

1.0 PURPOSE OF ACTION AND NEED FOR POWER

On February 25, 2004, PacifiCorp filed an application with the Federal Energy Regulatory Commission (Commission or FERC) for a new license for the 169-megawatt (MW)¹ Klamath Hydroelectric Project, FERC No. 2082, located principally on the Klamath River in Klamath County, Oregon, and Siskiyou County, California, between Klamath Falls, Oregon, and Yreka, California (figure 1-1). The existing project consists of eight developments and occupies 219 acres of lands of the United States that are administered by the U.S. Bureau of Land Management (Bureau of Land Management) or the U.S. Bureau of Reclamation (Reclamation). The project currently produces 716,800 megawatt-hours (MWh) per year. PacifiCorp does not propose any new capacity, but it does propose to add the Spring Creek diversion to the project. PacifiCorp also proposes to decommission East Side and West Side developments. Finally, PacifiCorp proposes to remove Keno development from the licensed project, based on its assertion that it does not serve project purposes.

1.1 PURPOSE OF ACTION

The Commission must decide whether to relicense the project and what conditions should be placed on any license issued. In deciding whether to authorize the continued operation of the hydroelectric project and related facilities in compliance with the Federal Power Act (FPA) and other applicable laws, the Commission must determine that the project will be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued (e.g., flood control, irrigation, and water supply), the Commission must give equal consideration to the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat); the protection of recreational opportunities; and the preservation of other aspects of environmental quality.

In this final environmental impact statement (final EIS), we, the Commission staff, assess the environmental and economic effects of (1) continuing to operate the project as it is currently operated (No-action Alternative); (2) operating the project as proposed by PacifiCorp (PacifiCorp's Proposal); and (3) operating the project under two alternative operating regimes (Staff Alternative with Mandatory Conditions and Retirement of Copco No. 1 and Iron Gate Developments). We also consider federal takeover, nonpower license, project decommissioning with dams remaining in place, and retirement of additional developments.

Briefly, the principal issues addressed in this EIS include the influence of project operations on water quality, including downstream of Iron Gate dam; approaches to facilitate the restoration of native anadromous fish within and upstream of the project; the influence of peaking operations at J.C. Boyle development on downstream biota and whitewater boating opportunities; the effect of project operations on archaeological and historic sites and resources of concern to various tribes; the effects of decommissioning East Side and West Side developments; and the effects of removing Keno development from the project.

1.2 NEED FOR POWER

PacifiCorp owns and operates the Klamath Hydroelectric Project through its Pacific Power subsidiary. The project includes seven hydroelectric developments, a regulating reservoir, and a small diversion facility. Current project facilities have a total average annual electric output of 716,800 MWh.

¹The authorized installed capacity of the project was increased from 161.338 to 168.973 MW by FERC order issued December 19, 2006.

