

144 FERC ¶ 62,018
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of
Okanogan County, Washington

Project No. 12569-001

ORDER ISSUING NEW LICENSE

(July 9, 2013)

INTRODUCTION

1. On August 22, 2008, Public Utility District No. 1 of Okanogan County, Washington (Okanogan PUD) filed, pursuant to Part 1 of the Federal Power Act (FPA),¹ an application for an original license to construct, operate, and maintain the Enloe Hydroelectric Project No. 12569 (Enloe Project or project). The 9.0-megawatt (MW) project will be located on the Similkameen River at river mile (RM) 8.8 near the city of Oroville in Okanogan County, Washington. The project will occupy about 35.47 acres of federal land administered by the U.S. Bureau of Land Management (BLM).²
2. As discussed below, this order issues an original license for the Enloe Project.

BACKGROUND

3. On October 29, 2008, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, soliciting motions to intervene and protests, and indicating the application was not yet ready for environmental analysis.³ The notice set December 29, 2008, as the deadline for filing motions to intervene and protests.
4. The Greater Columbia Water Trail Coalition (Water Trail Committee), American Whitewater, Washington Department of Natural Resources (Washington DNR), Washington Department of Fish and Wildlife (Washington DFW), American Rivers, Washington Department of Ecology (Washington Ecology), Columbia River Inter-Tribal

¹ 16 U.S.C. §§ 791(a) – 825(r) (2006).

² Because the project would occupy lands of the United States, section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2006), requires that it be licensed.

³ 73 *Fed. Reg.* 65593 (November 4, 2008).

Fish Commission (CRITFC), U.S Department of the Interior (Interior), and National Marine Fisheries Service (NMFS) timely filed motions to intervene.⁴ None of the intervenors oppose the project. On April 10, 2009, the Confederated Tribes of the Colville Reservation (Colville Tribe) filed a late motion to intervene with comments. On September 30, 2010, the Commission issued a notice granting the Colville Tribe's late intervention.

5. On December 28, 2009, the Commission issued a public notice that was published in the *Federal Register* indicating that the application was ready for environmental analysis and soliciting comments, recommendations, terms and conditions, and prescriptions.⁵ The notice set February 26, 2010, as the deadline for filing comments, recommendations, terms and conditions, and prescriptions. The British Columbia Ministry of Environment (Ministry of Environment); Chloe O'Loughlin; American Rivers, American Whitewater, the Center for Environmental Law and Policy, the North Cascades Conservation Council - Cascade Chapter, Water and Salmon Committee of the Sierra Club, and the Columbia River Bioregional Education Project (American Rivers et al.); the Colville Tribe; CRITFC; and U.S. Department of Agriculture, Forest Service (Forest Service) filed comments. Washington DFW, Interior, and NMFS filed comments and preliminary terms and conditions.

6. A draft Environmental Assessment (EA) was prepared by Commission staff and issued on May 9, 2011, analyzing the impacts of the proposed project and alternatives to it. The U.S. Fish and Wildlife Service (FWS), American Rivers et al., BLM, the U.S. National Park Service (Park Service), Interior, the Colville Tribe, Okanogan PUD, Washington Ecology, and Washington DFW filed comments on the draft EA. On August 31, 2011, Commission staff issued a final EA. Interior, Julie Ashmore, Joseph G. Enzensperger IV, the Okanogan County Board of Commissioners, and American Rivers et al. filed comments on the final EA.

7. The interventions, comments, recommendations, and terms and conditions have been fully considered in determining whether, and under what conditions, to issue this license.

⁴ Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure. 18 C.F.R. §385.214 (c) (2012).

⁵ 75 *Fed. Reg.* 352 (January 5, 2010).

PROJECT DESCRIPTION AND OPERATION

A. Project Area

8. The Enloe Dam is located in north-central Washington about 2 miles south of the Canadian border. The dam is situated in a narrow constriction of the Similkameen River Valley, about 3.5 miles northwest of Oroville, Washington. The project would be located almost entirely on land administered by the BLM. The Similkameen River is tributary to the Okanogan River just south of Oroville, Washington; the Okanogan flows into the Columbia River east of Brewster, Washington. The Similkameen River drains the east slopes of the Cascade Mountains in northern Washington and southern British Columbia, Canada. The majority (79 percent) of the drainage basin lies within Canada.

9. Coyote Falls, also known as Similkameen Falls, is located about 370 feet below Enloe Dam, and forms a 33-foot-long, 20-foot-high barrier impassable to anadromous fish.

B. Proposed Project Facilities and Operation

10. The proposed Enloe Project will consist of: the existing concrete gravity arch Enloe Dam with an integrated central overflow spillway; three new automated steel crest gates with 5-foot-high flashboards; an existing 76.6-acre reservoir; a new 190-foot-long intake canal on the east abutment of the dam diverting flows into the new penstock intake structure; a new 35-foot-long by 30-foot-wide penstock intake structure with trashracks; two new 150-foot-long above-ground steel penstocks that carry flows from the intake to the powerhouse; a new powerhouse containing two vertical Kaplan turbine/generator units with a total installed capacity of 9.0 MW; a new 180-foot-long tailrace channel emptying into the Similkameen River in the plunge pool downstream of Coyote Falls; a new substation adjacent to the powerhouse; a new 100-foot-long, 13.2-kilovolt primary transmission line connecting the substation to an existing distribution line; about 2 miles of new and upgraded access roads; and appurtenant facilities.

11. The project will be operated in a run-of-river mode and would bypass about a 370-foot-long section of the Similkameen River. Okanogan PUD will install flashboards and automated crest gates that adjust to regulate spills and maintain a nearly constant reservoir elevation. When inflows exceed 16,500 cubic feet per second (cfs) (approximately 1 percent of the time), the crest gates will be fully opened and flows will pass over the spillway. The estimated annual generation for the project is 45 gigawatt-hours (GWh). A more detailed project description is contained in Ordering Paragraph B.

C. Project Boundary

12. The project boundary encompasses the Enloe reservoir (generally following the 1,055-foot mean sea level (msl) elevation contour except in the area of the new access

road) and the river corridor extending downstream from the dam 0.25 mile to include the tailrace channel and the bypassed reach.

D. Proposed Environmental Measures

Operation and Design-Related Features

13. Okanogan PUD proposes to: (1) provide a minimum flow to the bypassed reach of 30 cfs from mid-July to mid-September, and 10 cfs the rest of the year to maintain refuge areas for resident fish; (2) downramp project flow releases from Enloe Dam into the bypassed reach to minimize stranding of small salmonids;⁶ (3) design the intake structure and intake channel in a manner that minimizes sediment disturbance; (4) install a trashrack on the project intake with 1-inch bar spacing to minimize potential adverse effects of entrainment and impingement on fisheries resources; (5) design the tailrace to provide circulation in the pool at the base of the falls and provide aeration in the draft tubes to ensure adequate DO for aquatic resources; (6) select an appropriate reservoir intake location from which to withdraw water for the minimum flows in the bypassed reach; (7) design the project transmission line pole with enough spacing between conductors and grounded hardware to prevent raptor electrocution; and (8) use visually-compatible colors, building materials, and non-reflective surfaces where possible to blend project facilities into the existing landscape.

Construction-Related Measures

14. To avoid erosion and sedimentation, Okanogan PUD proposes to implement a Construction Sediment Management Plan (Sediment Plan) that includes: (1) removing existing slide materials; (2) maintaining roadways with crushed rocks; (3) constructing check dams; (4) installing filter fabric fences; and (5) grading roads and construction areas. To protect water quality in the Similkameen River, Okanogan PUD proposes to implement a Spill Response Plan (Spill Plan) to minimize the effects of any accidental spills. Okanogan PUD also proposes to implement an Erosion and Sediment Control Plan (ESCP) that includes: (1) identifying areas sensitive to erosion, slope failure, and mass wasting; (2) protecting exposed soil; (3) diverting water drainage pathways; and (4) providing temporary containment areas.

15. To protect aquatic habitat, Okanogan PUD proposes to implement a Blasting Plan that includes limiting blasting activities to periods when anadromous fish are not present and removing resident fish from the area prior to blasting. To protect riparian

⁶ Ramping rates will be determined based on post-licensing monthly flow monitoring and field observations of the fish habitat.

vegetation, Okanogan PUD proposes to monitor construction sites on a weekly schedule to ensure that protected areas are not disturbed.

16. To protect riparian vegetation, Okanogan PUD proposes to: (1) employ best management practices and limit construction and maintenance disturbance of riparian and wetland vegetation; (2) conduct pre-disposal surveys of spoil disposal sites for noxious weeds and implement pre-disposal weed control measures; and (3) hydroseed disposal sites using native upland species.

17. To protect wildlife, Okanogan PUD proposes to: (1) concentrate construction activities in the summer and early fall to minimize disturbance of overwintering bald eagles and other birds; and (2) survey spoil disposal sites for nesting birds and other wildlife and time vegetation clearing at spoil disposal sites to minimize disturbance to any located birds or other wildlife. To protect the public during construction, Okanogan PUD proposes to install barricades and fencing to limit public access.

18. To improve public safety during construction, Okanogan PUD proposes to develop a Safety During Construction Plan that includes provisions to: (1) maintain signage to direct boaters to safe take-out locations, (2) maintain existing signs, system of safety cables, and grab ropes above the dam; (3) install a log boom at the intake channel; and (4) coordinate with BLM, the State of Washington, and land owners to identify options to prevent the public from trespassing at the historic Enloe powerhouse, which lies within the project boundary on the west side of the river downstream of Enloe Dam.

19. To minimize effects on aesthetics, Okanogan PUD proposes to implement an Aesthetics Plan that includes provisions to: (1) consult with the Colville Tribe during construction activities; and (2) remove Okanogan PUD-owned structures within the project boundary that are deteriorated and unstable, consistent with cultural resource protection.

Operation-Related Measures

20. To protect water quality in the Similkameen River, Okanogan PUD proposes to: (1) monitor water temperature in the reservoir for 5 years after the project is operating to determine if there is an increase due to operation of the crest gates; (2) monitor total dissolved gas (TDG) from April 1 through June 30, and dissolved oxygen (DO) from July through September at the project intake and in the plunge pool below the falls upon commencement of project operation and throughout the term of the license; and (3) work with a Technical Review Group on adaptive management provisions based on the results of the temperature, TDG, and DO monitoring if state water quality standards are not being met.

21. To protect aquatic habitat in the Similkameen River, Okanogan PUD proposes to: (1) install tailrace barrier nets to exclude and protect fish from potential injury caused by

swimming up the draft tubes and monitor the nets with video cameras to ensure their effectiveness; (2) enhance a side channel⁷ to improve holding, spawning, and rearing habitat for salmonids downstream of Enloe Dam; (3) implement a gravel supplementation program to improve holding, spawning, and rearing habitat downstream of the tailrace; (4) ensure that logs and other large woody debris pass over the dam to provide aquatic habitat downstream; (5) monitor seasonal variation in entrainment susceptibility, trauma, mortality, and reservoir fish populations so that adaptive management measures can be developed if the population of target species is substantially lower than baseline conditions in 10 years; (6) convene a Technical Review Group to review and evaluate the effectiveness of biological mitigation and enhancement measures; and (7) develop a fisheries monitoring database for organizing and storing monitoring data.

22. To protect riparian vegetation, Okanogan PUD proposes to implement a Vegetation Mitigation and Monitoring Plan (Vegetation Plan) with measures to: (1) plant riparian vegetation along the west and east banks of the reservoir to mitigate the temporary loss of habitat while vegetation establishes along the new higher water line; (2) restore to natural conditions, a segment of the Oroville-Tonasket Irrigation District Ditch Road (OTID Ditch Road) along the shoreline on the east side of the reservoir to improve wildlife habitat along the reservoir and eliminate the current interruption between the shoreline and upland habitat, and replace that segment with a new segment constructed inland and parallel to the abandoned segment; (3) plant woody riparian species in the riparian area along the abandoned road corridor and along the east and west banks of the reservoir downstream of Shanker's Bend;⁸ (4) install grazing control measures as stipulated in the Fence Plan,⁹ to protect riparian plantings and wetlands from wildlife grazing; (5) implement a Noxious Weed Control Program to control weeds along project roads and construction sites; and (6) monitor restored areas annually for the first 5 years and at license year 8, and plant additional willows if performance criteria are not met.

23. Okanogan PUD also proposes to: (1) implement an Aquatic Invasive Species Management Plan to monitor and control invasive plants and animals; and (2) conduct 3

⁷ The side channel enhancement site is located at River Mile 4 of the mainstem Similkameen River and extends about 800 feet upstream.

⁸ Shanker's Bend is a bend in the upstream end of the reservoir.

⁹ Measures in the Fence Plan include: installing barricades and fencing on the east side of the dam and the area below the dam, using non-barbed wire at the recreation area, and installing a stock watering tank as an alternative water source for grazing cattle.

years of surveys for the threatened Ute ladies'-tresses to confirm its presence or absence in the proposed side channel enhancement site and shoreline areas that would be affected.

24. To protect wildlife, Okanogan PUD proposes to develop and implement an environmental training program to inform employees about the wildlife and wildlife habitat in the project area and actions they can take to limit or avoid impacts.

25. To improve existing recreation opportunities and protect land use, Okanogan PUD proposes to implement a Recreation Management Plan that includes provisions to: (1) develop a trail on the east bank below the dam to provide public access to the area just downstream of the dam; (2) develop a recreation site on the reservoir (Enloe Dam Recreation Area) just upstream of the dam on the east side of the river at an existing put-in/take-out area at the reservoir to include a parking area, restroom, picnic tables, campsites, and a boat launch; (3) clean up and restore a wooded area on the east bank of the reservoir to enhance visitor experience; (4) develop an interpretive publication with a map locating public access and recreation sites; (5) remove existing trash and conduct annual cleanup; (6) install interpretive signs and an information board; (7) revise the Recreation Management Plan as needed; and (8) develop and implement a Recreation Monitoring Plan.

26. To protect cultural resources and ensure that any adverse effects on historic properties are addressed, Okanogan PUD proposes to implement a Programmatic Agreement (PA) and finalize an Historic Properties Management Plan (HPMP) which includes provisions to: (1) seek a new owner for the historic Enloe powerhouse and, if unsuccessful, demolish the historic Enloe powerhouse and create an interpretive site within the project boundary; (2) monitor effects on archaeological sites along the project shoreline areas from flow variations caused by ramping rates, and mitigate, as needed; (3) develop and implement an inadvertent discovery plan for archaeological sites; and (4) protect archaeological sites in the vicinity of recreation facilities.

SUMMARY OF LICENSE REQUIREMENTS

27. As summarized below, this license, which authorizes 9.0 MW of renewable energy, requires a number of measures to protect and enhance geology and soils, water quality, fisheries, terrestrial, cultural, aesthetic, and recreation resources at the project.

28. To control erosion and sedimentation, this license requires Okanogan PUD to implement its ESCP and its Sediment Plan. To protect water quality, the license requires Okanogan PUD to monitor water temperature, TDG, and DO; design and install an intake structure and channel; and implement its Spill Plan, as well as the water quality plans filed in the water quality certification (certification).

29. To protect aquatic habitat, the license requires Okanogan PUD to operate the project as proposed above and develop an Operation Compliance Monitoring Plan to

monitor project operation and document compliance, as recommended by staff. Providing water to the bypassed reach from the existing reservoir outlet structure at a depth of 16 feet will protect fishery resources by maintaining cool water temperatures.

30. To protect vegetation resources, the license requires Okanogan PUD to prepare a Spoil Disposal Plan that addresses noxious weed control; conduct Ute ladies'-tresses surveys; and implement the certification's Revegetation and Wetlands Management Plan (Revegetation Plan) with staff-recommended additions: control noxious weeds at the project; use best management practices; provide a biological monitoring; and submit monitoring reports.

31. To protect wildlife resources, this license requires Okanogan PUD to implement the proposed measures above along with a Wildlife Management Plan with provisions to: avoid construction disturbance on foraging bald eagles between October 31 and March 31; retain all non-hazardous dead trees along the reservoir to provide perching habitat for bald eagles; and install and maintain 10 artificial perch poles along the reservoir shoreline and in places where perch trees are sparse or lacking.

32. To improve recreational opportunities and protect land use, this license requires Okanogan PUD to revise its Recreation Management Plan with proposed measures above, as well as: consult with resource agencies on the revised Recreation Management Plan and coordinate it with the HPMP; include a snow plow schedule with signage; add 1 acre of land to the project boundary that includes a new river access take-out at the Miners Flat site; and bring the entire existing Oroville-Tonasket Irrigation District (ODIT) Ditch Road (about 5 acres) into the project boundary for public access to the project lands and water. This license also requires Okanogan PUD to develop and file a Recreation Monitoring Plan to evaluate recreational use and demand, as well as the associated project-related effects on these resources.

33. To improve public safety during project-related construction, this license requires Okanogan PUD to develop and implement a Public Safety Plan. To provide public safety, as well as protect wildlife habitat, this license requires Okanogan PUD to develop and implement a Fire Suppression Plan, which includes measures to reduce fuel loads on project lands.

34. To minimize project-related effects on aesthetic resources, this license requires Okanogan PUD to revise its proposed Aesthetics Plan to include: more detail on the use of visually-compatible colors and building material textures; specific measures to stabilize and revegetate project-related construction areas; and coordination with the Revegetation Plan to ensure that provisions for revegetation are consistent.

35. To protect cultural resources, the license requires Okanogan PUD to file a final HPMP, in accordance with the executed PA.

WATER QUALITY CERTIFICATION

36. Under section 401(a)(1) of the Clean Water Act (CWA),¹⁰ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.¹¹

37. On February 25, 2010, Okanogan PUD applied to Washington Ecology for certification for the Enloe Project, which Washington Ecology received on the same day. Each year since that date, Okanogan PUD has withdrawn and refiled its application. On August 20, 2012, Washington Ecology issued a certification for the Enloe Project that includes conditions and plans (included as appendices) which are set forth in Appendix A of this order and incorporated into this license (see Ordering Paragraph D).

