. 3 Hydroelectric Project. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provision of the Act.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown in Exhibit G:

Exhibit G-	FERC No. 2337-	Showing		
1	14	Project Boundary		
2	15	Project Boundary		
3	16	Project Boundary		
4	17	Project Boundary		
5	18	Project Boundary		

(2) The existing project consists of: (a) a 172-foot-long, 24-foot-high concrete diversion dam with a 98-foot-long uncontrolled ogee; (b) a 1-acre impoundment at elevation 3,375 feet with a gross capacity of 10-acre-feet; (c) a 15,952-foot-long conduit system consisting of two concrete-lined canal sections (6,200 feet total), a 66-inch-diameter, 5,306-foot-long woodstave pipe, a 5-foot-wide by 6.5-foot-high, 699-foot-long, concrete-lined, horseshoe type tunnel, a canal to penstock transition with a 473-foot-long side channel spillway, and a 66-inch to 68-inch-diameter, 3,274-foot-long, riveted steel penstock; (d) a powerhouse containing one generating unit with a rated capacity of 7,200 kW; (e) a concrete tailrace structure approximately 20 feet by 20 feet by 5 feet; (f) a 6.8-mile-long, 69-kV transmission line; and (g) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F recommended for approval in the S&DA.

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The exhibit G described above and those sections of exhibits A and F recommended for approval in the S&DA are approved and made part of the license.

(D) This license is subject to the following articles submitted by the Forest Service under section 4(e) of the Act [See Articles 101 - 109, following the standard Articles 1 - 32 which comprise Form L-1].

(E) This license is subject to the articles set forth in Form L-1 [reported at 54 FPC 1799] (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States." The license is also subject to the following additional articles [See Articles 201, 202, and 401 - 409, included in the body of the text].

[Parts F) and G) of the Order Issuing New License treat points what, at the time of this document's creation, have ceased to be relevant; for this reason, they have been omitted.]

**Article 101.** Within 6 months following the date of issuance of this license and before starting any activities of a land-disturbing nature, the licensee shall file with the Director, Office of Hydropower Licensing, a special-use authorization approved and enforceable by the Forest Service.

The licensee may not commence activities authorized in the license and Forest Service special-use authorization until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing instructs otherwise.

**Article 102.** Each year on or before the anniversary date of the license, the licensee shall consult with the Forest Service with regard to measures needed to ensure protection and development of the natural resource values of the project area. Within 2 months following said meeting, the licensee shall file a report with the Commission of any recommendations made by these agencies. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the project and its operation which may be necessary to accomplish natural resource protection and development.

**Article 103.** Within 1 year from the issuance of this license and before starting any activities of a land-disturbing nature, the licensee in consultation with the Forest Service, shall file a fish and wildlife habitat mitigation plan approved by the Forest Service with the Director, Office of Hydropower Licensing. This plan shall identify requirements for construction and mitigation measures to meet Forest Service fish and wildlife habitat objectives and standards. The plan also shall include a schedule for accomplishing these objectives and standards and shall identify any needs for additional studies.

**Article 104.** Within 1 year following the date of issuance of this license, and before starting any activities of a land-disturbing nature, the licensee shall file with the Director, Office of Hydropower Licensing, a plan approved by the Forest Service for the control of erosion, stream sedimentation, dust, and soil mass movement.

The licensee may not commence activities affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing instructs otherwise.

**Article 105.** Within 1 year following the date of issuance of this license and before starting any activities of a land-disturbing nature, the licensee after consultation with the Forest Service shall file a plan, approved by the Forest Service, for the treatment and disposal of solid waste and waste water generated during construction and operation of the project with the Director, Office of Hydropower Licensing and the Commission's Regional Director in Portland, or their authorized representative. The plan shall address, at a minimum, the estimated quantity of solid waste and waste water generated each day; the location of disposal sites and methods of treatment; implementation schedule; areas available for disposal of wastes; design of facilities; comparisons between on-and off-site disposal; and maintenance programs.

The licensee may not commence activities affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing instructs otherwise.

**Article 106.** Within 1 year following the date of issuance of this license and at least 60 days before starting any activities of a land-disturbing nature, the licensee shall file, with the Director, Office of Hydropower Licensing, a plan, approved by the Forest Service, for oil and hazardous substances storage and spill prevention and cleanup.

The plan shall require, at a minimum, the licensee to maintain in the project area a cache of spill cleanup equipment suitable to contain any spill from the project; periodically inform the Forest Service of the location of the spill cleanup equipment on National Forest System lands and of the location, type and quantity of oil and hazardous substances stored in the project area; and to inform the Forest Service immediately of the nature, time, date, location and action taken for any spill.

The licensee may not commence activities affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing instructs otherwise.

**Article 107.** If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of the project, the licensee shall stop construction activity and consult the Forest Service and a qualified archeologist.

Prior to starting to excavate or remove any archeological resource located on National Forest System lands, the licensee shall secure a permit from the Forest Service authorizing such excavation or removal.

**Article 108.** The licensee shall, prior to any changes in the location of any existing or proposed project features or facilities, or any changes in the uses of project lands consult and cooperate with the Forest Service in regard to measures needed to ensure the protection and development of the natural resource values of the project area that could be affected by such changes or divergence. Within 60 days following any consultations and prior to any such changes or divergence, the licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service. In the event that Forest Service approval of the changes cannot be secured, the proposed changes or modifications shall be considered to be a substantial alteration and must be submitted to the Commission for approval in accordance with Article 2.

**Article 109.** The licensee shall not use pesticides or herbicides on National Forest System lands for any purpose without the prior written approval of the Forest Service. Each year on or about the anniversary date of the license, the licensee shall file a pesticide and herbicide use plan approved by the Forest Service with the Director, Office of Hydropower Licensing. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the annual report was submitted. At that time the Forest Service may grant an emergency approval. The licensee shall, within 1 month, file a copy of this approval with the Director, Office of Hydropower Licensing. Only those materials registered by the U.S. Environmental Protection Agency for the specific purpose planned will be considered for use on National Forest System lands. Label instructions will be strictly followed in the preparation and application of pesticides and disposal of excess materials and containers.