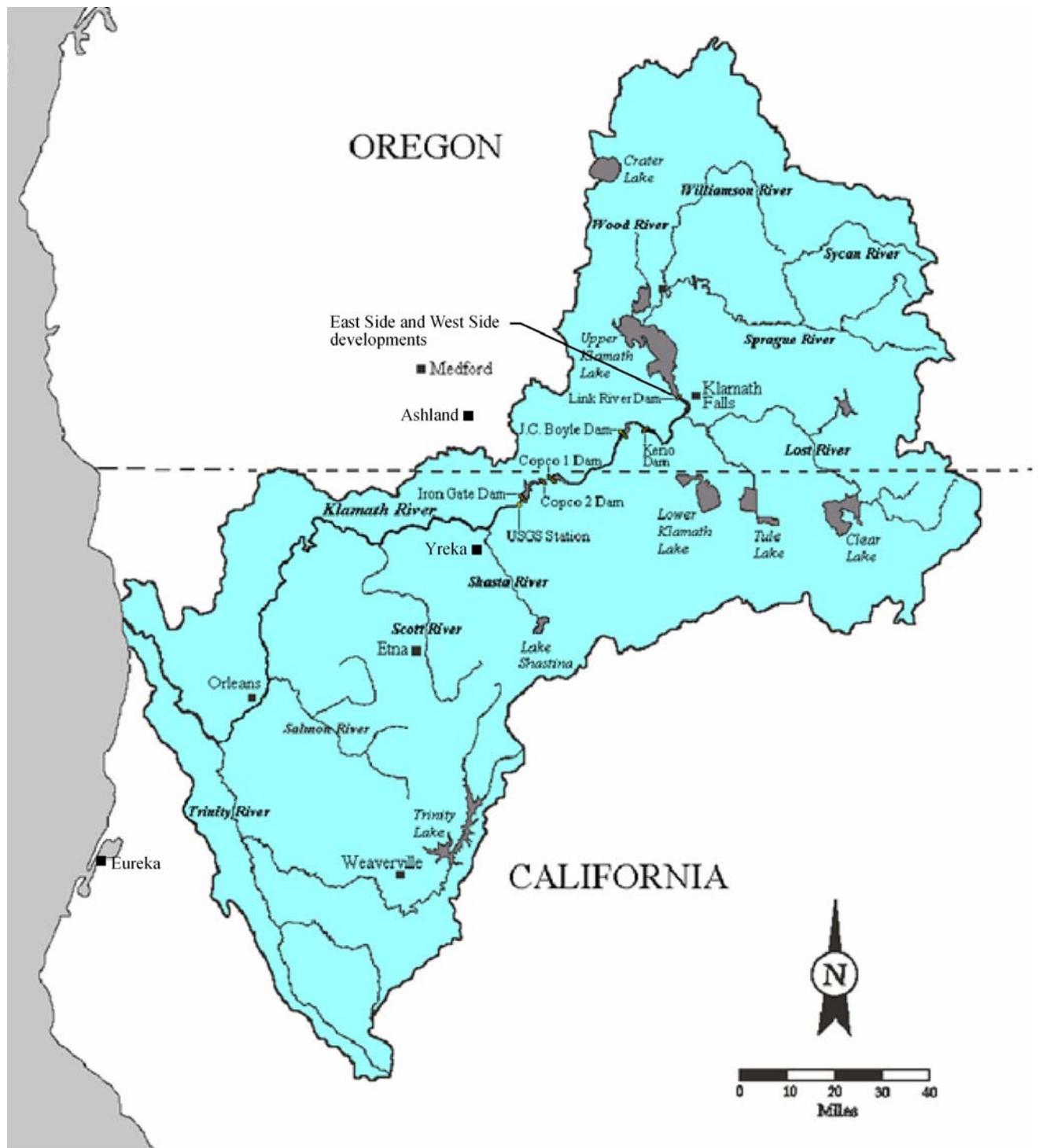


Figure 1-1. Klamath River Basin showing major rivers, reservoirs, and lakes within the watershed. (Source: Bioanalysts, Inc., 2004, as revised by staff)

PacifiCorp is an integrated electric utility serving more than 1.6 million people in a six-state service area (PacifiCorp, 2007a). PacifiCorp operates as Pacific Power in Oregon, Washington, and California and as Rocky Mountain Power in Utah, Wyoming, and Idaho. PacifiCorp sells power from these projects to its customers transmitted via its transmission and distribution system. As of the end of 2007, PacifiCorp will wholly own and operate about 9,263 MW of capacity over the six-state area, and more facilities are in planning or under construction (PacifiCorp, 2007a). This includes 7,829 MW of thermal facilities (coal, gas, and geothermal), 1,160 MW of conventional hydro facilities, and 274 MW of wind power facilities. The Klamath River developments provide about 1.8 percent of PacifiCorp's total generating capability. The proposed decommissioning of the East Side and West Side facilities and removal of Keno development from the project would have a negligible effect on PacifiCorp's ability to meet its customers' needs.

To see how demand for electricity is expected to change in the future in the project vicinity, we looked at the regional need for power as reported by the North American Electric Reliability Council for the Western Electricity Coordinating Council (WECC) region for 2005-2014 (NERC, 2005). The project is located within the Northwest Power Pool (NWPP) area of WECC. The NWPP region includes all or major portions of Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming; a small portion of northern California; and the Canadian provinces of British Columbia and Alberta.

As a whole, WECC expects that capacity resources will be sufficient to provide adequate and reliable service for forecasted demands. However, the current WECC estimate for additional capacity over the next 10 years has dropped dramatically since the last forecast due to deteriorated financial condition of private developers and because more capacity was proposed than was needed. WECC currently expects approximately 25,155 MW of capacity to be completed over the next 10 years and its capacity margins to drop below 12 percent by 2012. Many load-serving entities plan to maintain reserve margins in excess of 12 percent, which may necessitate additional capacity construction to meet that objective. The forecasted average annual demand growth rate is 2.4 percent.