38. The certification includes general requirements for complying with state water quality, groundwater, and sediment standards, and any future changes to applicable state standards. The general conditions reserve authority for Washington Ecology to: amend the certification; prohibit discharge of waste to waters of the state; allow the modification of schedules and deadlines provided under the certification; require additional monitoring, studies, and measures; take various actions to enforce the terms of the certification; and condition or deny future proposed changes to the project or project operations that might significantly and adversely affect compliance with any applicable water quality standard. Condition 20 of the general conditions also requires implementation of 10 plans, which are attached to the certification: the Fish Management Plan (Fish Plan),¹² the Water Quality Management Plan (Water Quality Plan), the Sediment Plan, the Stormwater Pollution Prevention Plan, the ESCP, the Construction Water Quality Plan, the Spill Response Plan, the Operations Water Quality Plan, the

¹⁰ 33 U.S.C. § 1341(a)(1) (2006).

¹¹ 33 U.S.C. § 1341(d) (2006).

¹² Okanogan PUD proposed, and staff recommended in the EA, that the withdrawal location be determined in consultation with Washington Ecology, Washington DFW, Washington DNR, FWS, NMFS, BLM, and the Colville Tribe. The Fish Plan requires, in part, Okanogan PUD to provide minimum flows to the bypassed reach via the existing penstock intake which is 16 feet below the normal water surface elevation. This withdrawal location would minimize potential water temperature increases in the bypassed reach, thus protecting the fishery resources.

Aquatic Invasive Species Plan, and the Revegetation Plan.¹³

39. Twenty-two of the certification conditions (1-19 and 21-22) are general or administrative and are not discussed further.

A. Fish Workgroup

40. The certification requires Okanogan PUD to form a Fish Workgroup (Fish Group) composed of representatives from Washington DOE, Washington DFW, Washington DNR, FWS, NMFS, BLM, and the Colville Tribe. Washington Ecology states in the certification that the purpose of the Fish Group is to address issues that arise related to fish management for the project, primarily with respect to the Fish Plan. Okanogan PUD proposes the establishment of a Technical Review Group composed of the same entities as the Fish Group and having the same purpose. In the EA,¹⁴ staff noted that while it had no objection to establishing such review groups, the Commission could not enforce participation by group members. The Commission only has jurisdiction over its licensees and cannot enforce provisions against parties other than the licensee. However, the formation of the Fish Group is required by the certification and is therefore made part of the license.

B. Fish Monitoring

41. The certification requires Okanogan PUD to monitor target fish species in the project reservoir prior to construction and at years 5 and 10 after construction. The certification also requires Okanogan PUD to monitor resident fish in the tailrace for possible injury and/or mortality from the project's turbines for the first 3 years of project operation, and to compare these data with the reservoir sampling data. The certification further requires that adaptive management measures be developed by the Fish Group if monitoring shows that entrained fish are subject to high levels of injury and/or mortality, or that resident fish species occur in substantially lower numbers than they did prior to project operation. Okanogan PUD also proposes these monitoring provisions and a biological review process to determine if there are any changes in the resident fish population that may be attributable to entrainment losses into the project intake. In the EA,¹⁵ staff concluded that entrainment levels are expected to be very low because there

¹³ These 10 plans are attached to the certification as Appendices A through J. For brevity, Appendix A of this order only includes sections 3.3 through 3.4.3 of the Fish Plan (Appendix A of the certification).

¹⁴ See EA at 231.

¹⁵ *Id.* at 231.

would be very few small fish¹⁶ in the area of the proposed intake due to unsuitable habitat. Staff also assessed that the effects of project entrainment on reservoir populations would be nominal for the same reason. Therefore, staff concluded that monitoring would not likely produce useful data and did not recommend this monitoring or the adaptive management provisions be included in any license issued for the project.¹⁷ However, monitoring of target fish species in the project reservoir, fish entrainment studies, and potential adaptive management provisions are required by the certification and are therefore part of the license.

COASTAL ZONE MANAGEMENT ACT

42. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),¹⁸ the Commission cannot issue a license for a 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 CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 6 months of its receipt of the applicant's certification.

43. By letter filed September 30, 2009, Washington Ecology waived its requirement for compliance with its Coastal Zone Management Program for the project. Therefore, no consistency certification is required.

SECTION 18 FISHWAY PRESCRIPTIONS

44. Section 18 of the FPA¹⁹ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of Interior (Interior) or the Secretary of Commerce (Commerce), as appropriate.

45. By letters filed February 26, 2010, the Secretaries of Interior and Commerce requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 405 of this license reserves the Commission's authority to require fishways that may be prescribed by Commerce and Interior for the Enloe Project.

¹⁶ Only small fish would be susceptible to entrainment through the 1-inch spaced trashracks.

¹⁷ See EA at 232.

¹⁸ 16 U.S.C. § 1456(c)(3)(A) (2006).

¹⁹ 16 U.S.C. § 811 (2006).

ESSENTIAL FISH HABITAT

46. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act²⁰ requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Magnuson Stevens Act, NMFS is required to provide EFH Conservation Recommendations for actions that would adversely affect EFH.²¹ Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation 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 the EFH.^{22, 23}

47. EFH is designated for various lifestages of Chinook salmon in the Similkameen River from its mouth upstream to Coyote Falls, which lie just downstream of Enloe Dam. In the EA, Commission staff determined that licensing the project with its recommended measures and agency mandatory conditions would adversely affect EFH. By letter dated May 16, 2011, Commission staff initiated EFH consultation with NMFS. NMFS included an analysis of the project's effects on Chinook salmon EFH in its biological opinion filed on September 27, 2012. NMFS concluded that the project would adversely affect EFH, but also concluded that the terms and conditions of the biological opinion's incidental take statement would address the adverse effects. Consequently, NMFS recommended that the terms and conditions be adopted as EFH Conservation Recommendations.

48. As discussed below, this license includes all of the terms and conditions contained in NMFS' biological opinion incidental take statement.

²⁰ 16 U.S.C. § 1855(b)(2) (2006).

²¹ 16 U.S.C. § 1855(b)(4)(A) (2006).

²² 16 U.S.C. § 1855(b)(4)(B) (2006).

²³ The measures recommended by Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations from Commerce, the agency must explain its reasons for not following the recommendations.

THREATENED AND ENDANGERED SPECIES

49. Section 7(a)(2) of the Endangered Species Act of 1973²⁴ 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 their designated critical habitat.

50. There are seven federally listed threatened and endangered species with the potential to occur in the project area: Upper Columbia River (UCR) steelhead, bull trout, Canada lynx, grizzly bear, northern spotted owl, gray wolf, and Ute ladies'-tresses. Critical habitat is designated for UCR steelhead, Canada lynx, and northern spotted owl in Okanogan County, but not within the proposed project boundary. Staff determined in the EA²⁵ that licensing the project will have no effect on the bull trout, Canada lynx or its designated critical habitat, grizzly bear, northern spotted owl or its designated critical habitat, and gray wolf. Therefore, no further action under the Endangered Species Act is required.

51. In the EA,²⁶ staff determined that with its recommended measures, licensing the project is not likely to adversely affect Ute ladies'-tresses. FWS concurred with this finding by letter filed June 13, 2011.

52. In the EA,²⁷ staff concluded licensing the project would be likely to adversely affect federally listed UCR steelhead and its critical habitat because project construction and habitat enhancement measures cause injury or mortality to eggs, fry, juveniles, or adults. Injury or mortality to UCR steelhead could also result from capture, transport, and relocation. In addition, UCR steelhead injury or mortality could result from fish swimming into the project's powerhouse draft tubes and hitting the turbine runner blades during project operation. Staff also concluded that the proposed enhancement measures, such as the downstream transport of large woody debris, enhancement of the downstream side channel, the provision of spawning gravels, and tailrace barrier netting, would provide some long-term beneficial effects.

53. NMFS determined in its biological opinion that the project is not likely to jeopardize the continued existence of UCR steelhead, or destroy or adversely modify its

²⁴ 16 U.S.C § 1536(a) (2006).

²⁵ See EA at 8.

²⁶ *Id.*

²⁷ *Id.*

designated critical habitat. The biological opinion includes an incidental take statement with five reasonable and prudent measures to minimize take of listed UCR steelhead trout, along with 11 terms and conditions to implement the measures.

54. The reasonable and prudent measures include: (1) minimizing take from the unexpected discharge of excess sediment, hazardous substances, toxics, and other materials into the Similkameen River during construction activities, including gravel placement and side channel development; (2) minimizing take from use of explosives; (3) minimizing take from the unexpected discharge of excess sediment, hazardous substances, toxics, and other materials into the Similkameen River during project operations; (4) preventing take of adult steelhead from contact with turbine runner blades; and (5) ensuring completion of an annual monitoring and reporting program to confirm that the measures required for the purpose of avoiding and minimizing incidental take are effective.

55. The terms and conditions include provisions for ensuring compliance with State of Washington water quality standards for salmonid rearing, spawning and migration; and implementing the Sediment Plan, ESCP, Spill Plan, Blasting Plan, and Water Quality Plan. NMFS also included a term and condition requiring Okanogan PUD to report all observations of dead or injured juvenile and adult steelhead coincident with carrying out the terms and conditions of its biological opinion to NMFS within two days of their observance. Terms and conditions are included in Appendix B and are made part of this license by Ordering Paragraph E.

TRIBAL INTERESTS

56. The federally-recognized Colville Tribe has noted interest in this proceeding. While the project is not located on tribal land, a Colville Tribe treaty with the United States²⁸ provides for fishing by tribal members at usual and customary places, including the Okanogan River to which the Similkameen River is a tributary.

57. The Commission recognizes the unique relationship between the United States and Indian tribes as defined by treaties, statutes, and judicial decisions. It carries out its responsibilities towards Indian tribes in the context of the FPA and other statutes that establish Commission responsibilities. The Commission recognizes the cultural and economic significance to the tribes of the aquatic species and habitat involved in this proceeding, and carries out its responsibilities under the FPA with those considerations in mind.

²⁸ See Executive Order of July 2, 1872, establishing the Colville Reservation.

NATIONAL HISTORIC PRESERVATION ACT

58. Under section 106 of the National Historic Preservation Act (NHPA)²⁹ and its implementing regulations,³⁰ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

59. To satisfy these responsibilities, the Commission executed a PA with the Washington SHPO and invited Okanogan PUD, the Colville Tribe,³¹ and BLM to concur with the stipulations of the PA. Okanogan PUD and BLM concurred. The PA requires the licensee to develop and implement an HPMP for the term of any license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 415 requires the licensee to implement the PA and to file an HPMP with the Commission within one year of license issuance.

PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

60. In 1980, Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act).³² This act created the Northwest Power Planning Council (now known as the Northwest Power and Conservation Council) and directed it to develop a Columbia River Basin Fish and Wildlife Program (Program). The goals of the Program are to protect, mitigate, and enhance fish and wildlife resources affected by the development and operation of hydroelectric projects on the Columbia River and its tributaries, while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply.³³ Section 4(h)(11)(A) of the Northwest Power

²⁹ 16 U.S.C. § 470 *et seq.* (2006).

³⁰ 36 C.F.R. Part 800 (2011).

³¹ The Colville Tribe is a federally recognized tribe. While the project is not located on tribal land, the tribe expressed an interest in reviewing cultural resources reports and working with Okanogan PUD to develop and implement the HPMP.

³² 16 U.S.C. §§ 839b *et seq.* (2006).

³³ 16 U.S.C. § 839b(h)(5) (2006).

Act,³⁴ provides that federal agencies operating or regulating hydroelectric projects within the Columbia River Basin shall exercise their responsibilities to provide equitable treatment for fish and wildlife resources with other purposes for which the river system is utilized and shall take the Council's Program into account "at each relevant stage of decision-making processes to the fullest extent practicable."

61. To mitigate harm to fish and wildlife resources, the Council has adopted specific provisions to be considered in the licensing or relicensing of non-federal hydropower projects (Appendix B of the Program). This license requires run-of-river operation, minimum flows, and ramping rates (sections 3.4.3, 3.3.1, 3.3.2 of Fish Plan, Condition 20 of Appendix A); additional measures to protect aquatic habitat (Fish Plan, Condition 20 of Appendix A and Article 403); and measures to preserve wildlife habitat (Article 409), which are consistent with applicable provisions of the Program, as discussed in more detail in the EA.³⁵ As part of the Program, the Council has designated over 40,000 miles of river in the Pacific Northwest region as not being suitable for hydroelectric development ("protected area"). The project is not located within a protected area designated under Appendix B of the Program. Further, Article 406 reserves to the Commission the authority to require future alterations in project structures and operations to take into account, to the fullest extent practicable, the applicable provisions of the Program.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(j) OF THE FPA

62. Section 10(j)(1) of the FPA³⁶ requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act³⁷ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

63. In response to the December 28, 2009 public notice that the project was ready for environmental analysis, NMFS, Washington DFW, and Interior (on behalf of BLM and FWS) filed a total of 41³⁸ recommendations for the Enloe Project pursuant to section

³⁴ 16 U.S.C. § 839b(h)(11)(A) (2006).

³⁵ See EA at 10.

³⁶ 16 U.S.C. § 803(j)(1) (2006).

³⁷ 16 U.S.C. §§ 661 *et seq.* (2006).

³⁸ Two of the recommendations were considered under both the Wildlife and

10(j).³⁹ Seven⁴⁰ of the recommendations are outside the scope of section 10(j) and are discussed in the next section.

64. Of the 32 recommendations that are within the scope of 10(j), this license includes conditions consistent with 26. The 26 recommendations include: (1) draft tube aeration (Fish Plan, Condition 20 of Appendix A); (2) water temperature and TDG concentration monitoring downstream of the project for 5 years (Fish Plan, Condition 20 of Appendix A); (3) an ESCP (ESCP, Condition 20 of Appendix A and Condition 2.8.3 of Appendix B); (4) a Spill Prevention, Containment and Clean-up Plan (Spill Plan, Condition 20 of Appendix A and Condition 2.8.3 of Appendix B); (5) an Operation Compliance Monitoring Plan (Article 403); (6) minimum flow to the bypassed reach (Section 3.3.1 of Fish Plan, Condition 20 of Appendix A); (7) downramping rates (Section 3.3.2 of Fish Plan, Condition 20 of Appendix A); (8) tailrace barrier nets (Fish Plan, Condition 20 of Appendix A and Condition 2.8.3 of Appendix B); (9) habitat enhancement for salmonids in an existing side channel at RM 4 of the Similkameen River downstream of the project (Section 3.3.1 of Fish Plan, Condition 20 of Appendix A); (10) downstream gravel supplementation (Fish Plan, Condition 20 of Appendix A); (11) large woody debris passage (Fish Plan, Condition 20 of Appendix A); (12) ramping rate monitoring (Fish Plan, Condition 20 of Appendix A); (13) a Wildlife Management Plan (Article 409); (14) relocating the access road to the reservoir (Article 203); (15) siting the transmission line and pole to prevent raptor electrocution (Article 409); (16) avoiding disturbance of bald eagles between October 31 and March 31 (Article 409); (17) retaining dead trees along the reservoir unless they become a hazard, and installing 10 artificial perch poles along the reservoir shoreline (Article 409); (18) a Revegetation Plan (Revegetation Plan, Condition 20 of Appendix A and Article 407); (19) planting fast-growing native shade-producing trees along the reservoir (Revegetation Plan, Condition 20 of Appendix A and Article 407); (20) abandoning a segment of the existing OTID Ditch Road to eliminate the interruption between the shoreline and upland habitat (Revegetation Plan, Condition 20 of Appendix A and Article 407); (21) planting riparian species along the abandoned road corridor (Revegetation Plan, Condition 20 of Appendix A and Article 407); (22) planting riparian species on the east and west banks of the reservoir downstream of Shanker's Bend (Revegetation Plan, Condition 20 of Appendix A and Article 407);

Vegetation Plans. Therefore, 39 different recommendations were filed under 10(j).

³⁹ These 10(j) recommendations were filed on February 26, 2010.

⁴⁰ In the final EA, six recommendations were determined to be outside of the scope of 10(j). Based on further review, the measure to survey for and document threatened and endangered plants is also outside the scope of section 10(j) and is addressed in the discussion of section 10(a)(1).

(23) installing grazing control measures (Revegetation Plan, Condition 20 of Appendix A and Article 407); (24) employing best management practices during construction and operation (Article 407); (25) providing biological monitoring during construction (Article 407); and (26) a noxious weed control program (Revegetation Plan, Condition 20 of Appendix A and Article 407).

65. Staff did not recommend the remaining six 10(j) recommendations:

(1) monitoring and reporting DO concentrations for the duration of the license; (2) constructing and filing detailed design drawings for an intake fish screen; (3) stocking sterile triploid rainbow trout to support a recreational fishery upstream of Enloe Dam; (4) installing barriers on irrigation canal tunnels to prevent human entry to protect bats; (5) providing a 200-foot wetland/riparian buffer; and (6) monitoring restored areas every year for 5 years and every 5 years thereafter.

66. If the Commission believes that any such recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2) requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies.⁴¹ If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

67. In the EA, staff made an initial determination that the six recommendations discussed above may be inconsistent with the substantial evidence standard of section 313(b) of the FPA, or with the public interest and comprehensive planning standards of sections 4(e) and 10(a) of the FPA. By letters dated May 13, 2011, Commission staff advised NMFS, Washington DFW, and Interior of its preliminary determination and attempted to resolve the apparent inconsistencies. Washington DFW responded in a telephone conversation with staff that it did not wish to pursue a section 10(j) meeting to attempt to resolve the inconsistencies.⁴² NMFS and Interior did not respond to the letter. Therefore, no resolution of the inconsistencies was reached.

68. We discuss the six recommendations that are inconsistent with sections 313(b) or 4(e) and 10(a) of the FPA below.

⁴¹ 16 U.S.C. § 803(j)(2) (2006).

⁴² See telephone conversation summary filed on July 13, 2011.

