

105 FERC ¶ 61,237  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;  
William L. Massey, and Nora Mead Brownell.

PacifiCorp

Project No. 1927-008

ORDER APPROVING SETTLEMENT OFFER AND ISSUING NEW LICENSE

(Issued November 18, 2003)

1. This order issues a new license to PacifiCorp for its 185.5-megawatt (MW) North Umpqua Project No. 1927, located on the North Umpqua River and two of its tributaries, the Clearwater River and Fish Creek, in Douglas County, about 60 miles east of Roseburg in southwestern Oregon. The project is located partially on lands administered by the U.S. Department of Agriculture's Forest Service and the U.S. Department of the Interior's Bureau of Land Management (BLM). This order also approves an offer filed by PacifiCorp of a settlement that it reached with various governmental entities, as described below.

**PROJECT DESCRIPTION**

2. On July 19, 1946, the Federal Power Commission authorized issuance of a license to The California Oregon Power Company for Project No. 1927, then known as the Toketee hydroelectric project, for a term of 50 years from the date of issuance. The California Oregon Power Company, 5 FPC 658 (1946). The license was issued on January 30, 1947 and was subsequently amended several times, in particular to add other developments. As a result, the project, which became known as the North Umpqua Project, now consists of eight power developments. The license was transferred to Pacific Power & Light Company, later PacifiCorp, in 1961. The California Oregon Power Company and Pacific Power & Light Company, 25 FPC 1154 (1961). The license expired in January 1997, and the project has operated under annual licenses pending disposition of the new license application.<sup>1</sup>

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

3. The North Umpqua Project was constructed between 1947 and 1956. It consists of a series of dams and canals that divert water to the eight developments, each of which has a powerhouse and a dam. The following is a general description of the principal features of each development, proceeding generally downstream on the North Umpqua River. The developments are located on the North Umpqua River except where noted.

4. The Lemolo No. 1 Development, the furthest upstream development, includes a 120-foot-high diversion dam, a 419-acre reservoir (Lemolo Reservoir) with a total storage of 11,752 feet, 16,310 feet of canal and flumes extending from the Lemolo dam to the penstock intake, a 7,338-foot-long penstock, and a powerhouse on the North Umpqua River at the mouth of Warm Springs Creek, 4.5 miles downstream of the dam at Lemolo Reservoir. The powerhouse contains a single turbine-generator with a rated capacity of 29,000 kilowatts (kW). Storage in Lemolo Reservoir is used to control floods, increase power generation when demand is high in the late fall, and augment flows in the river downstream of the eight developments.

5. The Lemolo No. 2 Development includes a 25-foot-high diversion dam that impounds a 1.4-acre pond with no active reservoir storage, 69,503 feet of canal and flumes extending from the diversion dam to the forebay, a 24.2-acre forebay with total storage of 230.6 acre-feet, a 3,975-foot-long penstock, and a powerhouse housing a single turbine-generator with a rated capacity of 33,000 kW. The Lemolo No. 2 dam is about 190 feet downstream of the Lemolo No. 1 powerhouse, and the Lemolo No. 2 powerhouse is about 3,500 feet upstream of Toketee Lake.

6. The Clearwater No. 1 Development is the uppermost development on the Clearwater River, which has its confluence with the North Umpqua River near Toketee dam. The development includes a 17-foot-high diversion dam located about 8.1 miles upstream of Toketee Lake and impounding 11.8-acre Stump Lake, 13,037 miles of canal and flumes extending from Stump Lake dam to the forebay, a 16.3-acre forebay with total maximum storage capacity of 120.8 acre-feet, a 4,863-foot-long penstock, and a powerhouse with a single turbine-generator having a rated capacity of 15,000 kW. The powerhouse discharges directly into the Clearwater No. 2 diversion.

7. The Clearwater No. 2 Development includes an 18-foot-high diversion dam on the Clearwater River 140 feet downstream from the Clearwater No. 1 powerhouse, a 1.2-acre impoundment with no active storage, 31,235 feet of canal and flumes extending from the diversion dam to an 8.6-acre forebay with total maximum storage capacity of 70.7 acre-feet, a 1,169-foot-long penstock, and a powerhouse on the North Umpqua River at Toketee Lake with a single turbine-generator having a rated capacity of 26,000 kW.

8. The Toketee Development, located at the confluence of the Clearwater and North Umpqua Rivers, includes a 58-foot-high embankment dam on the North Umpqua that impounds the 96.9-acre Toketee Lake (with a total maximum storage capacity of 1,051 acre-feet), 6,994 feet of pipe and tunnel extending from Toketee dam to the penstock, a single 1,067-foot-long penstock that splits into three approximately 158-foot-long sections near its downstream end, and a powerhouse with three turbine-generators having a combined installed capacity of 42,500 kW. The powerhouse is located on the North Umpqua approximately two miles downstream of Toketee Lake, which serves as the forebay for the development and provides active storage to regulate flow through the powerhouse.

9. The Fish Creek Development consists of a 6.5-foot-high diversion dam located on Fish Creek approximately 6 miles upstream of the creek's confluence with the North Umpqua, a 3-acre reservoir, 25,662 feet of canal and flumes extending from the diversion dam to a 9.3-acre-foot forebay with a maximum total storage capacity of 110.3 acre-feet, a 2,358-foot-long penstock, and a powerhouse with a single turbine-generator set having a rated capacity of 11,000 kW. The powerhouse is located on the North Umpqua between the Toketee powerhouse and Slide Creek diversion dam. The reservoir impounded by the diversion dam has no active storage, but the forebay has active storage and is used to reregulate water from off-peak to peak demand periods. A fish ladder and a sluiceway are incorporated into the diversion dam.

10. The Slide Creek Development includes a 30-foot-high diversion dam located on the North Umpqua 900 feet downstream of the Toketee powerhouse and impounding a 2-acre reservoir with maximum total storage capacity of 43 acre feet, 9,653 feet of canal and flumes extending from the dam to the penstock, a 374-foot-long penstock, and a powerhouse with a single turbine-generator having a rated capacity of 18,000 kW. The powerhouse is located on the North Umpqua 1.3 miles upstream of Soda Springs dam.

11. The Soda Springs Development includes a 77-foot-high diversion dam located on the North Umpqua River about 1.3 miles downstream of the Slide Creek powerhouse, a 31.5-acre reservoir with a total maximum storage capacity of 411.6 acre-feet, a 2,112-foot-long steel pipe extending from the diversion dam to a surge tank, a 168-foot-long penstock extending from the surge tank to a powerhouse, and a powerhouse with a combined turbine-generator set having a rated capacity of 11,000 kW. The storage capacity of Soda Springs reservoir is used to ensure a minimum flow in the North Umpqua downstream of the development.

12. The project occupies 3,085 acres, comprising 2,491 acres administered by the Forest Service, 128 acres administered by BLM, and 466 acres of non-federally-owned land.<sup>2</sup> The project operates in a peaking mode, generating more electricity during high demand periods, typically from 6 A.M. to 10 P.M. Storage capacity is used at each of the reservoirs and forebays for this purpose, but relatively little storage is available at the developments, with the exception of Lemolo Reservoir, which is the primary source of water storage for shaping flows to daily peaking operations for downstream developments. The Soda Springs Development is used for reregulation of flows from upstream developments and is operated to release a baseflow based on ambient watershed runoff estimates and the goal of maintaining a relatively stable flow to the North Umpqua River below the Soda Springs powerhouse.

## **BACKGROUND**

13. PacifiCorp filed its application for a new license on January 30, 1995. The Commission issued notice of the application on July 3, 1995. Timely motions to intervene were filed by Interior, the Steamboaters, Agriculture, and the North Umpqua Foundation.<sup>3</sup> Late motions to intervene, subsequently granted in separate notices, were filed by the U.S. Department of Commerce's National Marine Fisheries Service (NMFS), the Oregon Department of Justice, Umpqua Valley Audubon Society (Audubon), American Whitewater Affiliation (American Whitewater), and a group of organizations consisting of American Rivers, Pacific Rivers Council (Pacific Rivers), Water Watch of Oregon (Water Watch), Umpqua Watersheds (Watersheds), and Oregon Natural Resources Council (Resources Council) (collectively, American Rivers group).

14. The Commission staff issued two scoping documents and held a scoping meeting on June 6, 1996. On November 15, 2000, the Commission issued a notice stating that the

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<sup>2</sup>In its application, PacifiCorp stated that the project occupies 2,842 acres, comprising 2,725 acres administered by the Forest Service, 117 acres administered by BLM, and 438 acres of non-federally-owned land. These were the figures cited in the FEIS. However, in a resubmitted Exhibit G to the application, filed February 21, 2000, PacifiCorp corrected its project description to reflect the figures cited in the text of this order.

<sup>3</sup>Although the motions of Agriculture and North Umpqua Foundation were not filed until June 21 and 24, 2002, respectively, they are considered timely pursuant to 18 C.F.R. § 380.10(a)(1) (2003), which provides that a motion to intervene on the basis of a draft environmental impact statement (DEIS) will be deemed timely as long as it is filed within the comment period for the DEIS.

application was ready for environmental analysis and soliciting comments, recommendations, and terms and conditions. Comments were filed by NMFS, the Forest Service, the State of Oregon, Interior, and jointly by the American Rivers group, Audubon, Steamboaters, and Oregon Trout (collectively, the Conservation Groups). Various reply comments were also filed.

15. On June 21, 2001, PacifiCorp filed an offer of settlement describing the terms and conditions under which PacifiCorp and state and federal agencies would support issuance of a new license. The offer included a Settlement Agreement (Agreement) intended to resolve all issues associated with issuance of a new license, as discussed below. In addition to PacifiCorp, the parties to the Agreement are the Forest Service, Interior's Fish and Wildlife Service (FWS) and BLM, NMFS, and the State of Oregon's Departments of Environmental Quality, Fish and Wildlife, and Water Resources. The Agreement was the culmination of discussions that began in 1997 among PacifiCorp, the state and federal agencies, and non-governmental organizations consisting primarily of the Conservation Groups specified above. The Conservation Groups withdrew from the settlement discussions in September 2000.

16. The Commission issued a notice on June 27, 2001, soliciting comments on the Agreement and revised terms and conditions. Comments in opposition to the Agreement were filed by American Whitewater, jointly by Watersheds, Audubon, Steamboaters, North Umpqua Foundation, and Resources Council, and jointly by American Rivers, Pacific Rivers, Oregon Trout, and Water Watch. Various entities filed reply comments. By letter of October 11, 2001, the Commission staff requested the governmental parties to the Agreement to file, within 30 days, revised recommendations, prescriptions, and terms and conditions to resolve inconsistencies among the previously submitted terms and conditions and the terms of the Agreement. Responses were filed by the Forest Service, BLM, FWS, NMFS, Oregon Department of Fish and Wildlife (Oregon Fish and Wildlife), and American Whitewater.

17. The Commission staff issued a Draft Environmental Impact Statement (DEIS) on May 1, 2002. Comments were received from various federal and state governmental agencies, non-governmental organizations, and individuals, as well as from PacifiCorp and the other parties to the Agreement. On November 4, 2002, PacifiCorp filed an amendment (Amendment No. 1) to the Agreement on behalf of the Agreement parties, and, on February 3, 2003, an explanatory statement supporting the amendment. The Commission issued notice of the amendment on February 6, 2003, again soliciting comments and revised recommendations, prescriptions, and terms and conditions. Responses were filed by PacifiCorp, the Forest Service, FWS, NMFS, the State of Oregon, and the Oregon Departments of Water Resources and Environmental Quality.

18. On April 8, 2003 (dated March 2003), the Commission issued a Final Environmental Impact Statement (FEIS), on which comments were received. The FEIS concludes that the project should be granted a new license subject to all of the conditions of the Agreement, and subject to two additional staff recommendations: (1) submission to the Commission, for review and approval, of plans for monitoring and implementing certain enhancement measures included in the Agreement; and (2) resumption of operation of an existing gage at Boulder Creek, with posting on the internet of flow data for all of the project gages for the benefit of recreational boaters and provision of notice to the public of scheduled maintenance releases.

19. We have considered all of the submitted comments, interventions, recommendations, prescriptions, and terms and conditions in determining whether, and under what conditions, to issue a new license for this project. The recommendations and terms and conditions, some of which were revised in response to the various notices indicated above, will be discussed in the pertinent sections of this order.

## **THE SETTLEMENT AGREEMENT**

20. The parties to the Agreement recite that the measures contained in the Agreement are in large part based on the results of a cooperative watershed analysis that was instituted by PacifiCorp and the Forest Service in June 1995 to address issues related to the relicensing process. The Agreement parties state that, to the extent their prior filings are inconsistent with the Agreement, those filings should be considered superseded by the Agreement, and the parties will make subsequent filings as necessary to accomplish that purpose. The following is a summary of the Agreement, section by section.

21. Section 1 establishes the purpose and effect of the Agreement. The purpose of the Agreement is to resolve all issues regarding the issuance of a new license and to achieve the management goals set forth in the Agreement. The parties request the Commission to accept and incorporate, without material modification, as license articles, all of the governmental parties' final terms and conditions filed with the Commission in connection with the Agreement. Each of the governmental parties to the Agreement agrees that PacifiCorp's performance of its obligations under the Agreement and the final terms and conditions will be consistent with and will fulfill PacifiCorp's existing statutory obligations as to each governmental party relating to relicensing and state reauthorization of the project. Section 1 sets out the federal and state statutory or regulatory obligations that are intended to be satisfied by PacifiCorp's compliance with the various final terms and conditions. These will be discussed in relevant sections of this order, below. The parties recommend that the new license be issued for a term of 35 years.

22. Section 2 of the Agreement obligates PacifiCorp to seek to obtain all federal, state, regional, and local authorizations necessary for the implementation of the Agreement. Section 2 also contains provisions for the timing of the implementation of the Agreement's "Protection, Mitigation, and Enhancement Measures," which the Agreement, at p. 5, defines as "the measures set forth in Sections 4 through 19 of this Agreement for the protection and enhancement of the environment of the Project and to mitigate for adverse impacts of the Project."

23. Section 3 sets out management goals that were derived from the cooperative watershed analysis and that the measures in the Agreement and in the final terms and conditions are intended to fulfill. The specified management goals relate to fluvial geomorphic processes, aquatic and riparian habitat connectivity, instream flows, reservoir and forebay management, water quality, anadromous fish passage and off-site mitigation, and terrestrial species connectivity and wildlife entrapment.

24. Section 4 specifies fish passage measures at several of the developments. At Soda Springs dam, PacifiCorp is to provide upstream fish passage by means of a vertical-slot ladder and downstream fish passage by means of facilities that include fish screens and a trap. At Slide Creek dam, PacifiCorp, in lieu of constructing fish passage facilities, is to provide mitigation measures and funding to benefit wild anadromous and other migratory fish populations on site or in proximity to the project. PacifiCorp is to maintain existing upstream fishways at Lemolo No. 2 and Fish Creek, design modifications to the Lemolo No. 2 fishway, install a fish screen for downstream passage at Fish Creek, and modify an existing trashrack at the Toketee intake. Section 4 contains provisions for consultation in the development and evaluation of these facilities.

25. Section 5 provides that PacifiCorp shall implement minimum instream flow releases set forth in tables contained in Appendix C to the Agreement or specified in Section 5 itself, reroute the discharge from the Lemolo No. 2 powerhouse to Toketee Reservoir, continue to divert up to eight cubic feet per second (cfs) from the Soda Springs penstock tap for the use by Oregon Fish and Wildlife salmon-holding ponds adjacent to the Soda Springs bypass reach, and use flows from the Clearwater bypass reach to supplement the instream flow regime for the Toketee bypass reach. Section 5 contains provisions for monitoring the instream flows.

26. Section 6 provides for PacifiCorp to reroute peaking flows from the Lemolo No. 2 powerhouse to an area located above Toketee Reservoir, develop a monitoring plan to evaluate the effects of current ramping levels on anadromous fish, operate the project to limit or prevent ramping below the Soda Springs powerhouse and in the bypass reaches, and otherwise observe specified ramping and flow fluctuation restrictions and conditions.

27. Section 7 requires PacifiCorp to provide gravel augmentation program below Soda Springs dam, continue providing for passage of woody debris that enter the Soda Springs and Slide Creek Reservoirs, provide for passage of sediment past Slide Creek dam, and design or modify other specified facilities to allow the passage of sediment and woody debris during high-flow events.

28. Section 8 provides for PacifiCorp to maximize spawning habitat for anadromous fish in the mainstem North Umpqua River by placing or repositioning boulders in the area from Slide Creek powerhouse upstream to the confluence of Fish Creek. Section 8 also provides for the preparation of implementation and monitoring plans in respect to these measures. In addition, Section 8 requires PacifiCorp to prepare a feasibility assessment, implementation plan, and monitoring plan for the restoration or creation of salmonid spawning habitat in the Soda Springs bypass reach and in the mainstem North Umpqua River and its tributaries below Soda Springs dam. PacifiCorp is to conduct a baseline habitat survey of current spawning habitat at the selected habitat restoration or creation sites and to fund actions taken pursuant to these restoration and creation requirements.

29. Section 9 requires PacifiCorp to begin funding the production of hatchery rainbow trout for Oregon Fish and Wildlife to stock reservoirs and forebays, and to make a one-time payment to Oregon Fish and Wildlife of \$10,000 to fund the development of a rainbow trout brood stock. PacifiCorp is also required to limit the annual drawdown of Lemolo Reservoir to 25 feet below an elevation of 4,148.5 feet, develop a plan to govern drawdowns of Lemolo Reservoir between 10 and 25 feet, and restrict water level fluctuations in that reservoir. Section 9 also contains provisions for revegetation and erosion control and salvage of fish during maintenance shutdowns.

30. Section 10 requires PacifiCorp to design and construct a structure that permits the movement of aquatic amphibians and macroinvertebrates across the dam at Stump Lake; design and construct a structure in the lower Clearwater River near Toketee Reservoir to reconnect the Clearwater and North Umpqua Rivers; remove diversion structures to several creeks to restore fish movement and riparian processes, return flows to stream channels, and provide for passage of gravel and woody debris; restore riparian habitat at specified locations; reconnect intercepted tributaries and drainages; and replace or remove inadequately sized culverts.

31. Section 11 provides for PacifiCorp to increase the width of 29 existing big-game bridges across the artificial waterways and forebays of the project, install 34 new wildlife crossings, excavate at least nine wildlife underpasses below project penstocks, and enhance or create new wetlands in eight specified locations.



32. Section 12 requires PacifiCorp to develop a vegetation management plan and implement the plan upon approval by the Forest Service and BLM. The plan is to include vegetation management procedures to be implemented within the project boundary and in other areas on federal land affected by project operations. Section 12 also requires PacifiCorp to commence measures to control and prevent the spread of noxious weeds.

33. Section 13 provides for PacifiCorp to continue to implement measures to minimize adverse interactions between project power lines and birds, including proper retrofitting and new construction of power poles, scheduling of operation and maintenance activities near raptor nests outside the nesting season, and limitations on helicopter surveys of transmission lines. PacifiCorp is also to adhere to an existing agreement for management of birds on powerlines that was reached between PacifiCorp, Oregon Fish and Wildlife, and FWS in February 1998 and that is attached to the Agreement as Appendix G.

34. Section 14 requires PacifiCorp to finalize an existing draft erosion control plan and submit it to the governmental parties for review and approval. The plan is to include provisions for development of a waterway drainage system in the event of flume failure on the Fish Creek, Lemolo No. 2, and Clearwater No. 2 waterways; for notification and consultation with the Forest Service and the Oregon Emergency Response System upon discovery of erosive events; for coordination of remedial measures in response to waterway failure or other erosive events; and for development of site specific-plans for prevention and remediation of erosion at high and medium priority erosion sites and implementation of remedial actions at those sites according to a specified schedule. PacifiCorp is to implement a monitoring program to evaluate currently ranked erosion sites and identify new erosion sites, and is to provide a bond sufficient to ensure proper and timely remediation in the event that the Forest Service determines that site-specific performance criteria are not being met.

35. Section 15 requires PacifiCorp to complete a final transportation management plan based on a draft plan that was included in its license application. The plan is to include a traffic management plan detailing which roads maintained by PacifiCorp will be open to public access. Section 15 places all responsibility for maintenance and capital improvement for such roads on PacifiCorp but provides for PacifiCorp and the Forest Service to share those costs for roads specified as joint use hydro maintenance. PacifiCorp is to decommission specified roads. Section 15 requires PacifiCorp to conduct an inventory of bridges and a process for inspection of bridges. As with the roads, PacifiCorp is to assume total maintenance responsibility for some bridges but share the costs of others with the Forest Service. PacifiCorp is to conduct an inventory of culverts on project lands, including identification of culverts that require modifications to allow fish passage and to pass a 100-year flood, and is to upgrade those culverts at a

specified annual rate. Specified schedules referred to in Section 15, and attached to the Agreement, identify PacifiCorp-maintained roads and bridges, maintenance and cost sharing levels, roads in need of decommissioning, and standards for improvements of culverts for fish passage.

36. Section 16 provides for PacifiCorp to prepare a visual resource management plan that would incorporate visual enhancement measures proposed in the license application, as well as additional measures. Those additional measures include development of a landscape plan for the Clearwater switching station and maintenance area, provisions for painting penstocks and surge tanks at the Lemolo No. 2, Toketee, and Clearwater No. 2 developments, and an evaluation of 11 locations on the transmission line right-of-way in respect to mitigating visual impacts.

37. Section 17 requires PacifiCorp to implement a recreation resources management plan contained in its license application, with modifications, and to commence funding recreation operations, maintenance, and capital improvements as provided in an implementation schedule. PacifiCorp is to allow public access to project reservoirs, stream channels, and adjacent lands for recreational purposes, to the extent consistent with public safety and Commission requirements. PacifiCorp is required to pay the Forest Service for law enforcement related to land- and water-based recreation activities within the project boundaries. Section 17 requires PacifiCorp to provide capital improvements at existing recreation facilities and future expansion, as well as funds for deferred backlog of capital improvements and public information programs, as listed on, and in accordance with, specified schedules attached to the Agreement. Section 17 also requires PacifiCorp to provide \$150,000 for meeting compliance requirements of the Umpqua National Forest Plan within the project boundaries. In addition, PacifiCorp must maintain Lemolo Lake at or near full pool elevation throughout the peak recreation season.

38. Section 18 provides that PacifiCorp shall complete a final Cultural Resources Management Plan (CRMP) by 2003 to define and describe how archeological and historic resources will be protected and how impacts to these resources will be mitigated over the term of the license. PacifiCorp is also to develop a programmatic agreement, conduct archeological site discovery surveys before ground-disturbing activities, protect and restore archeological sites, and provide public outreach and displays. Section 18 requires PacifiCorp to continue monitoring and protecting known cultural sites and conduct a monitoring program pursuant to the final CRMP.