Article 201. The licensee shall pay the United States the following annual charge, effective the first day of the month in which this license is issued:

a. For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 9,600 horsepower.

b. For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 38.1 acres of its lands, a reasonable annual charge as determined by the Commission in accordance with its regulations, in effect from time to time.

c. For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 34 acres of its lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

**Article 202.** Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserve account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

**Article 401.** The licensee, after consultation with the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, and within 6 months from the date of issuance of this license, shall prepare and shall file for Commission approval, a comprehensive plan to control erosion, dust, and slope stability and to minimize the

quantity of sediment or other potential water pollutants resulting from project construction, spoil disposal, and project operation and maintenance. The Commission reserves the right to require changes to the plan. No project-related land-clearing, landdisturbing, or spoil-producing activities shall begin until the licensee is notified that the plan complies with the requirements of this article and article 107. The plan shall be based on actual-site geological, soil, slope, and groundwater conditions and on the final project design, and shall include detailed descriptions of actual-site conditions, detailed descriptions and functional design drawings of control measures, topographic map locations of all control measures, a specific implementation schedule, specific details of monitoring and maintenance programs for the project construction period and for project operation, and a schedule for periodic review of the plan and for making any necessary revisions to the plan. The licensee shall include in the filing documentation of consultation with the agencies before preparing the plan, copies of agency comments or recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how all of the agency comments and recommendations are accommodated by the plan. The licensee shall allow a reasonable time frame, in no case fewer than 30 days, for agencies to comment and make recommendations before filing the plan. If the licensee disagrees with any agency recommendations, the licensee shall provide a discussion of the reasons for disagreeing, based on actual-site geological, soil, and groundwater conditions, and also shall provide written responses from the agencies on the licensee's reasons for disagreement.

[FERC revised the wording of this article one month after the license's issuance; the revised wording was reprinted by the legal database LEXIS as the original text of the issuing license, and is included here as such. (Errata Notice, FERC Project No. 2337, slip op. (February 28, 1989))]

**Article 402.** The licensee shall discharge from the Prospect No. 3 Hydroelectric Project diversion dam a continuous minimum flow of 10 cubic feet per second, as measured at the Geological Survey gaging station, located 0.25 mile downstream from the project diversion, or the inflow to the project, whichever is less, for the protection of the fish and wildlife resources in the South Fork Rogue River. This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee and for short periods upon agreement among the licensee, the U.S. Fish and Wildlife Service, and the Oregon Department of Fish and Wildlife.

**Article 403.** The licensee, after consultation with the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, and within 6 months from the date of issuance of this license, shall file for Commission approval a downstream fish passage plan. The plan shall include functional design drawings of the downstream fish passage facility, including the fish screening structure and bypass, a quantification of flows needed to operate the facility, and a schedule for facility construction and operation. The filing shall contain agency comments on the plan. The Commission reserves the right to require modifications to the plan. The licensee shall file as-built drawings with the Commission within 3 months after completing construction of the downstream fish

passage facility.

[FERC deleted the Article 403 originally issued one month after the license's issuance and substituted this text in its place; the substituted article was reprinted by the legal database LEXIS as the original text of the issuing license, and is included here as such. (Errata Notice, FERC Project No. 2337, slip op. (February 28, 1989))]

**Article 404.** The licensee, after consultation with the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, and within 6 months from the date of issuance of this license, shall file for Commission approval an upstream fish passage plan. The plan shall include functional design drawings of the upstream fish passage facility, a quantification of flows needed to operate the facility, and a schedule for facility construction and operation. The filing shall contain agency comments on the plan. The Commission reserves the right to require modifications to the plan. The licensee shall file as-built drawings with the Commission within 3 months after completing construction of the upstream fish passage facility.

[FERC deleted the Article 404 originally issued one month after the license's issuance and substituted this text in its place; the substituted article was reprinted by the legal database LEXIS as the original text of the issuing license, and is included here as such. (Errata Notice, FERC Project No. 2337, slip op. (February 28, 1989))]

Article 405. The licensee, after consultation with the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, shall develop monitoring plans and implementation schedules to evaluate the efficiency of the downstream fish passage facility required by article 403, and to evaluate the efficiency of the upstream fish passage facility required by article 404. Within 6 months from the date of issuance of this license, the licensee shall file for Commission approval copies of the monitoring plans and the implementation schedules, along with comments from the consulted agencies on the plans and schedules. The Commission reserves the right to require modifications to the plans and implementation schedules. The results of the monitoring shall be submitted to the Commission according to the approved schedule, along with comments of the consulted agencies on the results. If the results of the monitoring show that modifications to the facilities are necessary to minimize adverse effects to the fish resources, the licensee also shall file for Commission approval recommendations for modifying the facilities and a schedule for implementing the measures, along with comments of the consulted agencies on the recommended measures. The Commission reserves the right to require modifications to the facilities.

[FERC revised the wording of this article one month after the license's issuance; the revised working was reprinted by the legal database LEXIS as the original text of the issuing license, and is included here as such. (Errata Notice, FERC Project No. 2337, slip op. (February 28, 1989))]

**Article 406.** The licensee shall install wildlife crossings and fencing, as described in Appendix A of Addendum to Application for License for Prospect No. 3 Hydroelectric

Project, filed by the licensee on March 24, 1987, and shall file as-built drawings of the wildlife crossings and fencing within 1 year after the date of issuance of this license. Further, the licensee, after consultation with Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service, and within 6 months of the date of issuance of this license, shall file for Commission approval, an annual maintenance program for the wildlife crossings and canal fencing. The Commission reserves the right to require changes to the program.