A. Dissolved Oxygen Monitoring

69. In the EA,⁴³ staff concluded that monitoring DO during the first 5 years of operation would provide information sufficient to assess any post-operational project effects on DO. Staff noted that if water quality standards were not met regularly, additional monitoring and alternative measures could be required to protect water quality. Monitoring DO for the term of the license as recommended by NMFS would cost \$8,770 annually, while the 5-year monitoring program with possible adaptive management measures as required by the certification would cost \$2,690 annually. The additional long-term monitoring recommended by NMFS would have minimal benefits and would not justify the annual \$8,770 cost, and is therefore inconsistent with sections 4(e) and 10(a) of the FPA. For these reasons, this license requires that Okanogan PUD monitor DO for the first 5 years of project operation, along with possible adaptive management measures if needed (Fish Plan, Condition 20 of Appendix A), and does not require the monitoring of DO for the duration of the license, as recommended by NMFS.

B. Intake Fish Screen

70. Resident fish in the project reservoir could be subject to entrainment through the project intake. To protect resident fish, FWS and Washington DFW recommended that Okanogan PUD install a fish screen at the project intake. The agencies, however, did not provide any details on the type of screens recommended. Okanogan PUD proposes to install a trashrack with 1-inch bar spacing at the project's intake to prevent fish from being entrained. In the EA, staff concluded that the trashrack would physically exclude fish greater than 6 inches in length from entrainment. Additionally, staff concluded that smaller fish that could fit through the 1-inch spacing and become entrained would have a survival rate in the range of 84 to 95 percent.⁴⁴ Resident fish populations in the Similkameen River upstream of Enloe Dam are robust and would likely not be affected by a small loss of fish due to entrainment.⁴⁵ A fish screen, as recommended by FWS and Washington DFW, would likely exclude smaller fish from entrainment, but at a much higher cost to build, install, and maintain. As estimated by Okanogan PUD,⁴⁶ a fish screen in its proposed intake channel would cost between \$16 and \$24 million, or \$1.1 and \$1.7 million annually, while the proposed 1-inch spaced trashrack would cost \$2,180 annually. Because the proposed 1-inch trashrack would provide a sufficient level of

⁴³ See EA at 233.

⁴⁴ *Id.*

⁴⁵ *Id.* at 231-232.

⁴⁶ See letter filed April 9, 2010.

protection to resident fish at a much lower cost than a fish screen, the FWS and Washington DFW recommended fish screen is inconsistent with sections 4(e) and 10(a) of the FPA. This license requires Okanogan PUD to provide a 1-inch spaced trashrack on the project intake (Fish Plan, Condition 20 of Appendix A).

C. Trout Stocking

71. FWS and Washington DFW stated that entrainment due to project operation would result in the loss of resident fish from the project reservoir, which would adversely affect recreational fishing opportunities in the project reservoir. To support a recreational fishery above Enloe Dam, FWS and Washington DFW recommended stocking sterile triploid rainbow trout in the project reservoir. In the EA, staff concluded that this measure could result in a number of adverse effects, as discussed below.⁴⁷ While these fish would not live long and cannot reproduce, there is a potential that stocking these fish could introduce disease into native fish populations. The Ministry of Environment opposes the stocking of fish in the Similkameen River above Coyote Falls for this reason.⁴⁸ Staff also found that stocking rainbow trout would not substantially contribute to the recreational fishery because high summer water temperatures in the reservoir would not support a viable trout population. Stocked rainbow trout could also compete with resident fishes for resources and could adversely affect their populations. Because stocking rainbow trout in the reservoir could have potential adverse effects and limited benefit to the fishery, the FWS and Washington DFW's recommendation is inconsistent with sections 4(e) and 10(a) of the FPA. Therefore stocking of rainbow trout is not included as a license requirement.

D. Barriers in Existing Irrigation Tunnels

72. The Townsend's big-eared bat, which is a federal species of concern and a candidate for the State of Washington's threatened and endangered species list, uses abandoned irrigation tunnels immediately adjacent to or inside the project boundary as night roosts. These irrigation tunnels are owned by OTID and are not project features. FWS and Washington DFW recommended that Okanogan PUD install barriers on abandoned irrigation tunnels to prevent human entry while still allowing use by bats. As discussed in the EA,⁴⁹ only one irrigation tunnel has an entrance within the project boundary but this entrance is inaccessible to bats as it is blocked due to a landslide. Other tunnels with greater bat habitat potential are located far enough from the dam and

⁴⁷ See EA at 233.

⁴⁸ See letter filed February 18, 2010.

⁴⁹ See EA at 238.

powerhouse site that recreational or construction activity associated with the project would be unlikely to affect bats using those tunnels. Therefore, because the recommended measure would not address a project effect, it is inconsistent with section 313(b) of the FPA and is not included in this license.

E. Wetland/Riparian Buffer

73. Under existing conditions, wetlands occur in scattered patches along the reservoir, and riparian shrub and forest communities occur in a narrow fringe along the reservoir, with the largest stand consisting of riparian forest on the east side of the reservoir just upstream from Enloe Dam. Washington DFW recommended providing a 200-foot wetland/riparian buffer around the entire reservoir to protect and enhance wildlife habitat. However, the substrate along the reservoir is unsuitable in many places (i.e., rock or unconsolidated), or unsuitable topography, for wetland/riparian habitat to establish.

74. This license requires Okanogan PUD, as part of a Revegetation Plan, to plant wetland and riparian vegetation and restore a segment of the OTID Ditch Road that traverses riparian forest. These measures would adequately protect and enhance wetland and riparian wildlife habitat. Because there is no reasonable basis for providing a 200-foot buffer around the entire reservoir, it is inconsistent with section 313(b) of the FPA and is not included in this license.

F. Long-Term Monitoring of Restored (Revegetated) Wildlife Habitat

75. FWS and Washington DFW recommended that Okanogan PUD monitor restored habitat every year for 5 years, continue monitoring every 5 years thereafter, and replant restored areas as needed for the duration of the license. In the EA,⁵⁰ staff recommended monitoring for 5 consecutive years and then once in license year 8 as adequate to determine that the new plantings have met performance criteria.

76. Staff estimated that the levelized annual cost of the FWS and Washington DFW monitoring schedule would be \$6,770. In the EA,⁵¹ staff found that monitoring restored areas after the new plantings have met performance criteria would serve no purpose, and would, therefore, not warrant the cost. The certification requires Okanogan PUD to implement its Revegetation Plan, which includes provisions to monitor restored areas annually for 5 years and then at years 7 and 10, and to plant additional riparian species if performance criteria are not met during this 10-year term. Monitoring revegetated areas annually for 5 years and then at years 7 and 10 (Article 407) adequately protects wildlife

⁵⁰ *Id.* at 249.

⁵¹ *Id.* at 237.

habitat. Therefore, FWS and Washington DFW's recommendation is inconsistent with sections 4(e) and 10(a) of the FPA, and continued monitoring of restored habitat for the duration of the license is not included as a license requirement.

SECTION 10(a)(1) OF THE FPA

77. Section 10(a)(1) of the FPA⁵² requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Interior, NMFS, and the Washington DFW Recommendations

78. Interior, NMFS, and Washington DFW filed seven⁵³ recommendations under section 10(j) that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. Consequently, these recommendations are not considered under section 10(j) of the FPA. Instead, these recommendations are considered under the broad public-interest standard of section 10(a)(1).⁵⁴

1. Access to Project Site

79. Washington DFW recommended that it and other state and federal resource agencies and the Colville Tribe be allowed to inspect the project site during construction and operation of the project. In the EA, staff recommended this measure provided that adequate notice is given to Okanogan PUD.⁵⁵ Article 404 requires Okanogan PUD to provide such access to the project site.

⁵² 16 U.S.C. § 803(a)(1) (2006).

⁵³ As said previously, staff made an initial determination that six recommendations may be inconsistent with section 10(j). However, further review and analysis shows that surveying and documenting threatened and endangered plants is also outside the scope of section 10(j) because it is not a specific measure to protect fish and wildlife.

⁵⁴ 16 U.S.C. § 803(a)(1) (2006).

⁵⁵ See EA at 243.

2. Adaptive Management Plan

80. Washington DFW recommended Okanogan PUD consult with it and develop an adaptive management plan that would include goals, monitoring protocols, decision criteria, and actions to be completed in response to post-licensing monitoring results for fish and wildlife resources. Similarly, Okanogan PUD proposed development of a biological review process, in consultation with a Technical Review Group, to review the success of fish-related measures. The Technical Review Group would be responsible for: (1) consulting with the member agencies on the design of management and monitoring plans; and (2) reviewing and evaluating data. Staff concluded in the EA,⁵⁶ that requiring Okanogan PUD to consult with various resource agencies, including Washington DFW, on monitoring results and development of any needed measures would satisfy the recommendation for an adaptive management plan or a Technical Review Group in a manner enforceable by the Commission. Nevertheless, as previously discussed, the certification requires the formation of a Fish Group, which will include Washington DFW, and adaptive management provisions in aquatic resources plans required by the certification. In addition, Article 401(a) requires Okanogan PUD to consult with Washington DFW on the development of future plans that may require adaptive management provisions for aquatic resources. In addition, Article 407 requires that Okanogan PUD consult with Washington DFW on revegetating wetland and riparian wildlife habitat. This license also requires that Okanogan PUD consult with Washington DFW on the wildlife related plan.⁵⁷ Because most of Washington DFW's concerns are addressed, this license does not require its recommended provisions.

3. Financial Security

81. Washington DFW recommended that Okanogan PUD provide evidence of financial security to ensure that at the end of any license, it would be capable of decommissioning the project. The Commission has consistently denied requests for decommissioning cost studies and establishment of decommissioning funds in licenses for projects: that are economically and physically sound; that have no significant adverse environmental impacts; where no party has suggested decommissioning in the foreseeable future after project construction; and where there's no indication that the licensee would lack the financial resources to decommission the project.⁵⁸ Furthermore,

⁵⁶ *Id.* at 231.

⁵⁷ Article 409 requires Okanogan PUD to consult with Washington DFW on the provisions in the Wildlife Management Plan.

⁵⁸ *See* EA at 236.

this license requires Okanogan PUD to file documentation of project's financing (Article 206). Therefore, this measure is not needed.

4. Marking of Transmission Line Crossing

82. Interior and Washington DFW recommended visual marking of the transmission line where it will cross the Similkameen River to prevent bald eagles and other birds from colliding with the line. In the EA,⁵⁹ staff did not recommend this measure because the transmission line will not cross the Similkameen River. In addition, this license requires Okanogan PUD to construct the project transmission line pole with enough spacing between conductors and grounded hardware to prevent raptor electrocution (Article 409). Consequently, the license does not require this measure.

5. Nest Boxes

83. Interior and Washington DFW recommended installing and maintaining nest boxes for small birds in areas that lack natural tree cavities. The agencies did not specify the number of nest boxes or the target species, nor did they document any effect of the project on small birds or the need for enhancing habitat for such species at the project. Therefore, staff did not recommend installing nest boxes in the EA,⁶⁰ and the license does not require this measure.

6. Winter Restrictions on Project Activities

84. Interior and Washington DFW recommended prohibiting unspecified project activities during the winter hibernation period to protect Townsend's big-eared bats. Because the agencies did not specify the activities that should be prohibited or why this measure is needed, staff did not recommend this measure,⁶¹ and this license does not require it.

7. Threatened and Endangered Plants Survey and Documentation

85. BLM and Washington DFW recommended a long-term survey effort for threatened and endangered plants. Specifically, they recommended that Okanogan PUD survey for threatened and endangered plants within one year of license issuance and every 5 years thereafter for the duration of the license because threatened and endangered

⁵⁹ *Id.* at 238.

⁶⁰ *Id.*

⁶¹ *Id.*

species might colonize new areas after the proposed flashboards are installed on the dam. In the EA, staff estimated that the levelized annual cost of this measure would be \$4,740. The only threatened or endangered plant with suitable habitat in the project area is Ute ladies'-tresses, and Okanogan PUD's 2006, 2007, and 2009 surveys did not locate any individuals of this species. However, in response to the agencies' recommendation, Okanogan PUD proposes to conduct 3 years of additional surveys for Ute ladies'-tresses, with potential timing occurring prior to, during, and after project construction.

86. The 2006 and 2007 surveys for the Ute ladies'-tresses did not include the side channel enhancement site, and the 2009 survey for the Ute ladies'-tresses at the side channel site was not conducted in the most optimal time to identify this species. This license requires Okanogan PUD to survey for Ute ladies'-tresses in the side channel enhancement site and other project areas for an additional 3 years (Article 408). Consultation with FWS, BLM, and Washington DFW on the plan, as required by Article 408, will provide guidance on the timing of the surveys needed to identify the species and to determine if it colonizes new areas after the reservoir is raised. The additional surveys will be adequate to confirm the presence or absence of this plant, and the construction footprint of the side channel site and subsequent operation and maintenance can be adjusted, if needed, to avoid adversely affecting any identified Ute ladies'-tresses. If the surveys identify Ute ladies'-tresses in areas that could be affected by the project, Article 408 requires the filing of proposed measures to avoid or mitigate adverse impacts on this species. Because avoidance or mitigation measures would be implemented, resurveying Ute ladies'-tresses populations every 5 years for the duration of the license will not be needed, and is not required.

B. Spoils Disposal Plan

87. Introduction of waste soil or rock into the Similkameen River during construction would have adverse effects on water quality. BLM recommended that Okanogan PUD develop and implement a Spoils Disposal Plan prior to any construction activities that may affect BLM-administered public lands. The plan would address disposal and/or storage of waste soil and/or rock materials (spoils) generated by road maintenance, slope failures, and construction projects. In the EA, staff concluded that implementing the measures in a Spoil Disposal Plan would minimize effects from excavated materials on water quality or the surrounding environment within the project boundary and that such a plan would be worth the estimated levelized annual cost.⁶² Therefore, Article 402 requires Okanogan PUD to develop and implement a Spoils Disposal Plan.

⁶² *Id.* at 224.

C. Operation Compliance Monitoring

88. In the EA, staff recommended that Okanogan PUD develop an Operation Compliance Monitoring Plan to: (1) specify how compliance with run-of-river operation, minimum flows, and ramping rates would be monitored; (2) identify critical flow thresholds for downramping for flows in the bypassed reach; and (3) specify the means of flow delivery to the bypassed reach.⁶³ Having such a plan would document compliance and Article 403 requires Okanogan PUD to develop an Operation Compliance Monitoring Plan.

D. Aquatic Habitat in the Bypassed Reach

89. Okanogan PUD proposed, and the certification requires, minimum flows of 10 to 30 cfs downstream of Enloe Dam in the 370-foot-long bypassed reach, depending on the month. American Rivers et al. recommended minimum flows ranging from 400 cfs to 3,400 cfs in the bypassed reach depending on the month. In the EA,⁶⁴ staff concluded that this reach provides no habitat that is critical for the life stages of any fishes, does not support a large enough fish population to warrant American River et al.'s recommended flows, and American Rivers et al. provided no technical justification for its recommended higher flows. In the EA, staff concluded that the proposed minimum flows would maintain adequate aquatic habitat in the bypassed reach for use by the few fish inhabiting the reach.⁶⁵ Therefore, the proposed minimum flows are included in this license by the Fish Plan, Condition 20 of Appendix A.

E. Boulder Clusters

90. Okanogan PUD proposed to construct and install boulder clusters to improve habitat for resident fish and enhance recreational fisheries in the river upstream of the reservoir. Interior commented that the boulder clusters could be a hazard to recreational boaters and could further increase water temperatures in the reservoir. Washington DFW also did not recommend the boulder cluster placement because it assesses that boulder clusters would have a negligible benefit for resident fish. In the EA, staff concluded that the proposed boulder clusters would not provide much, if any, benefit to the fisheries associated with the project, while creating potential adverse effects on recreational

⁶³ *Id.* at 226.

⁶⁴ *Id.* at 230.

⁶⁵ *Id.* at 93-95.

boating and water temperatures.⁶⁶ Consequently, the license does not require this measure.

F. Resident Fish Habitat Management Plan

91. Interior recommended that Okanogan develop and implement a Resident Fish Habitat Management Plan in consultation with BLM. This plan would consist of five measures: (1) a study of resident fish populations and habitat conditions in the project reservoir; (2) a study of the impacts of the project on water temperatures; (3) an evaluation of the possible solutions for lowering water temperatures and improving fish habitat in the Similkameen River, particularly through riparian plantings; (4) the possible stocking of sterile rainbow trout in the reservoir; and (5) a monitoring plan for fish habitat in the project reservoir. Measures 1, 2, and 3 are consistent with Okanogan PUD's proposed measures and are required by the certification. As discussed previously, measure 4 was not recommended by staff in the EA and is not required by this license. Measure 5 would consist of fish habitat monitoring in the project reservoir with reports being submitted to BLM every 5 years. In the EA, staff found that the run-of-river operation of the project would likely have no effect on reservoir species; staff also found that raising the reservoir would have short-term effects, but the system would stabilize over time and the habitat would be enhanced by the planting of riparian vegetation.⁶⁷ Because project operation would not alter the quality of fish habitat in the project reservoir, it would not be worth the annual cost of \$50,340. Consequently, the license does not require Interior's Measure 5 for a monitoring plan.

G. Fish Passage Studies

92. American Rivers et al., Bureau of Indian Affairs (BIA), and CRITFC commented that the historic range of anadromous fish in the Similkameen River prior to the construction of the Enloe Dam is unknown, and because suitable anadromous habitat exists upstream of the dam, this issue needs to be resolved prior to issuance of a new license. CRITFC recommended that Okanogan PUD work with CRITFC's member tribes, BIA, and other parties to resolve the issue by employing the best available scientific methods including paleolimnological, genetic, and archeological studies. BIA commented that cost estimates for designing, constructing, operating, and maintaining upstream and downstream fish passage facilities for the term of any license need to be developed in case such an action is required in the future. Washington DFW recommended a genetic study of rainbow trout in the project area to determine their origin.

⁶⁶ *Id.* at 230-231.

⁶⁷ *Id.* at 232.

93. In the EA, staff concluded that the historical occurrence of Chinook salmon, sockeye salmon, UCR steelhead, or Pacific lamprey has not been documented upstream of Coyote Falls.⁶⁸ Staff also concluded that the results of a genetic study are not necessary for its analyses, and the information discussed in the EA provided a sufficient basis for a fish passage recommendation. Therefore, the license does not require these measures.

