

UNITED STATES OF AMERICA 158 FERC ¶ 62,006
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp Energy

Project No. 308-007

ORDER ISSUING SUBSEQUENT LICENSE

(Issued January 5, 2017)

INTRODUCTION

1. On February 28, 2014, PacifiCorp Energy (PacifiCorp) filed, pursuant to Part I of the Federal Power Act (FPA),¹ an application for a subsequent license to continue operation and maintenance of the Wallowa Falls Hydroelectric Project No. 308 (Wallowa Falls Project or project). The project's authorized capacity being licensed is 1.1 megawatts (MW). The project is located on the East Fork Wallowa River (East Fork) and on Royal Purple Creek, a tributary of the Wallowa River, in Wallowa County, Oregon.² The project occupies 12 acres of federal land within the Wallowa-Whitman National Forest administered by the U.S. Department of Agriculture, Forest Service (Forest Service).³ As discussed below, this order issues a subsequent license for the Wallowa Falls Project.

BACKGROUND

2. The Federal Power Commission, the Commission's predecessor, issued an original major license for the Wallowa Falls Project in 1924.⁴ In 1965, the project was shut down

¹ 16 U.S.C. §§ 791(a) – 825(r) (2012).

² The Wallowa River is a tributary of the Grande Ronde, Snake, and Columbia Rivers, all of which are navigable waters of the United States. *Dirk Wiggins*, 134 FERC ¶ 62,054, at n. 1 (2011).

³ Pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2012), the project is required to be licensed because it occupies federal land and because of its location on a stream over which Congress has jurisdiction under the Commerce Clause, its connection to an interstate power grid, and construction occurring at the project after 1935.

⁴ The original license was issued to Enterprise Electric Company. In 1928, the license was transferred from Enterprise Electric Company to the Inland Power and Light Company and subsequently transferred in 1942 to PacifiCorp's predecessor, Pacific Power & Light Company.

due to a damaged generator, which Pacific Power & Light Company replaced in 1967 with a new generator that increased the installed capacity of the project from 640 kilowatts (kW) to 1,100 kW.⁵ By order dated March 29, 1976, the Commission issued a new minor license for the project for a period of ten years.⁶ On August 28, 1986, the Commission issued a new minor license for the project⁷ that expired on February 28, 2016. Since then, project operation has continued pursuant to section 9(b) of the Administrative Procedures Act,⁸ pending disposition of PacifiCorp's relicense application.

3. On September 18, 2014, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing,⁹ and setting November 17, 2014, as the deadline for filing motions to intervene and protests. The Forest Service, Oregon Department of Fish and Wildlife (Oregon DFW), Oregon Department of Environmental Quality (Oregon DEQ), Oregon Water Resources Department (Oregon WRD), and U.S. Department of the Interior (Interior) each filed a notice of intervention.¹⁰ The Oregon Parks and Recreation Department (Oregon PRD) filed a timely motion to intervene.¹¹ None of the intervenors oppose the project.

4. On February 10, 2015, PacifiCorp revised its relicensing proposal to include a new realignment of the existing tailrace channel.

5. On March 6, 2015, the Commission issued a public notice that was published in the *Federal Register* indicating the application was ready for environmental analysis and

⁵ *Pacific Power & Light Company*, 39 F.P.C. 179 (1968).

⁶ *Pacific Power & Light Company*, 55 F.P.C. 1401 (1976).

⁷ *Pacific Power & Light Company*, 36 FERC ¶ 62,250 (1986).

⁸ 5 U.S.C. § 558 (c) (2012).

⁹ 79 *Fed. Reg.* 57,545 – 57,546 (2014).

¹⁰ Under Rule 214(a) of the Commission's Rules of Practice and Procedure, the Forest Service, Oregon DFW, Oregon DEQ, Oregon WRD, and Interior became parties to the proceeding upon timely filing of their notices of intervention. 18 C.F.R. § 385.214(a) (2016).

¹¹ 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)(2016).

setting May 5, 2015, as the deadline for filing comments, recommendations, preliminary terms and conditions, and preliminary fishway prescriptions.¹²

6. The Forest Service filed preliminary conditions. Oregon DFW and Interior filed recommendations, and Interior filed a reservation of authority to prescribe fishways. PacifiCorp filed reply comments.

7. Commission staff issued a draft environmental assessment (EA) on November 13, 2015, analyzing the impacts of the proposed project and alternatives to it. PacifiCorp, Oregon DFW, Oregon DEQ, Oregon PRD, and the U.S. Fish and Wildlife Service (FWS) filed comments on the draft EA. On May 23, 2016, Commission staff issued a final EA.

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

PROJECT DESCRIPTION

A. Project Area

9. The project is located in the Wallowa Mountain Range (Wallowa Mountains) in northeastern Oregon about 6 miles from the town of Joseph. The project affects three waterbodies: the East Fork, Royal Purple Creek, and the West Fork Wallowa River (West Fork). The East Fork flows 7 miles from its headwaters in the Wallowa Mountains to its confluence with the West Fork. Royal Purple Creek, a 2-mile-long tributary to the East Fork, flows into the East Fork approximately 0.17 mile below the project's East Fork Dam. The West Fork also originates in the Wallowa Mountains and flows about 14 miles to its confluence with the East Fork. The East and West Forks combine to form the Wallowa River which flows about 0.7 mile to Wallowa Lake, a 3.7-mile-long by 0.7-mile-wide natural waterbody. From Wallowa Lake, the Wallowa River flows about 50 miles to its confluence with the Grande Ronde River, a tributary to the Snake River. The total drainage area of the Wallowa River Basin is 950 square miles. At the project, the three tributaries drain about 43 square miles of land, representing about 5 percent of the total drainage area of the Wallowa River Basin.

B. Project Facilities

10. The project includes two dams, a pipeline, a small impoundment, a penstock, powerhouse, tailrace channel, transmission line, and an access road.

¹² 80 *Fed. Reg.* 13,531-13,532 (2015).

11. Water is diverted at the project's 2-foot-high, 9-foot-long concrete Royal Purple Creek Diversion Dam on Royal Purple Creek into a 240-foot-long, 8-inch-diameter partially-buried pipeline. The pipeline empties into a 20-foot-long open channel that discharges to the East Fork just upstream of the project's East Fork Dam and impoundment.

12. East Fork Dam is an 18-foot-high, 125-foot-long, buttressed rock-filled timber crib dam with an integrated 30-foot-wide spillway that creates a 0.2-acre impoundment on the East Fork. A low-level intake box fitted with a steel trash rack and headgate located on the left embankment of the dam conveys flows into a 5,688-foot-long, mostly buried steel penstock that connects with the powerhouse. A sluiceway with a steel trash rack and sluiceway is located adjacent to the intake. The sluiceway connects to a 2-foot-diameter steel pipe passing through the dam, and is used to provide instream flow releases to the 1.7-mile long bypassed reach of the East Fork.

13. The powerhouse contains a 1.1-MW impulse turbine-generator unit. Flows pass through the turbine and exit the powerhouse into a 40-foot-long concrete-lined tailrace that conveys powerhouse flows to an open, braided tailrace that discharges into a side channel of the West Fork.

14. The tailrace consists of two channels: a southern main channel that conveys most of the flow and a narrower northern channel that has several braided segments. Each channel is about 1,000 feet long and discharges at separate locations, several hundred feet apart into the West Fork.

15. Electricity generated at the powerhouse is transmitted via a 20-foot-long, 7.2-kilovolt transmission line to a non-project substation. A 1.4-mile-long unpaved access road originates near the powerhouse and provides access to the penstock, Royal Purple Creek Diversion Dam, and East Fork Dam. A more detailed project description is contained in Ordering Paragraph (B)(2).

16. There are no existing project recreational facilities; however, PacifiCorp voluntarily operates the Pacific Park Campground which is located partially within the project boundary, adjacent to the powerhouse and along the existing southern tailrace channel.

C. Project Boundary

17. The project boundary encloses the Royal Purple Creek Diversion Dam, the pipeline and open channel conveying water from the Royal Purple Creek Diversion Dam to the East Fork, East Fork Dam and impoundment, penstock, powerhouse, transmission line, and non-project substation. The project boundary also encloses portions of the access road, tailrace channel, and Pacific Park Campground.

D. Project Operation

18. The project is operated remotely via a programmable logic controller as a run-of-river facility whereby outflow from the powerhouse and East Fork Dam approximates inflow to the impoundment. The project diverts up to 1 cfs of flow at the Royal Purple Creek Diversion Dam into the East Fork upstream of the East Fork Dam impoundment. That flow is divided at the East Fork Dam intake structure between the penstock intake which conveys flow to the powerhouse and the low-level sluiceway which passes minimum flows through a steel pipe into the bypassed reach below the dam. PacifiCorp monitors compliance with the prior license's 0.5-cfs minimum flow requirement using a stream gage installed just downstream of East Fork Dam. When inflow exceeds the 0.5-cfs minimum flow requirements and the 3-cfs minimum hydraulic capacity of the turbine, the project diverts up to 16 cfs¹³ to generate electricity. Inflows in excess of the required 0.5-cfs minimum flow plus the 16-cfs maximum generation flow are released over the spillway to the East Fork bypassed reach.

19. When the turbine-generator unit periodically goes off-line during operational emergencies,¹⁴ the penstock headgate remains open and flow is continually provided to the tailrace channel by an automated bypass system that bypasses about 40 percent of the water being diverted at the time of the outage around the turbine and into the tailrace. If the outage triggers a headgate closure,¹⁵ flow diversion at East Fork Dam into the penstock is shut off and the automated flow bypass system provides flow to the tailrace until the penstock is completely drained, at which point flow to the tailrace channel ceases and it is dewatered.

20. The prior license restricted sediment flushing from the impoundment to the period from May 1 to August 30. However, PacifiCorp routinely flushed sediment during the July and August low-flow period by opening the sluiceway on the low-level sluiceway and passing all inflows downstream to the bypassed reach.

¹³ Although the maximum hydraulic capacity of the turbine is 17.8 cfs, PacifiCorp only diverts flow up to its maximum water right of 16 cfs (i.e., 15 cfs from the East Fork and 1 cfs from Royal Purple Creek).

¹⁴ Operational emergencies resulting in a unit outage are caused by a variety of circumstances, but often include electrical transmission-system failures from lightning storms, high winds, and other weather-related events.

¹⁵ Outage events resulting in a headgate closure typically include lightning strikes near the headgate, voltage loss to the headgate control cable, loss of penstock pressure, or debris in the turbine needle valve or nozzle.

E. Proposed Facility Modifications

21. PacifiCorp proposes to extend the existing 240-foot-long, 8-inch diameter Royal Purple Creek Diversion pipeline an additional 20 feet to discharge directly to the East Fork, upstream of the East Fork Dam impoundment to minimize erosion along the existing open channel between the pipeline terminus and the East Fork.
22. PacifiCorp proposes to modify the intake structure on East Fork Dam to enable a higher minimum flow release and more efficient operation of the sluice gate for sediment flushing.
23. PacifiCorp proposes to realign the tailrace channel and install a tailrace barrier to prevent fish, including the federally listed bull trout, from migrating into the tailrace channel from the West Fork where they can be subject to dewatering effects in the tailrace channel during a unit outage.

F. Proposed Operation and Environmental Measures

24. To minimize erosion and protect aquatic habitat in the West Fork during construction and initial operation of the realigned tailrace channel and tailrace barrier, PacifiCorp proposes to develop an erosion and sediment control plan. PacifiCorp also proposes to begin initial operation of the realigned tailrace channel and tailrace barrier during the high-flow month of June to facilitate the rapid downstream transport of disturbed sediment in the West Fork.
25. To protect fish from dewatering effects until the tailrace channel is realigned and the permanent tailrace barrier is installed, PacifiCorp proposes to implement the following interim fish protection measures in the existing tailrace channel each year: (1) salvage fish from the tailrace channel any time that a planned or unplanned dewatering of the tailrace occurs and return them to the West Fork; (2) install and maintain a temporary fish passage barrier at the confluence of the existing tailrace channel outlet and the West Fork from August 1 to November 15 to prevent bull trout and kokanee from spawning in the tailrace; and (3) visually inspect each temporary fish passage barrier twice per week to verify that it is intact and effectively excluding fish.
26. To protect aquatic resources in the East Fork bypassed reach, PacifiCorp proposes to: (1) continue to operate the project in a run-of-river mode; (2) increase minimum flows from the current 0.5 cfs year-round to 4 cfs from November through April, and 5 cfs from May through October as measured at the bypassed reach lower gage (BPL gage) site or inflow, whichever is less; (3) restrict down-ramping during project start-up following a unit outage to 0.1 foot per hour from April 1 to October 31 and 0.17 foot per hour from November 1 to March 31 as measured at the BPL gage site, and conduct a study within six months of license issuance to develop operating procedures to meet the down-ramping rate; (4) flush accumulated sediment from the impoundment once per year

during the high-flow month of June for a period not to exceed 72 consecutive hours and only when flow measured at the BPL gage site is at least 15 cfs; and (5) avoid scheduling any planned maintenance activities that would cause ramping in the bypassed reach during the September 1 to October 31 bull trout spawning period.

27. To verify compliance with the proposed new sediment flushing procedures and monitor effects on water quality, PacifiCorp proposes to implement the Turbidity Monitoring Plan filed with the license application that includes monitoring turbidity levels, streamflow, and the duration of sediment flushing event.

28. To verify compliance with the minimum flow and ramping requirements of the license, PacifiCorp proposes to install and operate a flow monitoring gage at the BPL gage site to monitor flows at 15-minute intervals, and calibrate the gage to enable the accurate measurement of flows up to a level that is equal to 70 cfs.

29. To monitor bull trout hybridization with brook trout in the East Fork bypassed reach, PacifiCorp proposes to collect biological information and genetic samples from bull trout during two separate events in year 2 and year 15 following license issuance.

30. To minimize erosion and sediment runoff to the East Fork from the project's unpaved access road, PacifiCorp proposes to implement the Access Road Inspection and Maintenance Plan filed with the license application that includes monthly monitoring of: stability, vegetation loss and sloughing, seepage, tree hazards, and rutting; and a stability analysis of the access road and surrounding facilities at 5-year intervals.

31. To control noxious weeds at the project, PacifiCorp proposes to implement the Noxious Weed Management Plan filed with the license application that includes conducting annual surveys and treating weeds on project lands using various control methods.

32. To avoid disturbing nesting birds during vegetation management activities, PacifiCorp proposes to implement the Vegetation Management Plan filed with the license application that includes annually inspecting vegetation on project lands to identify potential hazard trees, and limiting actions such as tree removal or topping to the period from August 1 through February 28.

33. To protect special-status plants that could be disturbed or lost during the tailrace realignment, PacifiCorp proposes to conduct a special-status plant survey prior to construction and implement any needed protection measures.

34. PacifiCorp also proposes to survey an area near the East Fork Dam impoundment for five consecutive years following license issuance to determine if the mountain grape fern population still exists and to develop a protection plan, in consultation with the

Forest Service, in the event the surveys identify the mountain grape fern or other special-status plant species within the project boundary.

35. To enhance recreation opportunities at the project, PacifiCorp proposes to: implement certain measures included in its Recreation and Aesthetic/Visual Resource Management Plan (Recreation and Aesthetic Plan) filed with the license application. These include: (1) replacing the National Forest Wallowa Lake Trailhead sign and wilderness registration station;¹⁶ (2) installing new trail signs along the project access road; (3) providing an interpretive sign, landscaping, and new fencing to enhance aesthetics at the powerhouse; (4) recoating or replacing the siding and roof of the powerhouse and East Fork Dam intake structure, recoating the upper penstock trestle and pipeline, and cleaning up the East Fork Dam area to minimize visual contrast with the surrounding area; (5) improving drainage along the connector trail between the project access road and the East Fork Trail; (6) installing an interpretive sign at the west side of the impoundment along the East Fork Trail; (7) modifying the catwalk gate on East Fork Dam to allow pedestrian access; and (8) installing safety signs at the East Fork Dam catwalk and intake structure.

36. To prevent recreationists from entering the tailrace barrier area, PacifiCorp proposes to install fencing around the new tailrace barrier.

37. To protect cultural resources that could be discovered during routine maintenance and construction activities at the project, PacifiCorp proposes to consult with the Forest Service and tribes and finalize the draft, "Unanticipated Discovery Protocol" filed with the license application, and to monitor for archaeological sites during construction of the tailrace channel realignment.

G. Proposed Project Boundary

38. PacifiCorp proposes to modify the project boundary to add 8.4 acres of land to enclose the project access road, the realigned tailrace channel and tailrace barrier,¹⁷ and

¹⁶ As part of its Recreation and Aesthetic Plan, PacifiCorp originally proposed to relocate the existing Wallowa Lake Trailhead sign and wilderness registration station to an area north of the powerhouse, but has modified that proposal to just replace these facilities in their present location.

¹⁷ Although PacifiCorp does not propose to designate the Pacific Park Campground as a licensed project facility, the area occupied by the campground is included in its proposed project boundary as depicted on the Exhibit G drawing filed with the license application. PacifiCorp states in its March 8, 2016 filing, that it's appropriate to include this area in the project boundary for the first several years following license issuance because the campground area will be needed for construction of the tailrace
(continued ...)

some of its proposed recreational facilities. The proposed project boundary encloses a total of 26.4 acres of land, including 0.7 acre of additional federal lands for a total of 12.7 acres of federal lands within Wallowa-Whitman National Forest.¹⁸

SUMMARY OF LICENSE REQUIREMENTS

39. As summarized below, this license, which authorizes 1.1 MW of renewable energy, requires the measures described above with some modifications and additions.

40. To control erosion and ensure the successful revegetation of areas disturbed during project-related construction, the license requires PacifiCorp to include additional monitoring provisions in the proposed erosion and sediment control plan for the tailrace channel realignment and tailrace barrier.

41. To verify compliance with the project's operational requirements, the license requires PacifiCorp to develop an operation compliance monitoring plan.

42. To protect bull trout during the period after license issuance and before completion of the proposed tailrace barrier, the license requires PacifiCorp to develop a fish salvage plan for collecting and relocating any fish trapped in the tailrace channel during events that dewater the tailrace channel.