[FERC revised the wording of this article one month after the license's issuance; the revised working was reprinted by the legal database LEXIS as the original text of the issuing license, and is included here as such. (Errata Notice, FERC Project No. 2337, slip op. (February 28, 1989))]

**Article 407.** The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in the license, shall consult with the Oregon State Historic Preservation Officer (SHPO) and shall file with the Commission a cultural resources management plan prepared by a qualified cultural resource specialist. Further, if the licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties, shall consult with the SHPO, and shall file with the Commission a new cultural resource management plan prepared by a qualified cultural resource specialist.

Either management plan shall include the following: (1) a description of each discovered property, indicating whether it is listed on or eligible for listing on the <u>National Register</u> <u>of Historic Places</u>; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a property discovered during construction, until informed by the Director, of the Office of Hydropower Licensing that the requirements of this article and article 107 have been fulfilled.

[Article 408 has been deleted from this license. (<u>Order Approving Recreational</u> <u>Monitoring Report and Deleting Article 408</u>, FERC Project No. 2337, 95 FERC ¶62,006 (April 3, 2001))]

**Article 409.** (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of

protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) noncommercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the

grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

### Additional Requirements imposed by FERC Orders related to Project No. 2337

In the event that future construction is planned at the Prospect No. 3 Hydroelectric project, the licensee shall file, for Commission approval, a plan to control erosion, dust, and slope stability and to minimize the quantity of sediment or other water pollutants resulting from construction, soil disposal, and project operation and maintenance. The plan shall be filed at least 90 days prior to commencement of any construction related activities, and shall include comments from the Oregon Department of Fish and Wildlife Service. (Order Approving and Modifying a Soil Erosion and Sediment Control Plan, Prospect No. 3 Project No. 2337 (50 FERC ¶ 62,137 (March 2, 1990)))

Not later than January 31 of every sixth year, the licensee shall file, for Commission approval, a recreation monitoring report summarizing recreational use and demand at the project. The report shall include, but not be limited to, a discussion of monitoring results, a plan for the development of any recreational facilities needed to accommodate increased recreational demand in the project area, a schedule for the completion of these facilities, and a map showing the type and location of each proposed facility. Documentation of consultation shall be requested from the Oregon Parks and Recreation Division and the U.S. Forest Service. The agencies shall be allowed a minimum of 30 days to review the report and make recommendations. The final report filed with the Commission shall contain copies of correspondence which show evidence of this consultation and copies of any agency comments or recommendations. If the licensee does not incorporate an agency recommendation into the final report filed with the Commission, the licensee shall include specific descriptions as to why each recommendation was not included. (<u>Order Modifying and Approving Recreation Report</u>, Prospect No. 3 Project No. 2337 (70 FERC ¶ 62,148 (1995)))

FERC Articles Form L-1 10-1975

### TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING LANDS OF THE UNITED STATES October 1975

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

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

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

**Article 4.** The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than

one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

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

**Article 6.** In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the licensee. **Provided,** That the provisions of this article are not intended to require the Licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

**Article 7.** The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the

Federal Power Act and the Commission's Rules and Regulations thereunder.

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

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

**Article 10.** The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

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

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled

by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to

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

**Article 17.** The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

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

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

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

**Article 21.** Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: **Provided**, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

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

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

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

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

Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

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

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

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

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

**Article 30.** If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may

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

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

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

## **ATTACHMENT 4**

## **B.1b)** Water Quality

**Yes.** The facility is in compliance with the quantitative water quality standards established by the state of Oregon.

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 for the project 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 Oregon 2004/2006 and 2010 Integrated Reports on water quality also provided information that confirms the continued health of the river (see Integrated Reports and 2010 Assessment database at <a href="http://www.deq.state.or.us/WQ/assessment/assessment.htm">http://www.deq.state.or.us/WQ/assessment/assessment.htm</a>. The Oregon 2012 Integrated Report database was approved by EPA in March 2012). The Oregon 2012 Integrated Report which has not yet been approved by EPA is available at: <a href="http://www.oregon.gov/deq/WQ/Pages/Assessment/2012report.aspx">http://www.oregon.gov/deq/WQ/Pages/Assessment/2012report.aspx</a>. 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. ODEQ has not indicated that there are any water quality concerns for the project.

In 2012, PacifiCorp implemented a study of water quality conditions in the Project vicinity between May 1 and October 31, in consultation with the ODEQ. The study was performed to support an application to the Low Impact Hydropower Institute (LIHI) for certification of low environmental impact from the Project. Multiple water quality parameters were sampled in order to (1) describe existing water quality conditions in the Project Area over a natural range of flows and seasonal weather shifts, and (2) evaluate compliance with key narrative water quality criteria identified by Division 41 (Water Pollution) of the Oregon Administrative Rules (OAR). Parameters monitored included temperature, bacteria, dissolved oxygen (DO), pH, total dissolved solids, toxic substances, and turbidity. The monitoring results indicate that compliance with applicable water quality criteria was maintained throughout the monitoring period. In January 2013, PacifiCorp submitted a report to ODEQ summarizing data collected during the 2012 study season. ODEQ has reviewed the report and concludes that the Project is in compliance with numeric water quality criteria for the periods supported by available monitoring data (Attachment 4a).

ATTACHMENT 4a



## 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.

Table 1. Section B of the LIHI Certification Questionnaire

1)	Is the Facility either:	YES = Go to	NO = Fail
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	B2	
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?		
2)	Is the Facility area or the downstream reach currently identified by the state	YES = Go to B3	
and	designated uses) pursuant to Section 303(d) of the Clean Water Act?	NO = Pass	
3) Fac	If the answer to question B.2 is yes, has there been a determination that the ility does not cause, or contribute to, the violation?	YES = Pass	NO = Fail

Source: LIHI Certification Handbook, August 2011. http://www.lowimpacthydro.org/assets/files/LIHI%20HandbookDecember%202011(1).pdf

### Monitoring Program

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).