94. In the EA,⁶⁹ staff concluded that although there is suitable anadromous fish habitat upstream of the dam, fish passage facilities should not be required at the project due to the speculative benefits, the lack of support from federal fisheries management agencies, the negative potential impacts on resident fish populations upstream of the dam, the objection of the Ministry of Environment, the potential adverse impact to the cultural resources of the Colville Tribe, and the high costs of the facilities themselves. Consequently, the license does not require this measure.

H. GIS Mapping and Digital Database

95. BLM recommended GIS mapping and the development of a digital database for sensitive species, noxious weeds, and habitat restoration sites, to assist in tracking mitigation progress and associated management activities at the project. In the EA, staff found that sufficient information exists to assess project effects on the location of sensitive species, noxious weeds, and habitat restoration sites, such that these measures are not needed. Consequently, this license does not require these measures.

I. Review of Upland Resource Plans

96. In its comments on the draft EA, BLM recommended that the Technical Review Group review and provide comments on any plans for protection of upland resources (e.g., plans for revegetation, spoils disposal, spills, erosion and sediment control, and construction sediment management), as well as the Fish Plan. In the EA,⁷⁰ staff expressed no objection if Okanogan PUD and the stakeholders wish to expand the role of the Technical Review Group to cover other plans. However, the Commission cannot require agency participation. Further, the Technical Review Group includes agencies that do not have expertise in upland resources. Therefore, the license does not require this measure.

⁶⁸ *Id.* at 82-86.

⁶⁹ *Id.*

⁷⁰ *Id.* at 239.

J. Weed Control

97. Noxious weeds are common in the project area, and project construction and maintenance during operation could introduce and further spread weeds. The Revegetation Plan required in the certification specifies that a total of approximately 1.6 acres of land at the reservoir riparian planting sites and the side channel enhancement site will be treated to control and eradicate noxious weeds. However, the Revegetation Plan does not address noxious weed control on all of the habitat that will be disturbed by project construction, maintenance, and recreation. Okanogan PUD proposed to control treatment of existing noxious weed infestations in four areas on the east side of the river, totaling approximately 2.0 acres. In the EA,⁷¹ staff recommended noxious weed control at the four sites to control existing weed populations and prevent the introduction and spread of weeds in the project area. Therefore, Article 407 requires the implementation of weed control treatments at the four areas on the east side of the river in addition to the reservoir riparian planting sites and the side channel enhancement site.

K. Water Supply for Cattle

98. To protect riparian/wetland mitigation sites from cattle grazing or trampling damage and ensure public safety, Okanogan PUD will implement the Fence Plan component of the Revegetation Plan.⁷² The Fence Plan includes provisions for installing: (1) livestock fencing; (2) a safety/security fence extending from the intake at the dam downstream to the landward side of the powerhouse; and (3) a stock watering tank inside the project boundary to supply water to grazing cattle prevented by the livestock fencing from accessing the river. The stock watering tank would be supplied with water from an existing pump and waterline owned by a BLM grazing lessee who has a water right to withdraw water from the reservoir for stock watering.⁷³ BLM recommended that any livestock watering development include a wildlife escape ramp to prevent wildlife from drowning while attempting to drink. In the EA,⁷⁴ staff recommended that Okanogan PUD provide the stock watering tank with a wildlife escape ramp. Article 407 requires inclusion of this measure in the Fence Plan.

⁷¹ *Id.* at 112.

⁷² The Fence Plan contained in the Revegetation Plan is identical to the plan included in the Vegetation Plan and that was analyzed in the EA.

⁷³ Figure 1 of the Fence Plan shows the locations of the existing pump and waterline and the proposed stock watering tank on the east side of the reservoir.

⁷⁴ *See* EA at 110.

L. Revegetation Plan Monitoring Reports

99. As specified in its Revegetation Plan, Okanogan PUD will file monitoring reports on the success of woody riparian revegetation, wetland establishment, and weed control with Washington Ecology by December 31 of each monitoring year. If monitoring indicates that the plan's goals and objectives are not being met, the plan provides for developing and implementing contingency measures approved by Washington Ecology. In its Vegetation Plan, Okanogan PUD proposes to provide Washington DOE and the U.S. Army Corps of Engineers (Corps) with its monitoring reports for restored areas. FWS, BLM, and Washington DFW indicated interest in reviewing the reports on the restoration efforts under the Vegetation Plan. In the EA,⁷⁵ staff recommended that Okanogan PUD provide the monitoring reports pursuant to Okanogan PUD's proposed Vegetation Plan to the Commission, the Corps, FWS, BLM, Washington DFW, and Washington Ecology, and file for approval any proposals for further measures, developed in consultation with the agencies. Consistent with staff's recommendation, Article 407 requires Okanogan PUD to submit monitoring reports to these agencies before filing the monitoring reports and copies of any agency comments or recommendations with the Commission by February 15 of each monitoring year. Article 401 requires Okanogan PUD to file for Commission approval an amendment application for any additional or altered measures proposed to enhance riparian and wetland habitat and control weeds.

M. Recreation

1. Recreation Management Plan

100. As noted in the EA,⁷⁶ Okanogan PUD's proposed Recreation Management Plan includes measures that would improve recreational opportunities and public access at the project. However, the plan does not include certain details for the recreation measures, such as the length of the trail on the east bank of the Enloe reservoir, the specification of the recreation facilities at the Enloe Dam Recreation Area, or the locations of and information to be provided for the proposed interpretive signage and information board. Accordingly, Article 410 requires Okanogan PUD to file a revised Recreation Management Plan that provides this information. In addition, Article 410 requires clarification on a snow plowing schedule during winter for the OTID Ditch Road, which will provide public access to project lands and waters. Although Okanogan PUD proposes to plow the road periodically, in the EA,⁷⁷ staff recommended a schedule for

⁷⁵ *Id.* at 226.

⁷⁶ *Id.* at 139-151.

⁷⁷ *Id.* at 139.

plowing the access road to facilitate winter recreational use and recommended Okanogan PUD develop a plow schedule with signage at the access road. Therefore, Article 410 also requires the posting of the plowing schedule.

2. Miners Flat Site

101. BLM operates and maintains the Miners Flat site, a 10-acre dispersed recreation site located on the shoreline 0.25 mile upstream to the northwest of the upstream limit of the proposed Enloe Project boundary. BLM recommended that Okanogan PUD bring the entire Miners Flat site into the project boundary to meet an expected increase in camping and boating use due to the increasing attraction of the Enloe reservoir. BLM also recommended that Okanogan PUD enhance the site by: (1) improving the existing access road, parking area, and access for boaters; (2) installing an information kiosk with a map; (3) developing primitive campsites with picnic tables and fire rings; (4) installing a toilet; and (5) developing drawings that show the improvements and submitting these drawings to BLM for review and approval.

102. In the EA,⁷⁸ staff did not recommend these measures because Okanogan PUD has already proposed similar recreation measures at the project site; however, staff concluded in the EA⁷⁹ that because project operation would raise the Enloe reservoir level, boaters will more likely take out at the Miners Flat site instead of Shanker's Bend to avoid paddling the flat water above the dam. Because there is no suitable take-out area within the Enloe Project boundary and an informal access already exists at the Miners Flat site (0.25 mile upstream), staff recommended that Okanogan PUD develop a river access take-out at Miners Flat and bring approximately 1 acre surrounding the take-out into the project boundary. Therefore, Articles 203 and 410 require these measures.

3. Access to West Side of River

103. American Rivers et al. requested that Okanogan PUD provide public access to the west side of the Similkameen River at Enloe Dam to allow campers at the Enloe Dam Recreation Area to access trails on the east side of the river.

104. Similarly, BLM recommended that Okanogan PUD: (1) support the development of the Nighthawk to Oroville Rail-to-Trail and the Similkameen segment of the Great Columbia Water Trail on the west side of the river; (2) identify water and trail points that are likely to become popular as the above trail becomes developed; and (3) rebuild a

⁷⁸ *Id.* at 239-240.

⁷⁹ *Id.* at 155.

footbridge (2 miles downstream of Enloe Dam) from the east side of the Similkameen River to potential trail opportunities on the west side of the river.

105. In the EA,⁸⁰ staff found Okanogan PUD proposed recreation measures will improve recreation use at the project. Further, the west side of the Similkameen River is steep and rocky making it less ideal to develop than other areas at the project, and the license requires Okanogan PUD to develop trails and other recreation facilities on the east side of the river. Additionally, staff found that rebuilding the footbridge, which is located downstream of the project, is not warranted because there was no nexus to project effects or a need for this measure.⁸¹ Therefore, the license does not include these measures.

4. Recreation Monitoring

106. Okanogan PUD proposes to revise its Recreation Management Plan if monitoring recreational use every 6 years, as required by section 8 of the Commission's regulations,⁸² indicates significant changes in recreation use or condition of a recreation facility. BLM recommended that Okanogan PUD develop an Annual Visitor Use and Monitoring Form to monitor recreational use and evaluate project recreation facilities to ensure effective management. In the EA,⁸³ staff found that monitoring recreational use every 6 years would assist in identifying if and when recreation needs are not being met at the project. Monitoring recreational use on an annual basis, as recommended by BLM, is not needed due to the low amount of current recreational use at the project. However, Article 411 requires Okanogan PUD to file a Recreation Monitoring Plan to assess recreational use at the project.

N. Public Safety

107. Okanogan PUD proposes the following measures to improve public safety: (1) maintaining existing signs and a system of safety cables and grab ropes located above Enloe Dam; (2) identification of areas where public access will be limited or prohibited during project construction; and (3) identification of options for prohibiting public access to the historic Enloe powerhouse. BLM recommended that Okanogan PUD develop a

⁸⁰ *Id.* at 239.

⁸¹ *Id.*

⁸² 18 C.F.R. § 8.11 (2012).

⁸³ *See* EA at 154.

Safety During Construction Plan to promote public safety. In the EA,⁸⁴ staff found Okanogan PUD's proposed public safety measures are appropriate and consistent with BLM's recommendation for a Safety During Construction Plan. Accordingly, the license requires Okanogan PUD to include the above four measures in the Public Safety Plan required by Article 307.

O. Law Enforcement, Emergency Services, and Fire Prevention

108. BLM recommended that Okanogan PUD develop and implement a Law Enforcement, Emergency Services, and Fire Prevention Plan that includes provisions for law enforcement and emergency services, including funding, as well as fire prevention and protection on BLM-administered lands.

109. As stated in the EA,⁸⁵ providing funds for law enforcement and fire and emergency service personnel is not the responsibility of a licensee in the context of a Commission license and is not required to fulfill project purposes. In general, the Commission is concerned with protecting resources and having enforceable provisions towards that end rather than requiring a licensee to provide funding for agency personnel.⁸⁶ Therefore, the license does not require this measure.

110. In the EA,⁸⁷ staff recommended a Fire Suppression Plan to rehabilitate lands subject to wildfires and to reduce fuel loads to prevent wildfires on project lands and adjoining wildlife areas. The plan would include signage at project recreation sites to inform the public about wildfires, rehabilitation efforts such as revegetation of any burned areas, and measures to prevent wildfires. Therefore, Article 412 requires Okanogan PUD to develop and implement a Fire Suppression Plan.

P. Building Removal

111. Currently, two small, deteriorating buildings exist at the north end of the proposed Enloe Dam Recreation Area. BLM recommended that both buildings be removed because they are deteriorating, unsafe to enter, and marked with graffiti. Okanogan PUD owns one of the buildings, and the other is privately-owned.⁸⁸ In the EA, staff concluded

⁸⁴ *Id.* at 153.

⁸⁵ *Id.* at 240.

⁸⁶ *See Portland General*, 117 FERC ¶ 61,112 at P 83.

⁸⁷ *See* EA at 156-57.

⁸⁸ *Id.* at 157.

that the building owned by Okanogan PUD would not serve a project purpose and recommended its removal.⁸⁹ Accordingly, Article 413 requires Okanogan PUD to remove its building. The second building is owned by a private landowner that maintains a lease with BLM. The second building is a BLM-leased building that is being used for private purposes and is not needed for project purposes. However, as it is under a BLM lease, it is within BLM's discretion to require its removal.

Q. Project Boundary

112. Okanogan PUD originally proposed a project boundary enclosing approximately 136.4 acres, including the Enloe reservoir, the corridor for the new proposed access road that would replace the segment to be abandoned, the location identified for the placement of boulder clusters in the riverbed (about 2.5 miles upstream of the dam), and the river corridor extending downstream from the dam for 0.25 mile. The proposed boundary did not include about 0.75 acre of land associated with the proposed side channel enhancement site; about 5 acres of the ODIT Ditch Road not already proposed to be in the project boundary; the entire Enloe Dam Road, which provides Okanogan PUD access to project facilities; and about 1 acre for river access at the Miners Flat site.

113. The side channel enhancement site at RM 4 would encompass about 0.75 acres. In the EA,⁹⁰ staff recommended the side channel enhancement site be brought within the project boundary because it is necessary for project purposes.

114. Including the entire OTID Ditch Road and the Enloe Dam Road, which are primarily used to access project facilities, as project features and bringing them into the project boundary will ensure maintenance of the roads for access to recreation and other project facilities. Further, including the river access take-out at Miners Flat will ensure that the site is maintained throughout the term of the license.

115. Article 203 requires Okanogan PUD to file revised Exhibit G drawings that include a project boundary encompassing the lands associated with the proposed side channel enhancement, the entire OTID Ditch and Enloe Dam Roads, and a river access take-out at Miners Flat. In addition, Article 203 of this license requires Okanogan PUD to file revised Exhibit G drawings after construction of the recreation facilities required by Article 410.

⁸⁹ *Id.* at 229.

⁹⁰ *Id.* at 89.

116. It is unclear whether the side channel enhancement site would occupy federal lands. If modifications made to the project boundary involve federal lands, the annual charges required by Article 201 will need to be adjusted accordingly.

R. Aesthetics Plan

117. Okanogan PUD's proposed Aesthetics Plan includes measures to: (1) use visually-compatible colors and building material textures to blend project facilities into the existing landscape; and (2) consult with the Colville Tribe on visual aesthetics that have cultural significance. In the EA,⁹¹ staff found that although the proposed Aesthetics Plan will reduce potential adverse visual effects at the proposed project, the plan does not include measures recommended by BLM to: (1) stabilize, and landscape construction with native vegetation to blend existing and proposed project facilities into the existing landscape; (2) monitor the project construction areas for project-related debris and trash and remove appropriately; (3) develop an implementation schedule; and (4) perform periodic review of the plan, as recommended by BLM. In the EA,⁹² staff found the Aesthetics Plan did not include sufficient specific details; however, the measures as recommended by BLM above would provide the specific details needed to protect aesthetic resources at the project. Therefore, Article 414 requires Okanogan PUD to file an Aesthetics Plan that includes BLM's measures.

S. Aesthetic Flows

118. Okanogan PUD proposes year-round minimum flows of 10 cfs and 30 cfs in the bypassed reach during different times of the year. The certification requires these minimum flows for both aesthetic and aquatic resources. Okanogan PUD stated that flows in the bypassed reach would provide some aesthetics value due to the sound of water flowing over bedrock and boulders and cascading down Similkameen Falls.⁹³

119. Interior commented that the Similkameen River currently flows over Enloe Dam and the falls year-round, with flows ranging from 600 cfs to 8,000 cfs, and that project operation will modify the visual landscape of the area. BLM, Interior, and American Rivers et al. recommended an aesthetic flow study which would include a survey of recreationists using the area, an analysis of a potential range of aesthetic flows, and

⁹¹ *Id.* at 173.

⁹² *Id.* at 172-173.

⁹³ *See* Okanogan PUD's filing of November 10, 2010.

incorporation of the study findings into an Aesthetics Plan.⁹⁴ American Rivers et al. recommended minimum flows ranging between 400 cfs during winter and 3,400 cfs in the late spring/early summer. In the EA,⁹⁵ staff concluded that American Rivers et al.'s minimum flow recommendation would not result in benefits to recreation and fisheries that would justify the estimated levelized annual cost of \$1,295,830.

120. In the EA,⁹⁶ staff noted that recreational use at the project site was relatively low, estimated at 1,378 user days from June through October and did not warrant higher minimum flows. The EA⁹⁷ also noted that although project operation will decrease flows over Similkameen Falls, particularly during the mid- to late summer months, providing a minimum flow would ensure that flow is passing over Enloe Dam and at Similkameen Falls at all times, even during the lowest flow months of the year.⁹⁸ While staff did not recommend an aesthetic flow study,⁹⁹ staff found that evaluating recreational use at the Enloe Dam and at Similkameen Falls as part of a Recreation Monitoring Plan would help in determining if different measures, potentially including flows, are warranted in the future. Article 411, therefore, requires Okanogan PUD to file, after consultation with interested parties, a Recreation Monitoring Plan that includes: a discussion of proposed methods for conducting an on-site user survey at the project including at Enloe Dam and Similkameen Falls; a schedule for implementation; a discussion of the effects of project operation on recreational opportunities; and a description of any proposed measures to accommodate recreational use at the project based on the survey results.

T. Cultural Resources

121. Okanogan PUD proposes to finalize its May 2009 HPMP that provides for, among other items: (1) soliciting a new owner for the existing historic Enloe powerhouse; (2) demolishing the historic Enloe powerhouse and developing an interpretive display within the project boundary, if a new owner is not identified; (3) monitoring effects on archaeological sites along the project shoreline areas from flow

⁹⁴ See EA at 48 and 173.

⁹⁵ *Id.* at 230.

⁹⁶ *Id.* at 131-132.

⁹⁷ *Id.* at 58.

⁹⁸ During these low flow months, the project hydraulic capacity would allow diversion of the entire river flow for power generation.

⁹⁹ See EA at A-23.

variations caused by ramping rates, and mitigating, as needed; (4) developing and implementing an inadvertent discovery plan for archaeological sites; and (5) determining if there are effects on archaeological sites in the vicinity of the project recreation facilities and mitigating, as needed. Okanogan PUD's May 2009 HPMP does not address the proposed side channel enhancement site.

122. In the EA,¹⁰⁰ two separate areas of potential effects (APE) were identified: (1) the proposed side channel enhancement site; and (2) all remaining lands within the project boundary.