43. To ensure that the tailrace barrier is designed, constructed, and operated effectively, the license requires PacifiCorp to develop a tailrace barrier plan that includes: (1) the design plans, (2) procedures for conducting a hydraulic evaluation of the completed tailrace barrier to ensure it operates within its design criteria, and (3) a maintenance schedule.

channel realignment, and the existing tailrace channel will be needed for project operation until the realignment is completed. After the realigned tailrace channel is put into permanent operation, PacifiCorp states that it would propose to amend the project boundary to exclude the campground and existing tailrace channel because these areas would no longer be needed for project purposes. Because use of the campground is needed for construction of the tailrace channel and tailrace barrier, it can remain in the project boundary until construction is complete.

¹⁸ The current project boundary includes 12 acres of federal land and 6 acres of private land owned by PacifiCorp

WATER QUALITY CERTIFICATION

44. Under section 401(a)(1) of the Clean Water Act (CWA),¹⁹ 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 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.²⁰

45. On April 27, 2015, PacifiCorp filed an application for water quality certification with the Oregon Department of Environmental Quality (Oregon DEQ) for the Wallowa Falls Project, which Oregon DEQ received on April 29, 2015. On March 31, 2016, Oregon DEQ issued a certification for the Wallowa Falls Project that includes eight conditions, which are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph (E). Conditions 1 through 7 are specific requirements to protect water quality and beneficial uses, and ensure compliance with state water quality standards and are summarized below. Condition 8 consists of nine general or administrative requirements that are not addressed further in this order.

46. Although Commission staff recommended most of the certification conditions in the final EA, as discussed below, staff did not recommend some of the conditions and recommended modifying others.

47. Condition 1(a) requires PacifiCorp to operate the project in a run-of-river mode as proposed.

48. Condition 1(b) requires PacifiCorp to construct and maintain the proposed BPL gage to conform to U.S. Geological Survey (USGS) standards, monitor minimum flows at the BPL gage site as proposed, and measure flows at the BPL gage site for all flows up to a level that is equal to the bank-full stage.²¹ It also requires that the operation compliance monitoring plan specified by certification condition 1(e), include providing a

¹⁹ 33 U.S.C. § 1341(a)(1) (2012).

²⁰ 33 U.S.C. § 1341(d) (2012).

²¹ The bank-full stage is the maximum water level at which the river channel completely contains the river's flow. Above this level, water flows onto the floodplain. Generally, the bank-full stage of a river is reached about once every 1.5 years. *See* EA at 71.

preliminary gage design, reporting flow measurements, developing a rating curve, and maintaining the BPL gage.

49. In the EA,²² staff noted that the specific, project-related purpose of the BPL gage is to monitor compliance with the operational requirements of the license, and because the recommended operational requirements do not specifically relate to the bank-full stage, requiring PacifiCorp to calibrate the gage to the bank-full stage would serve no project-related purpose. Therefore, staff did not recommend the calibration stipulations of condition 1(b).

50. Similarly, staff did not recommend condition 1(b)'s requirement that PacifiCorp construct and maintain the BPL gage in conformance with non-specific USGS standards for stream gaging, because this would add an unnecessary expense to the project.²³ Instead, staff recommended PacifiCorp's proposed BPL gage design and calibration procedures that include constructing and calibrating the gage to provide for accurate, real-time flow monitoring up to a level equal to about 70 cfs, which is sufficient for monitoring compliance with project operational requirements.

51. Nevertheless, the gaging requirements of condition 1(b) are included in the license because they are mandatory under section 401 of the CWA.

52. Condition 1(c) requires that PacifiCorp implement its proposed ramping restrictions, conduct its proposed ramping rate evaluation to develop an operating procedure to comply with the ramping rates, and notify the agencies within one business day of any unplanned project outages. Staff recommended these measures in the EA.²⁴ In addition, to ensure that the standard operating procedure developed during the study is sufficient to meet the proposed ramping rates, staff recommended and Article 406 requires PacifiCorp to file a plan on the results of the study with the Commission for approval prior to implementing the proposed procedures.

53. Condition 1(d) requires PacifiCorp to include procedures for obtaining agency approval of temporary modifications to the minimum flow and run-of-river operation requirements in the operation compliance monitoring plan specified by condition 1(e).

54. Condition 1(e) requires PacifiCorp to develop an operation compliance monitoring plan within 9 months of license issuance that includes procedures for: maintaining

²² Final EA at 171-172.

²³ Final EA at 172.

²⁴ Final EA at 156.

minimum flows and adhering to ramping rates, operating and maintaining the realigned tailrace channel and tailrace barrier, salvaging fish in the existing tailrace channel, flushing sediment from the East Fork impoundment, notifying and coordinating with the agencies prior to scheduling maintenance activities or following emergencies that affect water quality and fish and wildlife resources, and notifying the agencies when minimum flow deviations occur.

55. Commission staff recommended in the EA²⁵ that PacifiCorp prepare an operation compliance monitoring plan with the following specific provisions to protect aquatic resources, including the federally listed bull trout: (1) notify a project operator within 24 hours of any deviations from run of river or minimum flow requirements; (2) maintain a log of project operation, including minimum flow releases and generation, and provide the operation records to the Commission upon request; (3) file an operation compliance monitoring report by December 31 of each year following license issuance that documents compliance with the operational requirements of the license for the preceding October 1 to September 30 monitoring period; and (4) an implementation schedule. Article 408 requires that these measures be included in the plan required by the certification.

56. However, staff did not recommend the stipulation that PacifiCorp include in the operation compliance monitoring plan additional procedures for non-operational measures, such as procedures for fish salvage in the tailrace or procedures for notifying the agencies prior to sediment flushing. Including these additional non-operational procedures in the operation compliance monitoring plan would needlessly add complexity to administering the terms of the license and could cause conflicts with the other license requirements that already require these procedures. Nevertheless, these requirements are included in the license because they are mandatory under section 401 of the CWA.

57. Condition 2(a) requires that PacifiCorp realign the tailrace channel and construct the permanent tailrace barrier as it proposes, and conduct a hydraulic evaluation of the completed tailrace barrier. To ensure the permanent tailrace barrier is designed, constructed, and operated to effectively exclude fish from entering the tailrace channel and to enable the Commission's administration of the license, staff recommended in the EA²⁶ and Article 409 requires that PacifiCorp develop a tailrace barrier plan. The plan must include: (1) design plans for the permanent tailrace barrier; (2) specific methods for conducting a hydraulic evaluation of the completed tailrace barrier to ensure it operates

²⁵ Final EA at 160.

²⁶ Final EA at 162-163.

within its design criteria; (3) a provision to file a report on the results of the hydraulic evaluation documenting that the tailrace barrier operates within its design criteria, and, for approval, any proposals to modify the tailrace barrier to ensure it operates within its design criteria; and (4) a schedule and the procedures that will be followed to inspect and maintain the tailrace barrier.

58. Condition 2(b) requires PacifiCorp to implement its proposed interim fish protection measures (i.e., installation of temporary fish passage barriers in the tailrace channel), and notify Oregon DFW and FWS at least 48 hours prior to any planned dewatering of the tailrace channel and no more than 24 hours following any emergency tailrace dewatering events. Although condition 2(b) requires PacifiCorp to install the temporary barriers, it does not require effectiveness monitoring or compliance reporting, which Commission staff recommended in the EA²⁷ and Article 410 requires.

59. Condition 3 requires PacifiCorp to develop a water quality monitoring and management plan that includes provisions for monitoring dissolved oxygen and total dissolved gas levels at the tailrace barrier outlet during its initial operation. The condition also requires corrective actions if water quality monitoring indicates that the project is causing a deviation from water quality standards.

60. Condition 4 requires PacifiCorp to implement its proposed bull trout monitoring and genetic sampling program. Staff did not recommend the monitoring and genetic sampling program in the EA²⁸ because it is not clear how the information will be used to protect and enhance bull trout at the project, and it would be very difficult to connect any direct project effects to the hybridization rates of bull trout and brook trout. Nevertheless, the monitoring program is included in the license because it is mandatory under section 401 of the CWA.

61. Condition 5(a) requires that PacifiCorp implement its proposed sediment flushing procedures and notify the agencies 10 days prior to initiating any sediment flushing activities.

62. Conditions 5(b) and (c) require PacifiCorp to implement its proposed Turbidity Monitoring Plan and file a turbidity monitoring report within 60 days of completing each monitoring event.

²⁷ Final EA at 155.

²⁸ Final EA at 169.

63. Condition 6 requires PacifiCorp to develop erosion and sediment control plans for all project construction activities requiring ground disturbance. In the EA,²⁹ staff recommended that PacifiCorp develop erosion and sediment control plans for the major ground-disturbing activities authorized by this license, including realigning the tailrace channel and constructing the tailrace barrier, modifying the East Fork Dam intake structure, and extending the Royal Purple Creek Diversion pipeline. Staff also recommended in the EA³⁰ and Article 403 requires that the erosion and sediment control plan for the tailrace channel realignment and tailrace barrier construction include the best management practice provisions proposed by PacifiCorp, and the revegetation monitoring protocols, success criteria, and reporting requirements recommended by staff.

64. However, in the EA,³¹ staff did not recommend that PacifiCorp develop erosion and sediment control plans for minor ground-disturbing activities or for future potential actions, both of which appear to be required by condition 6. Minor ground-disturbing activities would not contribute to soil erosion, and any future major construction action would require prior Commission approval and development of appropriate protection measures specific to the circumstances of the case. Nevertheless, this condition is included in the license because it is mandatory under section 401 of the CWA.

65. Condition 7 requires that PacifiCorp develop a spill prevention control and countermeasures plan.

COASTAL ZONE MANAGEMENT ACT

66. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), 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.

67. The project is located in the Wallowa Mountains well outside of the boundary of the state-designated coastal management zone, which extends inland to the crest of the coastal range. By email dated September 3, 2013, and filed as Attachment D of PacifiCorp's June 25, 2014 filing, the Oregon Department of Land Conservation and

²⁹ Final EA at 168.

³⁰ Final EA at 159-160.

³¹ Final EA at 168.

Development states that no Coastal Zone Management Act review is necessary for the project.

SECTION 4(E) FINDINGS AND CONDITIONS

68. Section 4(e) of the FPA³² provides that the Commission can issue a license for a project located within a federal reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired. As licensed herein, the Wallowa Project will occupy 12.7 acres of the Wallowa-Whitman National Forest.

69. Staff has reviewed the Organic Administration Act of 1897,³³ which established the purposes for forest reservations, and the presidential proclamations that created and expanded the Wallowa-Whitman National Forest.³⁴ There is no evidence or allegation in this proceeding to indicate that relicensing the Wallowa Falls Project will interfere with the purposes of the Wallowa-Whitman National Forest within which the project is located. Therefore, this license, as conditioned, will not interfere or be inconsistent with the purposes for which the Wallowa-Whitman National Forest was created.

70. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. A portion of the Wallowa Falls Project is located in the Wallowa-Whitman National Forest which is under the U.S. Forest Service's supervision.

71. The Forest Service filed preliminary 4(e) conditions on May 5, 2015, and final 4(e) conditions on February 16, 2016. The final terms and conditions are set forth in Appendix B of this order and incorporated into this license by Ordering Paragraph (F).

³² 16 U.S.C. § 797(e) (2012).

³³ 16 U.S.C. § 473 *et seq.* (2012).

³⁴ The Wallowa National Forest was created by presidential proclamation on May 6, 1905. *See* Presidential Proclamation No. 546, 33 Stat. 3004. The Whitman National Forest was created by executive order issued June 13, 1908. *See* Executive Order No. 813. The two forests were merged administratively on July 1, 1954, and have since been known as the Wallowa-Whitman National Forest. At the time of each forest's creation, the Organic Administration Act of 1897, 16 U.S.C. § 475 (2012), stipulated that all national forest lands were established and administered for watershed protection and timber production.

72. Conditions 2 through 5 are administrative or general in nature and are not discussed further.

73. Conditions 1, and 6 through 13 require PacifiCorp to: (1) develop site-specific plans for erosion control and hazardous substance and spill control plans, and to complete additional environmental analyses for all ground or habitat disturbing activities required by the license on National Forest lands; (2) revise its proposed Noxious Weed Management Plan to modify the schedule for surveying and controlling weeds so that the activities occur between June 1 and July 31, and to include specific revegetation success criteria and a provision to prepare a report on weed management activities; (3) revise the proposed Recreation and Aesthetic Plan to include provisions to design and install all signs and capital improvement projects on National Forest lands in accordance with Forest Service standards and guidelines; (4) finalize the draft, “Unanticipated Discovery Protocol” for cultural resources; (5) operate the project in a run-of-river mode and implement the proposed minimum flow and compliance monitoring measures; (6) revise the proposed Turbidity Monitoring Plan for sediment flushing to include: a description of the schedule, timing, and methods for sediment flushing; a provision to notify the Forest Service 10 days prior to initiating sediment flushing; and a provision to file an annual sediment flushing report; (7) extend the Royal Purple Creek Diversion pipeline as proposed; (8) implement the proposed Vegetation Management Plan; and (9) conduct special-status plant species surveys on National Forest lands near the East Fork Dam impoundment for five consecutive years following license issuance to determine whether the mountain grape fern population detected in 1991 still exists; avoid any ground disturbance, improvements, or herbicide application within the survey area until the surveys are completed; and develop protective measures if mountain grape fern or other special status plant species are detected during the surveys.

74. Although Commission staff recommended most of the Forest Service conditions in the final EA, staff did not recommend two of the conditions and recommended modifying three others.

1. Site-specific Plans

75. In the EA,³⁵ staff did not recommend that PacifiCorp develop site-specific plans for all ground or habitat disturbing activities required by the license on National Forest lands because such requirements are redundant with other license requirements that already require PacifiCorp to develop a spill prevention control and countermeasures plan and erosion control plans for all major ground-disturbing activities authorized by the

³⁵ Final EA at 168.

license. Nevertheless, this condition is included in the license because it is mandatory under section 4(e) of the FPA.

2. Turbidity Monitoring Plan

76. In the EA,³⁶ staff did not recommend revising the proposed Turbidity Monitoring Plan to include a description of the schedule, timing, and methods for sediment flushing, or additional consultation with the agencies prior to conducting the annual sediment flushing event to ensure appropriate water conditions exist. Staff did not recommend these revisions because PacifiCorp has already clearly defined its proposed sediment flushing procedures in its license application and because the flows required for sediment flushing to occur would be available about 98 percent of the time. If sufficient flow isn't available at the time of flushing, PacifiCorp would either delay the flushing or wait until the next year. Therefore, staff found no basis for requiring the modifications to the plan. Nevertheless, this condition is included in the license because it is mandatory under section 4(e) of the FPA.

3. Royal Purple Creek Pipeline Extension

77. PacifiCorp proposes and Forest Service condition 11 requires that PacifiCorp extend the Royal Purple Creek Diversion pipeline by an additional 20 feet so it discharges directly to the East Fork, thereby minimizing erosion along the existing open channel between the pipeline terminus and the East Fork. However, Forest Service condition 11 does not specify when this measure must be completed. Article 402 requires PacifiCorp to file a construction schedule for Commission approval within 6 months of license issuance.

4. Noxious Weed Control Plan

78. Condition 6 requires PacifiCorp to consult with the Forest Service and revise PacifiCorp's proposed Noxious Weed Control Plan filed with the license application. Article 415 requires PacifiCorp to also consult with the FWS and Oregon DFW when revising the plan.

5. Recreation and Aesthetic Plan

79. Forest Service condition 7 requires PacifiCorp to consult with the Forest Service and revise and file for Commission approval its Recreation and Aesthetic Plan filed with its license application.³⁷ Condition 7 requires that the plan include the following

³⁶ Final EA at 170-171.

³⁷ PacifiCorp filed its proposed Recreation and Aesthetic Plan as Appendix M, *(continued ...)*

additional measures: (1) replace the existing Wallowa Lake Trailhead sign at the primary trailhead to the Eagle Cap Wilderness to meet Forest Service standards and guidelines; (2) install the proposed trail signs on Forest Service lands in accordance with Forest Service guidelines; (3) ensure proposed capital improvements on Forest Service lands are designed and constructed in accordance with Forest Service guidelines; (4) install safety signs at the East Fork Dam intake, catwalk, and associated facilities to meet all safety standards in accordance with Commission standards; (5) when replacing the current cable barrier to the maintenance road, install and maintain a gate or other approved barrier based on Forest Service specifications; and (6) monitor all capital improvements on Forest Service lands as proposed to ensure they remain useable and meet their intended purpose.

80. However, as discussed in more detail later, the Recreation and Aesthetic Plan filed with PacifiCorp's application includes additional measures both on and off National Forest lands. Staff did not recommend several measures proposed for areas outside of National Forest lands because they lack a nexus to the project, are not commensurate with the size and scope of the project, or have benefits that do not justify their cost. These measures include replacing the Wallowa Lake Trailhead sign and wilderness registration station, and improvements to the Pacific Park Campground and associated trails.³⁸ On March 8, 2016, PacifiCorp stated that it agreed with staff and was modifying its proposal to only include those recreational enhancements recommended by staff. PacifiCorp did not, however, revise and refile its Recreation and Aesthetic Plan to reflect its modified proposal, and the Forest Service's final 4(e) condition does not clearly define which measures are to be included in the revised plan.

81. Although condition 7 provides for preparation of a recreation plan as recommended by staff in the EA, it does not include all of the staff-recommended recreation measures. Article 416 requires PacifiCorp to install and maintain the following measures: (1) replace the cable gate near the powerhouse with a metal pipe gate; (2) install a 3-panel interpretive sign with information about the project near the powerhouse; (3) replace project fencing near the powerhouse with a darker vinyl material to reduce visual contrast; (4) install landscaping improvements in the area between the powerhouse and the Joseph-Wallowa Highway terminus; (5) paint the powerhouse exterior and roof with a color compatible with the surrounding environment; (6) install six new directional trail signs along the project access road; (7) clean up the laydown and storage area on the east side of the impoundment by removing and reorganizing existing materials; (8) improve the drainage along the connector trail between the project access

Volume III in its license application.