39. Section 19 requires PacifiCorp to establish several funds and accounts for mitigation purposes. First, PacifiCorp is to fund and implement a Tributary Enhancement Program for the purpose of offsetting project impacts to fish and wildlife that would not

otherwise be mitigated through other sections of the Agreement. The funds are to be used for enhancement projects that could be performed by PacifiCorp, Oregon Fish and Wildlife, or other entities. PacifiCorp is to implement the enhancement and mitigation projects required by a Memorandum of Understanding (MOU) incorporated into the Agreement as Appendix E, but other enhancement projects may be funded through the Enhancement Account with Oregon Fish and Wildlife's approval. Second, PacifiCorp is to establish an account from which funds would be disbursed to formulate and implement a study plan, implementation plan, and monitoring and adaptive management plan concerning the potential predation of anadromous salmonid juveniles by nonnative predator species in the Soda Springs Reservoir, and to monitor and evaluate the success of the reintroduction of anadromous fish populations in the North Umpqua upstream of Soda Springs dam. Third, PacifiCorp is to establish a Mitigation Fund to be administered by the Forest Service for the purpose of offsetting adverse impacts to aquatic, terrestrial, and other natural resources caused by the project and not otherwise mitigated through other sections of the Agreement. Fourth, PacifiCorp is to make annual payments to Oregon Fish and Wildlife for the purposes of monitoring tasks associated with the Tributary Enhancement Program and oversight of on-site mitigation measures performed by PacifiCorp or other entities. Finally, PacifiCorp is required to establish an Early Implementation Fund to be used during the period before the new license becomes final for specified "highly visible measures" not otherwise funded before the new license becomes final. Section 19 specifies the amounts PacifiCorp is to deposit in these accounts, as well as the schedule for these deposits.

40. Section 20 provides procedures for the Agreement parties to consider alternative measures, such as the replacement of Soda Springs dam with a new reregulating dam and the installation of an enlarged spill gate at Soda Springs dam. These procedures contemplate actions to be taken by the parties during 2001 and before the environmental review process would be undertaken. However, Section 20 also provides for PacifiCorp to seek to amend the new license if the parties agree, during the license term, that alternative measures are required.

41. Section 21 requires PacifiCorp to finalize a Resource Coordination Plan that was included in draft form in its license application and that describes the processes for implementation of the license conditions, ongoing operations, and maintenance activities consistent with the terms of the Agreement. PacifiCorp is also to convene a Resource Coordination Committee that will have the responsibility for facilitating and coordinating the implementation of protection, mitigation, and enhancement measures consistent with the Resource Coordination Plan and the Agreement. Section 21 contains further provisions for the holding of meetings and reaching of decisions in respect to this committee. Section 21 also provides procedures for PacifiCorp to consult with other parties to the Agreement in the preparation of site-specific plans for construction

activities, requires PacifiCorp to permit the other parties to inspect project facilities and records, and requires PacifiCorp to conduct or fund an environmental analysis for any ground- or habitat-disturbing activities on National Forest System land required for implementation of any protection, mitigation, and enhancement measure.

42. Section 22 provides for implementation of the Agreement and covers resolution of disputes, cooperation among parties, reopener or modification of the license, amendment or extension of the Agreement, withdrawal of parties from the Agreement, and termination of the Agreement. Section 23 contains general provisions pertaining to third-party beneficiaries, successors and assigns, failure to perform due to force majeure, and other procedural matters. Section 24 relates to execution of the Agreement.

43. The Agreement incorporates seven appendices. Appendix A contains implementation schedules for fish, wildlife, recreation, and cultural measures. Appendix B contains standards for the design and operation of downstream fish passage facilities. Appendix C lists monthly schedules for fish passage flows at each of the eight developments. Appendix D specifies the preferred timing of annual facilities maintenance for the bypass reaches of each of the developments. Appendix E is an MOU between PacifiCorp and Oregon Fish and Wildlife that sets out mitigation measures for the benefit of wild anadromous and other migratory native fish, in lieu of constructing fish passage facilities. Appendix F lists authorized representatives of the parties. Appendix G is an agreement for the management of birds on power lines.

44. Finally, the Agreement appends a number of schedules for the implementation of measures for aquatic site reconnections, erosion site remediation, road maintenance and decommissioning, and bridge maintenance. The schedules also specify recreation resource management plan costs, Oregon Fish and Wildlife guidelines for stream-road crossings, and long-term monitoring goals and predator-control objectives.

45. As noted above, on November 4, 2002, PacifiCorp filed Amendment No. 1 to the Agreement on behalf of the Agreement parties. In explanation of the amendment, PacifiCorp states that Section 8.3 of the Agreement, as originally filed, contemplated the restoration or creation of between 5,000 and 15,000 square feet of spawning habitat in the Soda Springs bypass reach, subject to the agreed-upon minimum flow regime and the natural constraints of the river channel. Because subsequent analysis has indicated that only between 1,200 and 1,500 square feet of spawning habitat could be restored or created in that bypass reach, the parties agreed to expand the area to be considered for spawning habitat to additional locations below Soda Springs dam. Amendment No. 1 substitutes a new Section 8.3 that contains provisions for a feasibility assessment, implementation plan, monitoring plan, baseline habitat survey, and attendant fundings for

the restoration and creation of salmonid spawning habitat in the Soda Springs bypass reach and the mainstem North Umpqua River and its tributaries below Soda Springs dam.

46. Amendment No. 1 revises other sections of the Agreement that are related to implementation of revised Section 8.3. Section 5.1 is revised to change minimum flow requirements in the Soda Springs bypass reach. Section 7.1 is revised to change the termination date of PacifiCorp's ongoing gravel augmentation program below Soda Springs dam. Section 7.2 is replaced with a new Section 7.2 specifying requirements for an implementation plan, a monitoring plan, and funding for a new program for gravel augmentation below Soda Springs dam. Finally, references in Appendix A of the Agreement are changed to reflect the revised sections of the Agreement.

47. The terms of the Agreement, as amended, will be incorporated as license conditions to the extent, and in the manner, discussed below.

## **WATER QUALITY CERTIFICATION**

48. Under Section 401(a)(1) of the Clean Water Act (CWA), the Commission may not issue a license for a hydropower project unless the state water quality certifying agency has issued water quality certification for the project or has waived certification. Section 401(d) of the CWA provides that state certification shall become a condition of any federal license that is issued.<sup>4</sup> Only a reviewing court can revise or delete these conditions.<sup>5</sup>

49. On June 28, 2002, the Oregon Department of Environmental Quality (Oregon DEQ) issued water quality certification for the North Umpqua Project. The certification adopts certain measures from the Agreement but also includes other conditions.<sup>6</sup> The following is a summary of the certification conditions.

50. Condition 1 requires PacifiCorp to implement a water temperature management plan and a stream temperature monitoring plan, and to install a fish screen at the Fish Creek diversion intake. Condition 2 requires PacifiCorp to reroute the Lemolo No. 2

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<sup>4</sup> 33 U.S.C. § 1341(d).

<sup>5</sup> See *American Rivers v. FERC*, 129 F.3d 99 (D.C. Cir. 1997).

<sup>6</sup> Table 2-2 of the FEIS, at 2-45 through 2-51, specifies the sections of the Agreement to which the individual certification conditions relate and identifies which conditions are additional conditions required by Oregon DEQ.

powerhouse discharge to Toketee Reservoir, design the expanded Lemolo No. 1 forebay in accordance with specified considerations, and monitor hydrogen ion (pH) concentration. Condition 3 requires PacifiCorp to implement instream flow, fish passage, ramping restriction, fluvial geomorphic, spawning habitat enhancement, reservoir drawdown and operation, and aquatic connectivity measures specified in the Agreement. Condition 4 requires specific measures to control turbidity and sediment. Condition 5 requires measures to ensure the proper operation of the on-site sewage system. Condition 6 requires PacifiCorp to schedule powerhouse maintenance as required by the Agreement and to monitor dissolved oxygen in the bypass reaches and at other designated locations. Condition 7 requires PacifiCorp to breach or modify certain diversion structures and to enhance fluvial geomorphology processes and promote distribution of large wood and gravel in the Lemolo No.1 and No. 2 bypass reaches. Condition 8 relates to the monitoring and control of nuisance algae. Condition 9 requires implementation of a total dissolved gas management plan that includes elements specified by the condition. Condition 10 requires the implementation of an oil spill prevention, control, and countermeasure plan, a chemical management system, and waste management guidelines. Condition 11 requires monitoring of conductance of total dissolved solids, and Condition 12 specifies measures to control toxic substances.

51. Condition 13 reserves Oregon DEQ's authority to modify the certification to address changes in water quality standards or project operations, unanticipated project effects, or the failure of existing conditions to protect water quality. The remaining conditions (14 through 19) relate mainly to project changes, repair and maintenance, inspection, fees, and monitoring.

52. For ease of administering and determining compliance with the conditions of the license, the water quality certification conditions are attached as Appendix A to this order and are made conditions of this license by Ordering Paragraph D.

### **COASTAL ZONE MANAGEMENT ACT**

53. Under Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), 16 U.S.C. § 1456(c)(3)(A), the Commission cannot issue a license for a hydropower project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's federally-approved Coastal Zone Management Program (CZMP). By letter of August 7, 1997, the Oregon Department of Land Conservation and Development notified PacifiCorp that the project is neither within the Oregon coastal zone nor within a geographic area in which the Department would review licenses for consistency with the CZMP. Therefore, no consistency certification is required.

**THREATENED AND ENDANGERED SPECIES; ESSENTIAL FISH HABITAT**

54. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), 16 U.S.C. § 1536(a)(2), requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. That section further requires that formal consultation with the Services (FWS and NMFS) be initiated if the proposed agency action is likely to affect the listed species, unless through informal consultation the action agency and the Services determine that there will not likely be an adverse effect. Section 7(c)(1) of the ESA provides for an action agency to conduct a biological assessment for the purpose of identifying any endangered or threatened species which is likely to be affected by the proposed action. Section 7(b)(3)(A) of the ESA requires the Services to provide to the action agency a biological opinion detailing how the agency action would affect the species or its critical habitat.

55. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, 16 U.S.C. § 1855(b)(2), requires federal agencies to consult with NMFS regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect essential fish habitat identified under the Act. Under Section 305(b)(4)(B) of the Act, 16 U.S.C. § 1855(b)(4)(B), an agency must, within 30 days after receiving recommended measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on essential fish habitat.<sup>7</sup>

56. In response to a request from Commission staff, FWS and NMFS identified the Oregon chub, Columbian white-tailed deer, and rough popcorn flower as endangered species and the Oregon Coast coho salmon, Canada lynx, bald eagle, northern spotted owl, and Kincaid's lupine as threatened species that may occur in the project area.<sup>8</sup> On August 20, 2001, PacifiCorp was designated as the Commission's non-federal representative for purposes of conducting informal Section 7 consultation with FWS and NMFS and of preparing a biological assessment. On February 15, 2002, PacifiCorp filed

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<sup>7</sup> The measures recommended by NMFS are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

<sup>8</sup>The Services also identified several species that were candidates for listing as threatened or endangered and several "species of concern."

with the Commission a Draft Biological Assessment and Essential Fish Habitat Assessment, which it also submitted to FWS and NMFS. The Draft Assessment analyzed the effects of the Agreement and associated project operations on listed species and designated habitat in the project area. The Commission staff reviewed the Draft Assessment and, with one modification, adopted it in the DEIS.<sup>9</sup>

57. In a May 7, 2002, letter, the staff informed NMFS of its conclusion that relicensing the project under the Agreement and with staff's additional recommended measures may adversely affect the threatened Oregon Coast coho salmon and may affect essential fish habitat for coho salmon and chinook salmon in the short term but would result in an overall long-term beneficial effect. Staff requested NMFS to submit a biological opinion on staff's findings and to submit any essential fish habitat recommendations. In a May 8, 2002, letter, staff informed FWS that relicensing the project in accordance with the Agreement and staff's measures would not affect the endangered Oregon chub, and would not be likely to adversely affect the endangered Columbian white-tailed deer and rough popcorn flower, and the threatened Canada lynx, bald eagle, northern spotted owl, and Kincaid's lupine. Staff concluded that formal consultation was not required and requested FWS to indicate, within 30 days, whether it agreed with this assessment. FWS did not respond to staff's letter.

58. On December 17, 2002, NMFS filed a final biological opinion, in which it concluded that the proposed action would not be likely to jeopardize the continued existence of Oregon Coast coho salmon. On December 23, 2002, FWS filed a final biological opinion, in which it concurred with the Commission staff's determination that the proposed action would not be likely to adversely affect the rough popcorn flower, Kincaid's lupine, or Canada lynx. FWS also concluded that the proposed action would not be likely to jeopardize the continued existence of the spotted owl, bald eagle, or white-tailed deer, and would not be likely to adversely modify designated spotted owl critical habitat.

59. Section 7(b)(4) of the ESA provides that, if, after consultation, the Secretary of Commerce or of the Interior concludes that the agency action will not jeopardize the continued existence of a species, the Secretary shall provide the agency with a written statement that specifies the impact of incidental taking on the species, specifies those reasonable and prudent measures that the Secretary considers necessary or appropriate to minimize such impact, and sets forth the terms and conditions that must be complied with

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<sup>9</sup>The staff modified the Draft Assessment's determination of the project's effect on the Canada lynx from "no effect" to "not likely to adversely affect."



to implement those measures. In their biological opinions, both NMFS and FWS included an incidental take statement with such measures and conditions.

60. FWS specifies three reasonable and prudent measures: (1) prevent disturbances to northern spotted owl and bald eagle pairs and their progeny during the nesting season; (2) protect the nest grove of active spotted owl pairs and active bald eagle nests; and (3) prevent impacts to deer. FWS included four incidental take terms and conditions to implement these measures. Briefly, these consist of limiting disturbance-causing activities near owl habitat between March 1 and July 15, conducting vegetation management and powerline maintenance outside of the fawning period, monitoring and reporting on all activities that are likely to affect a listed species, and reporting of all new bald eagle nests and roost sites.

61. NMFS specifies five reasonable and prudent measures: (1) provide adequate instream flows, minimize flow fluctuations, manage riparian vegetation, and control erosion and sediment; (2) restrict instream construction activities to recommended time periods; (3) provide upstream fish passage and fish screens for downstream passage; (4) restore fluvial geomorphic processes, enhance spawning habitat, provide additional aquatic connectivity, provide access to upstream habitat, and fund tributary enhancement; and (5) monitor the effectiveness of these measures. To implement these measures, NMFS provides, respectively, 7, 17, 4, 6, and 2 incidental take terms and conditions. These are set out at Table 2-3 of the FEIS.<sup>10</sup>

62. Under Section 7(o)(2) of the ESA, any incidental taking resulting from a project's construction or operation must be in compliance with the terms and conditions of an incidental take statement to avoid being considered a prohibited taking of the species. Many of the incidental take terms and conditions are also provisions of the Agreement<sup>11</sup> and will be incorporated into the license primarily through ordering paragraphs that adopt mandatory agency conditions referring to those provisions. Those incidental take terms

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<sup>10</sup> FEIS at 2-58 through 2-60.

<sup>11</sup>Table 2-3 specifies which of NMFS's terms and conditions are also contained in the Agreement, the sections of the Agreement to which each of those conditions relates, and the conditions that have no corresponding provision in the Agreement.

and conditions that have no corresponding provision in the Agreement will be incorporated as conditions in the license through Articles 404 through 412.<sup>12</sup>

63. As requested by the staff's May 7, 2002, letter, NMFS addressed essential fish habitat in its biological opinion. NMFS concludes that continued operation of the project could affect both coho and chinook salmon, through obstruction of access to spawning and rearing habitat, retention of sediments, inundation of spawning and rearing habitat, reduction of flows in bypass reaches, and construction activities. However, NMFS also concludes that the incidental take terms and conditions would adequately address these adverse effects on essential fish habitat, and it recommends their adoption as conservation measures. As previously stated, the incidental take terms and conditions are being adopted as license conditions through ordering paragraphs adopting mandatory conditions and license articles.

#### **SECTION 4(e) CONDITIONS**

64. Section 4(e) of the Federal Power Act (FPA), 16 U.S.C. § 797(e), states that the Commission may issue a license for a project on a reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired. The North Umpqua Project is located primarily on lands within the Umpqua National Forest, which is a federal reservation.<sup>13</sup> The project also occupies 128 acres of BLM land, which are crossed by project transmission lines. BLM's filings

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<sup>12</sup> FWS and NMFS request that we include in the license a reopener article reserving our authority to modify project construction, operation, and maintenance to ensure compliance with the ESA during the license term. The Commission's standard fish and wildlife reservation article, included in all licenses, will be sufficient to achieve this purpose.

<sup>13</sup>The Umpqua Forest Reserve was established by Presidential Proclamation on March 2, 1907. U.S. Statutes at Large, 59<sup>th</sup> Cong., 1905-1907, Vol. 34, p. 3301. At the time, the Organic Administration Act of 1897, 16 U.S.C. § 475, stipulated that all national forest lands were established and administered only for watershed protection and timber production. These are the only purposes that are relevant for a Commission determination under Section 4(e) as to whether a project will interfere or be inconsistent with the purpose for which the reservation (National Forest) was created or acquired. See *Rainsong Company v. FERC*, 106 F.3d 269 (9<sup>th</sup> Cir. 1997).

indicate that these lands constitute a reservation.<sup>14</sup> We find that issuing a new license for this project will not interfere or be inconsistent with the purposes for which the Umpqua National Forest and the relevant BLM reservation were created.

65. Under Section 4(e), the Commission must include in any license for a project located within a federal reservation all conditions that the managing agency shall deem necessary for the adequate protection and utilization of that reservation. The Forest Service filed its final Section 4(e) conditions on July 10, 2003.<sup>15</sup>

66. Condition 1 requires the licensee to comply with all of the protection, mitigation, and enhancement measures identified in the Agreement (including its appendices, schedules, and Amendment No. 1) that are on or affect National Forest System lands and resources, and all commitments identified in every plan referenced in the Agreement that implements activities on or affecting National Forest System lands and resources. Condition 2 provides that Condition 1 is premised on the Commission's incorporation of the Agreement, without modification, into license terms and on the licensee's implementation of the protection, mitigation, and enhancement measures in accordance with the Agreement's schedules. Conditions 3 and 4 reserve the Forest Service's authority to modify the conditions in certain situations.

67. Condition 5 requires the licensee to obtain additional authorization from the Forest Service if the licensee needs additional National Forest System lands outside the project

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<sup>14</sup> Although Section 4(e) of the FPA authorizes the issuance of licenses for projects on both public lands and reservations of the United States, it requires a consistency finding, and provides for the submission of conditions, only as to reservations. BLM states that its conditions are based on "those resource management purposes enumerated for the revested Oregon and California Railroad grant lands (O&C) in the O&C Sustained Yield Act of 1937 (43 U.S.C. 1181a) and in Public Land Order 5490 which reserved the public domain land to be managed in connection with the O&C lands."

<sup>15</sup> The Forest Service filed initial preliminary Section 4(e) conditions on February 27, 2001, and included a schedule for filing modified conditions in response to the Commission's DEIS and final conditions within 90 days of publication of the FEIS. On November 13, 2001, the Forest Service filed revised preliminary conditions, in response to staff's October 11, 2001, letter requesting revised conditions to address inconsistencies relating to the Agreement. On June 25, 2002, the Forest Service filed draft conditions in response to the DEIS, and on March 7, 2003, the Forest Service filed two revisions of two of the draft terms and conditions, to reflect Amendment No. 1 to the Agreement.

boundary. Condition 6 requires the licensee to conduct or fund an environmental analysis before initiating, on Forest System lands, any ground- or habitat-disturbing activities required for implementation of any protection, mitigation, and enhancement measure. Condition 7 requires the licensee to obtain approval from the Forest Service before implementing changes in the location of any constructed project features or facilities, or in the uses of project land and waters. Condition 8 requires coordination with the Forest Service regarding any activity that may involve authorization by another federal agency.

68. The remaining conditions (9 through 18) address such matters as consultation with the Forest Service in certain situations; performance of analyses of potential seismic and geologic hazards; preparation of spoils disposal, fire suppression, solid waste and waste water, spill prevention and control and hazardous materials management, sensitive species, and survey and manage species plans; and restrictions on the excavation and removal of soil and rock materials and on reservoir dredging.

69. As stated above, Condition 1 requires the licensee to comply with all of the Agreement's measures and plans that "are on or affect" National Forest System lands. The conditions submitted by the Forest Service are attached as Appendix B to this order and are made conditions of the license, to the extent that they pertain to project lands and facilities within the Umpqua National Forest, by Ordering Paragraph E.<sup>16</sup>

70. Under Condition 5, the licensee must obtain authorization from the Forest Service if the licensee needs additional Forest Service lands outside the project boundary. If such authorization were obtained, the licensee would need to request amendment of its license to expand the project boundary to include any such lands that are to be used for project purposes.

71. BLM filed revised Section 4(e) conditions on December 12, 2001.<sup>17</sup> Conditions 1 through 8 are substantively the same as the corresponding conditions submitted by the Forest Service. Conditions 9 and 10 require the licensee, in planning and conducting

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<sup>16</sup> Since, collectively, the mandatory conditions submitted by the governmental parties to the Agreement, together with articles we are including in the license, require adoption of all of the Agreement's protection, mitigation, and enhancement measures, this limitation on the Forest Service's conditions should have little or no practical effect on the licensee's obligations.

<sup>17</sup> These conditions were filed in response to the Commission's October 11, 2001, notice. BLM filed draft preliminary Section 4(e) conditions on March 1, 2001, as part of a more comprehensive filing by Interior.

proposed actions, to include management procedures for BLM sensitive species and BLM Survey and Manage Species, respectively.

72. BLM Condition 1 requires that the licensee shall comply with all of the provisions of the Agreement, including all protection, mitigation, and enhancement measures identified in the Agreement, its appendices, and its schedules, and with all commitments in every plan referenced in the Agreement, its appendices, and its schedules. BLM does not restrict this condition to the reservation lands that it manages. To the extent that the Agreement's provisions and plans with which BLM requires compliance do not relate to activities on BLM lands, BLM's condition goes beyond the purpose of ensuring adequate protection and utilization of the BLM reservation and is an improper Section 4(e) condition. However, because it is reasonable to infer that BLM means to require compliance with the Agreement's provisions only to the extent they relate to BLM's reserved lands occupied by the project, we will adopt BLM's Condition 1 with this implied limitation. As so limited, the conditions submitted by BLM are attached as Appendix C to this order and are made conditions of the license by Ordering Paragraph F.

## **SECTION 18 FISHWAY PRESCRIPTIONS**

73. Section 18 of the FPA, 16 U.S.C. § 811, provides that the Commission shall require a licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate. FWS and NMFS each filed Section 18 prescriptions in this proceeding.

74. FWS filed its latest prescriptions on December 26, 2001.<sup>18</sup> These include general prescriptions requiring the licensee to manage project facilities to ensure that all fish passage facilities are operational at all times; to keep all fishways in proper order and clear of trash, sediment, and other materials; to perform maintenance outside of migratory periods; to develop a fishway operation and maintenance plan; and to develop plans for, and conduct periodic evaluations of, fishway effectiveness. These general prescriptions refer to requirements in Section 4 of the Agreement.

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<sup>18</sup> FWS filed initial preliminary prescriptions on March 1, 2001. The prescriptions considered here were filed in response to the staff's October 11, 2001, letter and were titled amended preliminary prescriptions. However, FWS filed no further prescriptions despite the opportunity to do so. In a July 15, 2003, filing, Interior indicated that all of its previously submitted recommendations and conditions, including prescriptions, should be considered its final ones.