Within the NWPP area, the forecasted peak demand and annual energy requirements are expected to grow at annual compound rates of 1.7 and 1.9 percent, respectively. Due to the significant percentage of hydro generation in the region, WECC expects the ability to meet peak demand will be adequate for the next 10 years. Capacity margins for the winter-peaking NWPP area range from 23.7 to 28.6 percent for the next 10 years. According to the WECC's 2006 Power Supply Assessment, dated May 9, 2006 (WECC, 2006):

"The graphs for both summer and winter capacity margins, Scenarios 1 and 2, respectively, portray a need for additional resources in the future that are in addition to those already under active construction. It is also clear that the sub-region capacity margin varies significantly throughout the WECC region. Neither the summer nor the winter analysis for the Northwest zone captures the limitations on the ability of the hydro system to sustain output levels beyond a single hour. Because of this limitation, the reported surpluses, both for Northwest load and for potential export to other sub-regions of the West, may be unrealistically high."

The assessment also shows that the capacity margins in the adjacent Northern California sub-region and other sub-regions south of the Northwest sub-region are much lower than in the Northwest, and the year of need is much closer, but there are current transmission constraints which prevent the transfer of excess capacity in the Northwest from being exported to those areas. If those transmission constraints could be removed or reduced, some balancing of resource needs across the WECC region could occur. It should also be noted that the 1,150 MW COB Energy Facility proposed for the Klamath area was canceled in February 2007, further reducing any expected capacity margins.

The Northwest region is not capacity-constrained like California, but it is energy-constrained. The capacity margins do not reflect this. As such, the energy produced by the project is currently more important to the region than its capacity.

We conclude that the WECC region and NWPP area sub-region have a need for power in the long term. The project generating facilities, which supply a part of the current regional electricity demand, could continue to help to meet part of the regional need for power.

PacifiCorp anticipates that 3,171 MW of additional capacity will be needed by 2016 for PacifiCorp to meet its customer loads (PacifiCorp, 2007b).² Its estimate includes the proposed decommissioning of East Side and West Side developments. Future energy needs will need to be met using a variety of renewable and non-renewable fuel sources, including natural gas, geothermal, and wind facilities. For more discussion of issues related to greenhouse gases and renewable resources, see section 4.9, *Greenhouse Gas Emissions*, of this EIS.

If licensed, the power from the project would continue to be useful in meeting PacifiCorp's needs as well as part of the local and regional need for power. If any of the Klamath Hydroelectric Project developments are decommissioned as part of the relicensing process, the energy and capacity produced by those facilities would need to be replaced as part of future energy and capacity planning. The decommissioning of any generating facilities would advance the year of need for new facilities.

1.3 INTERVENTIONS

On August 16, 2004, the Commission issued a notice accepting PacifiCorp's application and soliciting motions to intervene. This notice set a 60-day period during which interventions could be filed, ending on October 15, 2004. The following entities filed motions to intervene. An (O) indicates the entity was intervening in opposition to the proposed project.

<u>Entity</u>	<u>Filed Date</u>
Yurok Indian Tribe	June 9, 2004
Oregon Water Resources Department, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Public Utility Commission, Oregon Parks and Recreation Department	August 30, 2004
Hoopla Valley Tribe	September 22, 2004
Friends of the River	September 23, 2004
Pacific Coast Federation of Fishermen's Associations/ Institute for Fisheries Resources (O)	September 24, 2004
U.S. Department of the Interior	September 30, 2004
County of Siskiyou	October 8, 2004
U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Fisheries	October 8, 2004
County of Humboldt	October 8, 2004
Oregon Natural Resources Council	October 12, 2004
Klamath Water Users Association	October 12, 2004
California Department of Fish and Game	October 12, 2004
WaterWatch of Oregon (O)	October 12, 2004
Northcoast Environmental Center	October 12, 2004
Sierra Club-Redwood Chapter	October 13, 2004
Resighini Rancheria	October 13, 2004
Karuk Tribe of California	October 13, 2004
Noah's River Adventures	October 13, 2004

²PacifiCorp's 2007 Integrated Resource Plan states that 3,171 MW will be needed by 2016, if a 12 percent planning reserve margin is to be met. About 239 MW of that capacity is needed on the west side of the system, where the Klamath Hydroelectric Project is located, and 2,932 MW will be needed on the east side. The need on the west side will be greater in 2012, when 405 MW will be needed. PacifiCorp forecasts its needs looking at both a 12 and 15 percent planning reserve margin. If a 15 percent reserve margin is to be met, the needs would increase proportionally.