³⁸ Final EA at 175-176.

road and the East Fork Wallowa River to reduce erosion potential; (9) install wood shake siding and roofing on the impoundment intake structure; (10) paint the upper penstock trestle and penstock pipe with a uniform dark color; (11) install an interpretive sign with information about the project at the west side of the impoundment; (12) modify the catwalk gate on East Fork Dam to allow pedestrian access; and (13) install safety fencing around the completed tailrace barrier required by Article 409.

82. Although PacifiCorp proposes to clean up the project storage shed site on the east side of the impoundment during year 2 of the license, Forest Service condition 13 prohibits any improvements or ground-disturbing activities in this area until PacifiCorp completes five years of surveys for the mountain grape fern to determine whether this sensitive plant species detected in the 1990s still exists and to identify appropriate protection measures. To ensure that the Recreation and Aesthetic Plan is consistent with stipulations of Forest Service condition 13, staff recommended in the EA,³⁹ and Article 416 requires, that the schedule in the plan be modified to ensure that improvements near the storage shed site are not completed until after year 5 of the license, and that the improvements take into consideration the results of the mountain grape fern surveys.

SECTION 18 FISHWAY PRESCRIPTIONS

83. Section 18 of the FPA⁴⁰ 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 the Interior or the Secretary of Commerce, as appropriate.

84. By letter filed May 5, 2015, the Secretary of Interior requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 418 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Wallowa Falls Project.

ESSENTIAL FISH HABITAT

85. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act⁴¹ 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

³⁹ Final EA at 166-167.

⁴⁰ 16 U.S.C. § 811 (2012).

⁴¹ 16 U.S.C. § 1855(b)(2) (2012).

Conservation Recommendations for actions that would adversely affect EFH.⁴² 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 EFH.^{43,44}

86. The Wallowa Falls Project area includes habitats that have been designated as EFH for various life-history stages of Pacific salmon. By letter dated November 13, 2015, Commission staff informed NMFS that licensing the project, with staff's recommended measures and agency mandatory conditions, may adversely affect EFH and initiated EFH consultation with NMFS. By letter filed on December 16, 2015, NMFS recommended the following EFH conservation measures: (1) include a license provision to reopen the project license following notification that fish passage for Chinook or coho salmon through Wallowa Lake Dam has been restored in order to obtain additional information regarding the effect of project diversions on habitat for these species, and to reinitiate consultation under the EFH (and Endangered Species Act, if applicable); and (2) include NMFS staff in the tailrace barrier design review and approval process.

87. A specific EFH reopener is not included in this license because Standard Article 11 in Form L-16 already provides a means to reopen the license to consider reasonable modifications of project operations and facilities for fish and wildlife. Conservation measure 2 is included in this license as part of Article 409.

THREATENED AND ENDANGERED SPECIES

88. Section 7(a)(2) of the Endangered Species Act of 1973⁴⁵ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of

⁴² 16 U.S.C. § 1855(b)(4)(A) (2012).

⁴³ 16 U.S.C. § 1855(b)(4)(B) (2012).

⁴⁴ The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

⁴⁵ The IPaC system also listed the endangered gray wolf as occurring in the project vicinity. However, on April 2, 2009, FWS delisted gray wolves occurring in the portion of eastern Oregon occupied by the project (16 U.S.C. § 1536(a) (2012)).

federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

89. According to the FWS's Information, Planning, and Conservation (IPaC) System, three federally listed species potentially occur in the project area: Macfarlane's four-o'clock, Spalding's Catchfly, and bull trout. Additionally, critical habitat for bull trout has been designated in the project area.⁴⁶

90. Suitable habitat for Macfarlane's four-o'clock or Spalding's catchfly does not occur in the project area, and PacifiCorp's plant surveys did not detect them in the project area. Therefore, staff determined in the draft EA⁴⁷ that licensing the project will have no effect on these species. Therefore, no further action is required for either of these species.

91. In the draft EA, staff also concluded that continued project operation and maintenance is likely to adversely affect the bull trout and its designated critical habitat. On November 13, 2015, staff requested formal consultation. In its letter filed on December 11, 2015, FWS requested additional information in order to initiate consultation. The additional information was provided in the final EA and on June 2, 2016, staff again requested formal consultation.

92. On October 14, 2016, FWS filed a biological opinion concluding that the project is not likely to jeopardize the continued existence of the Mid-Columbia Recovery Unit of bull trout and that the project is not likely to adversely modify or destroy bull trout critical habitat. FWS's biological opinion includes an incidental take statement with reasonable and prudent measures to minimize take of listed bull trout along with terms and conditions to implement the measures. These reasonable and prudent measures and conditions are included in Appendix C and are made part of this license by Ordering Paragraph (G).

1. Reasonable and Prudent Measures

93. In its biological opinion, FWS included five reasonable and prudent measures to minimize the effects of anticipated incidental take of bull trout and five incidental take terms and conditions to implement the reasonable and prudent measures. The reasonable and prudent measures include: (1) minimize the potential for incidental take from in-water construction activities in the project area, (2) minimize the risk of adverse effects to bull trout due to fish removal activities, (3) minimize the potential for incidental take

⁴⁶ 74 *Fed. Reg.* 15123-15188 (April 2, 2009).

⁴⁷ Draft EA at 7.

from construction activities in or near the river, (4) minimize the risk of adverse effects to bull trout from emergency outages and ramping, and (5) minimize the potential for incidental take from impoundment flushing activities in the project area.

2. Terms and Conditions

94. To implement reasonable and prudent measure 1, term and condition 1 specifies that PacifiCorp: (a) conduct all work within the East and West Fork Willowa Rivers during the in-water work period of July 15 to August 15, and obtain approval from FWS and Oregon DFW if adjustments to the in-water work period are needed; (b) minimize alteration or disturbance of stream banks and existing riparian vegetation, and where bank work is necessary, install bank protection material to maintain normal waterway configuration whenever possible; and (c) comply with all state and federal laws when diverting or withdrawing any water from natural streams during construction activities.

95. To implement reasonable and prudent measure 2, term and condition 2 specifies that PacifiCorp: use specific methods to safely capture, handle, and release bull trout when salvaging fish; document any bull trout encountered during these activities; and provide the results to the FWS.

96. To prevent harming bull trout during unit outages that dewater the tailrace channel and to administer the license, staff recommended in the EA⁴⁸ that PacifiCorp include the following measures in its proposed fish salvage plan: (1) provisions for salvaging fish in the tailrace channel within two hours of the installation of any temporary fish passage barrier required by Oregon DEQ certification condition 2(b), and by no later than the timing of the complete dewatering of the tailrace channel after the penstock intake headgate closes due to a planned or unplanned outage event; and (2) a provision to annually file documentation of compliance with the fish salvage procedures, until such time as the permanent tailrace barrier is completed and put into permanent operation at which point the fish salvages would no longer be necessary. Article 411 requires PacifiCorp to develop the fish salvage plan with staff's recommended provisions as well as the fish salvage procedures specified by FWS's term and condition 2.

97. To implement reasonable and prudent measure 3, term and condition 3 specifies that PacifiCorp: develop an erosion control plan for project construction activities in or near the river that includes BMPs, as well as provisions to develop a spill prevention and countermeasures plan, and a monitoring report.

98. To implement reasonable and prudent measure 4, term and condition 4 specifies that PacifiCorp monitor take by conducting annual bull trout redd surveys in the East

⁴⁸ Final EA at 162

Fork during mid-September and October for 10 years following license issuance; conduct additional surveys if an emergency outage and ramping event occurs during the spawning period to document any redds constructed near the water's edge that could be dewatered during down-ramping; inform FWS of the monitoring results; and consult with the FWS at the end of the 10-year monitoring period to determine whether additional monitoring is necessary.

99. To implement reasonable and prudent measure 5, term and condition 5 specifies that PacifiCorp: (a) implement the proposed Turbidity Monitoring Plan; (b) monitor flows during sediment flushing to ensure that flows are greater than 15 cfs and that flushing does not occur for more than 72 consecutive hours; and (c) monitor the bull trout population by collecting data on bull trout abundance, distribution, and resident and fluvial life history in the East Fork and West Fork, at a minimum of once every ten years for the term of the license.⁴⁹

100. By letter filed on October 27, 2016, PacifiCorp states that it opposes the additional bull trout population monitoring because it is beyond what is needed to monitor the project's effects on incidental take of bull trout during sediment flushing activities in the East Fork (reasonable and prudent measure 5). PacifiCorp states that the more extensive fish population monitoring specified by term and condition 4 is not needed for this purpose and thus should be the responsibility of the resource agencies.

101. As discussed in other sections of the license, staff did not recommend PacifiCorp's similar bull trout population monitoring program because the minimal project-related benefits of the monitoring did not justify the \$1,333 levelized annual cost. The bull trout population monitoring included in the incidental take statement would be even more costly because it would require more sampling events and potentially a greater level of monitoring effort per sampling event. Nevertheless, it is included in the license as a condition of FWS's incidental take statement in Appendix C.

102. Several of the terms and conditions require PacifiCorp to monitor incidental take of bull trout from certain project activities and provide monitoring results to the FWS without filing the results with the Commission. To enable the Commission to track compliance with the monitoring requirements of the license, Article 412 requires PacifiCorp to file reports containing the monitoring results with the Commission.

⁴⁹ Term and condition 5(c) modifies PacifiCorp's proposed bull trout population monitoring and genetic sampling program by requiring it to monitor the bull trout population once every 10 years over the term of the license, instead of twice during the license term (in years 2 and 15) as proposed by PacifiCorp and required by Oregon DEQ certification condition 4(a).

Additionally, term and condition 4 requires PacifiCorp to consult with FWS at the end of the 10-year bull trout redd monitoring program to determine whether to extend the monitoring program. Article 412 also requires that PacifiCorp include in the report to be filed after the 10th year of monitoring, for Commission approval, any proposals to extend the monitoring program.

3. Conservation Recommendations

103. The FWS also included the following discretionary conservation recommendations to further the conservation and protection of bull trout: (1) provide minimum flows in the action area that benefit bull trout and bull trout critical habitat; (2) fund and implement fish passage and screening measures for bull trout in the upper Wallowa River watershed, which may include fish passage improvements at the abandoned USGS gage site on the East Fork that is currently a barrier to several fish species including juvenile bull trout; (3) document bull trout presence/absence on streams within the proposed action area; (4) determine degree of hybridization of brook trout and bull trout in the action area and implement measures to improve habitat conditions for bull trout in the watershed; (5) monitor fish passage conditions for the minimum flows of 4 and 5 cfs at the old USGS gage site on the East Fork during summer and fall; and (6) collect a genetic sample of trout occurring above the falls on the East Fork Wallowa River to confirm no bull trout presence above the falls.

104. Conservation recommendation 1 is included in the license by Oregon DEQ certification condition 1(a) (Ordering Paragraph (E)) and Forest Service condition 9(2) (Ordering Paragraph (F)).

105. It's unclear what additional monitoring efforts the FWS is seeking through conservation recommendations 3 and 4 as FWS's term and condition 5 already specifies that PacifiCorp monitor the bull trout population in the East Fork and West Fork and determine the hybridization rates of brook trout and bull trout in these waters. In addition, Oregon DEQ's certification conditions and the Forest Service's 4(e) conditions already require measures to improve habitat conditions for bull trout in the watershed (e.g., minimum flows, ramping rates, a tailrace barrier). Therefore, there is no reason to include additional license requirements to accommodate these recommendations.

106. Conservation recommendations 2 and 5 are not included in the license. As stated in the EA,⁵⁰ the weir at the historic USGS gage site in the bypassed reach is not a licensed project facility and is not being used to fulfill any licensed hydroelectric project purpose. Therefore, there is no nexus between the measure and project effects and thus

⁵⁰ Final EA at 182-183.

no justification for requiring PacifiCorp to monitor fish passage conditions or fund and implement fish passage improvement measures at this non-project facility.

107. Conservation recommendation 6 is also not included in the license. As explained in the EA,⁵¹ bull trout are not known to occur upstream of the impassible barrier falls in the bypassed reach and PacifiCorp's pre-filing fish surveys only detected brook trout and rainbow trout in this stream segment. Therefore, there is no evidence to suggest that bull trout occur upstream of the barrier falls in the bypassed reach. Consequently, there is no justification to require PacifiCorp to conduct additional fish surveys in this segment of the bypassed reach to collect genetic samples.

NATIONAL HISTORIC PRESERVATION ACT

108. Under section 106 of the National Historic Preservation Act (NHPA)⁵² and its implementing regulations,⁵³ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing on the National Register of Historic Places (National Register) (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 SHPO to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

109. No cultural resources and no historical resources eligible for listing were found during site investigations. By letter dated July 7, 2014, and filed by PacifiCorp on September 26, 2014, the Oregon SHPO concurred with PacifiCorp, and staff agreed in the EA,⁵⁴ that no historic resources would be affected by the project. If cultural resources are inadvertently discovered during construction or operation of the project, PacifiCorp must cease soil-disturbing activities and implement its Unanticipated Discovery Protocol (Forest Service condition 8 in Appendix B). Article 419 requires PacifiCorp to describe how it proposes to monitor for cultural resources during construction of the tailrace channel realignment.

⁵¹ Final EA at 48 and 51.

⁵² 54 U.S.C. § 300101 (2012), *et seq.* Pub. L. 113-287, 128 Stat. 3188 (2014). The National Historic Preservation Act was recodified in Title 54 in December 2014.

⁵³ 36 C.F.R. Part 800 (2016).

⁵⁴ Final EA at 8.

PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

110. In 1980, Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act).⁵⁵ 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 Program is 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.⁵⁶ Section 4(h)(11)(A) of the Northwest Power Act,⁵⁷ 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."

111. 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). Our recommendations, including minimum flows and ramping rates (Ordering Paragraph (E) and (F)), water quality protection measures (Ordering Paragraph (E)), and vegetation management that improve wildlife habitat (Ordering Paragraph (E)) are consistent with applicable provisions of the Program, as discussed in more detail in the final EA.⁵⁸ 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 417 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.

⁵⁵ 16 U.S.C. §§ 839(b) *et seq.* (2012).

⁵⁶ 16 U.S.C. § 839(b)(h)(5) (2012).

⁵⁷ 16 U.S.C. § 839(h)(11)(A) (2012).

⁵⁸ Final EA at 8-10.

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

112. Section 10(j)(1) of the FPA⁵⁹ 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 Act,⁶⁰ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

113. In response to the March 6, 2015, public notice that the project was ready for environmental analysis, FWS and Oregon DFW filed recommendations under section 10(j).⁶¹ FWS and Oregon DFW later modified their recommendations, resulting in a final total of 27 different recommendations.⁶² Sixteen recommendations were determined to be outside the scope of section 10(j) because the recommendations are for measures that include provisions for non-specific or future potential measures, or are administrative matters. Recommendations outside of the scope of section 10(j) are discussed in the next section.

114. This license includes conditions consistent with 10 of the remaining 11 recommendations that are within the scope of section 10(j) including: provide a 4-/5-cfs minimum flow in the bypassed reach (Ordering Paragraphs (E) and (F)); install and operate a real-time compliance monitoring gage at the BPL gage site in the lower bypassed reach to monitor flows at 15-minute intervals (Ordering Paragraphs (E) and (F)); develop an operation compliance monitoring plan (Ordering Paragraph (E) and Article 408); conduct a ramping rate evaluation and restrict down-ramping in the bypassed reach during powerhouse start-up following an unit outage (Ordering paragraph (E) and Article 406); realign the tailrace channel and construct a permanent tailrace barrier to prevent fish from entering the tailrace channel (Ordering Paragraph (E)); perform a hydraulic evaluation of the permanent tailrace barrier during its initial operation (Ordering Paragraph (E) and Article 409); implement interim fish protection measures in the tailrace channel until the tailrace channel realignment and permanent tailrace barrier are completed (Ordering Paragraph (E), Article 410 and Article 411); restrict annual sediment flushing from the East Fork Dam impoundment to the month of

⁵⁹ 16 U.S.C. § 803(j)(1) (2012).

⁶⁰ 16 U.S.C. §§ 661 *et seq.* (2012).

⁶¹ FWS and Oregon DFW filed the recommendations on May 5, 2015.

⁶² Oregon DFW filed modified recommendations on April 15, 2016, and FWS filed modified recommendations on April 25, 2016.

June, for 72 consecutive hours, and only when flows are at least 15 cfs (Ordering Paragraph (E), (F), and (G)); develop an erosion and sediment control plan for construction of the tailrace channel realignment and permanent tailrace barrier (Ordering Paragraph (E), (G), and Article 403); and implement the Noxious Weed Management Plan (Ordering Paragraph (F)).

115. If the Commission believes that any section 10(j) 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.⁶³ 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.

116. Commission staff made an initial determination that Oregon DFW's recommendation to develop a terrestrial wildlife resource management plan that includes measures to avoid disturbing nesting birds, particularly bald eagles, by timing transmission-line construction and maintenance activities outside the nesting season, and to construct any transmission lines to provide safe bird perching and prevent accidental electrocution, may be inconsistent with the comprehensive planning standard of section 10(a) of the FPA, including the equal consideration provision of section 4(e) of the FPA.⁶⁴ By letters dated November 13, 2015, Commission staff advised Oregon DFW of its preliminary determination and attempted to resolve the inconsistency in a January 7, 2016 section 10(j) meeting. No resolution was reached in the meeting.

117. As explained in the EA,⁶⁵ there is no evidence that Oregon DFW's recommended avian protection measures are warranted, and staff found that they would have minimal benefit. The project transmission-line only extends 20 feet over a graveled, unvegetated surface, directly from the powerhouse to the non-project substation, an area subject to frequent disturbance and offering poor nesting and roosting habitat for eagles as well as other large birds. Further, PacifiCorp's relicensing proposal does not include any new transmission line construction. For these reasons, Oregon DFW's recommended avian

⁶³ 16 U.S.C. § 803(j)(2) (2012).

⁶⁴ FWS also initially recommended this measure, but withdrew its recommendation in its April 24, 2016 modified 10(j) recommendations.

⁶⁵ Final EA at 173-174.

protection measures do not justify the \$1,170 levelized annual cost to develop the wildlife management plan with its recommended avian protection measures.

118. This license requires PacifiCorp to implement its Vegetation Management Plan (Ordering Paragraph (F)) and proposed BMPs for tailrace channel realignment construction (Article 403), both of which include a provision to conduct tree removal within the project boundary between August 1 and February 28 to avoid disturbing nesting eagles and other birds. This provision will adequately protect nesting eagles and other birds at the project.