PacifiCorp recorded hourly temperature measurements at all locations between May 1 and October 31.<sup>1</sup> Dissolved oxygen (DO) was measured at SFBD hourly for 72 hours between June 1 and June 15, once in July, and once in August. Monthly grab samples and/or spot measurement were performed at IMCR, SFAD, and SFBD between May and October for the following parameters: Temperature (calibration check); Bacteria; DO; pH; Total Dissolved Solids (TDS); Toxic Substances<sup>2</sup>; Turbidity.

### Results

Monitoring results are summarized below.

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.

The highest 7-day average of the maximum daily temperature (7DAMX) recorded above and below the project (i.e., at SFAD and SFBD, respectively) was 12.28°C which is well below the ODEQ numeric criterion of 18.0°C. Data were collected from May through October which includes the period of highest

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

<sup>&</sup>lt;sup>2</sup> Arsenic; cadmium; chloride; chromium; copper; iron; lead; mercury; nickel; selenium; silver; zinc.

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>&</sup>lt;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>&</sup>lt;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>&</sup>lt;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: <u>The Project is in compliance with numeric water quality criteria for the periods supported by</u> 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?
   ODEO Response: No.

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 <u>stine.chris@deq.state.or.us</u>, or at the address above.

Sincerely,

Olin Str

Christopher Stine, PE Hydroelectric Specialist

ec: Monte Garrett, PacifiCorp Energy

## ATTACHMENT 5

### **C. Fish Passage and Protection**

**C.3 Yes.** The William L. Jess Dam (formerly known as Lost Creek Dam) located downstream of the Prospect No. 3 project 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 South Fork (Prospect No. 3) diversion dam.

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

**C.3b Yes.** Several fish passage measures were adopted in the Federal Energy Regulatory Commission (FERC) project license at the recommendation of the Oregon Department of Fish and Wildlife (ODFW). 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 (see Attachment 3c).

Both the ODFW and the US Fish and Wildlife Service (USFWS) were consulted during the development of the fish passage designs and monitoring plans. In a letter dated September 7, 1994, 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 (see Attachment 5a).

In December 1995, PacifiCorp submitted the Fish Facilities Monitoring Plan to FERC, ODFW, and the USFWS. A letter from ODFW dated December 12, 1995 notes that "ODFW is satisfied with the proposed plan to evaluate upstream passage conditions to ensure that the ladder is functioning properly and meeting criteria for passing resident trout." In a letter dated March 27, 1996 (Attachment 5b), the USFWS formally stated their approval of the monitoring plan and the facility designs, noting that the fish passage designs and monitoring plans "accurately address the Service's concerns."

PacifiCorp completed the planned modifications to the bypass facilities in the fall of 1996. In consultation with ODFW and USFWS, PacifiCorp tested and adjusted the upstream and downstream facilities to meet ODFW criterion for fish passage approach velocity. 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 (Attachment 5c), 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."

**C.7 Yes.** ODFW and USFWS recommendations to reduce entrainment into the power canal were implemented per Article 403 of the project license (see response to C3b). The agencies' recommendations were prompted by excessive water approach velocities to the screen face and an inadequately positioned bypass orifice in the project's old fish screening and bypass facility. PacifiCorp designed and constructed a new fish screening and bypass facility according to ODFW criteria in 1996. As previously noted, FERC acknowledged the successful completion of these facilities in a letter dated August 20, 2002.

Attachment 5a

September 7, 1994



DEPARTMENT OF FISH AND WILDLIFE

Bruce Eddy Lead Scientist Pacific Power and Light Co. 920 SW Sixth Avenue Portland, OR 97204

Subject: Fish Passage Criteria and Design Selection Prospect #3 Hydroelectric Project, FERC No. 2337

Dear Bruce:

On December 9, 1993 the Oregon Department of Fish and Wildlife (ODFW) verbally requested PacifiCorp to proceed with design and construction of fish facilities for the project intake workson the South Fork Rogue River, as required by the FERC license articles 403, 404 and 405. ODFW was to provide PacifiCorp written documentation of this request and design criteria to be employed. This letter constitutes the written documentation.

The primary matter that has previously held up a decision on the selection of a specific design has been the lack of finalized statewide policies and criteria. At the time the project received its new license, ODFW's policies and criteria were just being developed and were considered "Interim". These Interim policies and standards have been the basis for ODFW decisions on fish passage facilities for federal and state licensed hydroelectric projects throughout Oregon for the past four years. All indications are that formalization of these policies and standards on a statewide basis for all applications will not occur in the near future (next couple of years). I anticipate that in the immediate future (six months) the Habitat Conservation Division will finalize these criteria for application to hydroelectric projects and standards is anticipated. Therefore, I do not believe there is any reason to further postpone PacifiCorp's implementation of license articles 403, 404 and 405. A copy of the existing Interim Fish Screen Policies is attached.

ODFW appreciates PacifiCorp's patience and cooperation during the intervening years and looks forward to continued cooperation as we move forward on designing and



2501 SW First Avenue PO Box 59 Portland, OR 97207 (503) 229-5400 Bruce Eddy September 7, 1994 Page 2

installing the fish passage facilities. During the months of September and October, I will be on temporary assignment to the Ochoco Fish District, in Prineville. During this time you should direct official communications on hydro projects to Dan Domina at 503-229-6967, extension 484.

Sincerely,

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Richard L. Kruger Hydropower Program Leader Habitat Conservation Division

c: S.A. deSousa, PacifiCorp Mark Robinson, FERC, Wash. DC Arthur Martin, FERC, Portland Rick Craiger, WRD, Salem Marv Yoshinaka, USFWS, Portland Jon Brazier, USFS, Medford

#### OREGON DEPARTMENT OF FISH AND WILDLIFE FISH SCREEN POLICY

#### POLICY:

It is the policy of the Oregon Department of Fish and Wildlife to prevent the injury or loss of any game fish, or nongame fish classified as sensitive, threatened, or endangered from any waterbody in the state, as a result of any diversion from that waterbody.