123. With regard to the proposed side channel enhancement site, Okanogan PUD assessed project-related effects on archeological and architectural resources within the APE for the site. While no archeological and architectural resources were identified, staff recommended inclusion of the site and a definition of its APE in the HPMP to ensure that measures applied to lands within the project boundary would also apply to lands within the side channel enhancement site APE; in particular, this provision would ensure that any design modification to the proposed side channel enhancement site would be taken into account in the HPMP.¹⁰¹

124. Accordingly, Article 415 requires Okanogan PUD to develop and implement a final HPMP based on the May 2009 HPMP, in accordance with the PA.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

125. The Commission collects annual charges from licensees for administration of the FPA and the use and occupancy of U.S. lands. Article 201 provides for the collection of funds for administration of the FPA and the use and occupancy of U.S. lands.

B. Exhibit F and G Drawings

126. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. The Exhibit F drawings filed with the license application are being approved and Article 202 requires the filing of the drawings. The Exhibit G drawings filed with the license application are not approved because they need to be modified to include in the project boundary the side channel enhancement site (about 1,000 square feet), about 5 acres or the entire length of the ODIT Ditch Road from

¹⁰⁰ *Id.* at 187.

¹⁰¹ *Id.*

the Loomis-Oroville Road to the Enloe Dam Recreation Area for public access, the entire length of the Enloe Dam Road for access by Okanogan PUD to project facilities, and the river access at Miners Flat. Article 203 requires the filing of the revised Exhibit G drawings.

C. Headwater Benefits

127. Some hydropower projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

D. Project Land Rights Progress Report

128. The project will occupy 0.2 acres of private lands. Figures A-3 and A-4 of the license application identify private and federal lands that the applicant will use for project purposes. Standard Article 5, set forth in L-Form 2, requires the licensee to acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project, within 5 years. To monitor compliance with Article 5, Article 205 requires the licensee to file no later than 4 years after license issuance, a report detailing its progress in acquiring title in fee or the necessary rights to all lands within the project boundary for the remaining term of the license. The report shall include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining rights prior to the five-year deadline.

E. Project Financing

129. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 206 requires the licensee to file for Commission approval documentation of project financing for the construction, operation, and maintenance of the project at least 90 days before starting any ground-disturbing activities that are associated with the project.

F. Use and Occupancy of Project Lands and Waters

130. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 416 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

G. Start of Construction

131. Article 301 requires the licensee to commence construction of the project works within 2 years from the issuance date of the license and complete construction of the project within 5 years from the issuance date of the license.

H. Cofferdam Construction

132. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspection Portland Regional Office (D2SI-PRO) with cofferdam construction drawings for approval.

I. Review of Final Plans and Specifications

133. Article 303 requires the licensee to provide the Commission's D2SI-PRO with final contract drawings and specifications, together with a supporting design report consistent with the Commission's engineering guidelines, as well as a plan for a quality control and inspection program, a temporary construction emergency action plan, and a soil erosion and sediment control plan.

134. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as built. Article 304 provides for the filing of these drawings.

135. Article 305 requires a field inspection of the project works by an independent consultant within 2 years of the license issuance.

136. To demonstrate awareness of the roles and responsibilities of project owners and dam safety staff with regard to project safety, Article 306 requires the licensee to submit a Project Owner's Dam Safety Program to the Commission's D2SI-PRO.

137. To enhance the safety of the public during recreational activities at or near the project site, Article 307 requires the licensee to provide to the Commission a Public Safety Plan.

138. Article 308 requires the licensee to file with the Commission's D2SI-PRO a plan and schedule of any proposed modifications to the water retaining and/or conveyance features of the project resulting from the environmental requirements of the license to insure that these modifications do not adversely affect the project works, dam safety, or project operation.

J. Commission Approval and Filing of Plans and Amendments, and Filing of Reports.

139. In Appendices A and B, there are certain certification conditions and terms and conditions of the NMFS incidental take statement that either do not require the licensee to file plans or reports with the Commission or do not provide for consultation with the appropriate agencies during plan or report development. Therefore, Article 401 requires the licensee to file plans and amendments with the Commission for approval, and file reports with the Commission.

STATE AND FEDERAL COMPREHENSIVE PLANS

140. Section 10(a)(2)(A) of the FPA¹⁰² requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.¹⁰³ Under section 10(a)(2)(A), federal and state agencies filed 74 comprehensive plans that address various resources in Washington. Of these, staff identified and reviewed 23 plans that are relevant to this project.¹⁰⁴ No conflicts were found.

CONSERVATION EFFORTS

141. Section 10(a)(2)(C) of the FPA¹⁰⁵ requires the Commission to consider the electricity consumption improvement programs of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively. Okanogan PUD will use the power generated by the project or sell the project's power to Bonneville Power Administration. Okanogan PUD has many existing conservation and energy efficiency programs and plans for many new and innovative programs, sustainable technologies, and energy education.

142. Staff concludes that these programs show that Okanogan PUD is making an effort to conserve electricity and will comply with section 10(a)(2)(C) of the FPA.

¹⁰² 16 U.S.C. § 803(a)(2)(A) (2006).

¹⁰³ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2012).

¹⁰⁴ The list of applicable plans can be found in section 5.5 of the EA for the project.

¹⁰⁵ 16 U.S.C. § 803(a)(2)(C) (2006).

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

143. Staff has reviewed Okanogan PUD's preliminary plans to build the project as described in the license application. The project will be safe when constructed, operated, and maintained in accordance with the Commission's standards and provisions of this license.

NEED FOR POWER

144. To assess the need for power, staff assessed the needs in the operating region in which the project is located. Project power will be used to meet regional electrical demand. The project will be located in the Northwest subregion of the Western Electricity Coordinating Council region of the North American Electric Reliability Corporation (NERC). According to NERC's 2012 forecast, summer peak demand requirements for the Northwest subregion are projected to grow at a rate of 1.3 percent per year. The project's power and contribution to the region's diversified generation mix will help meet a need for power in the region.

PROJECT ECONOMICS

145. In determining whether to issue a license for a hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,¹⁰⁶ the Commission uses current costs to compare the costs of the project and likely 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 benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

146. In applying this analysis to the Enloe Project, two options were considered: Okanogan PUD's proposal and the project as licensed herein. As proposed by Okanogan PUD, the levelized annual cost of operating the Enloe Project is \$3,207,950, or \$72.24/megawatt-hour (MWh). The proposed project would generate an estimated average of 44,409 MWh of energy annually. When we multiply our estimate of average generation by the alternative power cost of \$74.22/MWh,¹⁰⁷ staff calculates a total value

¹⁰⁶ 72 FERC ¶ 61,027 (1995).

¹⁰⁷ The alternative power cost is from pages D-4 through D-6 of the license application and includes cost of on- and off-peak values as well as dependable capacity

(continued)

of the project's power of \$3,296,040 in 2013 dollars.¹⁰⁸ To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.¹⁰⁹ Therefore, in the first year of operation, the project would cost \$88,090, or \$1.98/MWh, less than the likely alternative cost of power.

147. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$3,220,550, or \$72.52/MWh. Based on the same estimated average generation of 44,409 MWh, the project would produce power valued at \$3,296,040 when multiplied by the \$74.22/MWh value of the project's power. Therefore, in the first year of operation, project power would cost \$75,490, or \$1.70/MWh, less than the likely cost of alternative power.

148. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include their ability to help maintain the stability of a power system, such as by quickly adjusting power output to respond to rapid changes in system load; and to respond rapidly to a major utility system or regional blackout by providing a source of power to help restart fossil-fuel based generating stations and put them back online.

COMPREHENSIVE DEVELOPMENT

149. Sections 4(e) and 10(a)(1) of the FPA¹¹⁰ require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. 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.

values.

¹⁰⁸ Cost values provided in the EA in 2011 were escalated to 2013 dollars (\$2013) using the Consumer Price Index.

¹⁰⁹ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA at 193.

¹¹⁰ 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

150. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Enloe Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

151. Based on my independent review and evaluation of the Enloe Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I have selected the staff alternative with mandatory conditions, and find that it is best adapted to a comprehensive plan for improving or developing the Similkameen River.

152. This alternative was selected because: (1) issuance of an original license will serve to provide a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 9 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

LICENSE TERM

153. Section 6 of the FPA¹¹¹ provides that original licenses for hydropower projects shall be issued for a period not to exceed 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.¹¹²

154. This license requires an extensive amount of new construction, including: (1) an intake canal; (2) an intake structure with trashracks; (3) two penstocks; (4) a powerhouse; (5) a tailrace channel; (6) a substation; (7) a transmission line; and (7) a segment of an access road.

155. This license also requires an extensive amount of mitigation and enhancement measures, including: (1) implementing numerous plans to protect resources during construction and operation, including the Sediment Plan, the Spoils Disposal Plan, the Operational Compliance Monitoring Plan, the Blasting Plan, the Fish Plan, the

¹¹¹ 16 U.S.C. § 799 (2006).

¹¹² See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

Revegetation Plan, the Wildlife Management Plan, the Recreation Management Plan, the Public Safety Plan, and Aesthetics Plan; (2) monitoring water temperature, TDG, DO, riparian areas, and tailrace barriers; (3) installing tailrace barrier nets and video cameras, barricades, and fencing; and (4) enhancing a side channel for fish habitat. Consequently, a license term of 50 years for the Enloe Project is appropriate.

The Director orders:

(A) This license is issued to Public Utility District No. 1 of Okanogan County, Washington (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate and maintain the Enloe Project. This license is subject to the terms and conditions of the Federal Power Act (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 these lands, described in the project description and the project boundary discussed in this order.

(2) Project works consisting of: (a) an existing 315-foot-long, 54-foot-high concrete gravity arch dam with an integrated 276-foot-long central overflow spillway; (b) three new 5-foot-high automated steel flap crest gates/flashboards; (c) an existing 76.6-acre reservoir (narrow channel of the Similkameen River) with a storage capacity of 775 acre-feet at a surface elevation of 1,049.3 feet above mean sea level; (d) a new 190-foot-long intake canal on the east abutment of the dam diverting flows into the new penstock intake structure; (e) a new 35-foot-long by 30-foot-wide penstock intake structure; (f) two new above-ground 8.5-foot-diameter, 150-foot-long steel penstocks carrying flows from the intake to the powerhouse; (g) a new powerhouse containing two vertical Kaplan turbine/generator units with a total installed capacity of 9.0 MW; (h) a new 180-foot-long tailrace channel, immediately downstream of Coyote Falls; (i) a 370-foot-long bypassed reach; (j) a new substation adjacent to the powerhouse; (k) a new 100-foot-long, 13.2-kilovolt primary transmission line connecting the substation to an existing distribution line; (l) the side channel enhancement site at RM 4; (m) the entire ODI Ditch Road; (n) the entire Enloe Dam Road; and (o) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F shown below:

Exhibit A: The following sections of Exhibit A filed on August 22, 2008:

Section A.1, pages A-1 through A-15, entitled “Exhibit A – Project Description”, describing the mechanical, electrical, and transmission equipment within the application for license.

Exhibit F: The following Exhibit F drawings filed on August 22, 2008:

<u>Exhibit F Drawing</u>	<u>FERC No. 12569-</u>	<u>Description</u>
Figure No. F.1	1	General Arrangement
Figure No. F.2	2	Dam and Headworks
Figure No. F.3	3	Intake and Penstock
Figure No. F.4	4	Powerhouse and Tailrace

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

(C) The Exhibits A and F described above are approved and made part of the license. The Exhibit G drawings filed as part of the application for license do not conform to Commission regulations and are not approved.

(D) This license is subject to the conditions submitted by the Washington Department of Ecology under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1) (2006), as those conditions are set forth in Appendix A to this order.

(E) This license is subject to the incidental take terms and conditions of the biological opinion submitted by the National Marine Fisheries Service under section 7 of the Endangered Species Act, as those conditions are set forth in Appendix B to this order.

(F) This license is also subject to the articles set forth in Form L-2 (October, 1975), entitled “Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States,” (*see* 54 F.P.C. 1799 et seq.), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of

the Commission's regulations in effect from time to time:

- (a) effective as of the date of commencement of project operation, to reimburse the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 9 megawatts;
- (b) to recompense the United States for the use, occupancy, and enjoyment of 35.47 acres of its land; and
- (c) if modifications made to the project boundary involve federal lands during the license term, the Commission will adjust the annual charges accordingly.

Article 202. Exhibit F Drawings. Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit F drawings in aperture card and electronic file formats.

(a) Three 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 Project-Drawing Number (i.e., P-12569-#### through P-12569-####) 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 (i.e., F-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 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.

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster 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. Exhibit F drawings must be separated from other project exhibits and identified as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113(c) (2012). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-12569-####, F-1, General Arrangement, MM-DD-YYYY.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 – 300 dpi desired (200 dpi min)
DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)
FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of the effective date of the license, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including the proposed side channel enhancement site; the entire length of the ODIT Ditch Road from the Loomis-Oroville Road to the Enloe Dam Recreation Area, the entire length of the Enloe Dam Road; and a river access take-out at the Miners Flat site.

The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission’s regulations.

Article 204. Headwater Benefits. If the licensee’s project is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed. The benefits will be assessed in accordance with Subpart B of the Commission’s regulations.

Article 205. Project Land Rights Progress Report. No later than four years after license issuance, the licensee shall file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee’s rights over each parcel within the project boundary. The report shall also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee’s rights; and (2) the licensee’s plan and schedule for acquiring all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 206. Documentation of Project Financing. At least 90 days before starting construction, the licensee shall file with the Commission, for approval, the licensee’s documentation for the project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of

actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation, and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The licensee shall not commence project construction associated with the project before the filing is approved.

Article 301. *Start of Construction.* The licensee shall commence construction of the project works within two years from the issuance date of the license and shall complete construction of the project within five years from the issuance date of the license.

Article 302. *Cofferdam and Deep Excavation Construction Drawings.* Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdam and deep excavation, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications and the letters of approval.

Article 303. *Contract Plans and Specifications.* At least 60 days prior to the start of any construction, the Licensee shall submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal to the D2SI-Portland Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, a Blasting Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI-Portland Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 304. *As-built Drawings.* Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer; the Director, D2SI; and the Director, Division of Hydropower Administration and Compliance.

Article 305. Inspection by Independent Consultant. In accordance with Part 12 of the Commission's Regulations, the initial independent consultant's inspection of the project must be completed and the report on the inspection filed within two years of the issuance date of the license.

Article 306. Owner's Dam Safety Program. Within 90 days from the issuance date of the license, the licensee shall submit to the Commission's Division of Dam Safety and Inspections (D2SI)–Portland Regional Engineer, an Owner's Dam Safety Program which among other items demonstrates a clear acknowledgement of the dam owners responsibility for the safety of the project, an outline of the roles and responsibilities of its dam safety staff, and access of its dam safety official to its Chief Executive Officer. For guidance on the Owner's Dam Safety Programs, the licensee should reference information posted on the FERC website.

Article 307. Public Safety Plan. Within 90 days from the issuance of this order, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan shall include an evaluation of public safety concerns at the project site, including designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan shall include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans, the licensee can review the *Guidelines for Public Safety at Hydropower Projects* on the FERC website.

The plan shall also include, but not be limited to, the following measures:

- (1) install signage at identified areas where public access shall be limited, or prohibited during the project construction and the associated timeframe;
- (2) install signage at the put-in/take-out area upstream of the dam to inform the public of closure and of an alternative put-in/take out location; and
- (3) identify options and a preferred alternative for prohibiting public access to the historic Enloe powerhouse.

The plan shall be developed after consultation with the U.S. Bureau of Land Management, the Washington Recreation and Conservation Office, and the Washington State Historic Preservation Office. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 308. Project Modification Resulting From Environmental Requirements. Any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission’s Division Dam Safety and Inspections (D2SI)-Portland Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements. This schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety or project operation.

Article 401. Commission Approval for Filing of Plans and Amendments, and Filing of Reports.

(a) Requirement to File Plans for Commission Approval

Various conditions of this license found in the Washington Department of Ecology (Washington Ecology) water quality certification (Appendix A) and the National Marine Fisheries Service (NMFS) incidental take statement terms and conditions (Appendix B) require the licensee to prepare plans in consultation with other entities for approval by Washington Ecology or NMFS and implement specific measures without prior Commission approval. Each such plan shall also be submitted to the Commission for approval. These plans are listed below. The following table also lists the entities that the licensee shall consult with in preparing the plan and schedule, along with the deadline for filing the plan and schedule with the Commission for approval.

Washington Ecology Certification Condition Number	NMFS Incidental Take Statement Term and Condition Number	Plan Name	Consulting Entities	Due Date
5.3.1.3.d.		Post-construction water quality protection plan	Washington Ecology, Washington Department of Fish and Wildlife (Washington DFW),	90 days prior to any post-construction instream work

			Washington Department of Natural Resources (Washington DNR), U.S. Fish and Wildlife Service (FWS), NMFS, Bureau of Land Management (BLM), the Confederated Tribes of the Colville Reservation (Colville Tribe)	
5.4.2	3.3	Spill prevention control and countermeasures plan	Washington Ecology, Washington DFW, Washington DNR, FWS, NMFS, BLM, the Colville Tribe	90 days prior to the start of project operation
	2.1	Blasting plan	Washington Ecology, Washington DFW, Washington DNR, FWS, NMFS, BLM, the Colville Tribe	90 days prior to the start of project construction
	4.2	Tailrace barrier net plan		90 days prior to the start of project operation

(b) Requirement to File Reports

Two conditions of Washington Ecology’s water quality certification (Appendix A) and one condition of NMFS’ incidental take statement terms and conditions (Appendix B) require the licensee to file reports with other entities. These reports document compliance with requirements of this license and may have a bearing on future actions. Each such report shall also be submitted to the Commission. These reports are listed in the following table:

Washington Ecology Certification Condition Number	NMFS Incidental Take Statement Term and Condition Number	Description	Due Date
5.2.6		Annual report of	By January 31 st of

		activities undertaken during the previous year as part of the Fish Plan	each year
5.3.2.b		Annual report of monitoring data collected during the previous year as part of the water quality management plan	By January 31 st of each year
	5.2	Report to NMFS in the case of dead or injured salmon or steelhead trout	Within two days of observance

The licensee shall submit to the Commission documentation of any consultation, and copies of any comments and recommendations made by any consulted entity in connection with each report. The Commission reserves the right to require changes to project operations or facilities based on the information contained in the report and any other available information.