119. For the above reasons and in accordance with FPA section 10(j)(2)(A), Oregon DFW's recommendation is inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project.

SECTION 10(a)(1) OF THE FPA

120. Section 10(a)(1) of the FPA⁶⁶ 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. FWS and Oregon DFW Recommendations

121. As discussed above, FWS and Oregon DFW filed 16 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, but are considered under the broad public interest standard of section 10(a)(1). As discussed below, 11 of these recommendations are included in the license.

122. Six of the fish and wildlife agency recommendations were recommended in whole or in part by staff in the final EA and are included in the license: (1) consult with agencies on plans and designs for measures to protect fish and wildlife (Ordering Paragraph (E) and Articles 403, 408, 409, 411); (2) notify FWS and Oregon DFW any time the tailrace channel is dewatered during the interim period before the tailrace barrier is permanently installed (Ordering Paragraph (E)); (3) meet all state water quality standards in accordance with Oregon DEQ's water quality certification (Ordering

⁶⁶ 16 U.S.C. § 803(a)(1) (2012).

Paragraph (E)); (4) notify the Oregon Emergency Response System within 24 hours of a hazardous substance spill (Ordering Paragraph (E)); (5) take immediate reasonable action to correct the incident and notify the agencies within 24 hours and the Commission within 10 days of any emergency situations affecting fish and wildlife resources (Article 413); and (6) consult with FWS and Oregon DFW when revising the Noxious Weed Control Plan (Article 415).

123. For reasons previously discussed, the following five fish and wildlife agency recommendations were not recommended by staff in the final EA; however, they are required in this license under section 401 of the CWA, section 4(e) of the FPA, or to be consistent with the FWS's biological opinion incidental take statement under section 7 of the ESA: (1) calibrate the operation compliance monitoring gage to provide for accurate flow monitoring up to a level equal to the bank-full stage at the gage site (Ordering Paragraph (E)); (2) install and maintain the gage in conformance with USGS standards for stream gaging (Ordering Paragraph (E)); (3) include in the operation compliance monitoring plan additional procedures for non-operational measures, such as procedures for fish salvage in the tailrace channel (Ordering Paragraph (E)); (4) conduct a bull trout population monitoring program (Ordering Paragraph (E) and (G)); and (5) develop erosion control plans for all ground-disturbing activities at the project (Ordering Paragraph (E) and (F)).

124. The remaining five fish and wildlife agency recommendations are not included in this license for the reasons discussed below.

125. Oregon DFW and FWS recommend that PacifiCorp obtain their approval of the final tailrace channel realignment and tailrace barrier design plans. Staff did not recommend this requirement in the EA⁶⁷ because it is the Commission's responsibility to ensure that project facilities are designed and constructed according to the terms of the license. Instead, staff recommended that PacifiCorp provide the design plans to the agencies for review and comment prior to filing them with the Commission for approval. This will alert Commission staff to any agency concerns when reviewing the plan.

126. Oregon DFW recommends that the terrestrial wildlife resource management plan discussed above also require as-yet unidentified mitigation to achieve no net loss of terrestrial habitat from project construction and operation. Staff concluded in the EA⁶⁸ that the measure is unnecessary. The only project-related activity with the potential to substantially affect terrestrial habitat is construction of the tailrace channel realignment, which will permanently alter or remove about 0.23 acre of terrestrial habitat. Because the

⁶⁷ Final EA at 162-163.

⁶⁸ Final EA at 173-174.

affected area is small and not particularly valuable given its proximity to the campground, there will be minimal benefits to wildlife from mitigating this minor habitat loss, and the benefits do not justify the \$1,170 levelized annual cost to develop the plan plus any additional costs needed to implement the plan's provisions.

127. FWS and Oregon DFW recommend that PacifiCorp develop a wetland mitigation plan that provides in-kind replacement of wetlands lost by realigning the tailrace channel. Realigning the tailrace channel would permanently modify only about 0.08 acre of wetland habitat which provides minimal value for wildlife. In the EA,⁶⁹ staff found that the minimal benefits to wildlife of a wetland mitigation plan would not justify the \$11,760 levelized annual cost of the plan.

128. FWS and Oregon DFW recommend that PacifiCorp implement any restorative measures required by Oregon DFW, Oregon DEQ, FWS, or the Forest Service in the event of any emergency situations affecting fish or wildlife at the project. Because this measure is general and speculative, its benefit and cost cannot be evaluated. Further, Standard Article 11 of the license allows the Commission to reopen the license to consider the need for any such measures as the need arises.

129. Oregon DFW recommends that the Commission issue a 30-year license for the Wallowa Falls Project. Licensing term is discussed in the License Term section of this order.

B. Access Road Inspection and Maintenance Plan

130. PacifiCorp proposes to implement an Access Road Inspection and Maintenance Plan to facilitate the early identification and resolution of any erosion or stability issues along the project access road. Staff recommended this plan in the EA,⁷⁰ and Article 404 requires its implementation.

C. Run-of-River Operation

131. PacifiCorp proposes, and staff recommended in the EA,⁷¹ that PacifiCorp operate the Wallowa Falls Project in a run-of-river mode to protect aquatic resources in the East Fork bypassed reach. Oregon DEQ certification condition 1(a) and Forest Service condition 9(1) requires run-of-river operation. To ensure that the project operates run-of-

⁶⁹ Final EA at 172-173.

⁷⁰ Final EA at 155.

⁷¹ Final EA at 155.

river and consistent with staff's recommendation in the EA, Article 405 requires PacifiCorp to at all times minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project such that, at any point in time, the sum of project outflows approximates the sum of inflows to the project.

D. East Fork Dam Intake Structure

132. PacifiCorp proposes to modify the intake structure on East Fork Dam within 18 months of license issuance to enable it to release its proposed minimum flows and to provide for efficient operation of the sluice gate for sediment sluicing. Staff recommended and Article 407 authorizes this project facility modification.

E. Notification and Reporting of Operational Deviations and Unanticipated Events

133. In the EA,⁷² staff recommended that PacifiCorp notify the Forest Service, Oregon DFW, Oregon WRD, Oregon DEQ, and the FWS within 24 hours of: deviations from the project's run of river and minimum flow operational requirements; a spill or release of a hazardous substance; or emergency situations that would endanger, harm, or kill fish and wildlife. Staff also recommended that PacifiCorp notify the Commission within 10 days of such events, and file a report within 30 days of the event that describes: (a) the nature and chronology of the event, (b) the circumstances that led up to the event, (c) any observed or reported adverse environmental impacts resulting from the event, (d) any corrective actions taken, and (e) any recommended measures to reduce the likelihood of similar events recurring in the future. Article 413 requires these notification and reporting measures.

F. Pre-construction Plant Surveys

134. Before realigning the tailrace channel and constructing the tailrace barrier, PacifiCorp proposes to conduct a botanical survey to determine whether any special-status plants occur within a 275-foot segment of the proposed tailrace channel realignment that was not surveyed during pre-filing. In the EA,⁷³ staff recommended that PacifiCorp complete the survey but also recommended that it provide the survey results to the Forest Service, FWS, and Oregon Department of Agriculture, and file a report that includes any proposed or recommended protective measures, for Commission approval, in the event that special-status plants are discovered. Article 414 requires these measures.

⁷² Final EA at 163-164.

⁷³ Final EA at 164.

G. Pacific Park Campground and Trail Enhancements

135. PacifiCorp operates and maintains Pacific Park Campground, a 10-campsite facility located near the project tailrace. A small portion of the campground is located within the project boundary on either side of the south channel of the tailrace, but the majority of the campground is outside of the project boundary. To better accommodate recreational needs at the campground, PacifiCorp originally proposed, as part of its Recreation and Aesthetic Plan, to upgrade 10 campsites, construct a campground host pad, install an entry sign, construct two new toilets, reclaim user-created trails originating from the campground and joining other connector trails in the area, construct a new access trail leading to ridgetop trails west of the campground, install a new trailhead sign and wilderness registration station at the bottom of the new trail, and incorporate the entire campground into the project boundary. In the draft EA,⁷⁴ staff did not recommend these enhancements because recreational use of the Pacific Park Campground and associated trails is not generally associated with the hydropower project but rather with the nearby National Forest, Wilderness Area, and Wallowa Lake State Park.

136. In response to staff's assessment in the draft EA, PacifiCorp filed a letter on March 8, 2016, revising its proposed recreation measures to no longer include any of the enhancements at the campground or adjoining trails because it agrees with staff's conclusion in the draft EA that there is no nexus between the campground and the project.

137. In its comments on the draft EA, Oregon PRD stated that it believes there is a nexus between the project and recreational use of the campground, and therefore continued to recommend all of the measures that PacifiCorp originally proposed in its Recreation and Aesthetic Plan. As discussed in the final EA,⁷⁵ however, Oregon PRD did not provide information to support a finding of a nexus between the project and recreational use of the campground. Therefore, because there is no clear connection between the campground's use and the project, the license does not require PacifiCorp to incorporate the campground into the project boundary as a licensed project facility, or to implement any enhancement measures for the campground or adjoining trails.

H. Little Alps Day Use Area

138. The Little Alps Day Use Area is a recreation facility managed by Oregon PRD and located adjacent to Pacific Park Campground on non-project PacifiCorp-owned land leased to the Oregon PRD. While the two facilities are managed by separate entities,

⁷⁴ Draft EA at 165.

⁷⁵ Final EA at 175-176.

visitors often use the facilities of both areas because it is not easy to identify the boundary between them. To consolidate management of the campground and day use area, Oregon PRD recommends that PacifiCorp incorporate the entire day use area into the project boundary. Oregon PRD also recommends that PacifiCorp construct and maintain a 10-site, bivouac-style camping area within the day use area to provide camping more conducive to the needs of wilderness hikers. As discussed in the EA,⁷⁶ staff did not recommend these enhancements because recreational use of the Little Alps Day Use Area and the need for more camping sites are not generally associated with the hydropower project but rather with the nearby National Forest, Wilderness Area, and Wallowa Lake State Park. Therefore, because there is no clear connection between the day use area and the need for camping at the project the license does not require these measures.

I. Equestrian Parking and Campground

139. Vehicle parking areas along the east and west sides of the Joseph-Wallowa Lake Highway near the project are provided and maintained by the State of Oregon. These parking areas provide parking for those using project land and the adjoining National Forest and Wilderness Area lands. Despite efforts to separate the parking areas for equestrian and non-equestrian user groups (e.g., designated equestrian parking along the east side of the highway), Oregon PRD states that equestrian users periodically park outside of designated parking areas and impede access for other users. To help alleviate the problem, and better accommodate equestrian needs, Oregon PRD recommends that PacifiCorp construct a separate equestrian parking and camping area on non-project, PacifiCorp-owned land on the east side of the highway. In the EA,⁷⁷ staff did not recommend this measure because there was no clear connection between the project and equestrian parking along the highway because equestrians park in this area to primarily access National Forest and Wilderness Area land. Additionally, the small amount of equestrian use the project lands receive does not justify the expense (\$69,310 levelized annual cost) of constructing and maintaining a separate parking and camping area for this user group. Therefore, the license does not require a separate equestrian parking area and camping area as part of this license.

J. Self-Registration Station at Pacific Park Campground

140. Pacific Park Campground is managed under an advanced reservation system which limits the ability of overflow campers from other near-by campgrounds to use the facility without reservations. In an effort to improve accessibility and attract more use to Pacific Park Campground, Oregon PRD recommends that PacifiCorp install a self-

⁷⁶ Final EA at 175-176.

⁷⁷ Final EA at 177-178.

registration station. Although installing a self-registration pay station might improve the accessibility of the campground by allowing for on-site registration at the time of arrival, staff did not recommend this measure in the EA⁷⁸ because the campground is not a project facility and does not accommodate project recreation. Therefore, the license does not require this measure.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

141. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA and the use and occupancy of U.S. lands. Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1,500 kW, like this project, will not be assessed an annual charge.⁷⁹

B. Exhibit F and G Drawings

142. The Commission requires licensees to file sets of approved project drawings in electronic file format. Article 202 requires the filing of these drawings.

C. Project Financing

143. To ensure that there are sufficient funds available for construction, operation, and maintenance of the tailrace channel realignment and tailrace barrier, Article 203 requires the licensee to file for Commission approval documentation of project financing.

D. As-Built Exhibits

144. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 204 provides for the filing of these drawings.

145. Additionally, PacifiCorp's Exhibit G encloses the non-project substation in the project boundary. Because the substation is a non-project facility, Article 204 also

⁷⁸ Final EA at 178.

⁷⁹ See 18 C.F.R. § 11.1(b)(1) (2016). The regulations currently in effect, however, do not exempt licensees of projects with an installed capacity less than or equal to 1,500 kW from reimbursing the United States for the use of federal lands. See 18 C.F.R. § 11.2 (2016).

requires PacifiCorp to label the substation as a non-project facility when it files as-built drawings of the new tailrace channel realignment and tailrace barrier.

146. Because the Pacific Park Campground is needed for construction of the tailrace channel realignment and tailrace barrier, the license does not require PacifiCorp to remove the campground from the Exhibit G drawings at this time. However, because the campground is not a project recreation facility it should be removed from the Exhibit G drawings when PacifiCorp files as-built drawings of the new tailrace channel realignment and tailrace barrier.

E. Use and Occupancy of Project Lands and Waters

147. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 420 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.

F. Review of Final Plans and Specifications

148. Article 301 requires the licensee to provide the Commission's Division of Dam Safety and Inspection (D2SI)-Portland Regional Engineer with final contract drawings and specifications, together with a supporting design report, consistent with the Commission's engineering guidelines. The submittal must include a temporary construction emergency action plan, a quality control and inspection program, and a soil erosion and sediment control plan.

149. Article 302 requires the licensee to provide the Commission's D2SI-Portland Regional Engineer with cofferdam construction drawings and specifications approved by a Professional Engineer.

150. Article 303 requires the licensee to consult with the Commission's D2SI-Portland Regional Engineer on any project modifications resulting from environmental requirements.

G. Commission Approval of Resource Plans, Filing of Reports, Notification, and Filing of Amendments

151. In Appendices A, B, and C, there are certain certification conditions, 4(e) conditions, and terms and conditions of FWS's biological opinion that do not require the licensee to file plans with the Commission, do not require the licensee to file some reports with the Commission that are needed to demonstrate compliance with the license, or require the temporary or permanent modification of project operations or facilities.

Therefore, Article 401 requires the licensee to file such plans, reports or amendment applications with the Commission, as appropriate.

STATE AND FEDERAL COMPREHENSIVE PLANS

152. Section 10(a)(2)(A) of the FPA,⁸⁰ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.⁸¹ Under section 10(a)(2)(A), federal and state agencies filed 124 comprehensive plans that address various resources in Oregon. Of these, staff identified and reviewed 37 comprehensive plans that are relevant to this project.⁸² No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

153. In accordance with section 10 of the FPA,⁸³ and the Commission's regulations, staff evaluated PacifiCorp's record as a licensee with respect to the following: (A) conservation efforts; (B) safe management, operation, and maintenance of the project;⁸⁴ and (C) need for power. Staff's findings are accepted in each of the following areas.

A. Conservation Efforts

154. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like PacifiCorp. Each year, PacifiCorp completes a comprehensive analysis of future load growth and the need for new resources, including customer efficiency programs, to meet its customer demand. Demand side management actions and goals proposed by the most recent report indicate that PacifiCorp promotes demand side load management practices for both

⁸⁰ 16 U.S.C. § 803(a)(2)(A) (2012).

⁸¹ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2016).

⁸² The list of applicable plans can be found in section 5.4 of the final EA.

⁸³ 16 U.S.C. § 803 (2012).

⁸⁴ In order No. 513, we exempted licenses of minor projects, such as the Wallowa Falls Project, whose licenses waive sections 14 and 15 of the FPA, from the information requirements of 18 C.F.R. § 16.10. *See* 54 Fed. Reg. 23756 (June 2, 1989) and 55 Fed. Reg. 10768 (March 23, 1990), FERC Statutes and Regulations, Regs. Preambles 1986 1990 ¶ 30,854 at p. 31,445 (May 17, 1989).

residential and commercial/industrial customers and has undertaken several programs to improve efficiency and promote energy conservation at its plants. These programs show that PacifiCorp is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

B. Safe Management, Operation, and Maintenance of the Project

155. Staff has reviewed PacifiCorp's management, operation, and maintenance of the project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines. Staff concludes that the dams and other project works are safe, and that there is no reason to believe that PacifiCorp cannot continue to safely manage, operate, and maintain these facilities under a new license.

C. Need for Power

156. To assess the need for power, staff looked at the needs in the assessment region where the project is located. The Wallowa Falls Project is located in the Northwest sub-region of the Western Electricity Coordinating Council. According to NERC's 2014 Long-Term Reliability Assessment, winter peak demands and annual energy requirements for the Northwest sub-region are projected to grow at rates of 1.36 and 1.63 percent, respectively, from 2015 through 2024 (NERC, 2014). Over the next 10 years, NERC estimates that additional capacity will need to be brought on line to meet this growing demand. Staff, therefore, concludes that power from the Wallowa Falls Project would help meet part of the regional need for power.

PROJECT ECONOMICS

157. In determining whether to issue a subsequent license for an existing 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.*,⁸⁵ 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.

158. In applying this analysis to the Wallowa Falls Project, staff considered three alternatives: no action alternative, PacifiCorp's proposal, and the project as licensed

⁸⁵ 72 FERC ¶ 61,027 (1995).

herein. Under the no action alternative, the project would continue to operate as it does now. The project has an installed capacity of 1.1 MW, and generates an average of 6,819 MWh of electricity annually. The average annual project cost is about \$108,200, or \$15.87/MWh. When an estimate of average generation is multiplied by the alternative power cost of \$49.87/MWh,⁸⁶ the total value of the project's power is \$340,064 in 2015 dollars. To determine whether the proposed project is currently economically beneficial, the project's cost is subtracted from the value of the project's power.⁸⁷ Therefore, the project costs \$231,864, or \$34/MWh, less to produce power than the likely alternative cost of power.