#### PURPOSE:

This policy provides standards for the design, installation, and maintenance of screening systems to prevent fish from leaving or being injured or delayed by man-made water diversions. This policy furthers the goals of the Wildlife and Food Fish Management Policies of the State of Oregon, and policies or programs for the protection and conservation of wildlife species listed as threatened or endangered by the Oregon Fish and Wildlife Commission.

#### STATUTORY AUTHORITY:

This policy is established under authority of ORS 496.012, 496.172, 498.248, 498.262, 498.274, 506.109, 509.615.

#### DEFINITIONS:

As used in this document, several terms are defined as follows:

Approach Velocity: Approach velocity is perpendicular to and approximately three inches in front of the screen face.

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Behavioral Barrier: A system that utilizes a stimulus to alter or take advantage of a fishes natural behavior to attemp to attract or repel it away from the diversion. Behaviorial barriers do not offer a physical barrier to fish movement and incorporate such means as electricity, air bubbles, lights, sound, water jets, or hydraulic disturbance to move or guide fish.

#### STANDARDS:

#### Determination of Need:

- 1. The Department shall review all applications, permits and plans for water development projects to determine the need for a fish screening system. A screening system will be required if the Department determines that game fish or if sensitive, threatened or endangered nongame fish species are present at the diversion site.
- 2. The Department shall periodically inspect existing diversions to determine the need for installation, repair, modification, maintenance or replacement of fish screening systems.

#### Type of Screening System:

1. The Department will determine the type of screen system necessary at any given water development project. The Department may conduct preliminary or initial investigations to determine the appropriate type of screen system needed. However, dependent upon the type and complexity of the project, the Department may request the developer to provide site-specific information including investigations or studies. This will allow the Department to fully evaluate the situation to determine screen type.

#### Design Approval

1. The Department must review and approve the screening system prior to construction.

#### Screen Type

- 1. Fish screens will provide a physical barrier to fish movement.
  - a. All new fish screens will be physical barriers. The specific system will be approved by the Department after site evaluation.

c. Reservoir intakes shall be located offshore, where practical, to minimize potential fish contact with the facility.

#### Screen Size

- 1. Fish screens will have openings small enough to physically prevent the smallest fish the Department determines are present in the vicinity of the diversion reach, from passing through the screen material.
  - a. For salmonid fry to 59mm, screen openings shall not exceed 0.125 inch (3.2mm) in the narrowest direction.
  - b. For salmonid fingerlings greater than 60mm, screen openings shall not exceed 0.25 inch (6.4mm) in the narrowest direction.
  - c. For salmonid adults, screen openings shall not exceed one inch.
  - d. For other species and life stages individual evaluation of the project will be required to determine screen opening size.
  - e. Gaps between screens and support structures shall not exceed 0.125 inch in width and shall be closed with seals that conform to irregularities in the surface(s) of the support structures.

#### Screen Material

- 1. Screens will be constructed of durable materials.
  - a. The screen shall provide a minimum of 40 percent open area.
  - b. Screen openings may be round, rectangular, square, or continuous slot provided screen cleaning operations and structural integrity of the screen are not impaired.

- For screening systems greater than 50 f.p.s., capture velocity of bypass device intakes shall exceed five (5) fps.
- 5. For screening systems less than 50 f.p.s., capture velocity shall be one (1) to two (2) times the sweeping velocity.

#### Cleaning System

- 1. The screen cleaning system will be designed to continuously minimize the potential for debris impingement and clogging of the screen.
  - a. Manual cleaning is unacceptable unless maximum debris accumulation during the season of use can be expected result in no more than minimal clogging (less than 10%) of screen openings in any 24-hour period, without cleaning.
  - b. Automated back flushing devices are required for stationary screens or traveling screens if water borne debris during the season of use can be expected to include significant amounts of suspended algae or other large organic material such as twigs, leaves, tumbleweed or grass.
  - c. Traveling or rotating screens that lift impinged debris out of the water to be removed by automated backflushing, or by water current within the diversion canal or conduit, are preferred over stationary screens for volumes of flow greater than 50 cfs.
  - d. Fish screens will be protected from large floating debris by trash racks.
  - e. Fish screens will be protected from accumulation of sediment and coarse bedload by provision of a sluice channel immediately in front and parallel to the base of the screens.
  - f. (Icing)

## Evaluation

Failure to Comply

Policy Variance

Policy Modification

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## OREGON DEPARTMENT OF FISH AND WILDLIFE

#### FISH SCREENING POLICIES AND STANDARDS

#### Introduction

The Oregon Department of Fish and Wildlife (Department) will require or recommend, dependent upon and consistant with various State Statutes, specific standards for fish screens to adequately protect fishery populations and habitats at water development projects throughout the state.

These standards are in furtherance of general and specific ODFW policies, and goals for the protection, preservation, and management of all fish species under its jurisdiction. Utilization of these standards should eliminate or minimize the potentially significant adverse impacts water development projects can have to fishery resources.

General policies have been developed to guide Department activity for the development of recommendations for fish screening facilities at water projects. Definitive requirements and recommendations will then be made utilizing the Specific Policies and Standards contained herein.

Definitions As used in this document, several terms are defined as follows:

Bypass Device: Any pipe, flume, open channel or other means of conveyance that transport fish back to the body of water from which the fish were diverted.

Divert: The removal of water, either by gravity-fed or pump diversion from any water body.

<u>Developer</u>: Any person, partnership, corporation, association, municipal corporation, political subdivision, or governmental agency who constructs, operates, or maintains a water develop project (see Water Development Project).

Water Development Project: Any man-made diversion from any body of water in the state.

#### General Policies

<u>Project Review:</u> The Department shall review all applications, permits and plans for water development projects to determine the need for fish screens. The Department may conduct preliminary or initial investigations to determine the need for and type of fish screens required for a particular water development project.