(c) Requirement to File Amendment Applications

Certain water quality certification conditions in Appendix A and certain terms and conditions in Appendix B appear to contemplate Washington Ecology and NMFS, respectively, ordering unspecified long-term changes to project operations or facilities based on new information or results of studies or monitoring required by the certification or prescription, but do not appear to require Commission approval for such changes. Such changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Washington Ecology Certification Condition Number	NMFS Incidental Take Statement Term and Condition Number	Description
5.1.21		Implement additional measures as directed by Washington Ecology’s water quality certification as a part of adaptive management plans
	RPM #1, T&C 2 a – e	Future revisions to approved management plans

	RPM #3, T&C 2 a – b	Future revisions to approved management plans
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Article 402. Spoils Disposal Plan. At least 90 days before the start of any land-disturbing or land-clearing activities, the licensee shall file for Commission approval, a spoils disposal plan. The plan shall detail the disposal and/or storage of waste soil and/or rock materials generated by road maintenance, slope failures, and construction projects, and identify the location and area of land used for spoil disposal. For all disposal sites within the project boundary, the plan shall also include, but not be limited to, the following provisions:

- (1) conduct pre-disposal surveys of the spoil disposal site to document noxious weeds and wildlife;
- (2) time vegetation clearing at the spoil disposal site to minimize wildlife impacts;
- (3) implement pre-disposal weed control measures; and
- (4) hydroseed the spoil disposal site with appropriate seed mixes to encourage revegetation with native upland species.

The licensee shall prepare the plan after consultation with Washington Department of Ecology, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Land Management, Washington State Historic Preservation Office, and the Confederated Tribes of the Colville Reservation. The licensee shall include with the plan documentation of 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 reason, based on project-specific information.

The Commission reserves the right to require changes to the plan. Land-disturbing or land-clearing activities shall not 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 403. Operation Compliance Monitoring. Within one year of license issuance, the licensee shall file for Commission approval, an Operational Compliance Monitoring Plan to ensure compliance with operational requirements of this license. The plan shall include, but not limited to, detailed descriptions of how the licensee will document compliance with run-of-river operation, minimum flows, and ramping rates, as

required by the water quality certification (Fish Plan, Conditions 3.3.1, 3.3.2, 3.4.3, and 20 of Appendix A).

The licensee shall include with the operation monitoring and compliance plan, documentation of consultation with the Washington Department of Ecology, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Land Management, and the Confederated Tribes of the Colville Reservation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the plan is approved by the Commission. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. *Access to Project Site.* The licensee shall provide access to project lands and waters and project works to representatives of the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Land Management, and the Confederated Tribes of the Colville Reservation, who show proper credentials, to perform their official duties after appropriate advance notification is made.

Article 405. *Reservation of Authority to Prescribe Fishways.* 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 the Secretaries of Commerce or of the Interior pursuant to section 18 of the Federal Power Act.

Article 406. *Columbia River Basin Fish and Wildlife Program.* The Commission reserves the authority to order, upon its own motion or upon the recommendation of federal and state fish and wildlife agencies, affected Indian Tribes, or the Northwest Power and Conservation Council, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed and amended pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 407. *Revegetation and Wetlands Management Plan.* Upon license issuance, the licensee shall implement the Revegetation and Wetlands Management Plan, (Revegetation Plan) as required by condition 20 of the water quality certification

(Appendix A), with the following additions:

- (1) conduct weed control treatments to avoid or minimize the spread of noxious weeds by project construction, maintenance, and recreation at the following existing sites: (a) the approximately 0.4-acre parking area and dam overlook (part of the Enloe Dam Recreation Area); (b) the approximately 0.6-acre road and off-road vehicle trail intersection immediately north of the area specified in item (1); (c) the approximately 0.9-acre open area immediately north of the area specified in item (2); and (d) the approximately 0.06-acre informal boat put-in/take-out site at the reservoir (part of the Enloe Dam Recreation Area);
- (2) ensure that best management practices are employed during project construction to protect riparian and wetland vegetation;
- (3) perform biological checks of construction sites on a weekly schedule to ensure that protected areas are not disturbed and that fencing and other control measures are intact; and
- (4) provide a wildlife escape ramp in the stock watering tank required by the water quality certification.

By no later than February 15 after completing construction and planting the riparian and wetland mitigation sites, the licensee shall file an initial report that includes drawings of the riparian, wetland, and weed control sites. In addition, the initial report shall include a description of the best management practices used during project construction to protect riparian and wetland vegetation and a summary of the actions taken by the biological monitor during project construction.

Thereafter, the licensee shall file monitoring reports with the Commission by February 15 of years one, two, three, four, five, seven, and 10 after the filing of the initial report.

The reports documenting the results of vegetation monitoring of the sites identified in the Revegetation Plan and in item (1) above shall document: (1) the progress of the riparian and wetland mitigation efforts to date, including the amount of area revegetated and/or restored during the term of the monitoring report; (2) the success of the mitigation effort (i.e., whether the plantings are becoming established); (3) noxious weed control efforts completed during the term of the report, including areas that have been treated for noxious weeds and any new areas where infestation has occurred; and (4) the objectives of the next year of the riparian and wetland mitigation efforts, as applicable. The licensee shall include with the monitoring reports documentation that it has provided the reports to the U.S. Army Corps of Engineers, U.S. Fish and Wildlife

Service, Bureau of Land Management, Washington Department of Fish and Wildlife, Washington State Historic Preservation Officer, and Washington Department of Ecology, as well as copies of any agency comments or recommendations. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the monitoring reports with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

Article 408. Ute Ladies'-tresses Monitoring Plan. Within six months of license issuance, the licensee shall file with the Commission for approval, a plan to conduct surveys for the threatened Ute ladies'-tresses (*Spiranthes diluvialis*) for three years within the side channel enhancement site and in areas along the reservoir that will be affected by the project. The plan shall include provisions for providing the survey results to the Commission and the consulted agencies, along with any proposals to avoid or mitigate adverse impacts on Ute ladies'-tresses.

The plan shall be developed after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, and Washington Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, specific descriptions of how the entities' comments are accommodated by the plan, and an implementation schedule for conducting the surveys and providing the results to the Commission and the entities. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan and to require changes in project operation or facilities based on the survey results and any other available information. Implementation of the plan shall not 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 409. Wildlife Management Plan. At least 90 days before starting construction, the licensee shall file with the Commission for approval, a Wildlife Management Plan to protect, mitigate effects to, and enhance wildlife resources. The plan shall include, but not necessarily be limited to, the following provisions:

- (1) construct the project transmission line pole with enough spacing between conductors and grounded hardware to prevent raptor electrocution;
- (2) avoid disturbance of bald eagles between October 31 and March 31;

- (3) retain all non-hazardous dead trees along the reservoir to protect perching habitat for bald eagles;
- (4) install and maintain 10 artificial perch poles along the reservoir shoreline; and;
- (5) develop and implement an environmental training program to inform employees and contractor employees who work on the project site or related facilities during construction and operation about the sensitive biological resources (i.e., wildlife and wildlife habitat) associated with the project area and actions they can take to mitigate or avoid effects on these resources.

The Wildlife Management Plan shall be developed after consultation with the U.S. Fish and Wildlife Service, Bureau of Land Management, and Washington Department of Fish and Wildlife. The licensee shall include with the plan an implementation schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not 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 410. Recreation Management Plan. Within one year of license issuance, the licensee shall file with the Commission for approval, a Recreation Management Plan for the project. The plan shall include, but not be limited to, details on the measures proposed in Volume 1 of the license application at page E.7-24 through page E.7-31. The plan shall also include the following provisions:

- (1) review, update, and/or revise the Recreation Management Plan every six years in coordination with the Licensed Hydropower Development Recreation Report (Form 80);
- (2) develop a snow plow schedule for the OTID Ditch Road with signage to accommodate recreational use during the winter; and
- (3) develop a river access take-out at the Miners Flat site and include the approximate 1-acre site as a project facility within a revised project boundary.

The Recreation Management Plan shall include an implementation schedule, a discussion of how the needs of the disabled were considered in the planning and design of the recreation facilities, and a discussion of soil erosion and sediment control measures where land-disturbing activities are proposed. The licensee shall operate and maintain, or provide for the operation and maintenance of, the project recreation facilities. The plan shall include appropriate site drawings, specifications, and a map or maps showing the type of recreation facilities and their location in relation to the project boundary.

The Recreation Management Plan shall be developed after consultation with the U.S Bureau of Land Management, the National Park Service, the Washington Department of Ecology, the Washington Recreation and Conservation Office, the Washington State Historic Preservation Office, and the Confederated Tribes of the Colville Reservation. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 411. Recreation Monitoring Plan. Within 90 days of completion of project construction, the licensee shall file with the Commission for approval, a Recreation Monitoring Plan. The plan shall include at a minimum:

(1) a discussion of proposed methods for monitoring recreation use at the project and conducting an on-site user survey to assess satisfaction with recreation opportunities at the project, including satisfaction with project recreation facilities and views of the flows over Enloe Dam and at Similkameen Falls;

(2) an implementation schedule;

(3) a provision for filing a report that includes at a minimum: (a) the results of the monitoring conducted pursuant to item (1) above; (b) an estimate of the amount and type of recreation use at the project by facility and type and of use; (c) a discussion of the monitoring results and the need for any additional recreation measures based on the results; (d) a description of any proposed measures to address any needs identified in item (c) above; and (e) documentation of consultation with the entities consulted on the Recreation Monitoring Plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the report with the

Commission. If the licensee does not adopt a recommendation, the report shall include the licensee's reasons, based on project-specific reasons.

The Recreation Monitoring Plan shall be developed after consultation with U.S. Bureau of Land Management, the National Park Service, the Washington Department of Ecology, the Washington Recreation and Conservation Office, and the Confederated Tribes of the Colville Reservation. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 412. Fire Suppression Plan. Within one year of license issuance, the licensee shall file with the Commission for approval, a Fire Suppression Plan to protect wildlife habitat and reduce fuel loads at the project. The plan shall include, but not be limited to, the following provisions:

- (1) a description of fire prevention, detection, and suppression measures on project lands and U.S. Bureau of Land Management (BLM)-administered lands located within the project boundary;
- (2) an identification of a process for collaboration with the BLM and the Washington Department of Natural Resources (Washington DNR) in the fire suppression efforts;
- (3) a description of an emergency notification process to alert the public of wildfires within the project boundary;
- (4) a discussion and a schedule for, rehabilitation of any burned areas, such as replanting with perennial grasses to reduce fuel loads within the project boundary; and
- (5) signage at project recreation sites to inform the public about wildfires and measures to prevent wildfires.

The Fire Suppression Plan shall be developed after consultation with the BLM and the Washington DNR. The licensee shall include with the plan documentation of

consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 413. *Removal of Deteriorated Building.* Within one year of license issuance, the licensee shall remove the licensee-owned small, deteriorated building located within the project boundary at the north end of the proposed Enloe Dam Recreation Area. Within 30 days of removing the building, the licensee shall file photographic evidence that the building has been removed, including pre- and post-removal photos taken from a similar location.

The licensee shall also restore the area, as required by Condition 20 of the water quality certification (Appendix A).

Article 414. *Aesthetics Plan.* Within one year of license issuance, the licensee shall file with the Commission for approval, an Aesthetics Plan to minimize project-related effects on aesthetic resources at the project. The plan shall include at a minimum, the provisions identified in Volume 1 of the license application at page E.8-26 through page E.8-27. The plan shall also include the following provisions:

- (1) monitoring of the project construction areas for project-related debris and trash and remove appropriately; and
- (2) reviewing and updating the plan, if needed, every 6 years.

The Aesthetics Plan shall be developed after consultation with the U.S. Bureau of Land Management, the Washington State Historic Preservation Office, and the Washington Department of Ecology, and the Confederated Tribes of the Colville Reservation. The licensee shall include with the plan an implementation schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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 project-specific information.

The licensee shall develop the Aesthetics Plan in coordination with the Revegetation and Wetlands Management Plan (Article 407) so that provisions for revegetation are consistent.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 415. Programmatic Agreement. The licensee shall implement the “Final Programmatic Agreement Between the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer for Managing Historic Properties that May be Affected by Issuing an Original License to the Public Utility District No. 1 of Okanogan County for the Enloe Hydroelectric Project in Okanogan County, Washington,” executed on September 14, 2011, and including, but not limited to, an Historic Properties Management Plan (HPMP) for the project. Pursuant to the requirements of the Programmatic Agreement, the licensee shall file with the Commission for approval, a final HPMP within one year of license issuance, based on the May 2009 HPMP. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license.

Article 416. 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, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters 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 water craft 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, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment 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 kilovolt or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. 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 water craft 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 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 file a letter with the Commission, 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 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 Commission's authorized representative, 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 report on recreational resources of an Exhibit E; or, if the project does not have an 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.

(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 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 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.

(G) 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.

(H) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2012). 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. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

**FORM L-2
(October 1975)**

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED
MAJOR PROJECT AFFECTING LANDS OF THE UNITED STATES**

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

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

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

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting

forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

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

thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

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

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

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

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

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

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

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity

for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable

modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

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

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

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project

construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all trash and debris from project lands.

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

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

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

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

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil

disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

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

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

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

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the

Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

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

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

APPENDIX A**Water Quality Certificate Conditions for the
Enloe Hydroelectric Project Issued by the
State of Washington Department of Ecology
and filed with the Commission on
August 20, 2012****5.1 GENERAL CONDITIONS**

The Project shall comply with all water quality standards (currently codified in WAC 173-201A), ground water standards (currently codified in WAC 173-200), and sediment quality standards (currently codified in WAC 173-204) and other appropriate requirements of state law that are related to compliance with such standards.

- 1) In the event of changes in or amendments to the state water quality, ground water, or sediment standards or changes in or amendments to the state Water Pollution Control Act (RCW 90.48) or changes in or amendments to the Federal Clean Water Act, such provisions, standards, criteria or requirements shall apply to the Project and any attendant agreements, orders, or permits, to the fullest extent permitted by law.
- 2) Discharge of any solid or liquid waste to the waters of the State of Washington without prior approval from Ecology is prohibited.
- 3) Okanogan PUD shall consult with Ecology before it undertakes any change to the Project or Project operations that might significantly and adversely affect compliance with any applicable water quality standard (including designated uses) or other appropriate requirement of state law. If, following such consultation, Ecology determines that such change would violate state water quality standards or other appropriate requirements of state law. Ecology reserves the right to condition or deny such Project change.
- 4) This Certification does not exempt compliance with other statutes and codes administered by federal, state and local agencies.
- 5) Ecology retains the right to modify schedules and deadlines provided under this Certification or provisions of the Management Plans that it incorporates.
- 6) Ecology retains the right to require additional monitoring, studies, or measures if it determines that there is a likelihood or probability that violations of water quality standards or other appropriate requirements of state law have or may occur, or insufficient information exists to make such a determination.

- 7) Ecology reserves the right to amend this Certification by Administrative Order if it determines that the provisions hereof are no longer adequate to provide reasonable assurance of compliance with applicable water quality standards or other appropriate requirements of state law. Such determination shall be based upon provisions in the FERC License or new information or changes in: (i) the construction or operation of the Project; (ii) characteristics of the water; (iii) water quality criteria or standards; (iv) Total Maximum Daily Load (TMDL) requirements; (v) effluent limitations; or (vi) other applicable requirement of state law. Amendments of this Certification shall take effect immediately upon issuance, unless otherwise provided in the order.
- 8) Ecology reserves the right to issue administrative orders, assess or seek penalties under state or federal law, and to initiate legal actions in any court or forum of competent jurisdiction for the purposes of enforcing the requirements of this Certification or applicable state or federal laws.
- 9) The conditions of this Certification should not be construed to prevent or prohibit Okanogan PUD from either voluntarily or in response to legal requirements imposed by a court, the FERC, or any other body with competent jurisdiction, taking actions which will provide a greater level of protection, mitigation or enhancement of water quality or of existing or designated uses.
- 10) If five or more years elapse between the date that this Certification is issued and the date of issuance of the License for the Project, this Certification shall be deemed to have been denied at such time and Okanogan PUD shall send Ecology an updated 401 application that reflects then current conditions, regulations and technologies. This provision should not be construed to otherwise limit the reserved authority of Ecology to deny, amend or correct the Certification before or after the issuance of the License.
- 11) All documents required under this Certification to be submitted to Ecology shall be submitted to Washington State Department of Ecology, Central Regional Office, Water Quality Program, Section Manager or his/her designated project manager.
- 12) Copies of this Certification and associated permits, licenses, approvals and other documents shall be kept on site and made readily available for reference by Okanogan PUD, its contractors and consultants, and by Ecology.
- 13) Okanogan PUD shall allow Ecology access to inspect the Project and Project records required by this Certification for the purpose of monitoring compliance with the conditions of this Certification. Access will occur after reasonable notice to the person designated by Okanogan PUD as the contact for the purposes of this Certification, except in emergency circumstances.
- 14) Okanogan PUD shall, upon request by Ecology, fully respond to all reasonable

requests for materials to assist Ecology in making determinations under this Certification and any resulting rulemaking or other process.

15) If an action required under or pursuant to this Certification requires as a matter of federal law that the FERC approve the action before it may be undertaken, Okanogan PUD shall not be considered in violation of such requirements to the extent that FERC refuses to provide such approval, provided that Okanogan PUD diligently seeks such approval and so notifies Ecology.

16) The reservations contained in this Certification do not preclude or limit any right of Okanogan PUD to contest the validity of any such reservation in connection with any order or any other action taken by Ecology pursuant to such reservation.

17) All information prepared or collected as a requirement of this Certification (e.g., plans, reports, monitoring results, meeting minutes, and data) shall be made available to the public on Okanogan PUD's website or by another readily accessible means. Where data or quantitative analysis is involved, it shall be provided in a format that allows others to efficiently validate and analyze data and results.