159. As proposed by PacifiCorp, the levelized annual cost of operating the project is \$298,723, or \$57.58/MWh. Based on the estimated average generation of 5,188 MWh and alternative power cost of \$49.87/MWh, the total value of the project's power is \$258,726 in 2015 dollars. Therefore, in the first year of operation, the project would cost \$39,997, or \$7.71/MWh, more than the likely alternative cost of power.

160. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$299,717, or \$57.77/MWh. Based on the same estimated average generation of 5,188 MWh as licensed, the project would produce power valued at \$258,726 when multiplied by the \$49.87/MWh value of the project's power. Therefore, in the first year of operation, project power would cost \$40,991, or \$7.90/MWh, more than the likely cost of alternative power.

161. 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 the 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 on line.

162. Although staff's analysis shows that the project as licensed herein would cost more to operate than staff's estimated cost of alternative power, it is the applicant who must decide whether to accept this license and any financial risk that entails.

⁸⁶ The alternative power cost of \$49.87 per MWh is based on annual power value provided by PacifiCorp. Staff compared the reported value to average energy costs in the region for natural gas combustion turbines and found it reasonable.

⁸⁷ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the final EA issued May 2016.

163. Although staff does not explicitly account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

COMPREHENSIVE DEVELOPMENT

164. Sections 4(e) and 10(a)(1) of the FPA⁸⁸ require the Commission to give equal consideration to the 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 must 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.

165. 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 Wallowa Falls 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.

166. Based on an independent review and evaluation of the Wallowa Falls Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the project as licensed herein, is selected and found to be best adapted to a comprehensive plan for improving or developing the Wallowa River.

167. This alternative is selected because: (1) issuance of a subsequent license will serve to maintain a beneficial and dependable 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 1.1 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

⁸⁸ 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

LICENSE TERM

168. 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.⁸⁹

169. This license authorizes a moderate amount of new construction and environmental measures including: (1) extending the Royal Purple Creek Diversion pipeline, (2) modifying the intake structure on East Fork Dam to enable the release of higher minimum flows, (3) realigning the tailrace channel and constructing a new permanent tailrace barrier, (4) constructing and operating a new stream gage to provide real-time flow monitoring, and (5) increasing minimum flows. Consequently, a 40-year license for the Wallowa Falls Project is appropriate.

The Director orders:

(A) This license is issued to PacifiCorp Energy (licensee), for a period of 40 years, effective the first day of the month in which this order is issued to operate and maintain the Wallowa Falls Hydroelectric 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 interests in those lands, enclosed by the project boundary shown by Exhibit G filed on December 2, 2016:

<u>Exhibit G Drawing</u>	<u>FERC No. 308-</u>	<u>Description</u>
Exhibit G-1	1007	Project Boundary

(2) Project works consisting of: (a) the 2-foot-high, 9-foot-long concrete Royal Creek Diversion Dam with a 1-foot-wide spillway and a crest elevation of 5,838 feet mean sea level (msl) on Royal Purple Creek; (b) a 240-foot-long, 8-inch-diameter wood-stave and polyvinylchloride pipeline extending from the diversion to the East Fork Wallowa River; (c) a 0.2-acre impoundment created by the project's East Fork Dam; (d) the 18-foot-high, 125-foot-long buttressed rock-filled timber crib East Fork Dam with a 30-foot-wide spillway at crest elevation of 5,795 feet msl, intake box fitted with a steel

⁸⁹ See *Consumers Power Co.*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

trash rack and headgate, and a low-level sluiceway adjacent to the intake box fitted with a sluiceway; (e) a 5,688-foot-long steel predominately buried 18- to 24-inch diameter penstock, with two short above-ground segments (i.e. 150-foot and 90-foot) supported on timber crib trestles; (f) a powerhouse containing one impulse turbine-generator unit with an installed capacity of 1.1 MW; (g) a 40-foot-long concrete-lined tailrace; (h) an existing unlined and braided tailrace channel extending approximately 1,000 feet from the powerhouse to the West Fork Wallowa River; (i) a new realigned approximately 1,000-foot-long unlined tailrace channel and concrete tailrace barrier; (j) a 20-foot-long, 7.2-kilovolt transmission line which connects to the Wallowa Falls Substation;⁹⁰ and (k) appurtenant facilities.

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

Exhibit A: The following section of Exhibit A filed on February 28, 2014:

Pages 16 -19, entitled “Existing Project Facilities”

The following section of Exhibit A filed on February 10, 2015:

Pages 13 and 14, entitled “Proposed Project Facilities”

Exhibit F: The following Exhibit F drawings filed on February 28, 2014:

<u>Exhibit F Drawing</u>	<u>FERC No. 308-</u>	<u>Description</u>
Exhibit F-1	1001	Powerhouse
Exhibit F-2	1002	Diversion Dam – Plans, Sections, and Details
Exhibit F-3	1003	Pipeline Details
Exhibit F-4	1004	Forebay Access Trail – Plans, Sections, and Details

Exhibit F: The following Exhibit F drawings filed on February 10, 2015:

<u>Exhibit F Drawing</u>	<u>FERC No. 308-</u>	<u>Description</u>
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⁹⁰ The Wallowa Falls Substation is not a project facility.

Exhibit F-5	1005	West Fork – Tailrace Plan
Exhibit F-6	1006	Velocity Barrier Plan & Sections, and New Channel

(3) All of the structures, fixtures, equipment or 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, F, and G described above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the conditions submitted by the Oregon Department of Environmental Quality under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1) (2012), as those conditions are set forth in Appendix A to this order.

(F) This license is subject to the conditions submitted by the U.S. Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix B to this order.

(G) This license is subject to the incidental take terms and conditions of the biological opinion submitted by the U.S. Fish and Wildlife Service on October 14, 2016, under section 7 of the Endangered Species Act, as those conditions are set forth in Appendix C to this order.

(H) This license is also subject to the articles set forth in Form L-16 (Oct. 1975), entitled “Terms and Conditions of License for Constructed Minor Project Affecting Lands of the United States,” (*see* 54 F.P.C. 1792 *et seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee must pay the United States annual charges, effective the first day of the month in which the license is issued,

and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of:

(a) reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 1,100 kilowatts. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge; and

(b) recompensing the United States for the use, occupancy and enjoyment of 12.7 acres of its lands (other than for transmission line right-of-way).

Article 202. Exhibit Drawings. Within 45 days of the date of issuance of this license, as directed below, the licensee must file two sets of the approved exhibit drawings, form FERC-587, and geographic information system (GIS) data in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

(a) Digital images of the approved exhibit drawings must be prepared in electronic format. Prior to preparing each digital image, the FERC Project-Drawing Number (i.e., P-308-1001 through P-308-1007) must be shown in the margin below the title block of the approved drawing. Exhibit F drawings must be segregated from other project exhibits, and identified as Confidential Energy Infrastructure Information (CEII) material under 18 C.F.R. §388.113(c). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-308-1007, G-1, Project Boundary, MM-DD-YYYY.TIF].

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS georeferencing the project boundary drawing to the polygon data, and must be based on a standard map coordinate system. The spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be stamped by a registered land surveyor. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY – black & white raster file

FILE TYPE – Tagged Image File Format (TIFF), CCITT Group 4
(also known as T.6 coding scheme)

RESOLUTION – 300 dots per inch (dpi) desired, (200 dpi minimum)

DRAWING SIZE FORMAT – 22" x 34" (minimum), 24" x 36" (maximum)

FILE SIZE – less than 1 megabyte desired

A third set (Exhibit G only) and a copy of Form FERC-587 must be filed with the Bureau of Land Management office at the following address:

State Director
Bureau of Land Management
Lands and Minerals Adjudication Section (OR 936.1)
PO Box 2965
Portland, OR 97208-2965
ATTN: FERC Withdrawal Recordation

Form FERC-587 is available through the Commission's website at the following URL: <http://www.ferc.gov/docs-filing/forms/form-587/form-587.pdf>. Although instruction no. 3 requires microfilm copies of the project boundary maps in aperture card format, electronic copies that meet the digital specifications in this ordering paragraph should be substituted. If the FERC-587 cannot be downloaded from the Internet, a hard copy may be obtained by mailing a request to the Secretary of the Commission.

(b) Project boundary GIS data must be in a georeferenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format). The filing must include both polygon data and all reference points shown on the individual project boundary drawings. An electronic boundary polygon data file(s) is required for each project development. Depending on the electronic file format, the polygon and point data can be included in single files with multiple layers. The georeferenced electronic boundary data file must be positionally accurate to ± 40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) must include: FERC Project Number, data description, date of this license, and file extension in the following format [P-1234, boundary polygon/or point data, MM-DD-YYYY.SHP]. The filing must be accompanied by a separate text file describing the spatial reference for the georeferenced data: map projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name must include: FERC Project Number, data description, date of this license, and file extension in the following format [P-308, project boundary metadata, MM-DD-YYYY.TXT].

In addition, for those projects that occupy federal lands, a separate georeferenced polygon file(s) is required that identifies transmission line acreage and non-transmission line acreage affecting federal lands for the purpose of meeting the requirements of 18 C.F.R. §11.2. The file(s) must also identify each federal owner (e.g., Bureau of Land Management, Forest Service, U.S. Army Corps of Engineers, etc.), land identification (e.g., forest name, Section 24 lands, national park name, etc.), and federal acreage

affected by the project boundary. Depending on the georeferenced electronic file format, the polygon, point, and federal lands data can be included in a single file with multiple layers.

Article 203. Documentation of Project Financing. At least 90 days before starting construction, the licensee must 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 must not commence project construction associated with the project before the filing is approved.

Article 204. As-built Exhibits. Within 90 days of completion of construction of the facilities authorized by this license, the licensee must file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. In addition, when filing the revised Exhibit G, the substation must be designated as a non-project facility and the Pacific Park Campground should be removed from the project boundary.

Article 301. Contract Plans and Specifications. At least 60 days prior to the start of any construction, the licensee must 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 must 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, 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 302. Cofferdam Construction Drawings and Deep Excavations. Should construction require cofferdams or deep excavations, the licensee must: (1) have a Professional Engineer who is independent from the construction contractor, review and

approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must 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. *Project Modification Resulting from Environmental Requirements.* If environmental requirements under this license require modification that may affect the project works or operations, the licensee must consult with the Commission's Division of Dam Safety and Inspections-Portland Regional Engineer. Consultation must allow sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 401. *Commission Approval, Requirement to File Reports, Notification, and Filing of Amendments.*

(a) Requirement to File Plans for Commission Approval

The Oregon Department of Environmental Quality's (Oregon DEQ) certification conditions (Appendix A) and U.S. Forest Service's (Forest Service) section 4(e) conditions (Appendix B) require the licensee to prepare certain plans in consultation with the conditioning agencies for their review and implement certain measures without prior Commission approval. Each such plan must also be submitted to the Commission for approval. These plans are listed below.

Certification or Forest Service Condition	Plan Name	Due Date
Certification condition 3(a)	Water quality monitoring and management plan	Within 90 days of license issuance
Certification condition 7	Spill prevention control and countermeasures plan	Within six months of license issuance
Forest Service condition 8	Unanticipated discovery protocol	Within six months of license issuance

The licensee must include with each plan filed with the Commission documentation that the licensee developed the plan in consultation with the Forest

Service and Oregon DEQ, as appropriate. The Commission reserves the right to make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee must implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(b) Requirements to File Reports

Certain conditions of Oregon DEQ's certification in Appendix A require the licensee to file reports with other entities, but not the Commission. Because these reports relate to compliance with the requirements of this license, each such report must also be submitted to the Commission. These reports are listed below.

Certification condition	Description	Due date
3(b)	Dissolved oxygen and total dissolved gas monitoring during tailrace barrier initial low-flow operation, and total dissolved gas monitoring during tailrace barrier initial high-flow operation	Within 90 days of the completion of each of the low-flow and high-flow monitoring events
4(a)(iii)	Bull trout genetics monitoring report	Within 8 months of the completion of the genetic analyses specified in certification condition 4(a)(ii)

The licensee must submit to the Commission documentation of consultation with the Forest Service, Oregon Department of Fish and Wildlife (Oregon DFW), and U.S. Fish and Wildlife Service (FWS) as required by Appendix A, condition 4 and copies of any comments and recommendations made by any consulted entity in connection with the bull trout genetics monitoring 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 Notify Commission of Temporary Modifications to In-water Work Period

Term and condition 1(a) of Appendix C would allow the licensee to seek a modification to the July 15 to August 15 designated in-water work period if approved by Oregon DFW and FWS. The Commission must be notified prior to implementing such modifications, if possible, or in the event of an emergency, as soon as possible, but no

later than 10 days after each such incident.

(d) Requirements to File Amendment Applications

Certain of the conditions in Appendices A and B contemplate unspecified long-term changes to project operation or facilities. For example, Condition 3(b) of Appendix A contemplates long term changes to project facilities or operations for the purposes of complying with state water quality standards. Such changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Article 402. *Royal Purple Creek Diversion Pipeline Extension.* Within six months of license issuance, the licensee must file for Commission approval a construction schedule for the Royal Purple Creek Diversion pipeline extension required by Appendix B, condition 11.

Article 403. *Erosion and Sediment Control Plan.* The Soil Erosion and Sediment Control Plan required by Article 301; Appendix A, condition 6(a); and Appendix C, condition 3(a) for construction of the tailrace channel realignment and tailrace barrier must include, at a minimum, the best management practices specified in section 2.2.3.1 of the Final License Application Exhibit E filed on February 10, 2015; the measures stipulated by Appendix C, condition 3(a)(i) – 3(a)(xi); and the following additional measures:

(1) a provision to monitor revegetated areas for three years after the completion of the tailrace channel realignment and tailrace barrier construction to ensure the success criteria in item (2) are met by the end of the third complete year following construction;

(2) a provision to establish a control plot within an undisturbed area adjacent to the construction activities, and ensure that revegetation following construction meets the following criteria: (a) ground cover must equal or exceed 80 percent of that which occurs in the control plot, and (b) species composition must equal at least 75 percent of non-weedy species; and

(3) a provision to file a report by December 31 of the third complete year following the completion of tailrace channel realignment and tailrace barrier construction documenting the results of the revegetation efforts and any proposals for additional measures in the event that revegetation criteria in item (2) were not achieved. The report must include documentation of consultation with the U.S. Fish and Wildlife Service (FWS) and Oregon Department of Fish and Wildlife (Oregon DFW), copies of comments on the completed report once it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the report.

The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons based on project specific information.

The plan must be developed after consultation with the FWS, Oregon DFW, Oregon Department of Environmental Quality, and U.S. Forest Service. The licensee must 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. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan and any proposals for additional revegetation measures filed with the revegetation report. Implementation of the plan and any proposed measures in the revegetation report must not begin until the licensee is notified by the Commission that the plan and the additional revegetation measures are approved. Upon Commission approval, the licensee must implement the plan and any additional revegetation measures, including any changes required by the Commission.

Article 404. Access Road Inspection and Maintenance Plan. The Access Road Inspection and Maintenance Plan filed on February 28, 2014, as Appendix E of the final License Application Exhibit E is approved and made part of this license and may not be amended without prior Commission approval. Upon license issuance, the licensee must implement the plan.

Article 405. Run-of-River Operation. While operating the project in a run-of-river mode as specified by Appendix A, condition 1(a) and Appendix B, condition 9(1), the licensee must at all times act to minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project such that, at any point in time, the sum of project outflows approximates the sum of inflows to the project.

Article 406. Ramping Rates. Within six months of license issuance, the licensee must file a plan for Commission approval describing the specific operating procedures it will follow to restrict down-ramping in the bypassed reach to the rates specified in Appendix A, condition 1(c). The procedures must be based on, and contain, the results of the site-specific ramping rate study required by Appendix A, condition 1(c).

The plan must be developed after consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, and Oregon Department of Environmental Quality. The licensee must include with the report

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

The Commission reserves the right to require changes to the report. Implementation of the report must not begin until the licensee is notified by the Commission that the report is approved. Upon Commission approval, the licensee must operate the project to comply with the specific operating procedures specified in the report, including any changes required by the Commission.

Article 407. Minimum Instream Flow. Within 18 months of license issuance, the licensee must modify the intake structure on East Fork Dam to enable it to maintain the minimum instream flows required by Appendix A, condition 1(a) and Appendix B, condition 9(2), as measured at the new operational compliance monitoring gage required by Appendix A, condition 1(b) and Appendix B, condition 9(3) in the East Fork bypassed reach.

The licensee must notify the Commission within 30 days of completing the intake structure modifications.

Article 408. Operation Compliance Monitoring Plan. The operation compliance monitoring plan required by Appendix A, condition 1(e) must include, at a minimum, the following:

(1) a provision to notify a project operator within 24 hours of any deviations from the run of river or minimum flow requirements of the license;

(2) a provision to file with the Commission by December 31 of each year following license issuance an operation compliance monitoring report documenting compliance with the operational requirements of the license for the preceding October 1 to September 30 monitoring period;

(3) a provision to maintain a log of project operation, including minimum flow releases and generation; and

(4) an implementation schedule.

The plan must be developed after consultation with the U.S. Forest Service, U.S.

Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Water Resources Department, and Oregon Department of Environmental Quality. The licensee must 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 must 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 must 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 must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 409. Permanent Tailrace Barrier Plan. At least 60 days prior to the start of construction of the permanent tailrace barrier required by Appendix A, condition 2(a), the licensee must file a tailrace barrier plan for Commission approval. At a minimum, the plan must include:

- (1) design drawings for the tailrace barrier;
- (2) a provision to commence initial operation of the permanent tailrace barrier during the month of June so flows are high enough to quickly transport disturbed sediment downstream;
- (3) the specific methods for conducting a hydraulic evaluation during the initial operation of the permanent tailrace barrier as required by Appendix A, condition 2(a);
- (4) a provision to prepare and file a report on the results of the hydraulic evaluation that includes: (a) documentation that the permanent tailrace barrier operates within its design criteria; (b) for Commission approval, any proposals that may be necessary to modify the permanent barrier to ensure it operates within its design criteria; and (c) documentation of consultation with the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and Oregon Department of Fish and Wildlife (Oregon DFW), including copies of comments and recommendations on the report after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the report. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information;

(5) a schedule and procedures that will be followed to maintain the permanent tailrace barrier, including but not limited to, keeping a maintenance log documenting the date and time of each tailrace barrier inspection, inspection results, and any actions taken to maintain the tailrace barrier; and

(6) an implementation schedule.