75. For upstream fishways, FWS prescribes a tailrace barrier at the Soda Springs and Slide Creek powerhouses, a vertical-slot fish ladder for adult salmonids and lamprey at Soda Springs dam, maintenance of the existing fishway at the Fish Creek diversion, and design of modifications to, and maintenance of, the existing Lemolo No. 2 fishway. For downstream fishways, FWS prescribes fish screens at the Soda Springs dam, modifications to the spillway at Soda Springs dam, and a fish screen at Fish Creek diversion dam. As to all of these upstream and downstream fish passage prescriptions, FWS specifies that the licensee's satisfaction of these requirements shall be in accordance with the Agreement.

76. FWS's fishway prescriptions are set out in Appendix D to this order and are made requirements of the license by Ordering Paragraph G.

77. NMFS filed preliminary fishway prescriptions on February 28, 2001. Following notice of the Agreement, NMFS, on December 11, 2001, filed a revised fishway prescription that simply incorporated the Agreement's fish passage requirements as a substitute for the specific prescriptions previously filed. NMFS identifies these requirements as "all the terms and conditions of the June 13, 2001, North Umpqua Settlement Agreement relating to fish passage measures at the Project, including those fish passage measures and associated schedules discussed in section 4 and Appendix A and B of the Agreement." In response to the Commission's February 6, 2003, notice requesting revised conditions in respect to Amendment No. 1, NMFS filed its final revised fishway prescription on March 7, 2003. In this latest filing, NMFS modifies its previously filed prescription to adopt and incorporate the terms of the amendment, and to delete reference to conflicting and outdated sections of the Agreement that were changed by the amendment. NMFS specifies that all references to the Agreement in its previously filed fishway prescription shall be deemed to refer to the Agreement as modified by the amendment.

78. In effect, NMFS's final fishway prescription comprises the Agreement's fish passage requirements, as modified by the amendment. Because NMFS chose to express its prescription in this general manner rather than by listing specific requirements, we will not attempt to translate its prescription into an appendix setting out all of the fish passage provisions of the Agreement. However, Ordering Paragraph H will make NMFS's prescription a requirement of this license.

79. FWS requests inclusion in the license of an article reserving FWS's authority to prescribe fishways at the project in the future, including measures to determine, ensure, or improve the effectiveness of such fishways, in the event that additional prescriptions are necessary, particularly after consideration of fish passage effectiveness studies or other relevant information. FWS's requested article specifies various fish species to

which the reservation would apply, but to which it would not be limited. In its December 11, 2001, filing, NMFS stated it was reserving its authority to prescribe additional or modified fishways in the future. It is the Commission's policy to include in a license, on request of the agencies, an article reserving the Commission's authority to require the licensee to construct, operate, and maintain such fishways as the agencies might prescribe in the future. Such an article, which we will include as Article 413 in this license, will provide sufficient authority to permit the future prescription or modification of fishways that the agencies seek.

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

80. Section 10(j)(1) of the FPA, 16 U.S.C. § 803(j)(1), requires the Commission, when issuing a license, to include conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, 16 U.S.C. § 661 *et seq.*, to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project. In this proceeding, fish and wildlife recommendations were submitted by FWS, NMFS, and Oregon Fish and Wildlife.

81. FWS filed its initial fish and wildlife recommendations on March 1, 2001. In response to the staff's October 11, 2001, letter, FWS, on December 26, 2001, filed amended recommendations intended to achieve consistency with the Agreement. These consist of 16 detailed recommendations addressing aquatic connectivity, instream flows, restoration of anadromous fish habitat, flow continuation, ramping rates in the North Umpqua River reach immediately below Soda Springs powerhouse, terrestrial species connectivity, riparian habitat restoration, amphibian and wetland habitats, vegetation management, avian collision and electrocution hazards, reservoir management, a mitigation fund, a tributary enhancement program, and long-term monitoring and predator control. On August 23, 2002, in response to the DEIS, FWS filed modifications to its recommendations addressing anadromous fish habitat and avian collision and electrocution hazards. Finally, on March 10, 2003, FWS filed modifications to its recommendations to incorporate the terms of the Agreement that were revised by Amendment No. 1 and to delete conflicting and outdated sections of the Agreement that were changed by the amendment.<sup>19</sup>

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<sup>19</sup> Following issuance of the FEIS, FWS, by letter filed July 15, 2003, requested the Commission to consider its previously submitted recommendations as its final ones.

82. As with its Section 18 prescriptions, NMFS submitted preliminary fish and wildlife recommendations on February 28, 2001, and filed revised recommendations on December 11, 2001, that incorporated the protection, mitigation, and enhancement measures of the Agreement. NMFS recommends that the licensee comply with all the terms and conditions of the Agreement relating to the measures and associated schedules discussed in sections 4 through 19 and Appendices A through D of the Agreement. In its March 7, 2003, filing, NMFS modified its recommendations to adopt and incorporate the terms of Amendment No. 1 to the Agreement and to delete reference to conflicting and outdated sections of the Agreement that were changed by the amendment.

83. Oregon Fish and Wildlife filed initial Section 10(j) recommendations on March 1, 2001. On December 4, 2001, it filed revised recommendations intended to be consistent with the Agreement. Specifically, Oregon Fish and Wildlife incorporated the protection, mitigation, and enhancement measures set forth in sections 4 through 14, 15.6, 19 and 21.5 of the Agreement as its Section 10(j) recommendations. In addition, it recommended that the licensee comply with all the provisions of the Agreement, including all protection, mitigation, and enhancement measures identified in the Agreement and all commitments identified in each plan referenced in the Agreement, including its Appendices and Schedules. On March 3, 2003, Oregon Fish and Wildlife filed revised recommendations; these differ from those in the previous filing only in specifying that the measures contained in Amendment No. 1 are also incorporated as Section 10(j) recommendations.

84. In the FEIS, the Commission staff considered these collective recommendations as 60 separate recommendations, each with a foundation in a section of the Agreement.<sup>20</sup> The FEIS found certain recommendations to be outside the scope of Section 10(j) because they are not specific measures to protect fish and wildlife. These are recommendations for the licensee to conduct high level analyses of potential seismic and geologic hazards; to continue to consult with Oregon Water Resource Department's Dam Safety Section in conjunction with the Commission's engineering and safety inspection activities; to develop and/or implement a Transportation Management Plan in respect to roads and bridges, a Cultural Resources Management Plan, a Visual Resources Management Plan, and a Recreation Resources Management Plan; and to pay Oregon Fish and Wildlife's annual costs for oversight of monitoring tasks under the Tributary Enhancement Program and of on-site mitigation. However, the FEIS recommended

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<sup>20</sup> Table 5-1 of the FEIS lists each of the recommendations, the pertinent Agreement section to which it relates, and the agency or agencies that recommended it. Table 5-1 also specifies, as to each recommendation, whether it is within the scope of Section 10(j) and whether the staff recommends its adoption. FEIS at 5-19 through 5-27.



adopting each of those recommendations under Section 10(a)(1) of the FPA, with the exception of the recommendation for payment of oversight costs, which the FEIS acknowledged would nevertheless be required because it was included in the Forest Service's mandatory Section 4(e) conditions.

85. Section 10(j)(2) permits the Commission not to adopt a Section 10(j)(1) recommendation that it believes to be inconsistent with Part I of the FPA or other applicable law. The staff found no such inconsistencies as to any of the agencies' recommendations. The recommendations, including those found not to qualify as Section 10(j) recommendations, reflect provisions of the Agreement, which we will adopt as license conditions through ordering paragraphs incorporating mandatory license conditions or through license articles.

## **HISTORIC PROPERTIES**

86. Relicensing is considered an undertaking within Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (P.L.89-665; 16 U.S.C. § 470). Section 106 requires that every federal agency "take into account" how each of its undertakings could affect historic properties. Historic properties are districts, sites, buildings, structures, traditional cultural properties, and objects significant in American history, architecture, engineering, and culture that are eligible for inclusion in the National Register of Historic Places.

87. On January 3, 2003, the Oregon State Historic Preservation Office and the Commission executed a Programmatic Agreement (PA) for managing historic properties that may be affected by a relicensing of the North Umpqua Hydroelectric Project. PacifiCorp, Umpqua National Forest, Bureau of Land Management—Oregon State Office, and Cow Creek Band of Umpqua Tribe of Indians signed the PA as concurring parties. Article 414 requires the licensee to implement the PA, including but not limited to the Cultural Resources Management Plan for the project. This provides protection for all existing and future historic properties located within the area of potential effects, and satisfies the Commission's responsibilities under Section 106 of the NHPA.

## **ALTERNATIVE MEASURES**

88. As stated earlier, the Conservation Groups originally participated in the settlement discussions but withdrew from them in September 2000. The Conservation Groups submitted alternative recommendations to many of the measures in the Agreement. The

FEIS analyzed these recommendations as the NGO (non-governmental organization) alternative and compared them to the measures proposed in the Agreement.<sup>21</sup>

89. The Conservation Groups advocated restoring fish passage at Soda Springs dam by removing the dam instead of installing a fish ladder and screens. Staff concluded that the installation and operation of fish passage facilities at the Soda Springs dam would provide adequate access to historical spawning and rearing habitats while avoiding the negative economic and power production effects, such as significant reduction in peak generation capacity, that would result from removal of the dam. The Conservation Groups recommended providing fish passage at Slide Creek dam rather than providing mitigation through off-site habitat enhancement, on the grounds that off-site enhancement would not ensure any benefits to anadromous and other migratory fish populations on site. Staff determined that providing fish passage at Slide Creek dam would result in limited benefits, since it would open access to only 1.4 miles of habitat above the dam, whereas providing habitat enhancement measures in other basins, as contemplated by the Agreement, would have a greater potential to benefit anadromous fish spawning and rearing habitat, as well as wetlands.

90. The Conservation Groups advocated operating the project completely as a run-of-river system rather than as a peaking facility and recommended requiring greater instream flows than under the Agreement. Staff concluded that the flow measures in the Agreement would provide an adequate flow regime for improving aquatic habitat in the mainstem North Umpqua River and the bypass reaches with considerably less reduction in power benefits than would occur with the flow regime and project operations recommended by the Conservation Groups.<sup>22</sup> Finally, the Conservation Groups recommended covering or burying extensive portions of canals and pipelines to remove barriers to wildlife movement, rather than constructing more wildlife bridges and underpasses, as contemplated by the Agreement. The staff concluded that the cost of implementing the Conservation Groups' measures, estimated at \$2.3 million a year, would not be warranted, given that there is little evidence that any species has been significantly affected by project-induced loss of connectivity.

91. In comments on the FEIS, the Conservation Groups support the additional staff recommendations for Commission approval of plans and for gage and flow data

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<sup>21</sup> The FEIS, at 5-3 through 5-9, summarizes this analysis.

<sup>22</sup> Staff determined that the Conservation Groups' flow and operation recommendations would reduce power benefits by about \$13 million annually, compared to a reduction of about \$4 million annually with the Agreement's measures.

measures, but express concern that the implementation of many measures to address project effects is too dependent on plans that have yet to be developed. Although the Agreement contemplates development of a significant number of plans to address project effects, the Commission typically relies on post-licensing plans to implement measures that address effects on resources, and the extensive use of plans in respect to a project as complex as the North Umpqua Project is necessary and appropriate. We are confident that the development and implementation of the plans being required here will adequately address the protection and enhancement of resources. We approve the staff's reliance on the measures established by the Agreement, and we conclude that it would not be in the public interest to adopt measures recommended by the Conservation Groups that would significantly reduce power benefits to achieve only limited environmental advantages over the measures encompassed in the Agreement.

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

92. In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA,<sup>23</sup> Commission staff evaluated PacifiCorp's record as a licensee for these areas: (1) consumption efficiency improvement program; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission services; (7) cost effectiveness of plans; and (8) actions affecting the public. We accept the staff's findings in each of the following areas:

#### **A. Conservation Efforts**

93. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like PacifiCorp. Each year, PacifiCorp completes a comprehensive analysis of future load growth and the need for new resources, including customer efficiency programs, to meet its customer demand. Demand side management actions and goals proposed by the most recent report indicate PacifiCorp promotes demand side load management practices for both residential and commercial/industrial customers and has undertaken several programs to improve efficiency and promote energy conservation at its own plants. These programs show that PacifiCorp is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with Section 10(a)(2)(C) of the FPA.

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<sup>23</sup>16 U.S.C. § 803(a)(2)(C) and 808(a).

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

94. Based on a review of PacifiCorp's compliance with the terms and conditions of the existing license, we find that PacifiCorp's overall record of making timely filings and compliance with its license is satisfactory. Therefore, we believe PacifiCorp can satisfy the conditions of a new license.

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

95. The Lemolo No. 1, Toketee, and Soda Springs Developments are subject to Part 12, Subpart D – Inspection by an Independent Consultant, of the Commission's Regulations. Based on a review of the latest Independent Consultant's report and PacifiCorp's management, operation, and maintenance of the project pursuant to the requirements of the Commission's regulations and the associated Engineering Guidelines, as well as all applicable safety requirements, we conclude that the project is being safely managed, operated, and maintained. Furthermore, the North Umpqua Project is subject to Part 12, Subpart C – Emergency Action Plans (EAP), of the Commission's Regulations. The licensee has an acceptable EAP on file with the Commission.

**D. Ability to Provide Efficient and Reliable Electric Service**

96. Commission staff reviewed PacifiCorp's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. PacifiCorp has been operating the project in an efficient manner within the constraints of the existing license. We conclude that PacifiCorp is capable of operating the project to provide efficient and reliable electric service in the future.

**E. Need for Power**

97. PacifiCorp serves about 1.5 million retail customers in portions of six western states—California, Idaho, Oregon, Utah, Washington, and Wyoming. The company owns or has interests in electric generating plants with a total plant nameplate capacity of 8,269 MW. Nearly 87 percent of this capacity is thermal electric—6,586 MW coal, 505 MW natural gas, 52 MW biomass, and 26 MW geothermal. With the exception of about 33 MW from wind turbines, the remainder of PacifiCorp's generation capability is hydropower. PacifiCorp's total hydroelectric capacity is 1,068 MW, nearly all of which is located in Washington and Oregon. The 185.5-MW North Umpqua Hydroelectric Project generates an average of 957,400 megawatt hours (MWh) annually—693,100 MWh on-peak and 264,300 MWh off-peak. This annual generation represents about 1.3 percent of total PacifiCorp energy sold.

98. PacifiCorp's 2003 Integrated Resource Plan predicts a need for 4,000 MW of new resources will be required to meet its peak customer load plus a 15 percent planning margin through the year 2013. It plans to acquire these new resources by a combination of demand side management, transmission alternatives, new generation, expansion of existing resources, and market purchases.

99. The North Umpqua Project is within the Western Electricity Coordinating Council's (WECC) Northwest Power Pool (NWPP) area. WECC's 10-year coordinated plan summary for the period 2001 through 2011 projects an average annual compound growth rate in winter peak demand of 2.5 percent. Capacity additions totaling over 16,000 MW are planned for the NWPP area over the 10-year period. Natural gas and coal fired generation account for about 70 percent and 19 percent, respectively, of the new generation additions.

100. Power from the North Umpqua Project can continue to meet PacifiCorp's customers' growing needs as well as meeting part of the regional need for power. The project displaces fossil-fueled electric power generation that the regional utilities currently use, and thereby conserves nonrenewable fossil fuels and reduces the emission of noxious byproducts caused during the combustion of fossil fuels.

#### **F. Transmission Services**

101. The project includes 117.5 miles of transmission line in 7 segments, 5 of which interconnect project generators and 2 of which deliver project power to PacifiCorp's bulk transmission grid at the Dixonville substation. PacifiCorp is proposing no changes that would affect its own or other transmission services in the region. The project and project transmission lines are important elements in providing power and voltage control to local Douglas County communities and the region.

#### **G. Cost-Effectiveness of Plans**

102. PacifiCorp plans to make a number of facility and operational modifications to both improve project generating capability and enhance environmental resources affected by the project. Based on PacifiCorp's record as an existing licensee we conclude that these plans are likely to be carried out in a cost-effective manner.

#### **H. Actions Affecting the Public**

103. PacifiCorp provided extensive opportunity for public involvement in the development of its application for a new license for the North Umpqua Project. During

the previous license period PacifiCorp provided facilities to enhance the public use of project lands and facilities, and operated the project with consideration for the protection of downstream uses of the North Umpqua River, a portion of which is designated as a Recreational River under the federal Wild and Scenic Rivers Act. PacifiCorp uses the project to help meet local power needs and pays taxes that contribute to the cost of public services provided by local government.

## STATE AND FEDERAL COMPREHENSIVE PLANS

104. Section 10(a)(2) of the FPA, 16 U.S.C. § 803(a)(2)(A), requires the Commission to consider the extent to which a hydroelectric project is consistent with federal and state comprehensive plans for improving, developing, or conserving waterways affected by the project.<sup>24</sup> We identified and reviewed a total of 43 qualifying comprehensive plans filed by federal and state agencies under Section 10(a)(2) that are relevant to the North Umpqua Project.<sup>25</sup> We found no conflicts.

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<sup>24</sup> Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2003).

<sup>25</sup>(1) Bureau of Land Management. 1985. A five-year comprehensive anadromous fish habitat enhancement plan for Oregon coastal rivers. Department of the Interior, Portland, Oregon. May 1985. 20 pp; (2) Bureau of Land Management. 1994. Roseburg District proposed resource management plan/environmental impact statement. Department of the Interior, Roseburg, Oregon. October 1994. Three volumes and maps; (3) Bureau of Land Management. 1995. Roseburg District resource management plan, including Record of Decision. Department of the Interior, Roseburg, Oregon. June 1995. 216 pp. and maps; (4) Bureau of Land Management, Roseburg District. Forest Service, Umpqua National Forest. Oregon State Parks & Recreation Department. 1992. North Umpqua river management plan. July 1992. 110 pp; (5) Forest Service. 1990. Umpqua National Forest land and resource management plan. Department of Agriculture, Roseburg, Oregon. September 1990. 301 pp. and appendices; (6) Forest Service. Bureau of Land Management. 1994. Standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl. Department of Agriculture, Washington, D.C. April 13, 1994. 144 pp; (7) Governor's Hydroelectric Planning Group. 1985. Preliminary site resource inventory: report to the 63rd Legislative Assembly. Salem, Oregon. March 1985. 146 pp; (8) Hydro Task Force. Strategic Water Management Group. 1988. Oregon comprehensive waterway management plan. Salem, Oregon. 112 pp. and appendices; (9) National Marine Fisheries Service, Seattle, Washington. Pacific Fishery Management Council, Portland, Oregon. 1978. Final environmental impact statement and fishery management plan for commercial and recreational salmon fisheries off the coasts of

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Washington, Oregon, and California commencing in 1978. Department of Commerce. March 1978. 157 pp; (10) Northwest Power Planning Council. 1988. Protected areas amendments and response to comments. Document 88-22. Portland, Oregon. September 14, 1988; (11) Oregon Department of Energy. 1987. Oregon final summary report for the Pacific Northwest rivers study. Salem, Oregon. November 1987. 89 pp; (12) Oregon Department of Environmental Quality. 1978. Statewide water quality management plan. November 1978. Seven volumes; (13) Oregon Department of Fish and Wildlife. 1980. Lemolo Reservoir fish management plan. Portland, Oregon. November 1980. 3 pp; (14) Oregon Department of Fish and Wildlife. 1982. Comprehensive plan for production and management of Oregon's anadromous salmon and trout: Part I. General considerations. Portland, Oregon. June 1, 1982. 33 pp; (15) Oregon Department of Fish and Wildlife. 1982. Comprehensive plan for production and management of Oregon's anadromous salmon and trout: Part II. Coho salmon plan. Portland, Oregon. June 1, 1982. 118 pp. and appendices; (16) Oregon Department of Fish and Wildlife. 1984. Proposed Toketee Reservoir management plan. Portland, Oregon. 1 p; (17) Oregon Department of Fish and Wildlife. 1986. North Umpqua River fish management plan. Portland, Oregon. May 1986. 56 pp; (18) Oregon Department of Fish and Wildlife. 1987. The statewide trout management plan. Portland, Oregon. November 1987. 77 pp; (19) Oregon Department of Fish and Wildlife. 1987. Warmwater game fish management plan. Portland, Oregon. August 1987. 60 pp; (20) Oregon Department of Fish and Wildlife. 1987. Trout mini-management plans. Portland, Oregon. December 1987. 58 pp; (21) Oregon Department of Fish and Wildlife. 1991. Comprehensive plan for production and management of Oregon's anadromous salmon and trout: Coastal chinook salmon plan. Portland, Oregon. December 18, 1991. 62 pp; (22) Oregon Department of Fish and Wildlife. 1993. Oregon wildlife diversity plan. Portland, Oregon. November 1993. 512 pp; (23) Oregon Department of Fish and Wildlife. 1993. Oregon wildlife and commercial fishing codes. Portland, Oregon. 146 pp. and index; (24) Oregon Department of Fish and Wildlife. 1995. Biennial report on the status of wild fish in Oregon. Portland, Oregon. December 1995. 217 pp. and appendix; (25) Oregon Department of Fish and Wildlife. 1995. Comprehensive plan for production and management of Oregon's anadromous salmon and trout: Part III. Steelhead plan. Portland, Oregon. April 26, 1995. 118 pp. and appendices; (26) Oregon Department of Fish and Wildlife. 1996. Species at risk: sensitive, threatened, and endangered vertebrates of Oregon. Portland, Oregon. June 1996; (27) Oregon Department of Fish and Wildlife. 1997. Oregon coastal salmon restoration initiative (Oregon Plan). Roseburg, Oregon. March 1997. Five volumes; (28) Oregon Department of Fish and Wildlife. 1997. Oregon plan for salmon and watersheds: supplement 1 Steelhead. Roseburg, Oregon. December 1997. Four volumes; (29) Oregon Department

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## PROJECT ECONOMICS

105. In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefit of the project power.

106. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corp., 72 FERC ¶ 61,027 (1995), the Commission employs an analysis that uses current costs to compare the costs of the project and likely

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of Transportation. State Parks and Recreation Division. 1987. Recreational values on Oregon rivers. Salem, Oregon. April 1987. 71 pp; (30) Oregon Land Conservation and Development Commission. 1984. Oregon coastal management program. Salem, Oregon. 63 pp; (31) Oregon State Board of Forestry. 1982. Forestry program for Oregon: an action program for the eighties. Salem, Oregon. May 1982. 57 pp; (32) Oregon State Game Commission. 1963-1975. Fish and wildlife resourcesB18 basins. Portland, Oregon. 21 reports; (33) Oregon State Parks and Recreation Division. 1983. Statewide Comprehensive Outdoor Recreation Plan. Salem, Oregon. August 1983. 91 pp. and appendices; (34) Oregon State Parks and Recreation Division. Undated. The Oregon scenic waterways program. Salem, Oregon. 75 pp; (35) Oregon State Water Resources Board. 1973. Surface area of lakes and reservoirs. Salem, Oregon. 43 pp; (36) Oregon Water Resources Commission. 1985. State of Oregon water use programs. Salem, Oregon. June 20, 1985; (37) Oregon Water Resources Commission. 1987. State of Oregon water use programs. Salem, Oregon. 295 pp; (38) Oregon Water Resources Department. 1985. Biennial report, 1985-1987. Salem, Oregon. January 1985. 58 pp; (39) Oregon Water Resources Department. 1988. Oregon Water Laws. Salem, Oregon. 240 pp; (40) Pacific Fishery Management Council. 1988. Eighth amendment to the fishery management plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1978. Portland, Oregon. January 1988; (41) Pacific Fishery Management Council. 1999. Appendix A - Identification and description of essential fish habitat, adverse impacts, and recommended conservation measures for salmon: Amendment 14 to the Pacific coast salmon plan. Portland, Oregon. August 1999. 146 pages; (42) Pacific Fishery Management Council. 1999. Appendix B - Description of the ocean salmon fishery and its social and economic characteristics: Amendment 14 to the Pacific coast salmon plan. Portland, Oregon. August 1999. 109 pages; (43) Pacific Fishery Management Council. 2000. Amendment 14 to the Pacific coast salmon plan (1997). Portland, Oregon. May 2000.



alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefit and the costs of a project, and reasonable alternatives to the project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

107. Based on current economic conditions, without future escalation or inflation, the North Umpqua Project, if licensed in accordance with the Agreement as proposed by PacifiCorp, would produce an average of about 820,900 megawatthours (MWh) of energy, annually, at a cost of about \$29.4 million [about 35.8 mills/kilowatthour (kWh)] or about \$10.3 million (12.6 mills/kWh) less than the current cost of an equivalent amount of energy using alternative power sources.<sup>26</sup> Under the terms required by this license, the project provides the same amount of energy (820,900 MWh) at an annual cost that is about \$18,000 more than the annual cost for the Agreement alternative proposed by PacifiCorp.