18) Where this Certification refers to "reasonable and feasible" actions or measures, Ecology retains the authority to ultimately determine if an action or measure qualifies as "reasonable and feasible."

19) Per RCW 90.48.422(3), Okanogan PUD shall be required to mitigate or remedy a water quality violation or problem only to the extent that there is substantial evidence the Project has caused such violation or problem.

20) This Certification includes and incorporates 10 (ten) management plans, attached hereto as Appendices A through J.

21) If, after implementing all the management measures (including adaptive management) required for a goal contained in a plan that is part of this Certification, the goal has not been attained and no reasonable and feasible measures have been identified to attain that goal (as determined by the Fish Workgroup and subject to approval by Ecology), then Okanogan PUD may propose an alternative procedure to achieve compliance with the state water quality standards, including procedures found at WAC 173-201A-510(5)(g)(ii).

22) All conditions in this Certification apply for the life of the License and any subsequent renewals of that license, unless explicitly stated otherwise in this Certification or modified by a subsequent order by Ecology.

5.2 AQUATIC LIFE

- 1) Ecology expects that the measures and processes required in this Certification will protect aquatic life as required under state law and the Clean Water Act. In the event that any of the requirements fail, or begins to fail substantially, as determined by Ecology, to adequately protect, in a timely manner, existing or designated uses of water quality, Ecology reserves the right to require such changes as it determines necessary to protect these uses or water quality.
- 2) For purposes of this Certification, goals and objectives represent important steps toward meeting the designated uses of a water body. They serve as quantifiable goals for moving toward attaining full support of designated uses. They are not intended to serve as a surrogate for the requirement to support and protect designated uses of the waters. Adaptive Management is a strategy, as described above, which may be required to obtain the goals and objectives.
- 3) Ecology reserves the right to modify the processes or decisions described herein, including timeframes. If timely progress is not made or plans or reports are not timely submitted, Ecology reserves the right to impose penalties.
- 4) Okanogan PUD shall maintain current versions of the Plans on the PUD's website and they shall be made available to the public.
- 5) Reports shall be provided to Ecology for review and approval as described in the individual plans.
- 6) Okanogan PUD shall provide a draft annual report to the Fish Workgroup (FW) summarizing the previous year's activities undertaken in accordance with the Fish Management Plan. The report will document all activities conducted within the Project and describe activities proposed for the following year. Furthermore, any decisions, statements of agreement, evaluations, or changes made pursuant to each plan will be included in the annual report. If significant activity was not conducted in a given year, Okanogan PUD shall prepare a memorandum providing an explanation of the circumstances in lieu of the annual report.
- 7) The final report is subject to approval by Ecology for purposes of compliance with federal and state water quality standards, including designated uses.
- 8) Listed Anadromous Fish Species. For purposes of protecting the designated uses of the listed fish species, Ecology defers to the responsible federal agencies. However, in the event of a perceived conflict between the requirements of those agencies and this Certification, it is presumed that the responsible agencies, including Ecology, shall work

together to obtain a solution that best meets the needs of all species involved, in accordance with the requirements of the Clean Water Act and the Endangered Species Act.

9) **Other Fish Species.** Okanogan PUD shall implement the Fish Management Plan, which is attached hereto as Appendix A, and is hereby incorporated into this Certification. The PUD shall provide a flow of at least 10 cfs from September 16 to July 15 and at least 30 cfs from July 16 to September 15 for the duration of the License. Other additional measures may be required, as described in the Fish Management Plan.

10) **Fish Workgroup (FW).**

a) **Purpose.** The purpose of the FW is to address any issues that arise related to fish management for the Project, primarily with respect to the Fish Management Plan.

b) **Members.** The Fish Workgroup shall be composed of the Okanogan PUD and the following agencies and tribes: Ecology, Washington State Department of Fish and Wildlife (WDFW), Washington State Department of Natural Resources (DNR), US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), the Confederated Tribes of the Colville Reservation (Colvilles), and U.S. Bureau of Land Management (BLM).

c) **Decisions.** The FW shall make decisions by consensus, if possible, but each entity retains its authority as designated in state and federal law. The FW shall act solely in an advisory capacity as far as Ecology's authority under this Certification is concerned.

d) **Facilitator of the FW.** The PUD shall fund a neutral, non-voting Facilitator for the FW, subject to the approval of the members of the FW. The Facilitator shall facilitate meetings and prepare meeting agendas and minutes as described herein.

e) **Meeting Notice.** The Facilitator shall provide all members with a minimum of ten (10) business days advanced written notice of all meetings unless a member waives notice in writing or such waiver is reflected in the approved meeting minutes. The notice shall contain an agenda of all matters to be addressed and voted on during the meeting. Means of notice will be determined by the members. Unless urgent action is required, to determine the date for a meeting, the Facilitator will poll the members in an effort to identify a meeting date on which all interested members are able to attend. If a date is not available for all members to meet within a reasonable time, the Facilitator will select the date that best accommodates the most members.

f) Meeting Minutes. The Facilitator will provide draft meeting minutes, including any proposed or final statement(s) of agreements, within ten (10) days after each meeting. Statements of agreement shall be based on a unanimous vote. Minutes shall reflect all significant group discussions and decisions. All member representatives who were present and participated in the meeting will be allowed ten (10) days to provide corrections and comments in writing to the Facilitator. Final meeting minutes will be provided to the members of the FW as soon as reasonably possible after comments have been received. If disagreements exist as to the proposed meeting minutes, then the Facilitator will include all perspectives in the final minutes.

g) Plans and Reports. The PUD shall make available all plans and reports required under the Fish Management Plan to all members of the FW as soon as reasonably possible. The PUD will distribute draft plans and reports to all of the FW members for review and comment. Members shall have thirty (30) days for review of the plan or report unless the FW decides otherwise. PUD shall address comments on the document, subject to approval by the FW members.

h) Annual Report. The PUD shall compile all relevant materials into one annual calendar-year report. The annual report shall include all final study plans, reports, meeting minutes and statements of agreements, and a list of future proposed actions as agreed to by the FW. The PUD shall provide the annual report to FW members for review and approval prior to being filed with FERC. Comments on the annual report shall be provided in writing to the Facilitator within thirty (30) days of receipt unless the FW decides otherwise. Comments will be addressed within the document and subject to approval by the FW members.

i) Database. PUD shall work with the FW to establish a central electronic database that is accessible to all of the Members. This electronic database will contain all of the documents related to implementation of the Fish Management Plan.

5.3 WATER QUALITY

Okanogan PUD shall implement the Water Quality Management Plan (WQMP), attached as Appendix B, including working to attain the identified goals and objectives.

5.3.1 Water Quality During Construction

1) General Conditions.

a) All water quality criteria as specified in WAC 173-201A apply to any construction work needed to implement development or mitigation projects required under the FERC License.

2) Construction

a) All water quality criteria as specified in WAC 173-201A apply to all construction work performed to construct the Project.

b) Construction Plans. Okanogan PUD shall implement the following plans during the construction phase:

- i) Construction Sediment Management Plan (CSMP; Appendix C);
- ii) Storm Water Pollution Prevention Plan (SWPPP; Appendix D);
- iii) Erosion and Sediment Control Plan (ESCP; Appendix E) to address potential stormwater runoff impacts;
- iv) Construction Quality Assurance Project Plan (Construction QAPP; Appendix F) to address specific water quality monitoring procedures; and
- v) Spill Response Plan (Appendix G).

c) The CSMP includes feasibility level engineering drawings, project maps, construction plans and detailed information regarding size of each area (including depth) to be disturbed during construction, volumes of excavation and fill, types of materials and construction equipment to be used, duration of construction, the sequence of proposed construction operations, and the types of sediment management measures to be used for each of the following. In the event there is significant change in design of Project components listed in the plan that may cause of violation of water quality standards, the PUD shall submit updated information for the corresponding portion of the CSMP to Ecology for Ecology to review and approve prior to earth moving for that component.

- i) Access roads
- ii) Intake canal
- iii) Penstock intake
- iv) Penstocks
- v) Powerhouse
- vi) Tailrace
- vii) Crest gates
- viii) Instream flow outlet works

- ix) Recreational boat access.
- d) Construction Stormwater permit. Okanogan PUD shall contact Ecology (Water Quality Program, Central Region) with respect to the need to obtain a Stormwater Construction permit within one year prior to start of construction.
- e) HPA. Okanogan PUD shall obtain a Hydraulic Project Approval (HPA) per Chapter 77.55.021 RCW for work that involves instream work.

3) Post Construction Instream Work

- a) All water quality criteria as specified in WAC 173-201A apply to any construction work needed to implement development or mitigation projects required for the Project under the FERC License.
- b) It is intended that this 401 certification cover all construction and operation activities associated with this Project under this License. However, it is possible that minor, additional Project-related work may be needed that has the potential to impact water quality and was not anticipated by this 401 certification. In that case, the applicant shall file for a separate, additional 401 certification application or request an amendment, to the Department of Ecology, Water Quality Program, Central Regional Office.
- c) For future construction activities requiring a separate 401 certification (e.g., those requiring a 404 permit from the Army Corps of Engineers), Okanogan PUD shall comply with all conditions in that additional 401 certification.
- d) For post-construction in-water construction activities, a water quality protection plan (WQPP) shall be prepared and implemented. The WQPP shall include:
 - i) A copy of the Hydraulic Project Approval (HPA) per Ch. 75.20 RCW for the project;
 - ii) A description of all Best Management Practices (BMPs) to be employed for in and near-water work;
 - iii) A plan for sampling and monitoring during construction;
 - iv) A plan for implementing mitigation measures should a water quality violation occur; and
 - v) A written procedure for reporting any water quality violations to

Ecology.

- e) Okanogan PUD shall submit each WQPP to Ecology for review and written approval prior to starting work.

5.3.2 Water Quality During Operations

1) General Requirements. Okanogan PUD shall implement the Operations Quality Assurance Project Plan (Operations QAPP), attached as Appendix E.

2) Plans and Reports

a) Study Plans. Ecology may require future revisions to the Operations QAPP based on monitoring results, regulatory changes, changes in Project operations, and/or the requirements of a TMDL. The revised QAPPs are subject to review and approval by Ecology. Implementation of the monitoring program shall begin upon Ecology's written approval of the QAPP, unless otherwise provided by Ecology.

b) Annual Water Quality Report. Okanogan PUD shall provide to Ecology an annual report summarizing the previous year's water quality activities and monitoring results and activities proposed for the coming year, in accordance with the requirements in this Certification. The results shall be provided in a format approved by Ecology. The report shall include any decisions, statements of agreement, evaluations, or changes made pursuant to this Certification, including the plans. The report is subject to review and approval by Ecology.

3) Non-Compliance

a) Okanogan PUD shall report information indicative of non-compliance with numeric criteria immediately to Ecology for regulatory discretion.

b) Ecology shall evaluate the information, and, if needed, require Okanogan PUD to develop a plan to identify and address Project-related impacts, if any.

- i) After the evaluation, if Ecology determines measures are available to achieve compliance, set up a compliance schedule to attain compliance, in accordance with WAC 173-201A-510(5).

- ii) After the evaluation, if no reasonable and feasible improvements have been identified, Okanogan PUD may propose an alternative to achieve compliance with the standards, such as site-specific criteria, a use attainability analysis, or a water quality offset.

- c) Ecology reserves the right to require additional measures and use all available compliance tools as appropriate.

5.4 SPILL PREVENTION AND CONTROL

1) General Spill Prevention Requirements

Okanogan PUD shall operate the Project in a manner that will minimize spill of hazardous materials and implement effective countermeasures in the event of a hazardous materials spill.

- i) Discharge of oil, fuel or chemicals into state waters or onto land where such contaminants could potentially drain into state waters is prohibited.
- ii) In the event of a discharge of oil, fuel or chemicals into state waters, or onto land where such contaminants could potentially drain into state waters, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.
- iii) Spills into state waters, spills onto land where contaminants could potentially drain into state waters, and any other significant water quality impacts, shall be reported immediately to the Washington Emergency Management Division at 1-800-258-5990 and the National Response Center at 1-800-424-8802. Notification shall include a description of the nature and extent of the problem, any actions taken to correct the problem, plus any proposed changes in operations to prevent further problems.

2) Spill Prevention Control and Countermeasures (SPCC) Plan

Okanogan PUD shall prepare and update the Project Spill Prevention Control and Countermeasures Plan (SPCC) pursuant to FERC requirements plus recommendations provided by Ecology. This plan shall be completed prior to start of operation of the Project. Okanogan PUD shall comply with and operate the Project in accordance with the updated version(s) of the SPCC.

Okanogan PUD shall provide Ecology, Central Region Office, Spills and Water Quality Programs, with copies of its most up-to-date SPCC version. Copies of the Spill Prevention Control and Countermeasures Plan (SPCC) shall be kept on site by Okanogan PUD and made readily available for reference by the PUD, its contractors and consultants, and Ecology.

3) Inspections

Okanogan PUD shall, upon reasonable notice, allow Ecology staff or representatives access to inspect the Project, including inside the dam, for the purpose of assessing Spill Prevention and Control measures. Following inspection, Okanogan PUD shall address oil and hazardous material prevention and control issues identified by Ecology.

4) Participation in the Columbia and Snake River Spill Response Initiative

Okanogan PUD shall continue participation in the Columbia and Snake River Spill Response Initiative (CSR-SRI). The CSR-SRI is a collaborative effort made up of the local, state, and federal oil spill response community as well as members of industry and was developed to address the immediate need for oil spill preparedness and response in the area along the Columbia and Snake Rivers.

5.5 AQUATIC INVASIVE SPECIES

Okanogan PUD shall implement the Aquatic Invasive Species Plan, attached as Appendix I.

5.6 WETLANDS

- 1) Okanogan PUD shall implement the Revegetation and Wetlands Mitigation Plan. If changes to the plan are proposed by the PUD either before, during or after construction and/or planting of a wetland mitigation site has begun, Okanogan PUD shall obtain written approval from Ecology before proceeding further.
- 2) If the Okanogan PUD has not met all conditions and goals and objectives for the mitigation site at the end of the monitoring period, Ecology may require additional monitoring, additional mitigation, or both. Until the PUD has received written notification from Ecology that the Mitigation Plan has been fully implemented, the PUD's obligation to mitigate for wetland impacts is not met.

5.7 SHORELANDS

If FERC requires the development or update of a Shoreline Management Plan, a Land Use Policy, a Recreation Resource Development Plan, Recreation Management Plan, or a Wildlife Habitat Monitoring and Information and Education Plan, Okanogan PUD shall consult with Ecology before submitting the plan to FERC. Consultation with Ecology, for purposes of this Certification, means that the PUD shall provide Ecology with a draft of any such plan before submitting it to FERC and shall give Ecology a reasonable time to comment on it, not less than 30 days. The purpose of this paragraph is to provide

consistency between the PUD's proposed plans and local (city and county) laws that protect water quality.

5.8 AESTHETICS

The PUD shall provide a minimum flow of 10 cfs from September 16 to July 15 and of 30 cfs from July 16 to September 15 for the duration of the License, for aesthetic purposes as well as fish and other aquatic life.

For brevity, this appendix only includes General Conditions 5.1 through 5.8, and sections 3.3 through 3.4.3 of the Fish Plan (Appendix A of the certification). The entire certification including Appendices A through J were filed with the Commission on August 20, 2012, and can be access by using the Commission's e-Library system.

**FISH MANAGEMENT PLAN (SECTIONS 3.3 THROUGH 3.4.3)
ENLOE HYDROELECTRIC PROJECT
(FERC PROJECT NO. 12569)**

FEBRUARY 2012

(REVISED JULY 2012)

Public Utility District No. 1 of Okanogan County

3.3 BYPASS REACH – THE BYPASS PLAN

There are two main management issues associated with the bypass reach that may influence fish resources: (1) minimum instream flow and associated water quality, and (2) down ramping rates during dam operation. Each of these is discussed below.

3.3.1 Minimum Instream Flow

Primary Issues

The bypass reach is the area from the base of Enloe Dam to the Similkameen Falls Pool, at the foot of Similkameen Falls. The proposed project will divert flow around this 370-foot section of the Similkameen River. Seasonality is a concern for holding and feeding habitat in the bypass reach for fish that have come over the spillway. As discussed in Section 2.1.3, habitat in the bypass reach is naturally severely diminished for fish in May and June due to high flow events from mid-July through mid-September when water temperatures are high, and in the winter due to ice formation (Figure 2 and Figure 3). During high flow events, slow water refuge in the bypass reach is eliminated or greatly diminished. Additionally, high velocities scour macroinvertebrates from the area, reducing feeding potential. During the summer, temperatures can exceed levels that are lethal for salmonids (23°C).

During winter, the water freezes (anchor, frazil and surface ice are common) and likely prevent use by fish. It is likely that the large quantities of ice in the reservoir and on the dam prevent a steady source of water from entering the bypass from over the dam during the winter.

Management Goals and Objectives

- **Goal:** Manage project operations to avoid effects and enhance feeding and holding habitat for resident species, with a focus on rainbow trout and native species.
 - **Resident Target Species:** Rainbow trout.
- **Objective 1:** Maintain minimum flows in the bypass reach to support feeding and holding of native fish species.

- **Objective 2:** Maintain water temperature and DO levels in the bypass reach to meet State Water Quality standards to support fish rearing.

Management Measures

- **Management Measure 1:** The main purpose of the instream flow measures is to protect fish feeding and holding habitat in the bypass reach between the dam and the tailrace (or “Falls”) pool, about 370 feet downstream of the dam. The recommendation for minimum instream flow requirements within the bypass reach between the dam spillway and the Falls is 30 cfs between July 15 and September 15 and 10 cfs for the remainder of the year. This minimum instream flow is calculated to meet the State Water Quality Standards and maintain water quality conditions in the bypass reach for fish and aquatic invertebrates.