Depending upon the size and complexity of the project and relative resource risk however, the Department may request the developer to provide site-specific information including investigations or studies. This will allow the Department to fully evaluate the situation to determine the appropriate fish screening facility necessary for resource protection.

#### Specific Policies and Standards

Specific fish screening policies and standards were developed to guide Department recommendations relative to each water development project. Each project will also be subject to review using the General Policies.

#### Fish Screen Type:

<u>Definition</u>: A fish screening system is classified as either a behavioral or physical barrier dependent upon its mode of action. Behavioral barriers alter or take advantage of natural behavior to attempt to attract or repel fish, but do not offer a positive barrier to fish movement. Behavioral barriers incorporate such means as electricity, air bubbles, lights, sound, water jets, and hydraulic disturbance to move or guide fish.

Physical barriers offer a positive barrier to physically block fish passage or movement, usually while allowing water through the barrier at low velocity. Physical barriers include screens, bars, and racks in various shapes, sizes, and orientation and can either be stationary or moving.

Policy: Fish screens will provide a positive barrier to fish movement. -

#### Standards:

All new fish screening systems constructed will be of the physical barrier type. The specific system selected will be approved by the Department after a site evaluation.

All existing behavioral fish screening systems within the state will be examined by the Department and specific requirements for evaluation, modification, or replacement will be made.

#### Screen Placement:

<u>Definition</u>: The physical location of the fish screening facility relative to the point of diversion and orientation of the screen face relative to the flow of water.

Policy: Fish screens will be placed at locations and oriented in such a manner to minimize loss of fish and protect the screening structure.

Standards: (Rivers and Streams)

Where physically practical, the screen shall be constructed in the river or stream at the diversion entrance.

At the diversion entrance, and where physically practical, the screen face shall be parallel to the waterflow and aligned with the adjacent bankline. The bankline shall be shaped to smoothly match the face of the screen structure to prevent hydraulic disturbances (eddies, etc.) upstream, downstream, or in front of the screen face.

#### Screen Water Velocity:

Definition: The two components of screen water velocity are 1) APPROACH velocity which is the component perpendicular to and approximately three inches in front of the screen face and 2) SWEEPING velocity which is the component parallel and adjacent to the screen face.

<u>Policy:</u> Water velocities (and components thereof) through and past fish screens will be adequate to prevent fish from impinging or otherwise contacting or being potentially injured by the screen.

#### Standards:

The approach velocity component for salmonid fry (to 59 mm in length) shall not exceed 0.4 feet per second (fps). That is, two and one-half feet of effective screen area must be provided for each cubic foot per second of water diverted.

The approach velocity component for salmonid fingerlings (60 mm and longer) shall not exceed 0.8 feet per second (fps). That is, one and one-quarter feet of effective screen area must be provided for each cubic foot of water diverted.

For salmonids, the sweeping velocity component shall be equal to or greater than the approach velocity component.

For species other than salmonids, the screen water velocities shall be determined on a case by case basis.

Screening facilities shall be designed hydraulically to ensure uniform flow distribution throughout the entire screen surface.

#### Fish Bypass:

Definition: The system to collect and transport fish from the screen area to a trap, or back to a release location into the water body from which they were divided.

Policy: The fish bypass shall safely collect and transport fish from the screen area to an appropriate location.

#### Standards:

Bypass configuration, hydraulic capacity, entrance and transport velocities, and other details will be dependent upon the design of the screening facility, such that the bypass acts in harmony with the screens to readily attract fish and provide safe passage.

### Facility Operation and Maintenance:

Definition: The time and manner in which the project is operated and maintained.

## Appendix A. CONSIDERATIONS FOR DETERMINING THE TYPE OF FISH SCREENING FACILITY NECESSARY AT EACH SITE

The diversity of water development projects in Oregon dictates the need for and degree of fish protection at a given site be evaluated on a case-bycase basis to account for numerous variables. The Department will consider all or a portion of the following factors in determining the type of fish screening facility necessary at each site:

- A. Biological Data
  - 1. Fish Specie(s)
    - a. Target
    - b. Other
  - 2. Life Stage
    - a. Size
    - b. Weight
  - 3. Number of Fish
    - a. Total run size
    - b. Peak day numbers
  - 4. Migration Period
    - a. Seasonal
    - b. Die
  - 5. Behavioral Characteristics
    - a. Shore and depth orientation; schooling
    - b. Holding areas
    - c. Responses to water flow/velocity
  - 6. Swimming Capability
    - a. Cruising, sustained, and darting speeds
    - b. As a function of time, water temperature, light and oxygen level
  - 7. Disease Factors
  - 8. Impact of Delay

- a. Project features
- b. Streambed
- 3. Topography (including bathymertry)
  - a. Stada survey
  - b. Ground and aerial photos
- 4. Geological
  - a. Soil stability
  - b. Bedland composition; movement
- 5. Climatological
  - a. Water; air temperatures
- 6. Debris
  - a. Type
  - b. Quantity (seasonal)
  - c. Cleaning
- F. <u>Construction Limitations</u>
  - 1. Site Access
  - 2. Timing
    - a. When
    - B. How long
  - 3. Materials

### G. Facility Operation

- 1. General Operating Plan
  - a. Year round or seasonal
  - b. Continuous or intermittent daily
- 2. Project Features
  - a. Design capacities (cfs) of powerhouse, spillway, reservoir, canals, pumps, etc.
  - b. Frequency and duration of operation

Attachment 5b

920 S.W. Sixth Avenue Portland, Oregon 97204-1256 (503) 464-5000



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April 8, 1996

Ms. Lois D. Cashell Secretary Federal Energy Regulatory Commission 888 First Street, N.E. Washington, DC 20426

Dear Ms. Cashell:

PacifiCorp's letter to you dated December 28, 1995, transmitted a fish facility design and monitoring plan required by License article Nos. 403, 404 and 405 for the Prospect No. 3 Project, FERC No. 2337. The design and monitoring plan were developed in consultation with the Oregon Department of Fish and Wildlife (ODFW) and the U.S. Fish and Wildlife Service (USFWS). At the time of filing, only written comments from ODFW were available.