## **COMPREHENSIVE DEVELOPMENT**

108. Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. §§ 797(e) and 803(a)(1), respectively, require the Commission, in acting on license applications, to give equal consideration to the development and environmental uses of the waterway on which a project is located. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

109. PacifiCorp's relicensing proposal incorporates the provisions of the Agreement reached by PacifiCorp and the federal and state agencies. That Agreement addresses a wide range of environmental issues, including fish passage, fish habitat creation and protection, wildlife protection, enhancement of visual and recreational resources, erosion protection, and mitigation for impacts to fish and wildlife. The federal and state agencies that are signatories agree that the protection, mitigation, and enhancement measures contained in the Agreement will be adequate to protect resources under their

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<sup>26</sup>Commission staff's estimate of energy benefits is based on peak and off-peak energy values of 34.4 mills/kWh and 27.4 mills/kWh, respectively, and a capacity value of \$73.8/kW-year applied to the dependable capacity of the project. These values are from PacifiCorp and are based on average of November 2001 "Prompt Month Prices" at the California-Oregon Border.

jurisdiction that are affected by project operations, and the agencies have modified their mandatory and recommended conditions to achieve consistency with the Agreement.

110. The Commission staff analyzed the Agreement-based proposal and recommended additional conditions. The staff recommends that a number of plans included in the Agreement for monitoring and implementing enhancement measures should be submitted to the Commission for review and approval prior to their implementation. These include an erosion control plan; plans for implementing, monitoring, and evaluating the Slide Creek Bypass Reach Habitat Enhancement Project, the Gravel Augmentation Program, and the North Umpqua Habitat Restoration/Creation Project; final plans for providing wildlife crossings and underpasses; the study plan for reevaluating instream flows pertaining to the Clearwater No. 2 bypass reach; the anadromous fish monitoring plan for the Slide Creek full-flow reach; post-construction evaluation plans for upstream and downstream fish passage at the Soda Springs, Lemolo No. 2, and Fish Creek dams; and site-specific plans for enhancing, restoring, or creating riparian habitat and wetlands. Staff also recommends that PacifiCorp resume operation of the existing gage at Boulder Creek, post real-time flow data on the internet for this gage and all other project gages for the benefit of recreational boaters, and provide notice to the public of scheduled maintenance releases at the project developments. With the addition of these measures, the FEIS recommends adoption of PacifiCorp's proposal.

111. Based on our review of the Commission staff's analysis of the applicant's proposal and of other alternatives, we find that the offer of settlement is in the public interest, and we conclude that operation of the project as proposed, with the additional enhancement measures recommended by staff, will be best adapted to a comprehensive plan for the use, conservation, and development of the North Umpqua River and its tributaries for beneficial public purposes. Operation of the project in the manner required by this license will protect and enhance fish and wildlife resources, water quality, recreational resources, and cultural resources. The electricity generated from the North Umpqua Project will be beneficial, because it will continue to reduce the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable energy resources and reducing atmospheric pollution.

112. Each of the sets of mandatory and recommended conditions discussed above either sets out protection, mitigation, and enhancement measures contained in the Agreement, as amended, including its Appendices and Schedules, or provides for inclusion in the license of all or some of those measures. As noted earlier, "protection, mitigation, and enhancement measures," as defined in the Agreement, are the measures set forth in Sections 4 through 19 of the Agreement to protect and enhance the project environment and to mitigate for the project's adverse impact. Some of the submitted conditions also

require or recommend the licensee's compliance with other parts of the Agreement, notably with the commitments contained in plans referred to in the Agreement, as amended, including its Appendices and Schedules.

113. The material referred to by the conditions essentially encompasses the substantive provisions of the Agreement that relate to the project's operations and environmental effects. This material is extensive and complex, and it cannot practicably be reduced to license articles that would include every provision and detail. Similarly, the material is too extensive to be attached in its entirety as an appendix to this license order. However, most of the Agreement provisions to which the conditions refer will be made conditions of the license through ordering paragraphs that incorporate the mandatory conditions (those of the water quality certification and those submitted under FPA Sections 4(e) and 18) as license conditions. To the extent that provisions in the Agreement are not covered by the mandatory conditions, but have been included in other conditions submitted by the governmental parties to the Agreement and have been recommended by staff, those provisions will be made conditions of the license through specific license articles. This combination of mandatory conditions and license articles should ensure that all of the substantive provisions of the Agreement relating to operation of the project will be made requirements of the license.<sup>27</sup>

114. Finally, certain provisions of the Agreement or of the agencies' conditions contemplate the possibility that the licensee may undertake actions, such as mitigation measures, outside of the present project boundary. If any such actions become required, the licensee will have to request an amendment of the license to include within the project boundary the lands on which those measures will occur.

## LICENSE TERM

115. Section 15(e) of the FPA<sup>28</sup> specifies that any license issued shall be for a term that

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<sup>27</sup> Some provisions of the Agreement, such as those that recite the purposes of the Agreement, management goals, and certain procedural obligations and rights among the Agreement parties, were not the subject of the submitted conditions and, moreover, do not establish requirements that relate to the licensee's operation of the project or to the project's environmental effects. Therefore, they are not incorporated as requirements of the license through inclusion of the mandatory conditions and the license articles. These provisions are found, for example, in Sections 1 through 3, 20, and 22 through 24, and Appendix F.

<sup>28</sup>16 U.S.C. § 808(e).

the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years from the date on which the license is issued. Commission policy is to grant 30-year license terms for projects with little or no redevelopment, new construction, or new environmental mitigation and enhancement requirements; 40-year terms for projects with a moderate amount thereof; and 50-year terms for projects with extensive amounts thereof. Based on the amount of new environmental mitigation and enhancement measures required by this license, and in consideration of the license term specified in the Agreement, this license will be for a period of 35 years effective the first day of the month this license is issued.

The Commission orders:

(A) This license is issued to PacifiCorp for a period of 35 years, effective the first day of the month in which this license is issued. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interest in those lands, enclosed by the project boundary shown by Exhibit G, as resubmitted February 21, 2000:

EXHIBITS	FERC NO.	TITLE
G	1927-1001	General Locale
G-1 through G-101	1927-1002 through 1927-1102	Project Boundary
G- 102	1927-1103	Project Boundary Traverse Table

(2) Project works consisting of:

The Lemolo No. 1 Development, which consists of: (1) a 120-foot-high, 885-foot-long rockfill dam with concrete facing and a spillway consisting of a 33-foot-long gated, ogee-crested spillway section and a 67-foot-long ungated, ogee-crested concrete spillway section equipped with 3-foot-high flashboards; (2) Lemolo Lake, a 419-acre reservoir with a total storage of 11,752 acre-feet; (3) a 16,310-foot-long, gunite-lined and concrete canal; (4) a concrete penstock intake structure and forebay with trashrack and 15.9-foot-wide Taintor gate; (5) a 7,338-foot-long steel penstock with diameter ranging from 9.7 feet to 7.0 feet at the powerhouse; (6) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 29,000

kW; and appurtenant facilities.

The Lemolo No. 2 Development, consisting of: (1) a 350-foot-long, 25-foot-high un-gated, ogee-crested, concrete gravity dam with flashboards and fish ladder; (2) a 1.4-acre reservoir with no active storage; (3) a concrete intake structure equipped with fish screens, fish bypass, trashrack, Taintor gate and side channel spillway; (4) a 69,503-foot-long open channel waterway of various construction and a 486-foot-long inverted siphon; (5) a 24.2-acre earthen forebay pond with a total maximum storage capacity of 230.6 acre-feet; (6) a 3,975-foot-long, steel penstock with diameter ranging from 10.5 feet to 7.3 feet at the powerhouse; (7) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 33,000 kW; and appurtenant facilities.

The Clearwater No. 1 Development, consisting of: (1) a 1,426-foot-long, 17-foot-high earthfill dam containing a 102-foot-long, un-gated, concrete spillway with flashboards, and incorporating a concrete intake structure equipped with trashrack, timber gate and side channel spillway; (2) an 11.8-acre reservoir with total maximum storage capacity of 30.2 acre-feet; (3) a 13,037-foot-long open channel waterway of various construction materials; (4) a 16.3-acre, clay-lined, excavated forebay and gated concrete intake structure with a total maximum storage capacity of 120.8 acre-feet; (5) a 4,863-foot-long steel penstock with diameter ranging from 6.7 feet to 5.0 feet at the powerhouse; (6) ) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 15,000 kW; and appurtenant facilities.

The Clearwater No. 2 Development, consisting of: (1) a 157-foot-long, 18-foot-high concrete dam including a 47-foot-long, concrete spillway section and an intake with trashrack; (2) a 1.2-acre reservoir containing no active storage; (3) a 31,235-foot-long open channel waterway of various construction materials; (4) an 8.6-acre, clay-lined excavated forebay and gated intake structure with a total maximum storage capacity of 70.7 acre-feet; (5) a 1,169-foot-long, steel penstock with diameter ranging from 7.2 feet to 6.3 feet at the powerhouse; (6) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 26,000 kW; and appurtenant facilities.

The Toketee Development, consisting of: (1) a 1,381-foot-long, 58-foot-high earthfill dam including a 310-foot-long, concrete spillway section; (2) a 96.9-acre reservoir with a total maximum storage capacity of 1,051 acre-feet; (3) a 6,994-foot-long waterway consisting of 1,664 feet of 144-inch-diameter, wood stave pipe; 1,250 feet of 12.0-foot-diameter, concrete-lined tunnel; and 4,080 feet of 16.5-foot-diameter, unlined tunnel; (4) a 1,067-foot-long, steel penstock with diameter ranging from 7.2 feet to 6.3 feet at the powerhouse and containing a 128-foot-high, 40-foot-diameter steel surge tank;

(6) a reinforced concrete powerhouse containing 3 equal size, vertical shaft Francis-type turbine and generator sets with a combined rated capacity of 42,500 kW; and appurtenant facilities.

The Fish Creek Development, consisting of: (1) a 133-foot-long, 6.5-foot-high concrete dam including a 30-foot-long, ogee spillway section, a fishway and sluiceway; (2) a 3-acre reservoir containing no active storage; (3) a 25,662-foot-long open channel waterway of various construction materials; (4) a 9.3-acre, clay-lined excavated forebay and gated intake structure with a maximum total storage capacity of 110.3 acre-feet; (5) a 2,358-foot-long, steel penstock with diameter ranging from 4.5 feet to 3 feet at the powerhouse; (6) a reinforced concrete powerhouse containing a single vertical shaft impulse-type turbine and generator with a rated capacity of 11,000 kW; and appurtenant facilities.

The Slide Creek Development, consisting of: (1) a 183-foot-long, 30-foot-high concrete dam including a 72-foot-long, gated, concrete ogee spillway section and a gated, concrete intake structure with trashrack; (2) 2-acre reservoir containing a maximum total storage capacity of 43 acre-feet; (3) a 9,653-foot-long open channel waterway of various construction materials; (4) a concrete penstock intake structure with trashracks and Taintor gate; (5) a 374-foot-long, 12-foot-diameter steel penstock; (6) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 18,000 kW; and appurtenant facilities.

The Soda Springs Development, consisting of: (1) 309-foot-long, 77-foot-high concrete arch dam including a 72-foot-long, gated, concrete ogee spillway section; (2) a 31.5-acre reservoir with a total maximum storage capacity of 411.6 acre-feet; (3) a 2,112-foot-long, 12-foot-diameter steel pipe waterway between the intake at the dam and an 82-foot-high, 30-foot-diameter steel surge tank; (4) a 168-foot-long, 12-foot-diameter steel penstock; (6) a reinforced concrete powerhouse containing a single vertical shaft Francis-type turbine and generator with a rated capacity of 11,000 kW; and appurtenant facilities.

In addition to the above described 8 power developments, the project includes the following transmission facilities, as described in Exhibit A: (1) 117.5 miles of transmission lines, including two 115-kilovolt (kV) primary lines with lengths of 42.5 miles and 49.1 miles connecting the North Umpqua Project output to the regional electrical grid at the Dixonville substation and several radial collector lines that transmit the power from the individual developments to switching stations at Toketee and Clearwater; (2) numerous transformers, substations and other appurtenant electrical facilities.

The project also includes the following support facilities: (1) Toketee Village,

consisting of the Toketee Control Center, nine project staff homes, water treatment facilities and an oil storage building; (2) Clearwater Village, consisting of 10 project staff homes, a guest cottage, 2 cottages, a bunkhouse, a meeting hall, a mess hall, cook's housing, shop buildings, warehouses, parking garage, and a fueling station; and (3) operator's homes located at the Lemolo No. 1, Lemolo No. 2, Clearwater No. 1 and Slide Creek developments.

The project works generally described above are more specifically shown and described by Exhibit A of the application and shown by Exhibit F:

Exhibit A:

Sections 1.0, 2.0, and 3.0 of Exhibit A, dated January, 1995, as modified by additional information filing dated February 21, 2000, by PacifiCorp in response to Requested Item No. 9.

Exhibit F:

EXHIBITS	FERC NO.	TITLE
Lemolo No. 1 Development		
F-1	1927-1104	Plan & Profile
F-2	1927-1105	Dam Plan
F-3	1927-1106	Dam Sections
F-4	1927-1107	Sections & Rating Curves
F-5	1927-1108	Proposed Forebay Plan & Section
F-6	1927-1109	Penstock Intake Plan & Elevations
F-7	1927-1110	Penstock Plan & Profile
F-8	1927-1111	Powerhouse Plan & Sections
F-9	1927-1112	Powerhouse Plan & Sections
Lemolo No. 2 Development		
F-11	1927-1113	Plan & Profile
F-12	1927-1114	Dam Plan & Sections
F-13	1927-1115	Concrete Flume & Gunitite-Lined Canal Sections
F-14	1927-1116	Forebay, Drop Structure, Spillway, Intake
F-15	1927-1117	Penstock Plan, Profile & Sections
F-16	1927-1118	Powerhouse Plan & Sections
F-17	1927-1119	Powerhouse Plan & Sections
F-18	1927-1120	Deer Creek & Karen Creek Diversions

F-19	1927-1121	Inverted Siphon Elevation & Cross Section
Clearwater No. 1 Development		
F-21	1927-1122	Plan & Profile
F-22	1927-1123	Dam Plan & Section
F-23	1927-1124	Forebay Plan & Sections, Spillway & Canal Sections
F-24	1927-1125	Penstock Plan, Profile & Sections
F-25	1927-1126	Powerhouse Plan & Sections
Clearwater No. 2 Development		
F-27	1927-1128	Development Plan & Profile
F-28	1927-1129	Dam & Canal Sections, Spillway Section
F-29	1927-1130	Forebay Plan, Intake Plan & Section, Drop Structure
F-30	1927-1131	Penstock Plan, Profile & Section
F-31	1927-1132	Powerhouse Plan & Sections
Toketee Development		
F-33	1927-1133	Plan & Profile
F-34	1927-1134	Dam General Plan
F-35	1927-1135	Dam Profile and Earth Dam Sections
F-36	1927-1136	Concrete Dam Structures
F-37	1927-1137	Intake Structure Plan & Sections
F-38	1927-1138	Dam Details of Power & Sluice Conduit
F-39	1927-1139	Diversion Dam, Sluice Stilling Basin
F-40	1927-1140	Conduit Cross Sections, Profile of Penstock
F-41	1927-1141	Powerhouse Plan
F-42	1927-1142	Powerhouse Section
F-43	1927-1143	Powerhouse Sections
F-44	1927-1144	Substation Location & Sections
Fish Creek Development		
F-46	1927-1145	Plan & Profile
F-47	1927-1146	Dam Plan & Sections, Canal Sections
F-48	1927-1147	Forebay Plan & Sections
F-49	1927-1148	Intake Structure Plan & Section
F-50	1927-1149	Penstock Plan & Profile
F-51	1927-1150	Powerhouse Plan & Sections
Slide Creek Development		
F-53	1927-1151	Plan & Profile



F-54	1927-1152	Dam Plan & Sections
F-55	1927-1153	Dam Sections
F-56	1927-1154	Conduit Profile & Sections
F-57	1927-1155	Penstock, Intake & Spillway, Penstock Profile & Sections
F-58	1927-1156	Powerhouse Plan & Sections
Soda Springs Development		
F-60	1927-1157	Plan & Profile
F-61	1927-1158	Dam Plan, Elevation & Section
F-62	1927-1159	Dam Sections
F-63	1927-1160	Dam Right Abutment Plan & Sections
F-64	1927-1161	Pipeline & Intake Structures, Plan & Sections
F-65	1927-1162	Penstock & Pipeline Profile & Sections, Surge Tank Plan & Sections
F-66	1927-1163	Powerhouse Plan & Sections

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

(C) The exhibits A, F, and G as designated in ordering paragraph (B) above are approved and made part of the license.

(D) This license is subject to the conditions submitted by the Oregon Department of Environmental Quality under Section 401 of the Clean Water Act, as those conditions are set forth in Appendix A to this order.

(E) This license is subject to the conditions submitted by the U.S. Department of Agriculture, Forest Service, under Section 4(e) of the FPA, as those conditions are set forth in Appendix B to this order, to the extent those conditions apply to project lands and facilities located within the Umpqua National Forest. The Commission reserves the right to amend this license as appropriate in light of the Forest Service's ultimate disposition of any appeals of, or modifications to, the mandatory Section 4(e) conditions that might arise.

(F) This license is subject to the conditions submitted by the U.S. Department of the Interior, Bureau of Land Management, under Section 4(e) of the FPA, as those

conditions are set forth in Appendix C to this order, to the extent those conditions apply to project lands and facilities located within the Bureau's reservation. The Commission reserves the right to amend this license as appropriate in light of the Bureau's ultimate disposition of any appeals of, or modifications to, the mandatory Section 4(e) conditions that might arise.

(G) This license is subject to the prescription submitted by the U.S. Department of the Interior, Fish and Wildlife Service, under Section 18 of the FPA, as set forth in Appendix D to this order.

(H) This license is subject to the prescription submitted by the U.S. Department of Commerce, National Marine Fisheries Service, under Section 18 of the FPA, as follows:

NMFS hereby incorporates the relevant fish passage requirements contained in the June 13, 2001 Settlement Agreement into its section 18 fishway prescriptions. The licensee shall completely and fully comply with all terms and conditions of the June 13, 2001, North Umpqua Settlement Agreement relating to fish passage measures at the Project, including those fish passage measures and associated schedules discussed in section 4 and Appendix A and B of the Agreement. [filed December 11, 2001]

In accordance with paragraph 7 of the Amendment and the Commission's February 6, 2003, notice, NMFS hereby modifies and amends its previously filed . . . Fishway Prescriptions, incorporated here by reference, to (1) adopt and incorporate the terms of the Amendment; and (2) delete reference to conflicting and outdated sections of the . . . Settlement Agreement that were changed by the Amendment. All references to the Settlement Agreement in NMFS' previously filed . . . Fishway Prescriptions shall be deemed to refer to the Settlement Agreement as modified by the Amendment. [filed March 7, 2003]

(I) This license is subject to the articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States," 54 FPC 1792, 1799 (October 1975), and the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States the following annual charges as determined by the Commission, effective the first day of the month in which this license is issued for the purposes of:

(A) Reimbursing the United States for the cost of administration of Part I of the Federal Power 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 185,500 kilowatts.

(B) Recompensing the United States for the use, occupancy and enjoyment of 1,683 acres of its lands, other than transmission line right-of-way.

(C) Recompensing the United States for the use, occupancy and enjoyment of 936 acres of its lands for project transmission lines.

Article 202. Amortization Reserve. Pursuant to Section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used to determine surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one-half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment.

To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from 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 rate for such ratios shall be the weighted average cost of long-term debt and preferred stock 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 203. Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

(a) Four sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Drawing Number (e.g., P-1927-1001 through P-1927-1163) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

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

State Director  
Oregon State Office  
Bureau of Land Management  
Lands and Minerals Adjudication Section (OR-943.3)  
P.O. Box 2965  
Portland, OR 97208-0039  
ATTN: FERC Withdrawal Recordation

(b) The licensee shall file two separate sets of exhibit drawings in electronic format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. Each drawing must be a separate electronic file, and the file name shall include: FERC Drawing Number, FERC Exhibit, Drawing Title, date of this license and file extension [e.g., P-1927-1001, G-1, Project Boundary, 11-13-2003.TIF]. Electronic drawings shall meet the following format specification:

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

(c) The licensee shall file three separate sets of the project boundary data in a geo-referenced electronic format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format) with the Secretary of the Commission, ATTN: OEP/DHAC. The file name shall include: FERC Project Number, data description, date of this license,

and file extension [e.g., P-1927, boundary vector data, 11-13-2003.SHP]. The electronic boundary data must be positionally accurate to  $\pm 40$  feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. Each sheet must contain a minimum of three known reference points. The latitude and longitude coordinates, or state plane coordinates, or each reference point must be shown. The data must include a text file describing the map projection used (i.e., UTM, State Plane, Decimal Degrees, etc), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-1927, boundary metadata, 11-13-2003.TXT].

Article 204. Headwater Benefits. If the project is directly benefitted by the construction work of another licensee, a permittee, or of the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 205. Land Clearing. The licensee shall clear and keep clear to an adequate width all 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 result from maintenance, operation, or alteration of the project works. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 301. Plans and Specifications. At least 60 days before the start of any construction under this license (trashracks, fish passage, recreation, etc.), the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections-Portland Regional Office Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the final contract drawings and specifications for pertinent features of the project such as water retention structures, powerhouse, and water conveyance structures. The plans and specifications should include a blasting plan, if applicable. The Commission may require changes in the plans and specifications to assure construction is performed in a safe and environmentally sound manner. Construction may not commence until authorized by the Regional Engineer. If the licensee plans substantial changes to location, size, type, or purpose of the water retention structures, powerhouse, or water conveyance structures, the plans must be accompanied by revised Exhibit F and G

drawings, as necessary.

Article 302. *As-Built Drawings.* Within 90 days of completion of construction of the facilities directed by any article of this license (trashracks, fish passage, recreation, etc.), the licensee shall file for Commission approval revised Exhibits A, F, and G as appropriate, to show those project facilities as-built.