The plan must address how the licensee considered section 5.4, *Velocity Barrier*, of NMFS's *Anadromous Salmonid Passage Facility Design*, dated July 2011 in the design specifications.

The plan must include documentation of consultation with NMFS, FWS, and Oregon DFW, copies of comments 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 must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the final plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons based on project specific information.

The Commission reserves the right to require changes to the plan, including the final design of the permanent tailrace barrier and any proposed modifications to the barrier that are included in the hydraulic evaluation report. Implementation of the plan and any proposed modifications included in the hydraulic evaluation report must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan or proposed modifications included in the hydraulic evaluation report, including any changes required by the Commission.

Article 410. Temporary Fish Passage Barrier. Until the permanent tailrace barrier is installed and operational, the licensee must install and visually inspect a temporary fish passage barrier as required by Appendix A, condition 2(b), twice per week between August 1 to November 15 to ensure it is preventing fish access to the tailrace channel during the bull trout spawning period. To provide documentation of compliance with this requirement, the licensee must include in the first five reports to be annually filed as required by Article 412, the installation and removal dates and visual inspection results for the prior year's temporary fish passage barrier.

Article 411. Fish Salvage Plan. Within six months of license issuance, the licensee must file for Commission approval a fish salvage plan that describes its proposed procedures for capturing, handling, and relocating any fish trapped in the tailrace channel during planned or unplanned unit outage events that dewater the tailrace channel. The fish salvage plan must be implemented each year following license issuance until the

permanent tailrace barrier required by Appendix A, condition 2(a) and Article 409 is installed and operating. In addition to the handling procedures specified by Appendix C, condition 2, the plan must include the following provisions:

(1) salvaging of fish from the tailrace channel within two hours of the installation of any temporary fish passage barrier required by Appendix A, condition 2(b); and

(2) salvaging of fish from the tailrace channel prior to complete dewatering of the tailrace channel due to a planned or unplanned outage event.

The plan must also include a provision to include in each of the first five reports to be annually filed as required by Article 412, documentation of compliance with the prior year's fish salvage procedures.

The plan must be developed after consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, and Oregon Department of Environmental Quality. The licensee must 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 must 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 must 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 must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 412. Report on Bull Trout Monitoring and Protection Measures. The licensee must file, by March 31 of the year following the first year of bull trout redd monitoring required by Appendix C, condition 4(a), and continuing for 10 years thereafter, a report that documents the results of the prior year's bull trout monitoring and protection measures, that include, at a minimum:

(1) the results of the fish handling and injury monitoring from fish removal for in-water construction required by Appendix C, condition 2(g) and (h);

(2) the results of the bull trout construction monitoring required by Appendix C, condition 3(a)(xi); and

(3) the results of the bull trout redd monitoring required by Appendix C, condition 4(a).

The licensee must include in the report to be filed following year 10 of the bull trout redd monitoring required by Appendix C, condition 4(a), any proposals, for Commission approval, to continue the bull trout redd monitoring.

The licensee must include with each report, documentation of consultation with the U.S. Forest Service, Oregon Department of Fish and Wildlife, and U.S. Fish and Wildlife Service; copies of comments and recommendations on the completed report after it has been prepared and provided to the agencies; and specific descriptions of how the agencies' comments are accommodated by the report. The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons based on project-specific information.

The Commission reserves the right to require changes to project operations or facilities based on information contained in the report and any other available information.

Article 413. Notification of Unanticipated Events or Emergencies. In the event of: (1) deviations from the run-of-river requirements of Article 405; Appendix A, condition 1(a) and Appendix B, condition 9(1); (2) deviations from the minimum flow requirements of Article 407, Appendix A, condition 1(a) and Appendix B, condition 9(2); (3) a spill or release of a hazardous substance as specified in Appendix A, condition 7(b); or (4) an unanticipated circumstance or emergency situation in which fish or wildlife are being endangered, harmed, or killed by the project or its operation; the licensee must:

(A) notify the U.S. Forest Service, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Water Resources Department, and the U.S. Fish and Wildlife Service within 24 hours, and the Commission within 10 days;

(B) take immediate reasonable action to remediate the deviation or incident; and

(C) prepare and file a report within 30 days of the deviation or incident that describes: (i) the nature and chronology of the event, (ii) the circumstances that lead-up to the event, (iii) any observed or reported adverse environmental impacts resulting from the event, (iv) any corrective actions taken, and (v) any recommended measures to reduce the likelihood of similar events occurring in the future.

The Commission reserves the right to require changes to project operations or facilities based on the information contained in the reports and any other available information.

Article 414. *Special-status Plant Species Survey.* At least 90 days before the start of any land-disturbing or land-clearing activities associated with construction of the tailrace channel realignment and tailrace barrier, the licensee must file with the Commission the results of a special-status plant species survey of the area to be affected by the construction of the lower 275 feet of realigned tailrace channel near its confluence with the West Fork Wallowa River.

The filing must include any comments of the U.S. Forest Service, U.S. Fish and Wildlife Service, and Oregon Department of Agriculture on the survey results, and for Commission approval any proposals to avoid or mitigate impacts to special-status plant species. The licensee must include with the filing documentation of consultation, copies of recommendations on the draft filing after it has been prepared and provided to the agencies above, and specific descriptions of how the agencies' comments are accommodated by the filing. The licensee must allow the agencies a minimum of 30 days to comment and to make recommendations before submitting the filing to the Commission.

The Commission reserves the right to require changes to project operation or facilities based on the survey results and any other available information.

Article 415. *Noxious Weed Control Plan.* The revised Noxious Weed Control Plan required by Appendix B, condition 6, must be developed after consultation with the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service. The licensee must 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 must 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 must 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 must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 416. *Recreation and Aesthetics/Visual Resources Management Plan.* The revised Recreation and Aesthetics/Visual Resources Management Plan required by

Appendix B, condition 7, must include the following measures proposed in the plan filed as Volume III, Appendix M of the final license application on February 28, 2014: (1) replacement of the cable gate near the powerhouse with a metal pipe gate; (2) installation of a 3-panel interpretive sign with information about the project near the powerhouse; (3) replacement of project fencing near the powerhouse with a darker vinyl material to reduce contrast with the surrounding environment; (4) installation of landscaping improvements including native vegetation, boulders, rock, cobble, and gravel along the northern portion of the powerhouse yard to screen views of the project powerhouse and fencing from the Joseph-Wallowa Lake Highway terminus; (5) re-painting the powerhouse exterior and roof with a color compatible with the surrounding environment; (6) installation of six new directional trail signs along the project access road; (7) cleanup of the laydown and storage area on the east side of the impoundment by removing and reorganizing existing materials; (8) improvement of the drainage along the connector trail between the project access road and the East Fork Wallowa River Trail; (9) installation of wood shake siding and roofing on the impoundment intake structure; (10) paint the upper penstock trestle and penstock pipe with a uniform dark color; (11) installation of an interpretive sign with information about the project at the west side of the impoundment; and (12) modification of the catwalk gate on East Fork Dam to allow pedestrian access.

In addition, the revised plan must include a provision to install safety fencing around the completed tailrace barrier required by Article 409.

The licensee must file a revised implementation schedule that includes a provision to ensure that the improvements to the laydown and storage area near East Fork Dam are not completed until the mountain grape fern surveys required by Appendix B, condition 13 have been completed. The plan must be developed after consultation with the U.S. Forest Service and the Oregon Parks and Recreation Department. The licensee must 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 must 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 must 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 must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 417. *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 418. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 419. *Cultural Resources Monitoring.* The licensee must include in the final Unanticipated Discovery Protocol required by Appendix B, condition 8, a description of how it will conduct its proposed monitoring for archaeological sites during construction of the tailrace channel realignment and tailrace barrier.

Article 420. *Use and Occupancy.* (a) In accordance with the provisions of this article, the licensee must 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 must 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 must 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 must require multiple use and occupancy of facilities for access to project lands or waters. The licensee must 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 must: (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 must file with the Commission 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 must 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 must 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 lands or 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 must not apply to any part of the public lands and reservations of the United States included within the project boundary.

(I) The licensee must 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.

(J) 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. § 825*l* (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2016). 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.

Ann F. Miles
Director
Office of Energy Projects

Form L-16
(October, 1975)

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

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission

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

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

Article 6. 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 7. 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 8. 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 9. 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 10. 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 11. 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 12. 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 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. 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 the 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 15. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 17. 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 18. 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 19. 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 20. 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 21. 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 22. 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 23. 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 24. 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 25. 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 26. 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

Oregon Department of Environmental Quality Water Quality Certification Conditions Issued March 31, 2016

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

1) Project Operation:

- a) Throughout the life of the FERC license, PacifiCorp must continue to operate its hydroelectric facility in a “run of river” mode. PacifiCorp shall discharge a continuous minimum flow from the Project diversion dam into the East Fork Wallowa River. The minimum flow released to the East Fork shall be equal to or greater than 4 cubic feet per second (cfs) from November 1 through April 30, and equal to or greater than 5 cfs from May 1 through October 31. If natural inflow to the Project is equal to or less than the required minimum flow, then all flow from the Project forebay shall be discharged into the East Fork Wallowa River. These minimum flow requirements shall be implemented within 18 months of issuance of the new FERC license for the Project. The minimum flows may be temporarily modified if required by operating emergencies beyond the control of PacifiCorp and for short periods upon agreement between the licensee, DEQ, ODFW, USFW, USFS. Deviations from the minimum flow requirements, as observed at the compliance gage, will be reported to DEQ, ODFW, WRD, USFW, and USFS (Agencies) by the next business day.

- b) Within 1 year of the issuance of a new FERC license, PacifiCorp shall install and maintain an operational compliance monitoring flow gage at the existing BPL gage location. The flow gage shall provide for continuous real time recording of flow in the bypass reach measured in 15 minute intervals and reported as an hourly average (top of the hour average) during the duration of the hydropower license. Flow data will be provided to Agencies through the PacifiCorp internet reporting system. Additional flow data not available on the PacifiCorp website (including but not limited to: historical values for hourly, daily, monthly and yearly time periods; and including measurements of stream flow and gage height used to supplement and/or verify the accuracy of the automatically recorded observations) will be provided to Agencies as electronic spreadsheet files or other format agreeable to the requesting Agency and PacifiCorp within the target of three to five business days of the request to PacifiCorp. PacifiCorp will develop rating curves to enable accurate flow measurements at flows up to a level that is greater than or equal to bank-full stage at the gage location. The flow gage will be

established in conformance with United States Geological Survey criteria and maintained as such thorough the life of the project license. The regular maintenance and calibration of the gage may be carried out by PacifiCorp or an agreed upon agency (Oregon Department of Water Resources, US Geologic Survey) or other reputable contractor. Preliminary design of the flow gage, reporting of flow measurements, development of the rating curve, and maintenance responsibilities will be described in the Operation Compliance Monitoring Plan described in Condition 1e.

- c) Beginning within 18 months of the acceptance of a new FERC license, PacifiCorp shall restrict down-ramping in the East Fork bypass reach during Project start-up after a Powerhouse shutdown following a target rate of no more than 0.1 feet per hour from April 1 to October 31, when salmonid fry are present, and 0.17 feet per hour from November 1 to March 31. Within nine months of FERC license acceptance, PacifiCorp shall complete a site-specific study to develop operating procedures to meet the down-ramping rate targets identified above for inclusion in the Operation Compliance Monitoring Plan (as specified in Condition 1e below). The objective of the ramping rate operating procedures study is to identify the correlation between generation changes in kilowatts (kW) and corresponding stage change in the Project bypassed reach. For study purposes, bypassed reach stage change will be measured at the compliance monitoring gage. The study results will indicate the rate of generation change per hour necessary to meet the target ramping rates. The rate of generation change per hour will be no lower than 300 kilowatts per hour (kW/h). Upon completion of the study, ramping rates will be reported in kW/h for compliance purposes. Project operation shall to the extent possible maintain stable flow in the East Fork bypass reach during the bull trout spawning period of September 1 to October 31. Any scheduled Project maintenance that would alter flows in the East Fork bypass reach shall occur outside of this time period. In the event of an unscheduled Project outage during this period, PacifiCorp shall follow ramping rates as specified above. Unscheduled Project outages shall be reported to Agencies within one business day.
- d) The minimum flows or run of river operations may be temporarily modified if required by operating emergencies beyond the control of PacifiCorp upon agreement between PacifiCorp and the USFS, USFWS, ODFW, and DEQ. The procedure for gaining approval for these modifications shall be described in the Operation Compliance Monitoring Plan described in Condition 1e.
- e) Within nine months of issuance of a new FERC license, PacifiCorp shall develop a written Operation Compliance Monitoring Plan. The Operation Compliance Monitoring plan will be developed in consultation with, and subject to approval of Agencies. Upon FERC approval, PacifiCorp shall implement the plan. The Plan will include the following: Procedures required to maintain minimum instream

flows, adhere to specified ramping rates as specified in Conditions 1a, 1b, 1c, and 1d. The plan will also include procedures to operate and maintain the proposed realigned tailrace channel and upstream fish passage barrier, perform fish salvage in the existing tailrace channel, and flush the forebay of sediment. The Operation Compliance Monitoring Plan shall include procedures for prior notification and coordination with Agencies regarding maintenance scheduling including forebay flushing and planned dewatering of the tailrace, procedures for emergencies that affect water quality and fish and wildlife resources, and notification of Agencies when minimum flow violations occur.

Within three months of completion of the construction of the tailrace realignment channel, upstream fish passage barrier (tailrace barrier), and a modified forebay flow release gate or valve, PacifiCorp will revise the Operations Compliance Monitoring Plan to include operations and monitoring procedures for these facilities. Revisions to the plan will be subject to the same review and approval requirements as the original plan.

2) Reconfigure Tailrace:

- a) Within three years of issuance of a new license, PacifiCorp shall realign the existing project tailrace consistent with plans described in Section 2.2.1 of the updated Final License Application, Exhibit E submitted to FERC on February 10, 2015. As part of the tailrace realignment, PacifiCorp shall design, install, evaluate, and maintain a tailrace barrier to prevent upstream migrating adult salmonids from entering the tailrace channel at its confluence with the West Fork Wallowa River. The tailrace barrier shall be fully functional at the commissioning of the realigned tailrace channel. After construction is complete, PacifiCorp shall perform a hydraulic evaluation of the tailrace barrier to ensure that the jump height and velocity barrier are effective at normal high water levels.

Within three months of completion of the tailrace realignment and tailrace barrier construction, PacifiCorp will revise the Operation Compliance Monitoring Plan to include operation and monitoring procedures for the facilities. Revision to the plan will be subject to the same review and approval requirements as the original plan.

- b) Prior to the commissioning of the proposed tailrace channel and barrier, PacifiCorp shall take interim action to prevent injury or mortality of fish in the existing tailrace channel. From August 1 to November 15, of each year following license issuance until completion of the realigned tailrace barrier, PacifiCorp shall install and maintain a temporary barrier at the mouth of the existing tailrace channel to prevent fish from entering the tailrace. In the event that the tailrace is dewatered at any time, PacifiCorp shall perform fish salvage to remove any fish from the tailrace and relocate them to the West Fork of the Wallowa River.

PacifiCorp shall inform ODFW and USFWS no less than 48 hours in advance of planned tailrace dewatering and no more than 24 hours following emergency tailrace dewatering events. Procedures for tailrace dewatering and fish salvage shall be included in the Operation Compliance Monitoring Plan identified in Condition 1(e).

3) Water Quality Monitoring:

- a) Within ninety (90) days of issuance of the FERC license, PacifiCorp, in consultation with the Oregon Department of Environmental Quality (DEQ), must, as necessary to ensure consistency with these § 401 Certification Conditions, develop a Project Water Quality Monitoring and Management Plan (WQMMP). Upon approval, the WQMMP becomes part of these § 401 Certification Conditions for the Project for the purposes of any federal license or permit.

The WQMMP must include: applicable dissolved oxygen (DO) and total dissolved gas (TDG) criteria; monitoring methodology; reporting schedule; and procedures for suspending operation during DO or TDG violations. PacifiCorp must measure DO at the outlet of the new Project tailrace continuously during Project operations for a one-time period of 90 days starting August 1st of the first year of operation of the realigned tailrace. PacifiCorp must download and evaluate DO data on a weekly basis. During Project operation, PacifiCorp must also measure TDG in the Project Tailrace outlet for a minimum of seventy-two (72) hours under lower flow conditions in August-September and higher flow conditions in June-July. Concurrent with DO and TDG measurements, PacifiCorp must also record flow and water temperature at the Project Tailrace outlet immediately upstream of the velocity barrier, as well as record power generation from the Project. PacifiCorp must report all DO, TDG, flow, water temperature and power generation data to DEQ within 90 days of the conclusion of the monitoring period.

- b) If it is determined based on monitoring results, that Project operations are contributing to downstream violations of the applicable DO standard, TDG standard or the Antidegradation standard, PacifiCorp must follow the procedures in the WQMMP, including project shutdown, as necessary. If taking the actions described in the WQMMP do not correct the problem and allow water quality standards to be achieved, PacifiCorp must consult with DEQ to evaluate whether any modifications to the Project or Project operations can mitigate the impacts to water quality. If DEQ determines that such modifications can reverse such impacts, PacifiCorp must propose the modifications to DEQ, and following DEQ's approval, PacifiCorp must implement the approved modifications. PacifiCorp may operate the Project

during the development and implementation of modifications if conditions allow water quality standards to be met. If it can be demonstrated that the DO and TDG criteria are being met, PacifiCorp can request approval to terminate monitoring of these parameters.