Stream flow requirements would automatically be met by spill at the dam when total river flows exceed 1,610 cfs (or 1,630 cfs in the period mid-July to mid-September). This is generally in the period from April through July, with some spill also occurring during warm winter storms. Previous studies determined that passing flow over the existing spillway increased DO in the outflow from the reservoir by an estimated 1 mg/l (Appendix D of the CSMP). When there is no spill, instream flow will be maintained by continuous releases through a pipe that takes water at depth in the reservoir near the dam face and releases it to the scour pool at the base of the dam. As described in the instream flow outlet works (Appendix D of the CSMP), the pipe will deliver water from the reservoir via the existing penstock intake in the west abutment at a depth of about 16 feet below the proposed normal water surface elevation (El 1032 feet). The outlet will be about 17 feet above the normal water level in the spillway plunge pool (El 1004.5 feet), and angled upward at a 30o angle so that the flow trajectory will be as long as possible to facilitate spreading and aeration of the discharge jet. In addition, aeration of instream flow will occur at the ring jet valve where air will be entrained in the flow via the valve hood.

The primary advantage of this configuration is that the flow can be accurately controlled and measured to ensure that the required minimum releases are provided under varying streamflow conditions.

Management Measure 2: A low-level outlet with a concentrated discharge would also minimize any temperature gain in water released from the reservoir, as compared to a widely dispersed release of a thin film of surface water over the existing spillway. By drawing water from depth in the forebay, the low-level outlet will deliver cooler water to the bypass reach during periods of summer stratification above the dam. Cooler water drawn from below the surface will be a benefit in the bypass reach, which can naturally reach lethal temperatures for cold water fish in the summer under existing conditions.

This flow release is expected to be about 1°C cooler in summer when natural water temperatures can be lethal to salmonids.

In addition, the water will be aerated via a ring jet valve.

Monitoring and compliance measures are provided in detail in the Operations Quality Assurance Project Plan (District 2012a).

- **Implementation Schedule:** The minimum flows will be provided continuously, once the certification is issued.

- **Potential Adaptive Management Measures:** It is expected that the instream flows, with the low-level outlet, will meet the Water Quality Standards for water temperature and DO for fish. The determining factor for success for this management measure will be State Water Quality Standards for temperature and DO. This will provide adequate fish habitat.

- However, if temperature standards are not met with the proposed flows under existing conditions, the first adaptive management measure to be tried would be to explore structural measures to reduce heating, such as modification of the channel to direct water into narrower channels through the bedrock to route flows between the plunge pool at the base of the dam to the Falls. There is an existing channel that appears to be sufficiently deep that structural modifications may be able to focus on blocking distributary channels to keep flow in a single channel. The purpose will be to reduce the surface area of the bypass flow and thereby reduce radiant energy influx through the water surface and reduce radiant heat transfer from the rock.

The first adaptive measure for DO would include adjusting the instream flow outlet works to provide more aeration. Additional aeration could be achieved through air entrainment by: (1) using a venturi or injection of compressed air in the discharge pipeline, (2) adding a discharge jet, where the water impacts bedrock or the spillway plunge pool, or (3) using compressed air or a surface aerator in the bypass reach. Options would be discussed with the FW.

If structural adjustments aren't able to attain the desired temperature and DO levels, other mitigation options such as additional instream flow release would be considered. The proposed downstream mitigation (side channel enhancement described below) is to offset impact in the bypass reach.

Management Measure 3: The bypass flow outlet will also be designed to aerate instream flow releases before they enter the pool at the base of the dam. The instream flow for the bypass release will be taken about 11 to 17 feet down in the reservoir to provide water approximately 1°C cooler in the bypass in summer. As described in the description of instream flow outlet works (Appendix D of the CSMP), aeration of

instream flow will occur at the ring jet valve where air will be entrained in the flow via the valve hood (Section 3.3.1 describes the outlet works in the bypass and aeration of instream flow in more detail).

- **Implementation Schedule:** This will be a continuous during Project operations.
- **Potential Adaptive Management Measures:** DO levels will be monitored and aeration adjusted according to required levels for fish survival

Monitoring Measure

- **Monitoring:** Monitoring will take place as described in the Operations Quality Assurance Project Plan (District 2012a).
- **Monitoring Schedule:** Flow, water temperature and DO will be monitored as described in the Operations Quality Assurance Project Plan. A summary of water quality and flow data through the bypass reach will be reported to the FW in the yearly monitoring report and will be reviewed annually for the first 5 years. If no issues are found by Ecology (based on exceedance of water quality criteria) over a 5-year period, then the 10 and 30 cfs minimum flows will become permanent requirements. Refer to the Water Quality Management Plan (District 2012b) for goals and objectives for water temperature and DO.
- For the first three years after instream flow releases begin, the District shall conduct snorkel surveys when no water is being released as spill. The yearly snorkel surveys will occur three times a year: in mid-April, first week of August, and second week of September to determine the number, size, and species of the fish population in the bypass. The FW will determine after three years if any further surveys are needed.
- Report data, summaries and identified trends on a yearly basis to the FW in the yearly monitoring report.

3.3.2 Bypass Ramping Rates

Primary Issues

Although “up-ramping” is not a concern, down ramping rates can potentially create stranding issues in the bypass reach. Research by Hunter (1992) indicated that natural flow recession associated with the annual snowmelt hydrograph occurred at a very slow rate, which reduced the likelihood of stranding of small salmonids. However, if discharge is decreased too rapidly by flow regulation, then fish (typically fry and juvenile life stages) can be stranded and killed. Therefore, flow regulation will be based on the “Hunter criteria,” which recommends a rate of 1 inch/hour when steelhead fry are present and 2 inches per hour during juvenile rearing periods (Hunter 1992).

Management Goals and Objectives

- **Goal:** Manage Project operations to avoid changes in decreases in water level that potentially strand fish in the bypass reach, with a focus on native resident fish species.
 - **Resident target species:** Sculpin, suckers, Northern pikeminnow and rainbow trout
- **Objective 1:** Identify ramping rates, flow ranges and locations that potentially strand fish.
- **Objective 2:** Avoid stranding of fish in the bypass reach.

Management Measure

• **Management Measure:** There is a three-step process to incorporate efficiency in establishing ramping rates for the project. First, in the absence of other information, the Hunter criteria (Hunter 1992) will be used for all flows during Project operation. Second, prior to beginning operation, photographs can be taken and correlated to the Nighthawk USGS gage to show the range of flows through the bypass reach that will require monitoring of ramping rates using the Hunter criteria as a standard. The photographs will focus on when the rock ledge is beginning to be exposed and when the ledge is completely exposed and flows are dropping into the steeper part of the channel. These values can be used by the FW to establish a more limited range of flows for monitoring. Third, after operations have begun and flows in the bypass reach have been controlled (and safe access to the area is possible), a more detailed range of ramping flows can be determined.

• **Implementation Schedule:** The timing of each management measure is detailed above.

• **Potential Adaptive Management Measures:** Adaptive management was also discussed above in identifying a more detailed and specific range of ramping flows (step three). This constant refinement will help define a narrow range of flows in which the rock ledge may affect stranding. It will also provide potential adjustment of the Hunter criteria to better reflect the risk of stranding and examination of other stranding mitigation, such as physical modification of the ledge area or human retrieval of stranded fish.

Other mitigation measures will be investigated to prevent the stranding of fish from down ramping events, if necessary. These alternative mitigation measures could include activities from modification of flat channel areas to removal of stranded fish using nets.

Monitoring Measure

- **Monitoring Measure:** Monitor flows through photographic and observational methods by comparing potential stranding areas to streamflow. Monitor within the range of flows that can potentially strand fish; monitor actual fish stranding through observation.

- **Monitoring Schedule:** Observations of the bypass reach will be obtained during flows within the established ramping criteria and within the range of flows that are found to be potential stranding issues. Approximately five potential stranding flows will be monitored for fish stranding in the bypass reach. If no stranding is observed in this timeframe, then potential stranding conditions will be reported to the FW for review and approval. Additional observations will be collected if requested.

3.4.2 Side Channel Enhancement

Primary Issue

Mitigation needs were estimated to account for project impacts that could not be avoided or minimized. These specifically related to diversion of flow around the bypass reach, any loss of fish habitat in the bypass and the loss of fish through turbine mortality. The proposed mitigation addresses these losses by providing cool water refuge and fish habitat in a side channel for steelhead and resident fish rearing.

Management Goals and Objectives

- **Goal:** Enhance rearing habitat for steelhead and resident fish species in the lower Similkameen River.

- **Anadromous target species:** steelhead

- **Resident target species:** rainbow trout and mountain whitefish

- **Objective 1:** Provide enhanced rearing habitat in the lower river within an existing side channel habitat.

- **Objective 2:** Monitor and identify target species distribution and abundance of the enhanced side channel habitat.

- **Objective 3:** Adaptively manage operation of side channel enhancement if target fish species utilization is determined to not be substantial.

Management Measures

- **Management Measure:** The side channel enhancement project was developed through extensive consultation and study with a focus on benefits to native fish species. The

channel will address two of the most substantial limiting factors for salmonids in the system, including high temperatures during low flow and the limited rearing habitat for salmon and steelhead in the system.

An existing channel will be enhanced that has the appropriate size, shape, and geomorphology to maintain suitable physical components during all flow conditions. A concept sketch of the side channel enhancement project is provided in Figure 4. The side channel enhancement would provide cool water and habitat enhancement in the lower portion of the side channel referred to as the pilot project. For this pilot project, 400 to 450 feet of channel would be treated in the downstream section of the side channel. A log structure (limiter log) would be installed at the upstream end of the side channel to reduce the amount of flow that the side channel would carry under high flows. Channel modifications are planned for this lower portion of the side channel and consist of (from downstream to upstream) a backwater connector channel where the side channel interfaces with the mainstem channel, run habitat, riffle habitat, and boulder weir placed at the head of the riffle. The purpose of the boulder weir is to prevent head-cutting upstream of the constructed riffle.

A shallow well pad will be installed to extract the cooler water flowing through the gravel of the streambed. This water will be pumped to perforated PVC pipe buried with spawning-sized gravel in a modified (but existing) side channel. Water will be pumped through the PVC pipe during critical warm water periods and will provide upwelling of the cooler water. One additional power pole with distribution line to a short terminal pole at the well will provide the power for pumping water into the side channel.

Riparian cover lost during construction of the side channel will be restored to ensure that there is cover from predators and shade to keep the water from warming. Canopy trees shall be protected and retained to provide habitat benefits to the finished channel. Where possible, existing shrubs shall be protected. Additionally, existing large woody debris would be maintained or replaced in the constructed channel.

Juvenile steelhead trout prefer relatively cool water areas and will occupy both pool and riffle habitat but often prefer water velocities more typically found in riffles (Bisson et al. 1988). In terms of the proposed off channel specifications, such habitat is likely to be best suited to age 0+ trout, and to a lesser degree age 1+ trout; the relatively shallow water depths within the off channel are likely to preclude significant occupancy by older age cohorts of trout and salmon (Quinn 2005). The potential benefits of the proposed project can be assessed in terms of the estimated carrying capacity of juvenile trout and salmonids that the improved and/or additional summer rearing habitat would provide.

3.4.3 Downstream Flow Assurances

Primary Issue

Although flow through the powerhouse and over the spillway will be automatically regulated to maintain a stable water level in the reservoir so that total outflow from the reservoir will closely track inflow, operation of the crest gates could cause flow fluctuations downstream of the Falls.

Management Goals and Objectives

- **Goal:** Manage Project operations to avoid negative effects to downstream habitat.
 - **Anadromous target species:** Chinook salmon, sockeye salmon, steelhead
- **Objective 1:** Manage Projects so that operations have minimal impacts on downstream fish habitat.
- **Objective 2:** Identify and address Project-related impacts on downstream cool water refuge for pre-spawning fish.

Management Measures

- **Management Measures:** Project operation will be run-of-river and will not significantly affect the flow regime of the Similkameen River downstream of the proposed project. Flow through the powerhouse and over the spillway both will be automatically regulated to maintain a stable water level in the reservoir so that total outflow from the reservoir will closely track inflow. During large flood events the crest gates on the spillway will be fully open and water levels on the reservoir will be controlled by the capacity of spillway as it is today. Powerhouse and crest gate operation are further described in Appendix B.

During a planned unit outage, outflow from the reservoir will be maintained by switching flow to the other generation unit. During a planned outage of both units, outflow from the reservoir will be maintained by partially opening the spillway crest gates. During an unplanned outage of the plant (both units) the spillway crest gates will act as a synchronous bypass that will automatically open to maintain downstream flow in the river. A small, short-term fluctuation in downstream flows could occur as flow through the powerplant is reduced and flow over the spillway crest gates increases. The estimated travel time from the spillway to the pool below the falls depends on flow, but is in the order of about one minute. Any fluctuation in river flow downstream of the project will be of short duration and will be attenuated by water storage in the large pool below the tailrace and in the river channel further downstream. Therefore no significant effects on fish are expected.

- **Implementation Schedule:** Consistent with normal operations.

- **Potential Adaptive Management Measures:** If it is found that flow is significantly altered downstream of the Project during power outages, Project operations will be reviewed to improve planned or unplanned changes in flow through the powerhouses or over the dam.

Monitoring Measures

- **Monitoring Measure:** Power outages and flow responses will be monitored and reported to the FW.
- **Monitoring Schedule:** Data and a summary will be reported to the FW in the yearly monitoring report.

APPENDIX B**Reasonable and Prudent Measures and
Terms and Conditions included in the
National Marine Fisheries Service's
Biological Opinion for the Licensing of the
Enloe Hydroelectric Project (No. 12569)****September 27, 2012****2.8.3 Reasonable and Prudent Measures and Terms and Conditions**

Reasonable and prudent measures (RPM) are nondiscretionary measures to minimize the amount or extent of incidental take (50 CFR 402.02). Terms and conditions implement the reasonable and prudent measures (50 CFR 402.14). These must be carried out for the exemption in section 7(o)(2) to apply.

The following RPMs are necessary and appropriate to minimize the effect of anticipated incidental take of UCR steelhead. FERC must require the licensee to minimize incidental take by:

1. Minimize take from the unexpected discharge of excess sediment, hazardous substances, toxics, and other materials into the Similkameen River during construction activities, including gravel placement and side channel development.
2. Minimize take from use of explosives.
3. Minimize take from the unexpected discharge of excess sediment, hazardous substances, toxics, and other materials into the Similkameen River during Project operations.
4. Prevent take of adult steelhead from contact with turbine runners.
5. Ensure completion of an annual monitoring and reporting program to confirm that the measures required for the purpose of avoiding and minimizing incidental take are effective.

To be exempt from the prohibitions of Section 9 of the ESA, FERC must ensure that Okanogan PUD fully complies with the conservation measures described as part of the proposed action. FERC must include in the license the following terms and conditions that carry out the RPMs listed above. Partial compliance with these terms and conditions may result in more take than anticipated, and invalidate this take exemption. These terms and conditions constitute no more than a minor change to the proposed action because

they are consistent with the basic design of the proposed action.

To carry out RPM #1, FERC or its Licensee must undertake the following:

1. Ensure compliance with State of Washington water quality standards under Washington Administrative Code 173-201A for salmonid rearing, spawning and migration.
2. Carry out the following plans, including plan monitoring and reporting requirements, during Project construction, gravel augmentation and side channel development:
 - a. Construction Sediment Management Program (Okanogan PUD 2012a),
 - b. Erosion and Sediment Control Plan (Okanogan PUD 2008b),
 - c. Spill Response Plan (Okanogan PUD 2008c),
 - d. Storm Water Pollution Prevention Plan (Okanogan PUD 2008d), and
 - e. Construction Water Quality Assurance Project Plan (Okanogan PUD 2012b).

To carry out RPM #2, FERC or its Licensee must undertake the following:

1. Complete a plan for use of explosives for review and approval by NMFS before Project construction begins. The plan shall include, at a minimum, the following measures:
 - a. All practical measures shall be taken to limit blasting pressure waves in the pool and stream below Similkameen Falls;
 - b. instrumentation capable of recording pressure waves shall be used to monitor blasting effects in the pool and river below Similkameen Falls;
 - c. to the maximum extent practical, peak pressure waves shall be limited to ≤ 100 kilopascals (about 14.5 pounds per square inch);
 - d. prior to blasting near, and at, the exit of the tailrace channel, a barrier net shall be erected downstream of the pool to prevent steelhead access to the pool area; and
 - e. the pool below Similkameen Falls shall be seined to collect as many steelhead as possible before blasting near, and at, the exit of the tailrace channel.

To carry out RPM #3, FERC or its Licensee must undertake the following:

1. Ensure compliance with State of Washington water quality standards under Washington Administrative Code 173-201A for salmonid rearing, spawning and migration.

2. Carry out the following plans, including plan monitoring and reporting requirements, during Project construction:
 - a. Operations Quality Assurance Project Plan, Water Quality Monitoring (Okanogan PUD 2012c), and
 - b. Water Quality Management Plan (Okanogan PUD 2012d),
3. Complete a Spill Prevention and Countermeasures Plan, in consultation with NMFS, prior to the start of Project operations.

To carry out RPM #4, FERC or its Licensee must undertake the following:

1. Final design of the barrier nets shall be reviewed and approved by NMFS.
2. A plan describing how and when the barrier nets are to be deployed shall be developed in consultation with NMFS, and approved by NMFS, before the Project starts operating.
3. Monitor barrier net performance and report results to NMFS on, at a minimum, an annual basis.

To carry out RPM #5, FERC or its Licensee must undertake the following:

1. Okanogan PUD shall compile all draft monitoring and evaluation reports, as described in the various plans included in this ITS, and allow NMFS and other resource agencies 30 days to review and comment the drafts prior to their filing at FERC.
2. Okanogan PUD must report all observations of dead or injured juvenile and adult steelhead coincident with carrying out the terms and conditions of this ITS (noting whenever possible the species of these individuals) to NMFS within 2 days of their observance, and include a concise description of the causative event (if known), and a description of any resultant corrective actions taken (if any) to reduce the likelihood of future mortalities or injuries. Reports of dead or injured salmon or steelhead should be sent to:

Keith Kirkendall
Chief, FERC and Water Diversions Branch
National Marine Fisheries Service
1201 NE Lloyd Blvd., Suite 1100
Portland, Oregon 97232