Article 303. *Project Boundary Changes.* Within 90 days of Commission approval of any plan required by this license that would require a change in the project boundary, the licensee shall file, for Commission approval, a revised Exhibit G and narrative statement as an application to amend its license. The revised Exhibit G shall show all project works including recreation enhancements, access roads, transmission lines and any other lands necessary for project purposes in the project boundary. The narrative statement shall explain any changes to the proposed project boundary and the amount of federal land occupied by the project, and how the proposed project boundary includes all lands necessary for project purposes.

Article 304. *Quality Control and Inspection Program.* At least 60 days before starting any construction under this license (trashracks, fish passage, recreation, etc.), the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections-Portland Regional Office Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Quality Control and Inspection Program (QCIP) for the Commission's review and approval. The QCIP shall include a sediment and erosion control plan.

Article 305. *Contractor-Designed Cofferdams.* Before starting any construction under this license (trashracks, fish passage, recreation, etc.) that requires the construction of coffer dams, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations. At least 30 days before starting construction of the cofferdams, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections-Portland Regional Office Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 306. *Temporary Emergency Action Plan.* At least 60 days before starting any construction under this license (trashracks, fish passage, recreation, etc.), the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections-Portland Regional Office Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections),

of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case of failure of a cofferdam, any large sediment control structure, or any other water retaining structure that could endanger construction workers or the public. The TEAP shall include a notification list of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 401. Commission Approval, Reporting, and Filing of Amendments.

(a) Requirement to File Plans for Commission Approval.

Various conditions of the Settlement Agreement filed on June 21, 2001, as amended on November 4, 2002, and conditions submitted by the "Governmental Parties" established pursuant to the Settlement Agreement require the licensee to prepare plans in consultation with one or more of those Governmental Parties. Each such plan identified below, with a reference to a source of its requirement, shall also be submitted to the Commission for approval and must be approved by the Commission before being implemented by the licensee. Within 6 months of issuance of this license, the licensee, after consultation with the appropriate agencies, shall file with the Commission a schedule for submittal of each of these plans for Commission approval. The Commission reserves the right to make changes to the plans.

Settlement Agreement Condition No.	Plan
4.1.1(a)	Soda Springs Upstream Fish Passage Plan (designs, operations, and maintenance)
4.1.1(d)	Soda Springs Upstream Fish Passage Postconstruction Evaluation Plan
4.1.1 (f)	Soda Springs Tailrace Barrier Final Designs
4.1.1 (f)	Slide Creek Tailrace Barrier Final Designs
4.1.2 (a)	Soda Springs Downstream Fish Passage Plan (designs, operations, maintenance, and postconstruction evaluation)

4.1.2(f)	Soda Springs Spillway modifications final design
4.3.1(a)	Lemolo No. 2 Upstream Fish Passage Plan
4.3.1(c) and (d)	Fish Creek and Lemolo No. 2 Upstream Fishway operation, maintenance, and postconstruction evaluation plans
4.3.2(a) and (b)	Fish Creek fish screen design plan including operation, maintenance, and postconstruction evaluation plans
5.2	Study Plan for reevaluating Clearwater No. 2 bypassed reach instream flows
6.2.1	Slide Creek Full-Flow Reach Monitoring Plan
7.2.1	Gravel Augmentation Program Implementation Plan
7.2.2	Gravel Augmentation Program Monitoring Plan
8.2.1	Slide Creek Implementation Plan
8.2.2	Slide Creek Monitoring Plan
8.3.2	North Umpqua River Habitat Restoration/Creation Implementation Plan
8.3.3	North Umpqua River Habitat Restoration/Creation Monitoring Plan
10.5	White Mule Creek and Potter Creek Restoration Plan
11.3	Wildlife Crossings



	Monitoring Plan
11.5	Wetland Restoration Plan
14.1	Erosion Control Plan
401 Condition No.	Plan
2	Plan and schedule for dredging Lemolo No. 1 forebay or other measures to address pH exceedances, if necessary
4(e) Condition No. (FS)	Plan
11	Spoils Disposal
12	Fire Suppression
13	Solid Waste and Waste Water
14	Spill Prevention and Control, and Hazardous Materials Management

As to each plan, the licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons, based on project-specific information. The Commission reserves the right to make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in the project operations or facilities, including any changes recommended by the Commission.

(b) Requirement to File Documentation of Completion.

The licensee shall also file with the Commission documentation of completion, including as-built drawings as appropriate, of the following facilities or activities.

Settlement Agreement Condition No.	Facility or Activity	Due Date from License Issuance
11.1	Big Game Bridges	1 year
11.4	Wildlife Underpasses	2 years
12.1	Vegetation Management Plan	6 months

15.1	Transportation Management Plan	6 months
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(c) Requirement to File Amendment Applications.

Certain conditions in the Section 401 Water Quality Certification and the Settlement Agreement contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. The conditions are listed below.

401 Condition No.	Modification
1	Implementation of additional temperature reduction measures, if needed
9	Implementation of additional measures to address total dissolved gas saturation levels, if needed
Settlement Agreement Condition No.	Modification
14.2	Implementation of additional waterway drainage modifications, if needed
4.1.1, 4.1.2, 4.3.1, and 4.3.2	Implementation of additional upstream and downstream fish passage measures

Article 402. Ecological Monitoring. The licensee, when preparing the monitoring plans identified below, shall consider, as appropriate, biological or ecological objectives of the monitoring, procedures and criteria for evaluating effects of the measures, and if needed, recommendations for developing any additional contingency environmental measures based on the results of the monitoring:

Settlement Agreement Condition No.	Monitoring Plan
4.1.1(d)	Soda Springs Upstream Fish Passage Post-construction Evaluation Plan
4.1.2(a)	Soda Springs Downstream Fish Passage Plan
4.3.1(c) and (d)	Fish Creek and Lemolo No. 2 Upstream Fishway Operation, Maintenance, and Post-construction Evaluation Plans
4.3.2(a) and (b)	Fish Creek Fish Screen Design Plan

5.2	Study Plan for Reevaluating Clearwater No. 2 Bypassed Flows
6.2.1	Slide Creek Full-Flow Reach Monitoring Plan
7.2.2	Gravel Augmentation Program Monitoring Plan
8.2.2	Slide Creek Monitoring Plan
8.3.3	North Umpqua River Habitat Restoration/Creation Monitoring Plan
11.3	Wildlife Crossing Monitoring Plan
11.5	Wetland Restoration Plan

In addition, the final monitoring plans for the wildlife crossings required by Settlement Agreement condition 11.3 shall describe final locations of the wildlife crossings and the criteria for deciding if four additional crossings should be installed.

Article 403. *Flow monitoring plan.* Within 6 months of license issuance, the licensee shall file with the Commission, for approval, a plan to monitor instream flows as specified in Settlement Agreement Condition No. 5.5 including the additional provisions set forth below.

The plan shall include, at a minimum;

- (1) a schedule for installing all flow-measuring devices, resuming operation of the existing gage at Boulder Creek (USGS gage no. 14316495), posting real-time flow data on the internet for the Boulder Creek gage and all other project gages, and providing notice to the public of scheduled maintenance releases at the project developments;
- (2) the proposed locations of the flow-measuring devices; and
- (3) the method of flow data collection, and provisions for providing data to the regulatory agencies in a timely manner.

The licensee shall prepare the plan after consultation with the U.S. Geological Survey, Forest Service, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Water Resources Department, and American Whitewater Affiliation.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30

days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific information.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities for installation of the monitoring devices shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. *Spawning Habitat Enhancement.* Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service on December 17, 2002, the licensee shall perform spawning habitat enhancement measures in accordance with Sections 8.1 through 8.3.5 of the Settlement Agreement (as amended).

Article 405. *Enhancement Funding.* Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service on December 17, 2002, the licensee shall fund tributary enhancement, long-term monitoring and predator control plans, a mitigation fund and an early implementation fund in accordance with Sections 19.1 through 19.5.4 of the Settlement Agreement.

Article 406. *Vegetation Management Plan.* Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service on December 17, 2002, the licensee shall file within 6 months of license issuance, a final vegetation management plan for Commission approval that is consistent with Section 12.1 of the June 21, 2001, Settlement Agreement and includes the following provisions:

- a) Alteration or disturbance of the stream banks and existing riparian vegetation will be minimized to the greatest extent possible.
- b) No herbicide application shall occur as part of this action. Mechanical removal of undesired vegetation and root nodes is permitted.
- c) Clearing limits shall be identified and marked. Construction activity or movement of equipment into existing vegetated areas shall not begin until clearing limits are marked.
- d) All existing vegetation within 150 feet of the edge of bank, downstream from Soda Springs dam should be retained to the greatest extent possible.

The licensee shall prepare the plan after consultation with the U.S. Forest Service, Bureau of Land Management, and National Marine Fisheries Service.

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

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. Construction plan. Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service on December 17, 2002, within 6 months of license issuance, the licensee shall file, for Commission approval, a construction plan for activities located in or near watercourses.

The plan shall include the following provisions:

- a) All in-water work occurring on the downstream side of Soda Springs dam shall be completed within the work period of July 1 and September 15.
- b) No in-water work on the downstream side of Soda Springs dam shall take place outside this work period without prior written authorization from NOAA Fisheries, in consultation with the Oregon Department of Fish and Wildlife.
- c) Construction activities associated with habitat enhancement and erosion control measures shall meet or exceed best management practices and other performance standards contained in the Oregon Department of Environmental Quality for the National Pollutant Discharge Elimination System ("NPDES") 1200-CA permit (General NPDES Stormwater Discharge Permit).
- d) All erosion control devices shall be inspected weekly, at a minimum, during construction to ensure that they are working adequately.
- e) Erosion control materials (e.g., silt fence, straw bales, aggregate) in excess of those installed shall be available on site for immediate use during emergency erosion control needs.
- f) Vehicles operated within 150 feet of the waterway are free of fluid leaks. Daily examination of vehicles for fluid leaks is required during periods operated within or above the waterway.
- g) During completion of habitat enhancement activities, no pollutants of any kind

- (sewage, waste spoils, petroleum products, etc.) shall come in contact with the water body or wetlands nor their substrate below the mean high-high water elevation or 10-year flood elevation, whichever is greater.
- h) Any areas used for staging, access roads, or storage are to be evacuated and all materials, equipment, and fuel shall be removed if flooding of the area is expected to occur within 24 hours.
  - i) Vehicle maintenance, re-fueling of vehicles and storage of fuel shall be done at least 150 feet from the waterway.
  - j) At the end of each work shift, vehicles shall not be stored within or over the waterway.
  - k) Prior to operating within the waterway, all equipment shall be cleaned of external oil, grease, dirt or caked mud. Any washing of equipment shall be conducted in a location that shall not contribute untreated wastewater to any flowing stream or drainage area.
  - l) Temporary erosion and sediment controls will be used on all exposed slopes during hiatus in work exceeding 7 days.
  - m) Material removed during excavation will only be placed in locations where it cannot enter sensitive aquatic resources. Whenever topsoil is removed, it shall be stored and reused on-site to the greatest extent possible.
  - n) Alteration or disturbance of the stream banks and existing riparian vegetation will be minimized to the greatest extent possible.
  - o) No herbicide application shall occur as part of this action. Mechanical removal of undesired vegetation and root nodes is permitted.
  - p) Clearing limits shall be identified and marked. Construction activity or movement of equipment into existing vegetated areas shall not begin until clearing limits are marked.
  - q) All existing vegetation within 150 feet of the edge of bank, downstream from Soda Springs dam should be retained to the greatest extent possible.

The licensee shall prepare the plan after consultation with the U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and Oregon Water Resources Department.

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

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 408. *Post-construction monitoring reports.* Pursuant to the terms and conditions of the incidental take statement filed by the National Marine Fisheries Service on December 17, 2002, the licensee shall provide the National Marine Fisheries Service with post-construction monitoring reports of erosion control measures required by Article 407. The reports must include narratives describing the nature of best management practices implemented to reduce erosion for habitat enhancement actions and any failures experienced with erosion control measures and efforts made to correct them.

Article 409. *Spotted Owl management.* Pursuant to the terms and conditions of the incidental take statement filed by the U.S. Fish and Wildlife Service on December 23, 2002, the licensee shall manage disturbance-causing activities within 0.25 miles of unsurveyed suitable spotted owl nesting, roosting, and foraging habitat by minimizing the number and extent of these activities between March 1 and July 15 during each year of the license.

Article 410. *Deer management.* Pursuant to the terms and conditions of the incidental take statement filed by the U.S. Fish and Wildlife Service on December 23, 2002, the licensee shall, while operating in deer fawning habitat, perform vegetation management and powerline maintenance activities outside the fawning period (May through July) whenever it is feasible. Activities which must be conducted in deer habitat during the fawning period will be documented in the annual monitoring report required by Article 411.

Article 411. *Threatened and Endangered Species monitoring.* Pursuant to the terms and conditions of the incidental take statement filed by the U.S. Fish and Wildlife Service on December 23, 2002, the licensee shall monitor and file an annual report with the U.S. Fish and Wildlife Service and the Commission for all actions which are likely to adversely affect a listed species (bald eagle, northern spotted owl, Columbia white-tailed deer). This monitoring will ensure that the actual levels of incidental take will not exceed the anticipated levels defined in the U.S. Fish and Wildlife Service's incidental take statement and will facilitate tracking of the habitat baseline. Progress on activities addressed in the U.S. Fish and Wildlife Service's biological opinion will be reported on an annual basis, with a report submitted by January 31 for the preceding year. A copy of the report shall also be filed at the same time with the Commission. This report will describe the progress on activities during the previous year, (i.e. the January 31, 2004

report will describe progress of the year 2003 activities) as well as activities previously consulted on but still to be implemented. The monitoring report shall include, but is not limited to, the following items:

- a) The number of hazard trees greater than or equal to 12 inches in diameter-at-breast-height (dbh)(greater than or equal to 16 inches dbh for lodgepole pine) felled and down trees bucked in the following three land categories: designated critical habitat for the northern spotted owl; suitable northern spotted owl nesting, roosting, foraging (NRF) habitat; and riparian reserve (break out lodgepole pine series activities and summarize separately).
- b) When in suitable NRF habitat, provide a subset of totals which were felled/bucked during the bald eagle nesting season (1 January – 15 August). This information may be summarized by Forest Service District, plant series, or by individual powerline.

The licensee shall also meet with the Umpqua National Forest Level 1 team before the end of February of each year to evaluate the information included in, and the format of the annual monitoring reports. The Level 1 team will assess the value of the information provided in the reports in determining the impacts of anticipated incidental take to listed species, will determine if the level of incidental take has been exceeded, and may recommend how the terms and conditions of the incidental take may be modified. Any recommendations for modifying the terms and conditions of the incidental take statement made by the Level 1 team shall be reported to the Commission within 30 days. The Commission reserves the right to require changes to the license to address any modifications to the incidental take statement.

Article 412. Bald Eagle reporting. Pursuant to the terms and conditions of the incidental take statement filed by the U.S. Fish and Wildlife Service on December 23, 2002, the licensee shall immediately report to the U.S. Fish and Wildlife Service and the Commission all new bald eagle nests and roost sites discovered within the project area. The licensee shall conduct a risk assessment and modify those primary power poles subject to Commission jurisdiction in the immediate vicinity of the new nest or roost site, consistent with the standards and procedures described in Avian Power Line Interaction Committee's "Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 1996," as it may be modified from time to time.

Article 413. Reservation of Authority-Fishways. Pursuant to Section 18 of the Federal Power Act, authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and



maintenance, of such fishways as may be prescribed by either the Secretary of the Interior or the Secretary of Commerce.

Article 414. Historic Properties. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Oregon Historic Preservation Officer for Managing Historic Properties that May be Affected by a License Issuing to PacifiCorp for the Operation of the North Umpqua Hydroelectric Project in Douglas County, Oregon (FERC No. 1927)," executed on January 3, 2003, and including but not limited to the Cultural Resources Management Plan (CRMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved CRMP. The Commission reserves the authority to require changes to the CRMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the CRMP, the licensee shall obtain approval from the Commission and the Oregon State Historic Preservation Officer before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effect.

Article 415. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, such action includes, as 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) non-commercial 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;

- (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and
- (4) food plots and other wildlife enhancement.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements.

Before granting permission for construction of bulkheads or retaining walls, the licensee shall:

- (1) inspect the site of the proposed construction;
- (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and
- (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline.

To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for:

- (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained;
- (2) storm drains and water mains;
- (3) sewers that do not discharge into project waters;
- (4) minor access roads;
- (5) telephone, gas, and electric utility distribution lines;
- (6) non-project overhead electric transmission lines that do not require

erection of support structures within the project boundary;

- (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and
- (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir.

No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for:

- (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained;
- (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained;
- (3) other pipelines that cross project lands or waters but do not discharge into project waters;
- (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained;
- (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina;
- (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and
- (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G 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 the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters; and
- (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.

(J) The licensee shall serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(K) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

( S E A L )

Linda Mitry,  
Acting Secretary.

**APPENDIX A**

**Clean Water Act § 401 Certification Conditions  
for the  
PacifiCorp  
North Umpqua Hydroelectric Project  
(FERC No. 1927)  
North Umpqua Subbasin,  
Douglas County, Oregon**

**[issued June 28, 2002]**

Upon Federal Energy Regulatory Commission (FERC) issuance of a new license for the Project, PacifiCorp shall comply with the following § 401 Certification conditions:

**1. Temperature**

- a. PacifiCorp shall implement the surface water temperature management plan (TMP) approved by the Oregon Department of Environmental Quality (ODEQ) in conjunction with this § 401 Certification (Certification) and attached as Exhibit A. In accordance with OAR 340-041-0026(3)(a)(D), the TMP identifies those measures that PacifiCorp will undertake to reduce the Project's contribution to exceedances of instream water quality criteria for temperature.
- b. PacifiCorp shall implement the Stream Temperature Monitoring Plan (STMP) approved by ODEQ in conjunction with this Certification and attached as Exhibit B. The STMP specifies the instream temperature monitoring reasonably needed to determine (a) whether the temperature criteria continue to be exceeded in waters of the North Umpqua Subbasin affected by the Project, (b) the success of the TMP in reducing the Project's contribution to any continued exceedances of the criteria, and (c) any additional measures that may be needed to reduce the Project's contribution to exceedances of the criteria.
- c. Upon the U.S. Environmental Protection Agency's (EPA) final approval of a Total Maximum Daily Load (TMDL) for temperature in waters of the North Umpqua Subbasin affected by the Project (or upon any modification to the TMDL that applies to those waters), ODEQ:

- (1) Will seek to require, in conjunction with designated management agencies and in accordance with applicable law, other anthropogenic sources within the North Umpqua Subbasin to implement measures to reduce their contributions to exceedances of the temperature criteria; and
  - (2) May reevaluate PacifiCorp's TMP in light of information acquired since the certification of the Project. If revised temperature reduction measures are feasible and necessary to meet an allocation for the Project under the approved TMDL (or under any modification to the TMDL approved by EPA), ODEQ may modify the TMP to require the revised measures, subject to the limits set forth in Exhibit C attached to this Certification. If the TMDL does not include a specific allocation for the Project, references to the "allocation for the Project" shall refer to the allocation that encompasses Project-related thermal contributions to waters in the North Umpqua Subbasin.
- d. At the end of the period determined by ODEQ to be necessary to implement the TMDL for temperature in waters of the North Umpqua Subbasin affected by the Project, ODEQ may:
- (1) Determine whether the TMDL and allocations for the Project have been achieved.
  - (2) If the TMDL and allocations for the Project have been achieved, PacifiCorp shall continue to implement its TMP unless, at PacifiCorp's request, ODEQ approves a modification or termination of the TMP.
  - (3) If the TMDL or an allocation for the Project has not been achieved, ODEQ may reevaluate PacifiCorp's TMP to determine whether additional measures to reduce the Project's contribution to exceedances of the temperature criteria are necessary and feasible. If additional measures are necessary and feasible, ODEQ may modify the TMP to require the additional measures, subject to the limits set forth in Exhibit C. Any modification of the TMP that would require the Project to reduce instream temperatures beyond what would be required by the allocation for the Project shall be effective only upon modification of the allocation to reflect the reductions.
  - (4) If (i) additional measures to reduce the Project's contribution to exceedances of the temperature criteria are necessary to achieve the TMDL, but the measures are not feasible, and (ii) the TMDL has not been achieved for waters affected by the Project, ODEQ shall verify whether all feasible measures have been undertaken within the North Umpqua River Subbasin to achieve the TMDL for waters affected by the Project.

- (5) If all feasible measures have not been undertaken, DEQ, in conjunction with designated management agencies, shall take steps to ensure that all feasible measures are undertaken.
  - (6) If all feasible measures have been undertaken, ODEQ shall determine whether designated beneficial uses of waters affected by the Project are adversely affected by the failure to achieve the TMDL.
  - (7) If the designated beneficial uses are not adversely affected by the failure to achieve the TMDL, PacifiCorp shall continue to implement its TMP unless, at PacifiCorp's request, ODEQ approves modification or termination of the TMP.
  - (8) If the designated beneficial uses are adversely affected by the failure to achieve the TMDL, ODEQ may modify the TMP to require additional temperature reduction measures, subject to the limits set forth in Exhibit C. Any modification of the TMP that would require the Project to reduce instream temperatures beyond what would be required by the allocation for the Project shall be effective only upon modification of the allocation to reflect the reductions.
- e. ODEQ may make reasonable and feasible modifications to the STMP if:
- (1) The STMP set forth in Exhibit B proves inadequate to provide the data needed to make determinations described in Paragraph 1.b., or
  - (2) Modifications to the TMP require modifications to the STMP .
- PacifiCorp shall implement modifications to the TMP and STMP made or required by ODEQ in accordance with this certification condition and Exhibits A–C. With the written approval of ODEQ, PacifiCorp may cease implementing the TMP or STMP or may implement a modified TMP or STMP. ODEQ may approve cessation or modification if ODEQ determines that it will not impair the achievement of any TMDL or allocation for the Project for temperature and will not contribute to an exceedance of the applicable temperature criteria in waters affected by the Project.
- f. PacifiCorp shall install a fish screen at the Fish Creek Diversion intake in accordance with Section 4.3.2 of the North Umpqua Hydroelectric Settlement Agreement among PacifiCorp, ODEQ, and other state and federal agencies dated June 13, 2001 (North Umpqua Settlement Agreement).
- g. PacifiCorp shall conduct scheduled maintenance in accordance with the North Umpqua Settlement Agreement Section 6.6.



## **2. Hydrogen Ion Concentration (pH)**

### **a. Lemolo No. 2 Full-flow Reach.**

To address pH criteria exceedances in the Lemolo No. 2 full-flow reach in the North Umpqua River below the Lemolo No. 2 powerhouse, PacifiCorp shall reroute the Lemolo No. 2 powerhouse discharge to Toketee Reservoir in accordance with the North Umpqua Settlement Agreement Section 5.4.

### **b. Project Maintenance.**

PacifiCorp shall conduct scheduled powerhouse maintenance in accordance with the North Umpqua Settlement Agreement Section 6.6. PacifiCorp shall conduct any ramping associated with Project maintenance in accordance with the requirements of the North Umpqua Settlement Agreement Section 6.6.

### **c. Lemolo No. 1 Forebay.**

(1) When the forebay is expanded as set forth in the North Umpqua Settlement Agreement Section 11.5, PacifiCorp shall design the forebay to allow mechanical removal of macrophyte growth without compromising the forebay's liner integrity.