By letter dated March 27, 1996, copy attached, PacifiCorp received comments from USFWS. The letter indicates approval of the facility design and monitoring plan.

PacifiCorp hereby files eight (8) copies of this letter and attachment.

Very truly yours,

Aur

S. A. deSousa Director, Hydro Resources

SAdeS:ms Attachments

cc: Mr. Lou Fredd - ODFW Mr. Pete Lickwar - USFWS Mr. Harry T. Hall - FERC

bc: Atwood/Dietz - 610 PSB, Borquist - 610 PSB, Landolt - 610 PSB, O'Connor - Medford, Raeburn - 625 PSB, Shrier - 411 PSB, Taylor - 411 PSB, Weiss - 411 PSB, Zerba - 610 PSB, Nelson - 2700 SIC, File: Prospect 3, FERC, Fish Passage



## **United States Department of the Interior**

FISH AND WILDLIFE SERVICE **Oregon State Office** 2600 S.E. 98th Avenue, Suite 100 Portland, Oregon 97266 (503) 231-6179 FAX: (503) 231-6195

RECEIVED APR - 1 1996 HYDRO RESOURCES

Copied 4/3/96 SAdeS:ms

Borquist Landolt O'Connor Raeburn Shrier Weiss

Atwood

Mr. S.A. deSousa PacifiCorp 920 S.W. Sixth Avenue Portland, OR 97204

File: Prospect 3, Fish Passage

March 27, 1996

Subject: Fish Passage, Prospect 3 Hydroelectric Project, FERC No. 2337, Jackson County, Oregon

Dear Mr. deSousa:

The U.S. Fish and Wildlife Service (Service) has reviewed the final design drawings for the Prospect No. 3 Project's upstream and downstream fish passage facilities, and the facilities monitoring plan. These were required by articles 403, 404, and 405, respectively, of the project's license. Staff from the Service have met with you to discuss the passage facilities design. The final design and monitoring plans accurately address the Service's concerns. The monitoring plan stated that the downstream passage facility would be tested in June of 1997. Please contact the Service before the tests so that our staff can have the opportunity to attend.

Thank you for the opportunity to review the design drawings and monitoring plans. Please contact Peter Lickwar at (503) 231-6179 if you have any questions regarding these comments.

Sincerely melletta

Russell D. Peterson State Supervisor

ARD-ES **NMFS ODFW**, Portland FERC, Washington, D.C.

cc:

920 S.W. Sixth Avenue Portland, Oregon 97204-1256 (503) 464-5000



December 28, 1995

Ms. Lois D. Cashell Secretary Federal Energy Regulatory Commission 888 First Street, N.E. Washington, DC 20426

Dear Ms. Cashell:

License article Nos. 403, 404 and 405 for the Prospect No. 3 Project, FERC No. 2337, respectively, require functional design drawings for upstream and downstream fish passage facilities and a monitoring plan to evaluate the efficiency of the facilities. Accordingly, attached are nine copies of the technical specifications and drawings and monitoring plan for the required fish facilities.

The facility design and monitoring plan have been developed in consultation with the Oregon Department of Fish & Wildlife (ODFW) and the U.S. Fish and Wildlife Service (USFWS). Attached are nine copies of meeting notes that document agency consultation during facility design. The Monitoring Plan contains copies of agency review comments from the ODFW. At this time no written comments on the monitoring plan have been received from the USFWS. Upon receipt, their comments will be provided to the Commission.

Very truly yours,

S. A. deSousa Director, Hydro Resources

SAdeS:ms Attachments

cc: Mr. Lou Fredd - ODFW

Mr. Pete Lickwar - USFWS

Mr. Arthur C. Martin - FERC, Portland

bc: Atwood - 610 PSB, Borquist - 610 PSB, Landolt - 610 PSB, O'Connor -Medford, Raeburn - 625 PSB, Shrier - 411 PSB, Taylor - 411 PSB, Weiss - 411 PSB, Nelson - 2700 SIC, File: P-3, fish passage Unofficial FERC-Generated PDF of 20020830-0271 Issued by FERC OSEC 08/20/2002 in Docket#: P-2337-052

Attachment 5c

FEDERAL ENERGY REGULATORY COMMISSION Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2337-052–Oregon PacifiCorp Prospect No. 3 Project

R.A. Landolt Hydro Resources Department 825 N.E. Multnomah Suite 1500 Portland, OR 97232

AUG 2 0 2002

RE: Acceptance of Fish Passage Effectiveness Report

Dear Mr. Landolt:

This acknowledges receipt of your report filed with the Commission on September 1, 2000, regarding effectiveness of the upstream and downstream fish passage at the Prospect No. 3 Project on the South Fork Rogue River in Jackson County, Oregon. The project area supports a coldwater fishery with rainbow trout (*Oncorhynchus mykiss*) being the most abundant species, along with some brook trout (*Salvelinus fontinalis*).

Upstream fish passage consists of a 14-step pool and weir ladder. The downstream fish passage facility consists of a 0.25 inch wedge-wire inclined plane screen installed in the canal approximately 140 feet downstream of the headgate. Fish are guided through an open flume, then into enclosed pipe, and released in pool 6 of the fish ladder.

### September 1, 2000 Report

Velocity at the fish ladder entrance, flow through the ladder, and leaping clearances through the weirs were measured during low (110 cfs) and high (250 cfs) flows. At low flow, velocity at the entrance was 5.0 feet per second (fps). Flow through the ladder was 4.3 cfs in the upper pools and 10.5 cfs in the lower pools. Leaping clearance across the weirs ranged from 0 feet (at the entrance) to 0.7 feet (between pools 2-3 and 3-4). At high flow, the entrance velocity was 5.5 fps with flow through the ladder ranging from 3.3 cfs in the upper pools to 14.1 cfs in the lower pools. Some measurements of minimum leaping clearance were not possible due to ice during the high

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flow evaluation, but where measurements were taken, leaping clearances ranged from 0 feet at the entrance to 0.6 feet (between pools 2-3 and 9-10).