- c) The WQMMP must include provisions to address water quality monitoring equipment malfunctions. The WQMMP must include the following:
 - i. Procedures and measures that will be implemented to prevent monitoring equipment malfunctions;
 - ii. Procedures for identifying the occurrence and nature of any monitoring equipment malfunctions that may occur;
 - iii. Plan, schedule, and corrective measures that will be implemented to address monitoring equipment malfunctions;
 - iv. Procedures for notifying DEQ of the occurrence and nature of monitoring equipment malfunctions, corrective measures implemented, and recommencement of monitoring equipment operation.
 - v. Procedures and timelines for Project shutdown as may be necessitated by monitoring equipment malfunctions;
 - vi. Plan and schedule for maintenance and calibration of field test equipment.
- 4) Protection of Beneficial Uses; Compliance With Other Requirements of State Law:
Bull trout population and genetics monitoring.
- a) The Licensee shall conduct periodic monitoring to assess the rate of brook trout introgression in the bull trout population residing in the East Fork and West Fork. Within six (6) months of issuance of a new license, the Licensee shall consult with ODFW, USFWS, and USFS to specify the goals, objectives, protocols and schedule for the monitoring program. The Licensee shall:
 - i. Within two (2) years of issuance of a new license or in 2018, whichever is first, perform monitoring which includes electrofishing the East Fork and West Fork in July or August to collect no less than 30, but no more than 50, bull trout. Measure and record the length, weight, and capture location of each bull trout. Remove a 0.75 by 0.75 cm tissue sample from the caudal fin of all bull trout captured for genetic analysis.
 - ii. Conduct genetic analysis on the tissue samples that entails genotyping to species and assessing the rate of brook trout introgression.
 - iii. Within six (6) months of completion of genetic analysis, provide a draft written report of the results to ODFW, USFWS, and USFS including relative abundance, distribution and condition of bull trout captured. The report should compare results of genetic analysis to pre-License

information on the status of bull trout genetics and brook trout introgression. Allow agency stakeholders 30 days to review the draft report, provide a revised report that addresses all agency stakeholder comments or explains why comments are not addressed.

- iv. Repeat the above monitoring, assessment and reporting 15 years after license issuance. The final report shall provide a comparison of the results among pre-license information, year two (2) and year 15 results.

5) Fore Bay flushing Plan

- a) Methodology: PacifiCorp may conduct annual sediment flushing from the Wallowa Dam forebay in accordance with the Sediment Management Program presented in Section 2.2.2 of the FLA, Exhibit E submitted to FERC on February 10, 2015. Sediment flushing may be performed in June for up to 72 cumulative hours. To allow for sediment dispersal, flushing may only be conducted when base flow exceeds 15 cubic feet per second (cfs) in the East Fork Wallowa River. PacifiCorp will provide 10-day prior notice of the planned date of flushing operations to Agencies. If flushing does not occur in June or other DEQ approved high flow period, it will be delayed until the following year to minimize impacts to fish habitat.
- b) Monitoring: PacifiCorp shall monitor turbidity upstream and downstream of the Wallowa Dam forebay in accordance with the Turbidity Monitoring Plan for Maintenance Forebay Flushing presented in Volume III, Appendix D of the FLA filed with FERC on February 28, 2014:
 - i. Representative Background Point: Turbidity shall be monitored at a relatively undisturbed area in the East Fork Wallowa River at least 100 feet upstream of the Project forebay. This datasonde will be deployed at least 24 hours prior to forebay flushing to record background turbidity levels in the East Fork inflow to the Project. The datasonde will remain deployed for five days to ensure that background turbidity is recorded prior to, during and after the forebay flushing event.
 - ii. Downstream Monitoring Point: Turbidity shall be monitored in the lower bypassed reach of the East Fork Wallowa River. This datasonde will be deployed prior to the onset of forebay flushing and will remain continuously deployed for five days to ensure that turbidity effects during and after the forebay flushing event are recorded.
- c) Reporting: PacifiCorp shall file a Turbidity Monitoring Report with DEQ within 60 days of completing forebay sediment flushing activities. The report shall summarize: dates of the activity, the duration of the event, flushing methods, estimated streamflow, and turbidity monitoring results. The report shall also

provide a brief narrative describing visual turbidity observations, bedload movement, sediment dispersal, and any negative environmental impacts identified during the sediment flushing event.

- d) Compliance: PacifiCorp shall be deemed in compliance with the turbidity standard given in Oregon Administrative Rules (OAR) 340-041-0036 if sediment flushing activities are performed in accordance with the methods and conditions referenced in this certification.

6) Erosion and Sediment Control Plan:

- a) For Project construction activities requiring ground disturbance, PacifiCorp shall prepare and follow an Erosion and Sediment Control Plan (ESCP). ESCPs shall be submitted for DEQ approval prior to construction. PacifiCorp must also obtain a NPDES 1200C stormwater permit as applicable, during construction and other ground disturbance activities.
- b) In-Water Work: For projects that require in-water work other than Forebay Flushing activities addressed in Condition 5, PacifiCorp must obtain, as applicable, a removal-fill permit from Oregon Department of State Lands, a dredge and fill permit from the U.S. Army Corps of Engineers pursuant to Clean Water Act §404 and a Clean Water Act §401 water quality certification from DEQ. In-water work that could potentially create an artificial obstruction to native migratory fish, as defined by OAR 635-412-0005(3) and (32), respectively, such as rock weirs, must meet Oregon Department of Fish and Wildlife fish passage criteria under OAR 635-412-0035.

7) Spill Prevention Control and Countermeasures Plan:

- a) PacifiCorp must implement and maintain the current Spill Prevention Control and Countermeasures Plan in effect at all times.
- b) In the event of a spill or release or threatened spill or release to waters of the state, PacifiCorp must immediately implement the plan and notify Oregon Emergency Response System (OERS) at 1-800-452-0311.
- c) If PacifiCorp becomes aware that Project operations cause a water quality problem that results in distressed or dying fish, PacifiCorp must immediately: cease operations; take appropriate corrective measures to prevent environmental damage; collect fish specimens and water samples; and immediately notify DEQ, ODFW, WRD, USFWS, USFS and other appropriate regulatory agencies.

- d) PacifiCorp shall manage work and staging areas in a manner which prevents the introduction of sediment, wastes, or hazardous materials into waters of the State in accordance with the project Erosion and Sediment Control Plan.

8) General Conditions:

- a) Implementation: PacifiCorp must provide DEQ evidence that PacifiCorp has received all required permits and approvals before Project construction activities commence.
- b) § 401 Certification Modification: Without limiting DEQ's discretion to take other actions in accordance with OAR Chapter 340, Division 48, and, as applicable, 33 USC 1341, DEQ may modify the Certification to add, delete, or modify Certification conditions as necessary and feasible to address:
 - i. Adverse or potentially adverse Project effects on water quality or designated beneficial uses that did not exist or were not reasonably apparent when this Certification was issued;
 - ii. TMDLs;
 - iii. Changes in water quality standards;
 - iv. Any failure of Certification conditions to protect water quality or designated beneficial uses when the Certification was issued; or
 - v. Any change in the Project or its operations that was not contemplated by this Certification that might adversely affect water quality or designated beneficial uses.
- c) Other Federal Permits: Upon applying for any federal license or permit authorizing a discharge to waters of the United States other than the new FERC license, PacifiCorp must provide written notice of such application and of any proposed changes or new activity requested to be authorized under the application since issuance of this § 401 Certification. DEQ will notify PacifiCorp and the applicable federal agency either that: (1) this § 401 Certification is sufficient for purposes of the federal license or permit; or (2) in light of new information related to the activity requested to be authorized under the application that could result in water quality impacts, there is no longer reasonable assurance of the activity's compliance with state water quality standards. In the latter event, DEQ will consider the new information, solicit and consider public and agency comment as required by law, and issue a 401 certification determination for purposes of the federal license or permit.
- d) Project Changes: PacifiCorp must notify DEQ of any change in ownership or to the Project, including changes to Project structures, construction, operations, and flows. PacifiCorp must obtain DEQ review and approval before undertaking

any such changes to the Project that might affect water quality (other than changes authorized by the new FERC license required by or considered in the §401 Certification).

e) Project Repair or Maintenance: PacifiCorp must obtain DEQ review and approval before undertaking Project repair or maintenance activities that might affect water quality (other than repair or maintenance activities authorized by the new FERC license required by or considered in this §401 Certification). DEQ may, at PacifiCorp's request, approve specified repair and maintenance activities on a periodic or ongoing basis.

f) Project Inspection: PacifiCorp must allow DEQ such access as necessary to inspect the Project area and Project records required by this Certification at reasonable times as necessary to monitor compliance with § 401 certification conditions.

g) Posting of § 401 Certification: PacifiCorp must post a copy of these certification conditions in a prominent location in the Wallowa Falls Powerhouse.

h) Water Quality Standards Compliance: Notwithstanding the conditions of this certification, no wastes will be discharged and no activities will be conducted which will violate state water quality standards.

i) Project-Specific Fees: In accordance with ORS 543.080, PacifiCorp must pay a Project-specific fee for DEQ's costs of overseeing implementation of the conditions of this Certification as follows:

Project-Specific Fee

To implement the conditions of this Certification, PacifiCorp must pay project-specific fees of \$5,000 during each of the first five (5) years beginning July 1 of each year following issuance of a FERC License in 2015 dollars adjusted according to the formula below, made payable to State of Oregon, Department of Environmental Quality.

Adjustment

Fee amounts must be adjusted annually, according to the following formula:

$$AD = D \times (CPI-U)/(CPI-U-April\ 2016)$$

Where:

$$AD = \text{Adjusted dollar amount payable to agency.}$$

D = Dollar amount pursuant to Project Specific Fee above,

CPI-U = the most current published version of the Consumer Price Index-Urban. The CPI-U is published monthly by the Bureau of Labor Statistics of the U.S. Department of Labor. If that index ceases to be published, any reasonably equivalent index published by the Bureau of Economic Analysis may be substituted by written agreement between DEQ and PacifiCorp.

Payment Schedule

Fees must be paid pursuant to a written invoice from DEQ. Except as provided below, project-specific fees will be due on July 1 of each year following issuance of a FERC License. PacifiCorp must pay an initial prorated payment to DEQ within thirty (30) days of license issuance, for the period from the date of license issuance to the first June 30 which follows license issuance.

Credits

DEQ will credit against this amount any fee or other compensation paid or payable to DEQ, directly or through other agencies of the State of Oregon, during the preceding year (July 1 to June 30) for DEQ's costs of oversight.

Expenditure Summary

DEQ shall, on a biennial basis, provide PacifiCorp with a summary of project-specific expenditures.

Duration

PacifiCorp will pay a Project-specific fee following FERC license issuance and for five (5) years after the first July 1 following FERC license issuance, unless DEQ terminates it earlier because oversight is no longer necessary. One year before the expiration of the fee, or earlier if mutually agreed, DEQ and PacifiCorp shall review the need, if any, to modify, extend, or terminate the fee, in accordance with ORS 543.080. PacifiCorp must pay any project-specific fee required after such review as provided in ORS 543.080.

Appendix B

United States Department of Agriculture, Forest Service
Final Section 4(e) Conditions
Filed on February 16, 2016

I. GENERAL

License articles contained in the Federal Energy Regulatory Commission's (Commission's) Standard Form L-16 (October, 1975) cover those general requirements that the Secretary of Agriculture, acting by and through the USDA Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Wallowa-Whitman National Forest. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of National Forest System (NFS) lands and resources. These terms and conditions are based on those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resources Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of National Forest System lands shall also be included in any license issued for the Wallowa Falls Hydroelectric Project.

II. SPECIFIC CONDITIONS

Condition No. 1 - Implementation of the License on National Forest System Lands

Special-Use Authorization (SUA)

The Licensee shall not undertake ground or habitat disturbing activities on NFS lands unless such activities are authorized by a SUA issued by the USDA Forest Service. The Licensee shall, six months prior to the expiration of its existing SUA, file an application for issuance of a new authorization to occupy NFS lands.

Approval of Changes on NFS Lands after License Issuance. Notwithstanding any License authorization to make changes to the Project, the Licensee shall receive written approval from the USDA Forest Service prior to making changes in the location of any constructed Project features or facilities on NFS lands, or in Project uses of NFS lands, or any departure from the requirements of any approved exhibits for Project facilities

located on NFS lands filed by the Licensee with the Commission. Following receipt of such approval from the USDA Forest Service, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the USDA Forest Service for such changes. The Licensee shall file an exact copy of the report with the USDA Forest Service at the time it is filed with the Commission.

Coordination with Other Authorized Uses on NFS Lands. In the event that portions of the Project area are under federal authorization for other activities and permitted uses, the Licensee shall consult with the USDA Forest Service to coordinate such activity with authorized uses before starting any activity on NFS land that the USDA Forest Service determines may affect another authorized activity.

Site-Specific Plans. The Licensee shall prepare site-specific plans subject to review and approval by the USDA Forest Service for habitat and ground-disturbing activities required by the License on NFS lands, including such activities contained within resource management plans required by the License. The Licensee shall prepare site-specific plans for planned activities one year, or as otherwise agreed to by USDA Forest Service, in advance of implementation dates required by the License, except for those activities planned in the first year after license issuance, where the Licensee shall timely prepare site-specific plans for activities to allow USDA Forest Service review in advance of implementation. As noted above, USFS will be notified of site specific plans for project activities concurrent with notifications to FERC of these actions. Consistent with Standard Land Use Article 3, for emergency situations, where corrective or mitigation actions must be implemented immediately, the Licensee will coordinate with the USDA Forest Service to expedite approvals and/or permits.

Site-specific plans shall include:

1. A map depicting the location of the proposed activity, the total acres impacted, and GPS coordinates.
2. A description of the USDA Forest Service land management area designation for the location of the proposed activity, the source where the description was obtained, and applicable standards and guidelines.
3. Where required by regulatory procedures, a description of alternative locations, implementation designs and mitigation measures considered including erosion control and effectiveness monitoring designed to meet applicable standards and guidelines.
4. Draft biological evaluations or assessments including survey data as required by regulations applicable to habitat or ground-disturbing activities on NFS lands in existence at the time the plan is prepared. An environmental analysis of the proposed action consistent with the USDA Forest Service policy and regulations for implementation of the National Environmental Policy Act in existence at the

time the plan is prepared for a Commission licensed project on NFS lands. Environmental analysis completed by the Commission or others may be relied upon as appropriate on a project specific basis as agreed to by USDA Forest Service. The Licensee shall contact FERC and the USDA Forest Service on any proposed actions that may require environmental analysis. The Licensee shall consult with the USDA Forest Service on any proposed actions that may trigger additional environmental analysis not already covered by FERC NEPA documents.

5. A Spill Prevention and Control and Hazardous Materials Plan for hazardous materials storage, spill prevention and cleanup on NFS lands, as needed, will be provided to USDA Forest Service for review and approval before work commences.

Condition No. 2 - Surrender of License

Concurrent with filing an application for license surrender with the Commission, the Licensee shall file a restoration plan for NFS lands for approval by the USDA Forest Service. The restoration plan shall identify improvements to be removed, restoration measures, and time frames for implementation and shall be filed with the Commission as part of the surrender application.

Condition No. 3 - Indemnification

The Licensee shall indemnify, defend, and hold the United States harmless for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the Licensee in connection with the Licensee's use and/or occupancy of NFS lands authorized by this License. This indemnification and hold harmless provision applies to any acts and omissions of the Licensee or the Licensee's assigns, agents, employees, affiliates, subsidiaries, fiduciaries, contractors, or lessees in connection with the Licensee's use and/or occupancy of NFS lands authorized by this License which result in: (1) violations of any laws and regulations which are now or which may in the future become applicable, and including but not limited to environmental laws such as the Comprehensive Environmental Response Compensation and Liability Act, Resource Conservation and Recovery Act, Oil Pollution Act, Clean Water Act, Clean Air Act; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States (other than as contemplated by the License); or (4) the release or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment.

Condition No. 4 - Reservation of Authority

The Forest Service reserves its authority to amend or add new terms and conditions, as deemed necessary by the Secretary of Agriculture, in order to address significant new

information, changing circumstances and amendments to the license.

Condition No. 5 - Resource Coordination

The Licensee shall hold an Annual Resource Coordination meeting in the month of April for the term of the License. The initial Resource Coordination meeting will take place following the first anniversary of the effective date of the License. The purpose of the Annual Resource Coordination meeting is to exchange information and coordinate efforts for implementing the License and ongoing Project operations and maintenance (O&M) activities. The Annual Resource Coordination meeting shall also include the Recreation Coordination meeting per Section 3.2 of the Recreation, Aesthetic/Visual Management Plan, Appendix M, Volume III of the Final License Application (FLA) (February 2014). The timing and frequency of the Resource Coordination meetings may be revised, if agreed to, in writing within 30 days of notice, by USDA Forest Service and Licensee. At least 30 days before the Annual Resource Coordination meeting, the Licensee shall provide to the USDA Forest Service a draft Annual Report consisting of the following elements:

- A. summary of the previous calendar year's Project management activities, monitoring results, and compliance with the License terms and conditions;
- B. draft current year work plan which describes planned Project activities underway or to be implemented in the current year; and,
- C. draft out-year work plan which describes the Project activities planned for the following year.

The USDA Forest Service will review the draft Annual Report at the Annual Resource Coordination meeting with the objectives of:

- A. providing comments to clarify material in the draft Annual Report;
- B. discussing and approving any revisions to the current year Project work plan, as suggested by the Licensee based on monitoring results; and
- C. discussing and agreeing upon the out year Project work plan. The final Project work plan will be subject to the approval of the USDA Forest Service.

Within thirty (30) days following the Annual Resource Coordination meeting, the Licensee shall provide a revised Annual Report to the USDA Forest Service that is responsive to concerns and comments. The Licensee shall provide USDA Forest Service a 30-day review of the revised Annual Report. If the Licensee does not address USDA Forest Service concerns, the Licensee shall document the issue and explain why it was not addressed in the Annual Report. The Licensee will send copies of the final Annual Report to the Commission and USDA Forest Service within ninety (90) days following the Annual Resource Coordination meeting.

Condition No. 6 - Noxious Weed Management Plan

The Licensee shall, within six months following License issuance, revise the Noxious Weed Management Plan (NWMP), Appendix K, Volume III of the FLA (February 2015), in consultation with the USDA Forest Service. The NWMP shall include measures A through D below and must meet USDA Forest Service standards, guidelines, methods, and monitoring protocols for actions undertaken on NFS lands. The NWMP shall be filed with the Commission for approval. After Commission approval, the Licensee shall immediately implement the NWMP.