(2) If aquatic plant growth in the forebay causes a pH criteria exceedance, PacifiCorp shall, at ODEQ's request, develop and submit for ODEQ's approval a plan and schedule to dredge the forebay or to take other measures to address the pH criteria exceedance. Upon ODEQ's approval, PacifiCorp shall implement the plan in accordance with the schedule contained in the plan.

### **d. Monitoring**

Monitoring is required as follows. ODEQ may waive or change the monitoring requirements at the request of PacifiCorp, or ODEQ may change the requirements on its own initiative if the revised requirements are feasible and reasonably necessary to determine whether and to what extent PacifiCorp contributes to an exceedance of applicable pH criteria in waters affected by the Project:

(1) Monitoring Below Soda Springs Powerhouse.

PacifiCorp shall monitor pH on an hourly basis at the permanent monitoring station located below Soda Springs Powerhouse (BLDG), or at another ODEQ-approved location in the North Umpqua River below the Project. PacifiCorp shall report data to ODEQ by December 31 for the preceding water year (October 1 to September 30). If data capture is less than 90 % on a water year basis or less than 95% during the months of June through September, except due to factors beyond the reasonable control of the operator or PacifiCorp, PacifiCorp shall install and operate a redundant pH monitor at BLDG (or at another ODEQ-approved location) for subsequent years of the new FERC License until PacifiCorp can demonstrate to ODEQ that one pH monitor is sufficient to reliably meet minimum data collection requirements.

(2) Lemolo No. 1 Forebay.

Following the expansion of the forebay as set forth in the North Umpqua Settlement Agreement Section 11.5, PacifiCorp shall monitor forebay pH in August by making at least one measurement between 1200 and 1800 hours 3 times per week and include a 24-hour diel sampling in August at the forebay inlet and the Lemolo No. 1 Powerhouse tailrace. PacifiCorp shall monitor annually the first and second year after the forebay expansion is completed, and every five years through the remaining term of the new FERC License. This monitoring requirement may be reviewed after the second year of monitoring and may be discontinued or modified with the approval of ODEQ. PacifiCorp shall report monitoring results to ODEQ by December 31 in years when monitoring occurs.

(3) Lemolo No. 2, Fish Creek, and Clearwater No. 1 Powerhouse Tailraces

PacifiCorp shall monitor pH at LEM2P, FISHP, and CLR1P at the completion of annual maintenance for 30 hours, starting 6 hours before generator restart and continuing until 24 hours after restart. Monitoring is to occur in the first year the maintenance schedule in the North Umpqua Settlement Agreement Section 6.6 is in effect. PacifiCorp shall report monitoring data to ODEQ by December 31. These monitoring requirements may be reviewed after the second year of monitoring and may be discontinued or modified with the approval of ODEQ.

**3. Biological Criteria, and Protection of Beneficial Uses of Anadromous Fish Passage, Salmonid Spawning, Salmonid Rearing, and Resident Fish & Aquatic Life Under Other Appropriate Laws**

a. Minimum Instream Flows

PacifiCorp shall provide in-stream flow in accordance with the North Umpqua Settlement Agreement Sections 5 and 10.4.

b. Flow Measurement and Reporting

(1) PacifiCorp shall develop a coordinated gauge installation and data reporting plan in accordance with the North Umpqua Settlement Agreement Section 5.5. PacifiCorp shall install and maintain gauge stations as established by the approved gauge installation and data reporting plan.

(2) By December 31 of each year, PacifiCorp shall submit to the ODEQ-Western Region an annual report with average hourly flows passed and diverted at the Project developments for the previous water year (October 1 to September 30).

c. Fish Passage Facilities

PacifiCorp shall implement fish passage measures in accordance with the North Umpqua Settlement Agreement Section 4.

d. Ramping

PacifiCorp shall implement ramping restrictions and measures in accordance with the North Umpqua Settlement Agreement Section 6.

e. Fluvial Geomorphic Processes

PacifiCorp shall implement fluvial geomorphic restoration measures in accordance with the North Umpqua Settlement Agreement Section 7.

f. Anadromous Fish Spawning Habitat Improvements

PacifiCorp shall implement measures to restore, create, and enhance spawning habitat in accordance with the North Umpqua Settlement Agreement Section 8.1.

g. Lemolo Reservoir Rule Curve

PacifiCorp shall manage the drawdown and reservoir operating level in accordance with the North Umpqua Settlement Agreement Sections 9.3 and 9.4.

h. Reconnecting Aquatic Sites

(1) PacifiCorp shall implement aquatic connectivity measures in accordance with the North Umpqua Settlement Agreement Sections 10.1, 10.2, 10.3, 10.6, and 15.6.

(2) PacifiCorp shall breach or alter diversions for Helen, Spotted Owl, Karen, Thorn, Potter, Deer, White Mule, and Mill Creeks in accordance with the North Umpqua Settlement Agreement Section 10.4.

i. Notification of Erosive Events

PacifiCorp shall notify Oregon Emergency Response System (1-800-452-0311) of erosive events and coordinate remedial measures in accordance with the North Umpqua Settlement Agreement Sections 14.3.2 and 14.3.3.

j. Water Quality Monitoring

PacifiCorp shall fund, operate, and maintain a permanent water quality monitoring station below Soda Springs powerhouse (BLDG). Data will be collected under an ODEQ-approved QA/QC plan, and compilations of data for the water year (October 1–September 30) will be provided electronically to ODEQ by December 31, or as soon as the data can be reasonably verified, whichever is later, in a format approved by ODEQ.

The initial parameters to be monitored at this station are specified elsewhere in this Certification. These parameters may be modified from time to time by ODEQ to reflect new regulations or adverse water quality trends in the North Umpqua River that ODEQ reasonably believes to be caused by the Project. The required detection limits in the QA/QC plan may be modified from time to time by ODEQ to reflect feasible new technology. PacifiCorp will have a minimum of six months after ODEQ

notice of new or changed monitoring requirements to implement the modifications. The QA/QC plan shall be developed within 6 months of the new FERC license.

#### **4. Aesthetic Conditions, Turbidity, and Sediment**

- a. PacifiCorp shall implement fluvial geomorphic process restoration measures in accordance with the North Umpqua Settlement Agreement Section 7.
- b. PacifiCorp shall implement Project bypass ramping restrictions and maintenance measures in accordance with the North Umpqua Settlement Agreement Sections 6.5 and 6.6, respectively.
- c. PacifiCorp shall install and maintain gauge stations in accordance with the North Umpqua Settlement Agreement Section 5.5.
- d. PacifiCorp shall undertake Project maintenance in accordance with the North Umpqua Settlement Agreement Section 6.6.b.
- e. PacifiCorp shall implement erosion and sediment control measures in accordance with the North Umpqua Settlement Agreement Sections 10.6, 12.1, and 14.
- f. PacifiCorp shall implement transportation management measures in accordance with the North Umpqua Settlement Agreement Sections 15.1 for bridge maintenance, 15.4 for erosion control and abatement, and 15.6 for fishery improvement or erosion control.
- g. PacifiCorp, when conducting ground-disturbing activities greater than one acre, shall comply with applicable provisions of ODEQ's NPDES stormwater permitting program. If the permit program ceases, PacifiCorp shall provide ODEQ with 60 days' written notice and obtain ODEQ approval in advance of ground-disturbing activities greater than one acre, and PacifiCorp shall use Best Management Practices (BMPs) to protect surface water from trace-metals and other toxic constituents, sediment, and turbidity.
- h. PacifiCorp shall provide 60 days' written notice and obtain ODEQ approval of dredging or removal of sediments from Project impoundments. PacifiCorp shall employ BMPs to protect surface water from trace-metals and other toxic constituents, sediment, and turbidity.
- i. PacifiCorp shall monitor turbidity hourly below the Project at BLDG or another ODEQ-approved location for the duration of the new FERC license unless otherwise

modified by agreement with ODEQ. PacifiCorp shall prepare a QA/QC plan for ODEQ approval within 6 months of the new FERC license that includes equipment reliability or redundancy to accomplish a 90% or better data capture on a water-year basis. Data loss due to reasons beyond the reasonable control of PacifiCorp or the operator will not be included in determining percent data capture.

- j. PacifiCorp shall manage Lemolo Reservoir levels in accordance with the North Umpqua Settlement Agreement Section 9.3. Erosion and sediment transport into Lemolo Reservoir will be evaluated through the Erosion Control Plan in accordance with the North Umpqua Settlement Agreement Section 14.

## **5. Bacteria and Bacteria Pollution**

- a. PacifiCorp shall verify the proper operation of on-site sewage systems by observing leach fields for signs of surfacing sewage at the time of removal of accumulated sludge from the septic tank at each on-site system.
- b. PacifiCorp shall maintain written records of the on-site system septic tank pumping and of any visual observations of the operation and function of the leach field and other parts of the on-site system at the time of pumping.

## **6. Dissolved Oxygen (DO)**

- a. Maintenance

PacifiCorp shall schedule powerhouse maintenance in accordance with the North Umpqua Settlement Agreement Section 6.6.

- b. Lemolo No. 2 Full-Flow Reach.

During the first year after the Lemolo No. 2 powerhouse flow is rerouted as set forth in the North Umpqua Settlement Agreement Section 5.4, PacifiCorp shall monitor DO at LEM2FF hourly for a minimum of 72 consecutive hours once between July 15 and August 15. PacifiCorp shall report monitoring data to ODEQ by December 31.

- c. Bypass Reaches

PacifiCorp shall monitor DO levels for a minimum of 72 consecutive hours in each bypass reach once during the first July in which the minimum flows set forth in Appendix C, Table 1, of the North Umpqua Settlement Agreement are required. PacifiCorp shall propose sampling locations for ODEQ approval. PacifiCorp shall

report data to ODEQ by December 31 of that year. If the DO levels do not meet the applicable DO criterion in any bypass reach, DEQ may require PacifiCorp to undertake additional DO monitoring in that reach that is reasonably necessary to determine the extent of the DO criterion exceedance, and the Project's contribution to the exceedance.

d. North Umpqua River Below Soda Springs Powerhouse.

PacifiCorp shall monitor DO hourly at BLDG upon issuance of the new FERC License. The minimum acceptable data capture is 95% valid data. Data loss due to reasons beyond the reasonable control of PacifiCorp or the operator will not be included in determining percent data capture.

e. PacifiCorp shall report data to ODEQ by December 31 for the previous water year.

**7. Habitat and Flow Modification; Deleterious Conditions; Taste and Odor**

a. Potter Creek.

PacifiCorp shall breach the diversion and restore riparian habitat in accordance with the North Umpqua Settlement Agreement Sections 10.4 and 10.5, respectively.

b. Deer Creek.

PacifiCorp shall modify the diversion structure in accordance with the North Umpqua Settlement Agreement Section 10.4 and complete erosion-site remediation to the extent required by, and in accordance with, the North Umpqua Settlement Agreement Section 14.4.

c. Lemolo No. 1 and Lemolo No. 2 Bypass Reaches.

PacifiCorp shall give priority to performing Lemolo No. 2 maintenance in accordance with the North Umpqua Settlement Agreement Section 6.6.b in order to maximize the potential for natural channel-forming events that will enhance fluvial geomorphology processes and promote the distribution of large wood and gravel.

**8. Nuisance Algae**

a. In accordance with a study plan approved by ODEQ, PacifiCorp shall monitor chlorophyll-a in Lemolo Reservoir as follows:

- (1) Sample a minimum of once in each month of July–September in the first, third and fifth year of the new FERC License and every five years thereafter.
  - (2) Results of the monitoring shall be reported to ODEQ by December 31 of each year that had a sampling event.
  - (3) The monitoring schedule for chlorophyll-a may be changed after year 5 of the new FERC License by agreement between ODEQ and PacifiCorp to add, change, or delete the monitoring and reporting requirements above.
- b. In the event the monitoring demonstrates an exceedance of the average chlorophyll-a action level of 0.015 mg/l (based on a minimum of three samples collected over any three consecutive months at a representative location and from samples integrated from the surface to a depth equal to twice the secchi depth or the bottom, whichever is less), ODEQ may require PacifiCorp to undertake additional studies as reasonably necessary to describe the effects of the algae on water quality and beneficial uses, to determine the probable causes of the exceedance of the action level, and to develop a proposed control strategy, if warranted by adverse effects on beneficial uses.

## **9. Total Dissolved Gas**

PacifiCorp shall implement the following Total Dissolved Gas Management Plan (TDGMP):

### **a. Lemolo No. 1 Powerhouse Tailrace**

- (1) PacifiCorp shall replace the Lemolo No. 1 powerhouse turbine by December 31, 2004, or the issuance of the new FERC License, whichever is later.
- (2) Three months after the new turbine is installed and performance testing is complete and satisfactory (or at any later date approved by ODEQ), PacifiCorp shall study total dissolved gas (TDG) saturation levels in the powerhouse tailrace, in the forebay inlet, and in the North Umpqua River approximately one-quarter mile downstream from the powerhouse for a minimum of 72 hours in accordance with a study plan approved by ODEQ. The study shall measure TDG saturation levels at several power generation levels within the turbine's operating range and with the turbine's air admission system open and closed. PacifiCorp shall report the study results to ODEQ within three months of completing the study. If the study shows tailrace TDG saturation levels in excess of 110 percent, PacifiCorp shall, within three months of the submission of the report, submit to ODEQ proposed powerhouse operational procedures. These procedures shall specify



power generation operating levels and associated air admission system operations to eliminate (or, if elimination is not feasible, to minimize) tailrace TDG saturation levels in excess of 110 percent.

- (3) If the measures required in the preceding paragraphs do not provide reasonable assurance that TDG saturation levels will meet the applicable TDG criterion, PacifiCorp will include in the expanded Lemolo No. 1 forebay (to be constructed by the fifth anniversary of the new FERC license under Section 11.5 of the North Umpqua Settlement Agreement) a shallow, rough surface at its entrance (or some other equally effective structure with the approval of ODEQ) to dissipate dissolved gases entering the forebay and powerhouse.
- (4) If the expanded forebay structure is required to reduce TDG saturation levels in the powerhouse tailrace under the preceding paragraph, PacifiCorp shall, three months after the structure is installed and operational (or at any later date approved by ODEQ), study TDG saturation levels in the powerhouse tailrace, in the forebay inlet, in the penstock inlet, and in the North Umpqua River approximately one-quarter mile downstream from the powerhouse for a minimum of 72 hours in accordance with a study plan approved by ODEQ. The study shall measure TDG saturation levels at several power generation levels within the turbine's operating range and with the turbine's air admission system open and closed. PacifiCorp shall report the study results to ODEQ within three months of completing the study. If the study results do not provide reasonable assurance that the TDG criterion will be met, PacifiCorp shall, within six months of the submission of the report, provide a TDG management and compliance plan to ODEQ for approval. Upon ODEQ approval, PacifiCorp shall implement the TDG management and compliance plan.

b. Lemolo No. 2 Powerhouse Tailrace

- (1) PacifiCorp shall reroute flows from the tailrace to Toketee lake in accordance with the North Umpqua Settlement Agreement Section 5.4. The design of the water conveyance system to Toketee lake must dissipate TDG before the tailrace water enters the system and must exclude fish from the tailrace and the system.
- (2) PacifiCorp shall, within three months after the discharge is rerouted (or at any later date approved by ODEQ), study TDG saturation levels immediately below the discharge from the new water conveyance system and in the penstock inlet for a minimum of 72 hours in accordance with a study plan approved by ODEQ. The study shall measure TDG saturation levels at several power generation levels within the turbine's operating range and with the turbine's air admission system

open and closed. PacifiCorp shall report the study results to ODEQ within three months of completing the study. If the study results do not provide reasonable assurance that the TDG criterion will be met, PacifiCorp shall, within six months of the submission of the report, submit to ODEQ additional proposals for addressing the TDG criteria exceedances.

- (3) As an interim measure, following the issuance of the new FERC License and until the powerhouse discharge is rerouted in accordance with the North Umpqua Settlement Agreement Section 5.4, PacifiCorp will visually assess fish for evidence of gas bubble trauma by examining fish collected in the Lemolo No. 2 full-flow reach. Fish will be collected using a variety of gear types (electrofishing, seining, and angling) to eliminate sampling bias.

Fish sampling will occur during the late summer, but no later than Labor Day, of the first calendar year after the new FERC License is issued for the Project. Sampling will occur during powerhouse operations that, based on previous TDG studies, are likely to cause elevated TDG saturation levels in the tailrace. The sample collection will last until at least 100 fish have been sampled or one week, whichever is shorter.

The visual assessment will follow the same protocols used on the Columbia River to assess gas bubble trauma, or as may be agreed upon by ODEQ and ODFW.

If, based on this monitoring and other available information, TDG saturation levels from the Lemolo No. 2 powerhouse are adversely affecting fish, PacifiCorp shall, following consultation with ODEQ and ODFW, submit a proposal to ODEQ within 3 months of the request to ensure either that the TDG criterion will be met or that adverse TDG effects on fish will be substantially eliminated, and implement measures as approved by ODEQ and ODFW.

c. Clearwater No. 2 Powerhouse Tailrace

- (1) After the issuance of the new FERC License, PacifiCorp shall operate the Clearwater No. 2 powerhouse at a power generation level of at least 2 megawatts (MW) (when the powerhouse is operating) and shall operate at power generation levels of 10 MW or below only with the air admission system closed.
- (2) PacifiCorp shall, within three months after the new FERC License is issued (or at any later date approved by ODEQ), study TDG saturation levels in the tailrace for a minimum of 72 hours in accordance with a study plan approved by ODEQ. The study shall measure TDG saturation levels at several power generation levels

within the turbine's operating range and with the turbine's air admission system open and closed. PacifiCorp shall report the study results to ODEQ within three months of completing the study. If the study shows tailrace TDG saturation levels in excess of 110 percent at the required operational levels, PacifiCorp shall within 3 months of the submission of the study report submit to ODEQ additional operational measures to eliminate or, if elimination is not feasible, to minimize tailrace TDG saturation levels in excess of 110 percent. If the proposed measures do not provide reasonable assurance that the TDG criterion will be met, PacifiCorp shall, within six months of the submission of the report, provide a TDG management and compliance plan to ODEQ for approval. Upon ODEQ approval, PacifiCorp shall implement the TDG management and compliance plan.

d. Stump Lake

PacifiCorp shall monitor TDG saturation levels at the bottom and surface of Stump Lake at the diversion dam during the first annual maintenance event at the Clearwater No. 1 powerhouse that is subject to North Umpqua Settlement Agreement Section 6.6. PacifiCorp shall collect a minimum of four samples, with a minimum of 30 minutes between each sample. PacifiCorp shall report the sample results to ODEQ within 30 days.

e. Fish Creek Development

During the first year of the new FERC License, while the dam is in spill condition (nominally April–June), PacifiCorp shall take spot measurements of TDG above the diversion dam, below the diversion dam, and in the bypass reach approximately every 500 feet below the dam until readings are within the applicable TDG criteria. PacifiCorp shall report the TDG measurements to ODEQ within 30 days of the measurements. If there are exceedances of the applicable TDG criteria, PacifiCorp shall provide a TDG management and compliance plan to ODEQ for approval within 90 days of the monitoring report. Upon ODEQ approval, PacifiCorp shall implement the TDG management and compliance plan.

**10. Objectionable Discoloration; Scum and Oily Slick; Spill and Waste Management**

- a. PacifiCorp shall implement its Project-specific Oil Spill Prevention, Control and Countermeasure (SPCC) Plan; Chemical Management System; and Waste Management Guidelines. The SPCC Plan, Chemical Management System, and Waste Management Guidelines shall be kept current.

- b. In the event of a spill or release or threatened spill or release to state waters, PacifiCorp shall immediately implement the site's SPCC plan, modified SPCC plan, or other applicable contingency plan and notify the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- c. Project maintenance, including bridge maintenance that is PacifiCorp's responsibility under the North Umpqua Settlement Agreement Section 15.5, that could result in accumulations of solid waste or other residues must comply with ODEQ regulations and permit requirements. PacifiCorp employees and its contractors must receive instruction and training sufficient to notify designated PacifiCorp personnel to implement the applicable prevention and emergency response plans and to respond to situations that could result in unauthorized discharges to waters of the State.
- d. PacifiCorp shall maintain records for the new license term of instances where the site-specific SPCC plan, Chemical Management System, and/or Waste Management Guidelines (or equivalent) is modified or the emergency response provisions of the plans are invoked. Documentation must include notices and reports of remediation activities and the results of the cleanup efforts or resource damages, if any.

#### **11. Total Dissolved Solids**

- a. PacifiCorp shall monitor specific conductance hourly below Soda Springs Powerhouse at monitoring location (BLDG).
- b. PacifiCorp shall report the results of monitoring for specific conductance for each water year to ODEQ by December 31.
- c. PacifiCorp shall consult with ODEQ on the implementation of non-routine measures under the North Umpqua Settlement Agreement and this Certification that may threaten or cause significant short-term turbidity or increased erosion.

#### **12. Toxic Substances**

- a. PacifiCorp shall follow the manufacturer's label instructions when applying herbicides within the Project. The applicator must have a current Pesticide Applicator License from the Oregon Department of Agriculture.
- b. To the extent required by 40 CFR Part 112, PacifiCorp shall have a current Spill Prevention, Control, and Countermeasure Plan in effect at all times that has been prepared in accordance with the requirements of that part.

- c. To the extent required by 40 CFR Part 761, PacifiCorp shall have a current and complete PCB Procedure in effect at all times that has been prepared in accordance with the requirements of that part.

### **13. § 401 Certification Modification**

ODEQ, in accordance with OAR Chapter 340, Division 48, and, as applicable, 33 USC 1341, may modify this Certification to add, delete, or alter Certification conditions as necessary and feasible to address:

- (a) adverse or potentially adverse Project effects on water quality or designated beneficial uses that did not exist or were not reasonably apparent when this Certification was issued;
- (b) TMDLs (not specifically addressed above in these Certification Conditions);
- (c) changes in water quality standards;
- (d) any failure of Certification conditions to protect water quality or designated beneficial uses as expected when the Certification was issued; or
- (e) any change in the Project or its operations that was not contemplated by this Certification that might adversely affect water quality or designated beneficial uses.

In accordance with 33 USC 1341, any added or altered condition shall, so long as it is in effect, become a condition of any federal license or permit that is thereafter issued for the Project; further, ODEQ may seek, in accordance with applicable law and procedures, to have any modified Certification condition incorporated into any existing federal license or permit for the Project.

### **14. Project Changes**

PacifiCorp shall obtain ODEQ review and approval before undertaking any change to the Project that might significantly and adversely affect water quality (other than project changes required by or considered in this Certification), including changes to Project structures, operations, and minimum flows.

### **15. Project Repair or Maintenance**

PacifiCorp shall obtain ODEQ review and approval before undertaking Project repair or maintenance activities that might significantly affect water quality (other than repair or

maintenance activities required by or considered in this Certification). ODEQ may, at PacifiCorp's request, approve specified repair and maintenance activities on a periodic or ongoing basis.

## **16. Project Inspection**

PacifiCorp shall allow ODEQ such access as necessary to inspect the Project area and Project records required by this Certification at reasonable times as necessary to monitor compliance with Certification conditions.