<u>Entity</u>	<u>Filed Date</u>
World Wildlife Fund ³	October 14, 2004
California Trout, Inc.	October 14, 2004
American Rivers	October 14, 2004
Trout Unlimited	October 14, 2004
Momentum River Expeditions	October 14, 2004
Richard Taylor- Taylor Ranch	October 15, 2004
Klamath Off-Project Water Users, Inc.	October 15, 2004
California State Water Resources Control Board	October 15, 2004
Kokopelli River Guides	October 15, 2004
Klamath Tribes of Oregon	October 15, 2004
County of Klamath	November 1, 2004
Quartz Valley Indian Community	November 30, 2004

1.4 SCOPING

Pursuant to the National Environmental Policy Act (NEPA) of 1969, we held scoping meetings in the project area, including an evening one in Klamath Falls, Oregon (May 18, 2004); morning in Redding, California (May 20); evening in Yreka, California (May 20); morning in Ashland, Oregon (May 21); and evening and morning in Eureka, California (June 22) to provide agencies and interested parties an opportunity to review and provide input concerning our Scoping Document 1 (SD1), issued on April 16, 2004. We also held a site visit, which was announced in local newspapers and in the Federal Register, to the project facilities and surrounding environment on May 18 and 19, 2004.

Besides the oral comments received at the scoping meetings, 51 agencies, tribes, and non-governmental organizations filed written comments on the SD1, and we received 83 letters from individuals. All comments received are part of the Commission's official record for the project.

We revised SD1 following the scoping meetings and after reviewing the comments filed during the scoping comment period, and we issued Scoping Document 2 on May 17, 2005.

1.5 RECOMMENDATIONS, TERMS, AND CONDITIONS

On December 28, 2005, the Commission issued a notice indicating that the project was ready for environmental review and setting a 60-day period during which terms, conditions, prescriptions, and recommendations could be filed. On February 17, 2006, in response to requests from numerous parties, the Commission extended this period to March 29, 2006. The following entities filed comments, terms, conditions, prescriptions, or recommendations.

<u>Entity</u>	<u>Filed Date</u>
U.S. Environmental Protection Agency	February 28, 2006
Institute for Fisheries Resources/PacifiCoast Federation of Fishermen's Associations	March 27, 2006
Hoopa Valley Tribal Council	March 28, 2006
Karuk Tribe of California	March 28, 2006
Oregon Hydroelectric Application Review Team (including Oregon Department of Energy, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Parks and Recreation Department, Oregon State Historic Preservation Office, and Oregon Water Resources Department)	March 28, 2006

³By letter filed July 24, 2006, World Wildlife Fund withdrew its intervention.

<u>Entity</u>	<u>Filed Date</u>
Resighini Rancheria	March 28, 2006
California Department of Fish and Game	March 29, 2006
Conservation Groups (American Rivers, California Trout, Friends of the River, Klamath Forest Alliance, Northcoast Environmental Center, Northern California Council of the Federation of Fly Fishers, Oregon Natural Resources Council, Salmon River Restoration Council, Trout Unlimited, Waterwatch of Oregon, and World Wildlife Fund)	March 29, 2006
Quartz Valley Indian Community	March 29, 2006
U.S. Department of Agriculture, Forest Service	March 29, 2006
U.S. Department of Commerce, National Marine Fisheries Service	March 29, 2006
U.S. Department of the Interior (including Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service)	March 29, 2006
Siskiyou County	March 29, 2006
Yurok Tribe	March 29, 2006
The Klamath Tribes	March 30, 2006
Pacific Fishery Management Council	May 1, 2006
Ramon Caldero	July 3, 2006

PacifiCorp filed responses to the comments, terms, conditions, prescriptions, and recommendations on May 12, 2006. All comments become part of the record and are considered during our analysis of the proposed action. We discuss comments and recommendations in section 3.3, *Proposed Action and Action Alternatives*.

1.6 COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

On September 25, 2006, the Commission staff issued the draft EIS for the relicensing of the Klamath Hydroelectric Project. Comments on the draft EIS were due on December 1, 2006.⁴ Appendix B of this EIS contains a list of all groups that commented on the draft EIS, summaries of comments, and our responses to the comments. Appendix C contains a listing of all individuals that filed written comments pertaining to the draft EIS, categorized by position that each commenter endorsed in their letter. When comment letters from individuals reflects information beyond statements of position, we summarize their comments in appendix B.

Commission staff held public meetings on November 14, 2006, in Klamath Falls, Oregon; November 15, 2006, in Yreka, California (two meetings); November 16, 2006, in Eureka, California; November 29, 2006, in North Bend, Oregon; and November 30, 2006, in Newport, Oregon, for the purpose of summarizing staff's recommendation in the draft EIS and discussing and receiving comments on the draft EIS. Numerous individuals (listed in appendix D) provided oral comments during these meetings, which reflected the comments made by groups and individuals in writing. The meetings were transcribed and are part of the public record for this proceeding.

⁴The U.S. Environmental Protection Agency issued a notice of availability for the draft EIS in the Federal Register on September 25, 2006 (71 FR 59106).