To evaluate the effectiveness of the downstream fish passage facility, you released rainbow trout upstream of the screen, capturing any fish using the facility in a live car and holding them to assess delayed mortality. After each release, the canal was drained, and fish between the headgate and screen were salvaged. Any fish not collected in the live car or the canal during the salvage was assumed to have passed through the screen. At the end of the salvage, the downstream face of the screen was examined for gaps where fish might go through the screen.

Combining the results of the two trials, 105 fish (including both size classes) encountered the screen. A total of 91 fish were collected in the bypass, while 14 fish were not captured in the salvage and assumed lost. Overall effectiveness of the screen was estimated to be 87 percent. The screen did not cause any immediate mortality and none of the fish held for 24 hours showed any signs of distress or disease (although you noted that 36 fish escaped when the holding tank capsized during trial 1, thus were not evaluated).

You also reported that from February 26, 1997-June 16, 1998, you tested four perforated-plate baffle configurations to identify which one resulted in approach velocities at or below 0.8 fps [Oregon Department of Fish and Wildlife's approach velocity criterion for newly constructed screens (designed to pass all life stages of salmonids except fry)]. You identified one configuration that is a vast improvement over the others, with only two small sections of the screen with velocities greater than 0.8 fps (velocities at the screen measured 0.9 fps).

Regarding continued operation of the facilities, you only recommend minor modifications to the scals of the screen, in addition to replacing the temporary multilayered perforated-plate baffle system with a single-layer perforated-plate design. Regarding screen maintenance, each year you plan to dewater the canal prior to the migration season (late April) and inspect the screen face and seals. The facility will also be inspected during any other event necessitating drawdown of the canal.

### **Conclusion**

Your report documents your evaluation was completed and that the upstream and downstream facilities are functioning properly. No resource agency commented on your report. We note there were minor differences between the approved plan and its actual implementation (e.g., the number of trials conducted to assess the effectiveness of the 3

downstream fish passage facility). Your evaluation is considered adequate. Your results indicate that the facilities are functioning as designed. Your report fulfills the requirements of ordering paragraph (A) of the Commission's May 26, 1996 order.

Thank you for your cooperation. If you have any questions, please contact me at (202) 502-8887.

Sincerely,

12 une Stammer

Diana Shannon Aquatic Ecologist Division of Hydropower Administration and Compliance

## **ATTACHMENT 6**

## E. Threatened and Endangered Species Protection

**E.1 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 wildlife species may potentially occur in the project area: northern spotted owl (*Strix occidentalis caurina*), gray wolf (*Canis lupus*), and Canada lynx (*Lynx canademts*). Oregon spotted frog (*Rana pretiosa*), which was listed as threatened on August 28, 2014, may potentially occur in the project area but has not been observed during current relicensing studies.

There has been no documented 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.

In June 2014, Oregon Department of Fish and Wildlife (ODFW) confirmed that wolf OR-7 and a mate produced offspring in Jackson County on the Rogue River-Siskiyou National Forest in the Project vicinity.

There is one federally listed plant species potentially within the Project Vicinity: Gentner's fritillaria (*Fritillaria gentneri*). There are also two state listed species potentially within the Project Vicinity: Umpqua mariposa-lily (*Calochortus umpquaensis*) and Wayside aster (*Eucephalus vialis*). However, because these two species are administratively protected only within the state of Oregon, there is no designated critical habitat or recovery/management plans. Wayne Rolle, Forest Botanist for the Rogue River – Siskiyou National Forest (RR-SNF), confirmed that these three federally- or state-listed species do not occur on the RR-SNF (Rolle, 2013).

**E.2 Yes.** The Prospect No. 3 project is in compliance with the relevant recommendations in the adopted recovery plans for threatened and endangered species that may be present in the project area:

the *Revised Recovery Plan for the Northern Spotted Owl*, adopted by the USFWS in June 2011
 (http://www.fws.gov/oregonfwo/Species/Data/NorthernSpottedOwl/Recovery/Library/Do cuments/RevisedNSORecPlan2011.pdf)

• the *Recovery Plan for Fritillaria gentneri (Gentner's fritillary)* (<u>http://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/GentnersFritill</u> <u>aryFinalRecoveryPlan.pdf</u>), adopted by the USFWS in July 2003

# A Recovery Outline for the Contiguous United States District Population Segment of Canada Lynx (Lynx canadensis)

(<u>http://ecos.fws.gov/docs/recovery\_plan/final%20draft%20Lynx%20Recovery%20Outline%209-05.pdf</u>) has also been prepared by the USFWS, but it has not been finalized and adopted.

**E.5 Yes.** A Finding of No Significant Impact was issued for Prospect No. 3. The Environmental Assessment stated that "the project would not affect any federally listed threatened or endangered species....Moreover, relicensing the project would permit the implementation of the applicant's proposed fish and wildlife mitigation, which would benefit the environmental resources of the project area." 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 US Forest Service and FERC regarding new land disturbing activities on National Forest land.

## **ATTACHMENT 7**

## F. Cultural Resource Protection

**F.1 Yes.** The project is in compliance with all requirements of the Prospect No. 3 Federal Energy Regulatory Commission license regarding cultural resources. Article 407 of the project license requires PacifiCorp to consult with the State Historic Preservation Office (SHPO) and develop a cultural resources management plan prior to conducting any land-clearing or land-disturbing activities that were not specifically authorized in the license. SHPO staff has informally consulted with PacifiCorp regarding efforts such as canal fencing, but a cultural resources management plan has not been warranted for project actions to date.