## **17. Project Specific Fees**

In accordance with ORS 543.080, PacifiCorp shall pay a project-specific fee for ODEQ's costs of overseeing implementation of this Certification. The fee shall be \$10,000 (2002 dollars) annually, made payable to "State of Oregon, Department of Environmental Quality," and due on July 1 of each year after issuance of this Certification beginning on July 1, 2003. ODEQ shall credit against this amount any fee or other compensation paid or payable to ODEQ, directly or through other agencies of the State of Oregon, during the preceding year (July 1 to June 30) for ODEQ's cost of oversight. The fee shall expire five (5) years after the first July 1 following the issuance of the new FERC License, unless ODEQ terminates it earlier because oversight for purposes of § 401 certification is no longer necessary. One year before the expiration of the fee, or earlier if mutually agreed, ODEQ and PacifiCorp shall review the need, if any, to modify, extend, or terminate the fee, in accordance with ORS 543.080. PacifiCorp will pay any Project-specific fee required after such review, including any administrative or judicial review of the fee in accordance with ORS 543.080(6).

## **18. Monitoring**

In undertaking monitoring required by this Certification, PacifiCorp shall exercise reasonable care in the selection, installation, maintenance, and use of monitoring devices. Providing such care is exercised, PacifiCorp shall not be responsible for missing or inaccurate monitoring data. ODEQ, however, may require PacifiCorp to undertake any additional reasonable monitoring that is needed to address the missing or inaccurate data.

References to monitoring locations in these Certification Conditions are identified at page xvii of the July 2, 2001 § 401 Application and in Exhibit D.

**19. Posting of § 401 Certification**

PacifiCorp shall post a copy of these certification conditions in a prominent location at the Toketee Control Center.

**Exhibit A [of APPENDIX A]  
Temperature Management Plan (TMP)**

The following TMP has been approved by ODEQ in conjunction with the Certification. Temperature monitoring requirements are in Exhibit B.

1. In accordance with the schedule set forth in Table 1 below, PacifiCorp shall reduce Project diversions to maintain at least the minimum instantaneous instream flows specified in the table within the bypass reaches immediately downstream of the diversion dams:

**Table 1, Minimum Bypass Reach Flows, Cubic Feet Per Second (CFS)**

Month	Lemolo No. 1	Lemolo No. 2	Clearwater No. 1	Clearwater No. 2	Toketee	Fish Creek	Slide Creek	Soda Springs	Deer Creek
January			30						Full flow
February			30						Full flow
March			30						Full flow
April									Full flow
May						50/130	80/240		Full flow
June	80	70-145	60			80/130	80/240		Full flow
July	100	80-180	40		80	80/130	80/240		Full flow
August						80/130	80/240		Full flow
September						80/130	80/240		Full flow
October			30						Full flow
November			30						Full flow
December			30						Full flow
KEY	x-y means range of minimum flows based on real-time monitoring (see condition 2 of this Exhibit A). x/y means flows before (x) and after (y) anadromous fish passage facilities are provided at Soda Springs Dam.								
	Minimum bypass reach flows are effective December 31 , 2005 (if the new FERC License has been issued) or by the first anniversary of the new FERC License, whichever is earlier. Post-passage minimum flows in the Fish Creek and Slide Creek bypass reaches are effective on the seventh anniversary of the new FERC License if fish passage facilities have been provided at Soda Springs Dam in accordance with the North Umpqua Settlement Agreement. No diversion of Deer Creek is allowed after the first anniversary of the new FERC License; except that PacifiCorp may divert water from Deer Creek up to the OWRD water right in Deer Creek in order to aid fish salvage operations in the Lemolo No. 2 power canal when the Lemolo No. 2 powerhouse is shut down, as set forth in the North Umpqua Settlement Agreement Section 9.5.								



## 2. Lemolo No. 2 Bypass Reach Flows

- a. In the Lemolo No. 2 bypass reach, minimum stream flows immediately below the diversion dam shall be 70 cfs in June and 80 cfs in July, except as modified by the following provisions of this condition 2.
- b. From May 26 through July 31, PacifiCorp will continuously measure and record stream temperatures at the lower end of the bypass reach (LEM2B) and North Umpqua River above the mouth of Loafer Creek (new site name LEM2LC) in accordance with Exhibit B to this certification. After three (3) years of monitoring, if the temperature at LEM2LC is measurably higher than LEM2B, PacifiCorp will develop a regression equation that will enable the temperature at LEM2LC to be predicted from temperature measurements at LEM2B. If ODEQ approves the equation, PacifiCorp may, with ODEQ's approval, cease monitoring or reduce monitoring at LEM2LC. ODEQ approval may require PacifiCorp to re-validate the regression equation during the License.
- c. Once each calendar day from June 1 through July 31, PacifiCorp will review the stream temperature data obtained under paragraph 2.b. from LEM2B since the last review under this paragraph. (For June 1, the review shall encompass temperature data since 12:01 a.m., May 31.) If the stream temperature since the last review has exceeded 12.8°C., PacifiCorp will increase the minimum stream flow released into the bypass reach by 25 cfs within the next 12 hours. After DEQ's approval of the regression equation developed under paragraph 2.b., minimum instream flows will be increased under the preceding sentence whenever the temperature since the last review has exceeded 12.8° C. at LEM2B or whenever the predicted temperature at LEM2LC since the last review has exceeded 12.8° C.
- d. After an initial minimum stream flow increase under paragraph 2.c., PacifiCorp will increase the minimum flow by an additional 25 cfs if the stream temperature at LEM2B or the predicted temperature at LEM2LC (when applicable) (i) since the last review under paragraph 2.c. and (ii) more than 12 hours after the previous flow increase was completed has exceeded 12.8°C.
- e. Notwithstanding the preceding paragraphs, the minimum stream flow will not be increased to more than 145 cfs in June and 180 cfs in July.
- f. If the temperature at LEM2B or the predicted temperature at LEM2LC (when applicable) has remained at or below 12.8°C. for the 48 hours preceding the daily review under paragraph 2.c., PacifiCorp may reduce the minimum stream flow by 25 cfs, provided that the minimum stream flow may not be reduced by more than

25 cfs in any 24-hour period and may not be reduced below 70 cfs in June or 80 cfs in July.

- g. An increase in the minimum stream flow under this condition 2, followed by a decrease in the minimum stream flow under condition 2.f., is one "flow adjustment cycle." Following the fourth flow adjustment cycle in any calendar year, PacifiCorp shall consult with ODEQ and the Oregon Department of Fish and Wildlife (ODFW) concerning potential adverse environmental effects of undertaking additional flow adjustment cycles during that year. PacifiCorp shall not initiate the downward portion of another flow adjustment cycle in that year without the written approval of ODEQ.

### **3. Adaptive Management.**

- a. If the temperature monitoring reports submitted by PacifiCorp to ODEQ pursuant to Exhibit B show exceedances of applicable numeric temperature criteria in the Lemolo No. 1, Lemolo No. 2, Clearwater No. 1, or Toketee bypass reach, PacifiCorp shall by the following May 1 prepare and submit to ODEQ a report for the reach that evaluates the additional measures, if any, that PacifiCorp could feasibly implement to achieve the applicable numeric criterion. If, based on the report, ODEQ determines that there are additional, feasible temperature reduction measures that PacifiCorp could implement, PacifiCorp shall, subject to the limits set forth in Exhibit C of this Certification, implement the measures on a feasible schedule approved by ODEQ.
- b. If the temperature monitoring reports submitted by PacifiCorp to ODEQ pursuant to Exhibit B show exceedances of applicable numeric criteria in the Fish Creek, Slide Creek, or Soda Springs bypass reach, PacifiCorp shall by the following May 1 prepare and submit to ODEQ a report for the reach that evaluates the additional measures, if any, that PacifiCorp could feasibly implement to achieve the applicable numeric criterion. If, based on the report, ODEQ determines that there are additional, feasible temperature reduction measures that PacifiCorp could implement, PacifiCorp shall, subject to the limits set forth in Exhibit C of this Certification, implement the measures on a feasible schedule approved by ODEQ. After an initial report under this section, PacifiCorp shall submit this report to ODEQ every fifth year thereafter on May 1 until the applicable numeric criteria have been met within the reach for three consecutive years before the date of the report.

**Exhibit B [of APPENDIX A]  
Stream Temperature Monitoring Plan (STMP)**

PacifiCorp shall prepare and implement a STMP by no later than six months prior to the effective date of the initial minimum instream flows identified in Exhibit A. The STMP, which PacifiCorp may modify with the written approval of ODEQ, shall be consistent with the following minimum provisions:

a. Quality Assurance/Quality Control (QA/QC) Plan

The STMP shall include a QA/QC plan that is consistent with applicable ODEQ Laboratory Guidance, unless otherwise approved by ODEQ.

b. Temperature Monitoring Devices.

The accuracy of temperature recorders shall be tested before and after field deployment to insure that they are operating within their designated range of accuracy. In addition to pre- and post-deployment checks, the temperature recorders shall be audited monthly during the field measurement period. The pre- and post-deployment and monthly field audit checks shall be made using an NIST (National Institute of Standards and Technology) traceable (calibrated and maintained) thermometer accurate to  $\pm 0.2^{\circ}\text{C}$ ., or better, that has been checked against an NIST traceable thermometer.

c. Frequency

Hourly measurements of temperature shall be recorded each year during the period indicated at the sites listed below.

d. Monitoring Locations

The site codes used here correspond to those described in the Application for Certification Pursuant to Section 401 of the Federal Clean Water Act, Volume I, page xvii (PacifiCorp July 2, 2001).

(1) Lemolo No. 1 bypass reach: LEM1 B (May 26–July 31)

(2) Lemolo No. 2 bypass reach: LEM2B, LEM2FF, LEM2LC (new site above mouth of Loafer Creek) (May 26–July 31). Note: After the connection of the Lemolo No. 2 tailrace to Toketee Reservoir as set forth in the North Umpqua Settlement Agreement Section 5.4, PacifiCorp may cease measuring temperature at LEM2FF.

If ODEQ approves the regression equation in paragraph 2.b. of Exhibit A, PacifiCorp may, with ODEQ approval, cease or reduce monitoring at LEM2LC.

- (3) Clearwater No. 1 bypass reach: CLR1 B (May 26–July 31)
- (4) Clearwater No. 1 bypass reach: CLR1B (December 1–February 28 for the first year of the new FERC license).
- (5) Toketee bypass reach: TOKEB (June 25–July 31)
- (6) Fish Creek bypass reach: FISHT, FISHB (May 1–September 30)
- (7) Slide Creek bypass reach: SLIDT, SLIDB (May 1–September 30)
- (8) Soda Springs bypass reach: SODAB (May 26–September 30)
- (9) Deer Creek mouth: DEERM (June 1–July 31 in the year following modification to the diversion as set forth in the North Umpqua Settlement Agreement Section 10.4).

e. Instream Flow Measurement

Instream flow is to be measured and recorded hourly in accordance with the North Umpqua Settlement Agreement Section 5.5.

f. Temperature Monitoring Reports

PacifiCorp shall provide ODEQ with annual STMP monitoring reports for the preceding water year (October 1–September 30). The annual STMP monitoring reports shall include the required hourly temperature and instream flow data (as applicable), pre- and post-deployment instrument calibration data, and monthly field audit data for the given year. The STMP monitoring reports shall be submitted to ODEQ (Western Region, Medford office) by December 31.

### **Exhibit C [of APPENDIX A]**

#### **Limitations for Temperature Management Plan**

ODEQ may require PacifiCorp to modify the Temperature Management Plan (TMP) to provide additional temperature-reduction measures, subject to the following limitations:

1. ODEQ will not require modification of the TMP for reasons other than to achieve the applicable temperature standard or temperature TMDL allocation to the Project.
2. PacifiCorp's responsibility to fulfill minimum instream flow requirements shall be limited to reducing Project diversions from bypass reaches.
3. ODEQ will not require TMP modifications such that Project-related instream temperature increases would be reduced to less than 0.25° F.
4. ODEQ will not require TMP modifications that are not feasible. In determining whether a modification is feasible, ODEQ will consider a site-specific balance of criteria, including, but not limited to, the incremental protection that the modification would provide to beneficial uses, the appropriateness to local conditions, the extent to which the modification reflects the use of best technologies or management practices or measures, the cost of compliance, and the likelihood of unintended adverse environmental consequences.

**Exhibit D [of APPENDIX A]****Water Quality Monitoring Location Identification**

BLDG	North Umpqua River below Soda Springs powerhouse in gaugehouse
CLR1B	Clearwater No. 1 bypass at downstream end
CLR1P	Clearwater No. 1 powerhouse tailrace
DEERM	Deer Creek near mouth
FISHB	Fish Creek bypass at downstream end
FISHP	Fish Creek powerhouse tailrace
FISHT	Fish Creek bypass at upstream end
LEM1B	Lemolo No. 1 bypass at downstream end
LEM2B	Lemolo No. 2 bypass at downstream end
LEM2FF	Lemolo No. 2 full flow reach
LEM2LC	New—North Umpqua River above mouth of Loafer Creek
LEM2P	Lemolo No. 2 powerhouse tailrace
SLIDB	Slide Creek bypass at downstream end
SLIDT	Slide Creek bypass at upstream end
SODAB	Soda Springs bypass at downstream end
TOKEB	Toketee bypass at downstream end

## **APPENDIX B**

### **U.S. DEPARTMENT OF AGRICULTURE — FOREST SERVICE FINAL 4(e) TERMS AND CONDITIONS**

#### **Condition No. 1 - Compliance With the Settlement Agreement**

The Licensee shall completely and fully comply with all provisions of the June 13, 2001, North Umpqua Hydroelectric Project Settlement Agreement and the November 1, 2002, Amendment No. 1, relating to:

1. All protection, mitigation and enhancement measures identified in the Settlement Agreement, Appendices, Schedules, and Amendment No. 1 which are on or affect National Forest System lands and resources.
2. All commitments identified in each and every plan referenced in the Settlement Agreement, Appendices, Schedules, and Amendment No. 1 which implement activities on or affecting National Forest System lands and resources.

#### **Condition No. 2 - Acceptance and Implementation of the Settlement Agreement**

The above Condition is premised on two requirements:

1. The Commission's acceptance and incorporation of the Settlement Agreement, Appendices, Schedules, and Amendment No. 1 without modification, into license terms; and
2. The Licensee's immediate and complete implementation of the PM&E measures in accordance with the Schedules contained in the June 13, 2001, Settlement Agreement and November 21, 2002, Amendment No. 1.

In the event either of these requirements is not met, the USDA Forest Service reserves its right to supplement or modify these terms and conditions at a later time.

#### **Condition No. 3 – Reservation For Change In the Event of A Party Withdrawal**

The USDA Forest Service reserves the authority to add to, delete from, or modify the draft terms and conditions contained herein in the event that the Licensee, the USDA Forest Service or other federal and state agencies withdraw from the Settlement Agreement under the procedures identified in Section 22.8 of the Settlement Agreement

filed with the Commission on June 21, 2001, prior to the Commission's issuance of a new license for the Project.

#### **Condition No. 4 - Implementation and Modification of Forest Service Conditions**

The USDA Forest Service reserves the authority to modify its 4(e) terms and conditions if:

1. The term of the new license issued by the Commission exceeds 35 years.
2. The Commission issues a new license for the Project that is materially inconsistent with the provisions of the Settlement Agreement filed with the Commission on June 21, 2001, and as amended.

#### **Condition No. 5 - Requirement to Obtain a Forest Service Land Use Authorization**

If the Licensee needs additional National Forest System lands outside the Project boundary for Project access, the Licensee shall apply to the USDA Forest Service for a road easement or other appropriate lands use authorization. Additionally the Licensee may be required by the USDA Forest Service to obtain a special use permit for occupancy and use of National Forest System lands added to the Project area boundary in the new license.

Additional lands authorized for use by the Licensee in a new easement, special-use permit or other land use authorization shall be subject to laws, rules, and regulations applicable to the National Forest System. The terms and conditions of the USDA Forest Service land use authorizations are enforceable by the USDA Forest Service under the laws, rules, and regulations applicable to the National Forest System. The USDA Forest Service may request the Commission to take action against the Licensee to enforce the provisions of the special use permit, easement or other land use authorizations associated with the Project.

#### **Condition No. 6 – Activities on National Forest System Lands**

Prior to initiating any ground or habitat-disturbing activities on National Forest System lands required for implementation of any protection, mitigation and enhancement measure ("PM&E Measure") in the Settlement Agreement, the Licensee shall conduct or fund an environmental analysis including, but not limited to, scoping, site-specific resource analyses, and cumulative-effects analyses, sufficient to meet the criteria set forth in USDA Forest Service regulations for NEPA in existence at the time the process is initiated. The Licensee may refer to or rely on any previous NEPA analysis for the activity to the extent such analysis is not out of date, as determined by USDA Forest



Service. Any contractors selected by the Licensee to conduct the NEPA process shall be approved by the USDA Forest Service in advance of any work. Following scoping, the Licensee shall submit the scope of work for the environmental analysis, including, but not limited to, the range of alternatives that shall be addressed, to the USDA Forest Service for review and approval.

The Licensee shall make reasonable efforts to initiate and complete the NEPA process sufficiently in advance of Project implementation dates for PM&E Measures for which implementation dates are set forth in the Settlement Agreement and for those PM&E Measures scheduled by the RCC subsequent to the new license, to accommodate time lines for preparation and publication of a NEPA decision document by the USDA Forest Service and any administrative appeals of the NEPA decision, as required by USDA Forest Service appeal regulations in existence at the time the NEPA process is initiated.

Upon license issuance, the Licensee shall, in consultation with the USDA Forest Service, NMFS, USFWS, ODFW, and ODEQ, develop site-specific plans for construction activities under the license that shall result in ground or habitat disturbance, whether within or outside of water bodies. Such plans shall be prepared in accordance with the Implementation Schedule in the Settlement Agreement for such activities and shall include a construction schedule providing for in-river and riparian construction during non-critical periods for affected resources. The Licensee will submit completed plans to the USDA Forest Service (in addition to any agencies that may be required to approve such plans under other provisions of the Settlement Agreement) for review and approval prior to initiating any construction activities and before filing the construction schedule with FERC. For measures to be implemented more than two years after the applicable NEPA decision, the USDA Forest Service shall review and approve NEPA documentation to assure its accuracy and currency prior to scheduled implementation. The Licensee shall conduct Sensitive Species and Survey and Manage Species protocol surveys for rare, endemic species (1) within 200 feet of the 34 new wildlife crossings provided for in Section 11.2 of the Settlement Agreement; or (2) within 400 feet of any other ground- or habitat-disturbing activity that may occur as a result of the PM&E Measures. The species to be surveyed for, the need for survey, and survey protocols shall be derived from then current USDA Forest Service regulations, manuals, policies, and handbooks. The Licensee shall include measures to prevent erosion in all site-specific plans.

### **Condition No. 7 - Approval of Changes After License Issuance**

Notwithstanding any license amendments to make changes to the Project on National Forest System lands, the Licensee shall receive written approval to the extent required by law from the USDA Forest Service prior to implementing changes in the location of any

constructed Project features or facilities, or in the uses of Project land and waters, or any other departure from the requirements of the new license. Nothing in this condition prevents the Licensee from proposing a license amendment in accordance with applicable Commission Regulations and Section 22.5.3 of the Settlement Agreement.

#### **Condition No. 8 - Coordination With Other Authorized Activities**

The Project area, or portions thereof, may be under federal authorization for other activities and permitted uses that are not in conflict with the new license. If the USDA Forest Service determines that the Licensee proposes an activity not expressly provided for in the license that affects another authorized activity, the Licensee shall coordinate with the USDA Forest Service to ensure that any potential conflicts are resolved prior to implementing the activity. Prior to authorizing any new third-party use of National Forest System lands within the Project area that may conflict with the new license, the USDA Forest Service shall coordinate with the Licensee to ensure that any potential conflicts are resolved.

#### **Condition No. 9 – Borrow and Quarry Pits**

The Licensee shall consult with and receive approval from the USDA Forest Service prior to conducting any activities relating to the excavation and removal of soil and rock materials from National Forest System lands. Use and development of borrow and quarry pits shall be in accordance with the *Umpqua National Forest Rock Resource Management Plan*. Use and development of borrow and quarry pits shall be accomplished in accordance with Condition No. 6 – Activities on National Forest System Lands.

#### **Condition No. 10 - Seismic and Geologic Hazard Evaluation, and Dam Safety**

In conjunction with the next regularly scheduled FERC part 12 inspection and future FERC Part 12 inspections, the Licensee shall perform high-level analyses of potential seismic and geologic hazards facing the Project, according to methodologies and procedures approved by the Oregon Department of Geology and Mineral Industries (“DOGAMI”). The Licensee shall include such analyses, after review and comment by DOGAMI, in its Part 12 submissions to FERC. The Licensee shall, upon request, submit the results of these inspections to DOGAMI and the USDA Forest Service.

The Licensee shall consult with OWRD’s Dam Safety Section in conjunction with FERC engineering and safety inspection activities. The Licensee shall comply with relevant dam safety statutes and rules when modifying dams or other hydraulic structures at the Project.

**Condition No. 11 - Spoils Disposal**

If not completed as part of the final Erosion Control and Transportation Management Plans required in the Settlement Agreement, the Licensee shall within one year of license issuance, prepare a Spoils Disposal Plan in consultation with and approved by the USDA Forest Service and file the plan with the Commission. The plan shall address disposal and/or storage of waste soil and rock materials (spoils) generated from routine road maintenance activities, rock fall and slope failure (landslides), and construction projects. The plan shall require the Licensee to:

1. Identify and characterize the nature of the spoils in accordance with applicable USDA Forest Service regulations.
2. Identify prospective sites for the disposal and/or storage of spoils that prevent contamination of water by leachate and surface water runoff.
3. Develop concurrent and final site stabilization, slope reconfiguration, erosion control, and rehabilitation measures.
4. Complete the NEPA analysis in accordance with Condition No. 6 – Activities on National Forest System Lands.

**Condition No. 12 - Fire Suppression Plan**

Within one year of license issuance, the Licensee shall prepare a Fire Suppression Plan in consultation with and approved by the USDA Forest Service, and file the plan with the Commission. The plan shall require the Licensee to:

1. Describe the fire hazard associated with Licensee facilities.
2. Identify hazard abatement procedures.
3. Identify a notification process in the event of a fire involving Licensee facilities.
4. Cooperate with the USDA Forest Service for suppression of fire involving the Licensee facilities.

**Condition No. 13 - Solid Waste and Waste Water Plan**

Within one year of license issuance, the Licensee shall prepare in consultation with and approved by the USDA Forest Service, a Solid Waste and Waste Water Treatment Plan for facilities and operations on the National Forest System lands and file the plan with the Commission. The plan will comply with the regulations of the US Department of Agriculture and all Federal, State, County, and municipal laws, ordinances and regulations that are applicable to the area or operations authorized by the Project license.

**Condition No. 14 – Spill Prevention and Control, and Hazardous Materials Management**

Within one year of license issuance, the Licensee shall prepare in consultation with and approved by the USDA Forest Service, a Spill Prevention and Control, and Hazardous Materials Management Plan for facilities and operations on the National Forest System lands and file the plan with the Commission. The plan will comply with the regulations of the US Department of Agriculture and all Federal, State, County, and municipal laws, ordinances and regulations that are applicable to the area or operations authorized by the Project license.

**Condition No. 15 – USDA Forest Service Sensitive Species**

Within one year of license issuance, the Licensee shall develop a Sensitive Species plan, in consultation with and approved by the Forest Service, and file the plan with the Commission. This plan shall describe how the Licensee shall coordinate with the Forest Service for the conservation and management of Sensitive Species that are identified on the Regional Forester’s Sensitive Species List, as amended. The plan shall require the Licensee, in consultation with the USDA Forest Service, to:

- a. Identify criteria and approval elements for biological evaluations necessary to meet Forest Service standards and management direction in evaluating the effects of proposed actions on Sensitive Species.
- b. Develop and maintain a list of Sensitive Species that may be present in the Project area.
- c. Complete biological evaluations of the potential effects of proposed actions on Sensitive Species.
- d. Conduct surveys for Sensitive Species in connection with proposed actions.
- e. Update the plan as the Regional Forester’s Sensitive Species List changes or new information indicates that changes to the plan are warranted.

**Condition No. 16 - Proposed, Threatened and Endangered Species**

The USDA Forest Service acknowledges that the Commission’s license provides the necessary authority for the Commission to amend the license, after prior notice and opportunity for hearing, as necessary for the Commission to comply with its obligations under the Endangered Species Act. Triggers for reinitiation, as stated in 50 CFR, Part 402.16 are if:

1. The amount or extent of taking specified in the incidental take statement is exceeded.
2. New information reveals effects of the action that may affect listed species or critical habitat in a manner or to the extent not previously considered.
3. The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion.
4. A new species is listed or critical habitat designated that may be affected by the identified action.

The Licensee shall confer with the USDA Forest Service in the event reinitiation of consultation is triggered during the license term.

### **Condition No. 17 – Survey and Manage Species**

Within one year of license, the Licensee shall prepare a Survey and Manage Species plan, in consultation with and approved by the USDA Forest, and file the plan with the Commission. This plan shall describe how the Licensee will coordinate with the USDA Forest Service on proposed actions for the conservation and management of Survey and Manage Species. The Licensee shall conduct surveys and provide appropriate mitigation consistent with *Umpqua National Forest Land and Resource Management Plan*, as amended, and applicable regulations. The plan shall also contain provisions for updating or revision due to changes in management direction or the list of Survey and Manage Species.

### **Condition No. 18 – Reservoir Dredging**

Reservoir and forebay dredging on National Forest System lands is restricted to actions that are consistent with the *Umpqua National Forest Land and Resource Management Plan*, as amended, within and below the Project. All dredging proposals are subject to review and authorization by the USDA Forest Service as described in Condition No. 6 – Activities on National Forest System Lands and subject to coordination with and any necessary approvals from Oregon Division of State Lands, ODEQ, and ODFW.

## APPENDIX C

### DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT SECTION 4(e) TERMS AND CONDITIONS

#### **Condition No. 1 – Compliance With the Settlement Agreement**

The Licensee shall completely and fully comply with all the provisions of the June 13, 2001, North Umpqua Hydroelectric Project Settlement Agreement including:

1. All protection, mitigation and enhancement measures identified in Settlement Agreement, Appendices, and Schedules.
2. All commitments identified in each and every plan referenced in the Settlement Agreement, Appendices, and Schedules.

#### **Condition No. 2 – Acceptance and Implementation of the Settlement Agreement**

The above Condition is premised on two requirements:

1. The Commission's acceptance and incorporation of the Settlement Agreement, Appendices, and Schedules, without modification, into license terms; and
2. The Licensee's immediate and complete implementation with the Schedules in accordance with the Settlement Agreement.

In the event either requirement is not met, the BLM reserves its right to supplement or modify these terms and conditions at a later date.

#### **Condition No. 3 – Reservation For Change With A Party Withdrawal**

The BLM reserves the authority to add to, delete from, or modify the revised draft terms and conditions contained herein in the event that any party withdraws from the Settlement Agreement under the procedures identified in Section 22.8 of the June 13, 2001, Settlement Agreement prior to the Commission's issuance of a new license for the Project.

**Condition No. 4 – Implementation and Modification of BLM Conditions**

The BLM reserves the authority to modify its 4(e) terms and conditions upon:

1. Issuance of a new license by the Commission for a term exceeding 35 years.
2. Issuance of a new license by the Commission for the Project that is materially inconsistent with the provisions of the June 13, 2001 Settlement Agreement.

**Condition No. 5 – Requirement to Obtain a BLM Grant of Rights-of-Way**

The BLM retains jurisdiction of the surface and subsurface resources, but not the power values therein, in public lands located within the Project area, which are managed under the applicable laws, rules, and regulations. For those Project areas identified in the May 12, 1999, Draft Transportation Management Plan Maps that are outside the Project boundary withdrawn by the Federal Power Commission Orders dated December 28, 1948 and May 18, 1953, the Licensee may be required to obtain a grant of rights-of-way from the BLM for the occupancy and use of reserved BLM administered lands. These rights-of-way authorizations shall be filed with the Commission.

Additional lands authorized for use by the Licensee in a new grant of rights-of-way shall be subject to law, rules, and regulations applicable to the BLM. The terms and conditions of the BLM rights-of-way are enforceable by the Bureau. The BLM may request that the Commission take action against the Licensee to enforce the provisions of the terms and conditions of such a grant of rights-of-way.

If new or additional roads are needed by the Licensee outside the Project boundary defined by the Federal Power Commission Orders cited above, the grant of rights-of-way may be amended to include the new access.

**Condition No. 6 – Activities on BLM Land**

Prior to initiating any ground or habitat-disturbing activities on BLM lands, the Licensee shall comply with all applicable National Environmental Policy Act (NEPA) requirements. This may include Categorical Exclusions, Environmental Analysis, or Environmental Impact Statements. The Licensee may refer to or rely on any previous NEPA analysis for the activity to the extent such analysis covers the proposed activities and is not out of date, as determined by BLM. The Licensee shall consult with the BLM Resource Coordination Committee representative throughout the NEPA analysis process for all proposed activities.

**Condition No. 7 – Approval of Changes After License Issuance**

Notwithstanding any license amendments to make changes to the Project on BLM lands, the Licensee shall receive written approval from the BLM to the extent required by law prior to making changes in the location of any constructed Project features or facilities, or in the uses of Project land, or any departure from the requirements of any approved exhibits filed with the Commission. Nothing in this condition prevents the Licensee from proposing a license amendment in accordance with applicable regulations and Section 22.5.3 of the June 13, 2001, Settlement Agreement.

**Condition No. 8 – Coordination With Other Authorized Activities**

The Project area, access roads, or portions thereof, may be under federal authorization for other activities and permitted uses that are not in conflict with the new license. If the BLM determines that the Licensee proposes an activity not expressly provided for in the license that affects another authorized activity, the Licensee shall coordinate with the BLM to resolve potential conflicts before implementing the activity. Prior to authorizing any new third-party use of BLM lands within the Project area or authorized roads determined by the final TMP that may conflict with the new license, the BLM shall coordinate with the Licensee to ensure that any potential conflicts are resolved.

**Condition No. 9 – Special Status Species**

In planning and conducting proposed actions, the Licensee shall include management procedures for BLM Sensitive Species consistent with the management direction provided in the most current BLM Roseburg District RMP. Management procedures shall be adaptive and consistent with current management direction throughout the term of the license. Current management direction in the BLM Roseburg District RMP requires:

- Review of all proposed actions to determine whether or not special status species occupy or use the affected area or if the habitat for such species is affected.
- Conducting field surveys according to protocols and established procedures. This includes surveying during the proper season, unless surveys are deemed unnecessary through watershed analysis, project planning, and environmental assessment. Field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted, whether previous surveys looked for all species that would be included in a new survey, and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.



- Modification, relocation, or abandonment of a proposed action to avoid contributing to the need to list under the Endangered Species Act, all federal candidate, state listed species, and Bureau sensitive species or their habitats.
- Coordination and cooperation with the State of Oregon to conserve state listed species.
- Protection of assessment species where possible so as not to increase their status. Assessment species are to be included in all field inventory and clearance work and all new locations are to be documented. They are to be considered in all environmental analyses where impacts will be clearly identified.
- Where it is biologically appropriate and consistent with species recovery plans, buffering special status plant species by 100 to 300 feet from all surface disturbance and harvest of timber.
- Coordination with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements which identify actions to conserve single or multiple species and/or habitats.
- Where plans exist for species no longer on the special status species list, continuation with the prescribed conservation actions if determined to be necessary to avoid re-listing or future consideration for listing. In the case of interagency plans or agreements, this determination will be mutually decided. Such plans may be modified as needed based on adequacy of existing range wide conditions and conservation management.

The licensee shall coordinate with the BLM Roseburg District at least once a year to obtain the most current list of special status species. Surveys and environmental analyses shall be conducted by qualified personnel knowledgeable in the taxonomy and ecology of District special status species. All sites located during field surveys shall be documented in accordance with District standards. Copies of all documentation will be forwarded to the BLM Roseburg District, attention District Botanist or District Wildlife Biologist, as appropriate.

#### **Condition No. 10 – Survey and Manage Species**

In planning and conducting proposed actions, the Licensee shall include management procedures for BLM Survey and Manage Species consistent with the management

direction provided in the most current BLM Roseburg District RMP. Management procedures shall be adaptive and consistent with current management direction throughout the term of the license. Management direction in the current BLM Roseburg District RMP, as amended, requires pre-disturbance surveys and the protection of known sites for specific plant, fungi, and animal species in accordance with specified standards (Bureau of Land Management 1995; U.S. Forest Service and Bureau of Land Management 2001).

Pre-disturbance surveys are currently required on all habitat-disturbing activities. Habitat-disturbing activities are defined as those disturbances likely to have a significant negative impact on a species' habitat, its life cycle, microclimate, or life support requirements. Under current management direction, routine maintenance of improvements and existing facilities is not considered habitat disturbing activity (U.S. Forest Service and Bureau of Land Management 2001).

Lists of Survey and Manage species will change as a result of annual species reviews required under the Northwest Forest Plan (U.S. Forest Service and Bureau of Land Management 2001). The licensee shall protect known sites and conduct pre-disturbance surveys in accordance with the most current list of Survey and Manage species.

Surveys and environmental analyses will be conducted by qualified personnel knowledgeable in the taxonomy and ecology of District survey and manage species. All sites located during field surveys will be documented in accordance with District standards. Copies of all documentation will be forwarded to the BLM Roseburg District, attention District Botanist or District Wildlife Biologist, as appropriate.

## **APPENDIX D**

### **DEPARTMENT OF THE INTERIOR SECTION 18 FISHWAY PRESCRIPTIONS**

#### **Prescription for Fishways**

Pursuant to Section 18 of the Federal Power Act, 16 U.S.C. 811, we hereby prescribe the construction, operation, and maintenance of upstream and downstream fishways for the North Umpqua Hydroelectric Project, Commission No. 1927 , as follows:

#### **General Prescriptions for Fishways**

The following general prescriptions for fishways apply to the construction, operation, and maintenance of both upstream and downstream fishways at the North Umpqua Project and are prescribed to ensure the effectiveness of the fishways pursuant to Section 1701(b) of the 1992 National Energy Policy Act (P .L. 102-486, Title XVII, 106 Stat. 3008):

1. The DOI reserves authority to modify these prescriptions for fishways at any time before license issuance, as well as any time during the term of the license, after review of new information. Any inconsistencies between DOI prescriptions and the Settlement Agreement shall be resolved in accordance with Section 22.2, and other applicable sections of the Settlement Agreement.
2. The Licensee shall manage Project reservoirs and forebays to ensure that all upstream and downstream fish passage facilities are fully operational at all times and at all reservoir elevations and inflows, in accordance with the provisions of Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement.
3. The Licensee shall keep all fishways in proper order and shall keep all fishway areas clear of trash, sediment, logs, debris, and other material that would hinder passage, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement. Anticipated maintenance shall be performed in sufficient time before a migratory period such that fishways can be tested and inspected and will operate effectively prior to and during the migratory periods, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement.
4. The Licensee shall, in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Fish and Wildlife, and the U.S.

Forest Service, develop a fishway operation and maintenance plan describing anticipated operation, maintenance, schedules, inspections, and contingencies, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement. The operation and maintenance plan shall be submitted to the U.S. Fish and Wildlife Service for final review and approval, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement.

5. To insure that Project operations do not impair future restoration of fish populations in the upper North Umpqua River Basin, the Licensee shall, in cooperation and consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Fish and Wildlife, and the U.S. Forest Service, develop plans for and conduct periodic evaluations of fishway effectiveness to assure continued compliance with this prescription for fishways, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement. The plans and results of these effectiveness studies shall be submitted to the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Fish and Wildlife, and the U.S. Forest Service for review and comment prior to being filed with the Commission, in accordance with Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement. The Licensee shall implement any operational or physical changes necessary to achieve and maintain optimal upstream and downstream fish passage conditions identified by the U.S. Fish and Wildlife Service consistent with the findings of the evaluations, in accordance with the provisions of Sections 4.1.1, 4.1.2, and other applicable sections of the Settlement Agreement.
6. The Licensee shall provide personnel of the U.S. Fish and Wildlife Service, and other Service designated representatives, access to the Project site and to pertinent Project records at reasonable time for the purpose of inspecting the fishways to determine compliance with this prescription for fishways, in accordance with the provisions of Section 21.6, and other applicable sections of the Settlement Agreement.

## **Prescription for Upstream Fishways**

### **1. Tailrace Barrier at Soda Springs and Slide Creek Powerhouses**

The Licensee shall provide tailrace barriers, designed to prevent salmonids from swimming upstream into the tailrace and being delayed in their migration at Soda Springs powerhouse, by the first anniversary of the new license and at the Slide Creek powerhouse by the fifth anniversary of the new license, in accordance with the Settlement Agreement. The Licensee shall maintain existing protection measures at these locations until new tailrace barriers are installed. The Licensee shall design and construct the tailrace barriers in consultation with ODFW, NMFS, USDA Forest Service, and USFWS. Prior to initiation of construction, the Licensee shall submit the design to the agencies for approval.

### **2. Upstream Fish Passage at Soda Springs Dam**

The Licensee shall provide volitional upstream fish passage at Soda Springs Dam by means of a vertical-slot fish ladder that meets design criteria established by NMFS, USFWS, and ODFW for passage of adult salmonids and lamprey, in accordance with the Settlement Agreement. These fish passage facilities shall be tested and functioning by the seventh anniversary of the new license. Dates listed below for actual construction, testing, and modification of the facilities shall be delayed pending the new license becoming final, but dates for completion of designs and plans shall not be so delayed. The Licensee shall design, construct, test, operate, and maintain such facilities according to the following steps.

- a. The Licensee shall design volitional upstream fish passage facilities in consultation with NMFS, USFWS, ODFW, and USDA Forest Service. The Licensee shall submit final plans to the agencies by the third anniversary of the new license or 2007, whichever is earlier, for approval by the agencies. The agencies must approve the plan before construction. The design will include a fish-viewing window and video camera system for purposes of monitoring fish passage.
- b. Fish counting at Soda Springs Dam will be accomplished with a video camera and video recording system installed in the fish ladder. The Licensee shall purchase, and replace when needed, the necessary video equipment, including a video camera, remote controller, editing VCR, time-lapse VCR, and monitor. The Licensee shall maintain and operate video equipment at Soda Springs Dam. ODFW shall maintain and operate video equipment for reading videotapes. The

Licensee shall promptly provide recorded videotapes to ODFW for analysis and to other parties upon request.

- c. Concurrent with submission of final upstream passage designs, the Licensee shall submit to the agencies written operation and maintenance plans for approval by the agencies.
- d. The Licensee shall develop, in consultation with ODFW, NMFS, USDA Forest Service, and USFWS, a post construction evaluation plan for testing upstream passage facilities at Soda Springs Dam. The Licensee shall submit a final evaluation plan to the agencies by the fifth anniversary of the new license, or installation of the upstream fish passage facilities, whichever is earlier, for approval by the agencies. The post construction evaluation plan shall include biological and hydraulic evaluations to ensure proper performance of the facilities. Any modifications required to achieve optimum performance of the approved design, as determined by the agencies, shall be implemented by the Licensee upon completion of the assessment within a time frame established by the agencies. The Licensee shall continue to reevaluate and modify the facilities until optimum performance for that design is achieved.
- e. The Licensee shall complete construction of upstream fish passage facilities at Soda Springs Dam by the fifth anniversary of the new license, to allow for testing and adjustments to ensure fish passage facilities are functioning effectively, as described in Section d. above by the seventh anniversary of the new license. The Licensee shall advise the agencies of the planned construction schedule and activities so that the Federal and State agencies may monitor the activities.

### **3. Upstream Fish Passage at Fish Creek Diversion Dam**

The Licensee shall maintain the existing fishway at the Fish Creek diversion by keeping the fishway in repair, and open and free from obstructions at all times, consistent with state and federal law, in accordance with the Settlement Agreement.

- a. The Licensee shall include written operation and maintenance plans for the Fish Creek fishway in its operation plans for upstream fish passage at Soda Springs Dam, as described above in Section 2, including a proposed post-construction evaluation program for testing the facilities once installed. Such operation and maintenance plans may include additional requirements for operation and maintenance of these facilities.

#### **4. Upstream Passage at Lemolo 2 Diversion Dam**

The Licensee will, in consultation with ODFW, USFWS, USDA-FS, and NMFS, design modifications to the Lemolo 2 fishway substantially similar to the design and cost described in PacifiCorps 1995 license application (indexed for inflation since the date of the application), in accordance with the Settlement Agreement.

- a. The Licensee shall maintain the existing fishway at the Lemolo 2 diversion by keeping the fishway in repair, and open and free from obstructions at all times, consistent with State and Federal law.
- b. The Licensee shall include written operation and maintenance plans for the Fish Creek fishway in its operation plans for upstream fish passage at Soda Springs Dam, as described above in Section 2 of this letter and Section 4.1.1 of the Settlement Agreement, including a proposed post-construction evaluation program for testing the facilities once installed. Such operation and maintenance plans may include additional requirements for operation and maintenance of these facilities.
- c. The Licensee will develop, in consultation with ODFW, USFWS, USDA-FS, and NMFS, a post-construction evaluation plan for testing upstream passage facilities at Lemolo 2. The Licensee will submit a final evaluation plan to the agencies by [sic] the date of the New License becomes final or by 2004, whichever is earlier, for approval by the agencies. The post-construction evaluation plan shall include biological and hydraulic evaluations to ensure proper performance of the facilities. Any required modifications to achieve optimum performance of the approved designs as determined by the agencies' design will be implemented by the Licensee upon completion of the assessment, within a time frame established by the agencies. The Licensee will continue to reevaluate and modify the facilities until optimum performance for the design is achieved.

#### **Prescription for Downstream Fishways**

##### **1. Downstream Passage at Soda Springs Dam**

The Licensee shall provide downstream fish passage at Soda Springs Dam by the seventh anniversary of the new license, in accordance with the Settlement Agreement. The Licensee shall design, construct, test, operate, and maintain fish screen(s) that meets the performance standards set forth in Appendix B, Part 1, Table 1 of the Settlement Agreement. Steps in the design, construction, and testing of downstream passage facilities are as follows:

- a. The Licensee shall design downstream passage facilities at Soda Springs Dam in consultation with NMFS, USFWS, USDA Forest Service, and ODFW. The Licensee shall submit design specifications for fish screen facilities, including the trap, to the agencies by the third anniversary of the new license or by 2007, whichever is earlier. The agencies shall approve the design specifications prior to initiation of construction.
- b. Concurrent with the final design specifications, the Licensee will submit to the agencies for their review and approval written operational and maintenance plans and a proposed post construction evaluation program for testing the facilities once installed. The post construction evaluation program will include hydraulic and biological evaluations to insure proper performance of the facilities in accordance with the standards attached as Appendix B, Part 1, Table 1 of the Settlement Agreement. The Licensee shall implement the evaluation program upon completion of screen installation. Based on the results of the post construction evaluation program, the Licensee, in consultation with NMFS, USFWS, USDA Forest Service, and ODFW, will develop a monitoring plan to ensure screen performance for the remainder of the license term.
- c. Passage facilities shall be designed to include a trap for evaluating screen performance and to accommodate long-term monitoring of the downstream migrant population as part of the program to evaluate the success of the reintroduction of anadromous fish above Soda Springs Dam.
- d. The Licensee shall construct screens by the fifth anniversary of the new license to permit adequate testing of screen performance and to ensure adequate screen performance by the seventh anniversary of the new license.

In the event that performance standards in Appendix B, Part 1, Table 1 of the Settlement Agreement are not met during the post-construction evaluation period, the Licensee shall implement changes to Soda Springs Dam operations or facilities within a time frame established by NMFS, USFWS, USDA Forest Service, and ODFW and developed through consultation with the Licensee. Measures to bring the screens into compliance with performance standards at Soda Springs Dam may include, but are not limited to, the following:

- a. Improved hydraulic balancing of screens or structural modifications,
- b. Construction of additional screening facilities,
- c. Seasonal shutdowns of turbines, and
- d. Reductions in flow diversions.



The Parties recognize that operational changes at Soda Springs Dam may be required during the term of the new license or on a temporary basis, until alternative measures are implemented, to meet the performance standards contained in Appendix B, Part 1, Table 1 of the Settlement Agreement. In lieu of such post-construction evaluation and modifications set forth in this Section, the Licensee may satisfy its obligations with respect to fish screens by constructing fish screens to NMFS design criteria dated February 16, 1995, or the most current revision of those criteria, as appropriate. If the Licensee does so, it shall nonetheless comply with this license condition and Sections 4.1.2. a, b, c and d of the Settlement Agreement. The performance standards in Appendix B, Part 1, Table 1 of the Settlement Agreement shall no longer apply.

## **2. Soda Springs Dam Spillway Modifications**

The Licensee shall improve downstream fish passage over the spillway at Soda Springs Dam by the seventh anniversary of the new license, through modifications to the spillway, in accordance with the Settlement Agreement. The Licensee shall develop, in consultation with NMFS, USFWS, USDA Forest Service, and ODFW, design specifications for spillway modifications. The Licensee shall submit final design specifications to the agencies for approval by the fifth anniversary of the new license or by 2009, whichever is earlier.

## **3. Downstream Passage at Fish Creek Diversion Dam**

The Licensee shall install a fish screen at the Fish Creek intake by the second anniversary of the new license, in accordance with the Settlement Agreement. The Licensee will design and install such screening facilities in accordance with the following steps.

- a. The Licensee shall install a fish screen at the Fish Creek intake, in consultation with ODFW, USFWS, USDA Forest Service, and NMFS, by the second anniversary of the new license. By the first anniversary of the new license or 2005, whichever is earlier, the Licensee shall submit proposed design specifications to the agencies for their review and approval. Such screens will be designed according to the ODFW design criteria dated March, 2001, and set forth in Appendix B, Part 2 of the Settlement Agreement. The Licensee shall consult with ODFW to consider any subsequent changes to such design criteria.
- b. Concurrent with the final design specifications, the Licensee shall submit to the agencies for their review and approval written operation and maintenance plans and a proposed post-construction evaluation program for testing the facilities once installed. The post-construction evaluation plan will include hydraulic and

biological evaluations to ensure proper performance of the facilities. Any required modifications to achieve optimum performance of the approved design shall be implemented by the Licensee upon completion of the assessment, within a time frame established by the agencies. The Licensee shall continue to reevaluate and modify the facilities until optimum performance for that design is achieved.