- A. The Licensee shall implement applicable noxious weed control measures found in invasive plant management direction for the Pacific Northwest Region and/or the Wallowa-Whitman National Forest Land and Resource Management Plan, as amended for the period of the License. Future changes or modifications to the management direction will require the Licensee to coordinate with the USDA Forest Service at the Annual Resource Coordination Meeting required in Condition 5 to ensure the Licensee's implementation activities comply with those changes or modifications.
- B. The Licensee shall survey and treat noxious weeds on NFS lands within the FERC Project Boundary for three (3) consecutive years between June 1 and July 31 following construction or maintenance activities described in the FLA. If for three consecutive years, no noxious weeds are detected during the annual surveys, then survey intervals shall shift to a biennial schedule until a noxious weed infestation is detected. Control methods that will effectively control all Class A and other target weeds shall be implemented the same year as detection as allowed by U.S. Forest Service Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants (April 2005) and Record of Decision (ROD) (October 2005).

The exact timing between June 1 and July 31 are recommended to implement control methods for optimal effectiveness in association with the guidelines provided by U.S. Forest Service Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants (April 2005) and Record of Decision (ROD) (October 2005). Manual control methods shall include measures including but not limited to reseeding, mulching and supplemental irrigation to ensure establishment of non-noxious vegetation in treated areas.

- C. The Licensee shall ensure that: a) ground cover in treated areas equals or exceeds 80 percent of that in an undisturbed control area with similar vegetation and is adjacent to the Project area and b) species composition in disturbed areas equals or exceeds 75 percent non-weedy species. If the standards above are not feasible or achievable, the Licensee shall consult and coordinate with the USDA Forest

Service to develop suitable alternatives.

- D. The Licensee shall include a status report in its Annual Report, required by Condition No. 5 – Resource Coordination, describing activities related to weed control, assessment of weed areas, and identification of future efforts to control noxious weed spread and colonization within the Project boundary.

If the Licensee revises the NWMP as required by this condition prior to license issuance and the revised plan is incorporated into the new project license, the requirements of this condition shall have been met.

Condition No. 7 – Recreation, Aesthetic/Visual Management Plan

The Licensee shall, within six months following License issuance, revise the Recreation, Aesthetic/Visual Management Plan (RAVMP), Appendix M, Volume III of the FLA (February 2015), and associated Exhibits, to include the additional measures A through F below and file the RAVMP with the Commission. The Licensee shall consult with the USDA Forest Service during revision of the RAVMP. After Commission approval, the Licensee shall immediately implement measures A through F below consistent with the RAVMP.

- A. The Licensee shall, when replacing the existing Wallowa Lake trailhead sign at the primary trailhead entrance to the Eagle Cap Wilderness, meet USDA Forest Service signage design and construction standards and guidelines in accordance with FSM 2392 and specifications as described in FSM 7100-7160 and the Evaluation Manual 7100-15.
- B. The Licensee shall install trail signs on NFS lands as proposed in the FLA, Appendix M. Signs shall be constructed and installed according to specifications provided by USDA Forest Service consistent with direction in Forest Service Manual 2392. The Licensee shall install trail signage at the trail junctions as shown in Appendix M.
- C. The Licensee shall ensure that the proposed capital improvements on NFS lands proposed in Appendix M, Exhibit A, Volume III of the FLA (February 2015) are designed and constructed consistent with USDA Forest Service, Built Environment Image Guide, FS-710 (2001), and USDA Forest Service, Landscape Aesthetics Handbook, Scenery Management System, Handbook #701.
- D. The Licensee shall install safety signs at the forebay intake, catwalk and associated facilities to meet all safety standards as described in the Commission's Safety Signage at Hydropower Project Guidelines (2001). USDA Forest Service will provide specification for the construction and installation of these signs

consistent with direction in FSM 2392.

- E. The Licensee shall, when replacing the current cable barrier to the maintenance road, install and maintain a gate or other approved barrier based on specifications provided by USDA Forest Service that are consistent with FSM 2300.
- F. The Licensee shall monitor all capital improvements on National Forest System lands over the license term as described in Section 2.3.1 of Appendix M, Volume III of the FLA (February 2015), to ensure all capital improvements maintain their usability and intended purpose. The Licensee shall provide documentation in the Annual Report, as required in Condition No. 5, above that demonstrates the Licensee's regular and routine inspections, maintenance schedules, repairs, and upgrades over the term of the new license.

If the Licensee revises the RAVMP as required by this condition prior to license issuance and the revised plan is incorporated into the new project license, the requirements of this condition shall have been met.

Condition No. 8 – Cultural Resource Coordination

The Licensee shall, within six months following License issuance, revise and implement a final Protocol for the Unanticipated Discovery of Historic Properties, Treatment of Human Remains, Response to Vandalism, and Emergency Response (Unanticipated Discovery Protocol) in consultation with USDA Forest Service, the State Historical Preservation Officer (SHPO), Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Colville Reservation. The final Unanticipated Discovery Protocol shall be based on the draft Unanticipated Discovery Protocol prepared and submitted by the Licensee as Appendix O, of the FLA (February, 2014). The Unanticipated Discovery Protocol shall guide the Licensee's treatment of known and yet to be discovered cultural and historic resources over the term of the new license and shall identify the consultation procedures the Licensee shall undertake on behalf of the FERC with USDA Forest Service, affected Indian Tribes, and the SHPO.

If the Licensee revises Unanticipated Discovery Protocol as required by this condition prior to license issuance and the revised plan is incorporated into the new project license, the requirements of this condition shall have been met.

Condition No. 9 – Project Operation, Instream Flows and Gaging

1. Run of River Operation

The Licensee shall operate the Project in run-of-river mode during all times of generation. The automated control system equipment will be set to divert no more

than PacifiCorp's total water right for the Project.

2. Instream Flows

The Licensee shall operate the Project with the following instream flow releases in the bypassed reach: 4 cfs from November 1 through April 30; and, 5 cfs May 1 through October 31, or inflow, whichever is less.

3. Gage Relocation for Instream Flow Monitoring

Within one year of License issuance, the Licensee shall install and maintain an operational compliance monitoring flow gage at the existing BPL gage location. The gage shall provide for continuous real-time recording of flow in the bypass reach measured in 15 minute intervals and reported as an hourly average during the duration of the License. Flow data will be provided to the USDA Forest Service through the Licensee's internet reporting system. The data obtained from the new gage site will provide verification that instream flow releases to the East Fork bypassed reach are being implemented as required.

Condition No. 10 – Turbidity Monitoring Plan for Maintenance Forebay Flushing

The Licensee shall, within six months following License issuance, revise the Turbidity Monitoring Plan for Maintenance Forebay Flushing (TMP) Appendix D, Volume III of the FLA (February 2015), in consultation with the USDA Forest Service, to include measures A through D below.

- A. Provide a complete description of the schedule, timing and methods employed to accommodate forebay sediment flushing.
- B. The Licensee shall provide 10-day prior notice of the planned date of flushing operations to the USDA Forest Service. Prior to any planned flushing date, the Licensee shall conduct a conference call with the USDA Forest Service, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and US Fish and Wildlife Service, to discuss appropriateness of conditions for flushing, including, but not limited to a discussion around local water year conditions, snowpack levels, and flood stage conditions.
- C. Annual sediment flushing from the Wallowa Dam forebay may be performed for up to 72 hours at flows of at least 15 cubic feet per second in the East Fork Wallowa River in accordance with the Sediment Management Program presented in Section 2.2.2 of the FLA, Exhibit E submitted to the Commission on February 10, 2015. If flushing does not occur in June or other Oregon Department of Environmental Quality approved high flow period, it will be delayed until the

following year to minimize impacts to fish habitat.

- D. The Licensee shall include in the Annual Report required by Condition No. 5, a Forebay Flushing Report for every forebay flushing occurrence since the last Annual Report. The Report shall include flushing dates, methods used, any visual observations of sediment accumulation or channel movement in the bypassed reach of the East Fork Wallowa River and turbidity monitoring results.

The TMP shall be filed with the Commission for approval. After Commission approval, the Licensee shall immediately implement the TMP. If the Licensee revises the TMP as required by this condition prior to License issuance and the revised TMP is incorporated into the new Project License, this condition's requirements shall have been met.

Condition No. 11 – Royal Purple Creek Pipeline

The Licensee shall extend the existing 8-inch PVC Royal Purple Creek diversion pipe outlet approximately 20 feet at its point of discharge into the East Fork Wallowa River above the Project forebay to reduce erosion.

Condition No. 12 – Vegetation Management Plan

The Licensee shall implement the Vegetation Management Plan (VMP), Appendix L, and Volume III of the FLA (February 2015).

Condition No. 13 – Special Status Sensitive Species

The Licensee shall conduct Special Status Plant Species surveys for *Botrychium montanum* at locations described in BioResources (2012) that meet suitable habitat requirements for the species on NFS lands within the Project boundary for five consecutive years following License issuance to determine whether the species still exists. Designation of suitable habitat survey areas shall be in consultation with and subject to the approval of the USDA Forest Service. The Licensee shall conduct such surveys according to the Special Status Species Policy (<http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>) or the protocol in effect at the time the surveys are initiated. Within the designated suitable habitat survey areas and until the surveys are completed, the Licensee shall not commence any ground disturbing activities, improvements to previously disturbed areas or apply herbicides for noxious weed treatments.

If these surveys locate *Botrychium montanum* or other Special Status Plant Species on NFS lands, the Licensee shall notify the USDA Forest Service and develop a protection plan. The Licensee shall consult with the USDA Forest Service during development of this protection plan and, subject to approval by USDA Forest Service, file the plan with

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the Commission. After Commission approval, the License shall immediately implement the Plan.

Appendix C

United States Department of the Interior, Fish and Wildlife Service
Reasonable and Prudent Measures and Terms and Conditions included in the U.S. Fish
and Wildlife Service's Biological Opinion for the Wallowa Falls Hydroelectric Project
Filed on October 14, 2016.

8.3 *Reasonable and Prudent Measures*

The Service believes that the following reasonable and prudent measures (RPMs) are necessary and appropriate to minimize impacts of incidental take of bull trout.

1. Minimize the potential for incidental take from in-water construction activities at the Wallowa Falls Hydroelectric Project area. Measures shall be taken to limit the duration and extent of in-water work (July 15-August 15), and to time such work when the impacts to bull trout are minimized.
2. Minimize the risk of adverse effects to bull trout due to fish removal activities.
3. Minimize the potential for incidental take from construction activities in or near the river. Develop effective erosion and pollution control measures and implement them throughout the area of disturbance. The measures shall minimize the movement of soils and sediment both into and within the river, and will stabilize bare soil over both the short term and long term. Monitor project implementation during and after construction, including all erosion control measures and plantings for site restoration and channel conditions in the proximity of the proposed project.
4. Minimize the risk of adverse effects to bull trout from emergency shut-down and ramping.
5. Minimize the potential for incidental take from forebay flushing activities at the Wallowa Falls Hydroelectric Forebay Flushing Maintenance Project area. Measures shall be taken to limit the duration (24-72 hours) and extent of in-water work and to time such work when the impacts to bull trout are minimized (high flow period in June).

8.4 *Terms and Conditions*

In order to be exempt from the prohibitions of section 9 of the Act, the FERC/PacifiCorp must comply with the following terms and conditions, which will implement the reasonable and prudent measures described above. The implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to bull trout and critical habitat within the Wallowa Falls Hydroelectric Project area. These terms and conditions are non-discretionary.

1. The following terms and conditions are necessary for the implementation of RPM 1:

During the period of in-water work, a project inspector shall monitor construction activities frequently to ensure that all the following provisions are met.

- a. All work within the East Fork and West Fork Wallowa Rivers will be conducted during the instream work window of July 15-August 15. Any adjustments to the in-water work period will first be approved by, and coordinated with, the Service and ODFW.
 - b. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration whenever possible.
 - c. During project design and construction, every effort will be made to minimize the amount of riprap used. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term armoring will be employed. Placement will be from above the bank line and not end-dumped.
 - d. The diversion or withdrawal of any water from natural streams and used for construction or for riparian plantings will comply with all State and Federal laws, particularly those that require a temporary water right and screening of intakes. FERC/PacifiCorp shall be responsible for informing all contractors of their obligations to comply with existing, applicable statutes.
2. The following terms and conditions are necessary for the implementation of RPM 2:
 - a. Electrofishing shall be conducted using the methods outlined in the National Marine Fisheries Service's guidelines. Electrofishing equipment shall be operated at the lowest possible settings to minimize injury or mortality to bull trout.
 - b. If electrofishing is utilized to capture salmonids in bull trout habitat, conduct fish capture when stream temperatures are at or below 15 degrees C (59 degrees F), to the extent practicable. Recommend work be conducted early and late in the day when water temperatures are cooler to minimize stress to bull trout and other salmonids.

- c. FERC/PacifiCorp shall ensure that fish capture and removal operations are conducted by a qualified biologist, and that all staff participating in the operation have the necessary knowledge, skills, and abilities to ensure safe handling of fish. Fish capture and removal operations shall take all appropriate steps to minimize the amount and duration of handling. The operations shall maintain captured fish in water to the maximum extent possible during seining/netting, handling, and transfer for release, to prevent and minimize stress.
- d. FERC/PacifiCorp shall ensure that water quality conditions are adequate in the buckets or tanks used to hold and transport captured fish. The operations shall use aerators to provide for the circulation of clean, cold, well-oxygenated water, and/or shall stage fish capture, temporary holding, and release, to minimize the risks associated with prolonged holding.
- e. Electrofishing methods shall use the minimum voltage, pulse width, and rate settings necessary to immobilize fish. Water conductivity shall be measured in the field before electrofishing to determine appropriate settings. Electrofishing equipment and methods shall comply with the electrofishing guidelines outlined by the NMFS (NMFS 2000) or current equivalent.
- f. Coordinate fish salvage with the Service within one business day of shutdown if it occurs from 0-9 months of license, post 9 months, refer to coordination as stated in the Operation Compliance Monitor Plan.
- g. PacifiCorp shall document all bull trout encountered during work site isolation by submitting a fish handling and injury-occurrence report to the Service. The report shall include: 1) the name and address of the supervisory fish biologist; 2) methods used to isolate the work area and minimize disturbances to bull trout; 3) stream conditions before and following placement and removal of temporary barriers; 4) the means of fish removal; 5) approximate the number of fish removed by species and age class, the number of bull trout removed; 6) condition of all bull trout released; and 7) any incidence of observed injury or mortality to bull trout. Specifically, for all bull trout captured, we ask that the fisheries biologist in charge of handling record the date and time, capture location, capture method used, length and weight of the specimen, condition (if abnormal), search for and record identification numbers from any tags that may be present, and provide the collector's name.
- h. Reports of incidental injury or killing of bull trout shall include any pertinent information such as the cause of death or injury. Such reports will

generally include the quantification of take, including numbers of fish incidentally killed or injured, and the locations where this take occurred. The report should also include any insight derived from this work that may contribute to minimizing sources of injury or mortality in the future.

- i. Release fish back into the site streams they were removed from in Wallowa Falls Hydroelectric Project as quickly as possible, and as near as possible to the capture sites.
3. The following terms and conditions are necessary for the implementation of RPM 3:

a. Erosion and Pollution Control

A Pollution Control Plan (PCP) will be prepared by the contractor. The PCP will outline how and to what specifications various erosion and pollution control devices will be used to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures shall be sufficient to ensure compliance with applicable water quality standards and this Opinion. The PCP shall be maintained on site and shall be available for review upon request. The following conditions must be met.

- i. Effective erosion control measures shall be in place at all times during the contract. Construction within the five-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences, or other methods) are in place within the riparian area. Erosion control structures will be maintained throughout the life of the project.
- ii. All exposed areas will be replanted with native shrubs and locally present herbaceous species. Erosion control planting will be completed following completion of work, as early as possible and dependent on timing when survival will be the most successful.
- iii. All erosion control devices will be inspected throughout the construction period to ensure that they are working adequately. Erosion control devices will be inspected weekly during construction. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional erosion controls will be installed as necessary.
- iv. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.

- v. All equipment that is used for instream work will be cleaned prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.
- vi. Unneeded material removed during excavation shall only be placed in upland locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed when practicable.
- vii. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and Department of Environmental Quality (ODEQ) provisions for maintenance of water quality standards. Toxic substances shall not be introduced above natural background levels in Waters of the State in amounts which may be harmful to aquatic life.
- viii. The Contractor will develop and implement an adequate, site-specific Spill Prevention and Countermeasure Plan (PCP), and is responsible for containment and removal of any toxicants released. The PCP shall include the following:
 - A spill containment and control plan that includes: notification procedures; specific containment and clean up measures which will be available on site; and proposed methods for disposal of spilled materials.
- ix. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at a minimum of 100 feet above the top of bank.
- x. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) is mandatory when the vehicles have any potential to contribute toxic materials into aquatic systems.
- xi. By December 31 of the year following the completion of construction, FERC/PacifiCorp shall submit a monitoring report to the Service (La Grande Field Office, 3502 Highway 30, La Grande, OR 97850) with the results of the implementation and post-implementation monitoring of the project.

4. The following terms and conditions are necessary for the implementation of RPM 4:

- a. Conduct bull trout redd monitoring in the East Fork Wallowa River (from the upstream falls to the confluence with the Wallowa River) on an annual basis for 10 years to monitor take. FERC/PacifiCorp shall meet with the Service at the end of the 10 year period to determine whether additional years of redd monitoring are necessary GPS and map redds and photo document redds during survey. Measure the size of a redd and its location. Document bull trout observed (<6 inches in length, < 12 inches in length, <14 inches in length, and > 14 inches in length, while conducting redd count and document if bull trout occupy the redd). Note if brook trout are spawning with bull trout. Document flows during annual redd counts and during a shutdown and ramping. Conduct this redd monitoring in mid-September and October. If an emergency shutdown and ramping occurs during the spawning season, the East Fork Wallowa River spawning area will be field visited for any new redds built near the water's edge that could be dewatered due to shut down and ramping. Notify the Service of both positive and negative findings.
5. The following terms and conditions are necessary for the implementation of RPM 5:
- a. Implement Turbidity Monitoring Plan for Maintenance Forebay Flushing as outlined in DEQ 401 certification for the Project and the Turbidity Monitoring Plan for Maintenance Forebay Flushing presented in Volume 111, Appendix D of the FLA filed with FERC on February 28, 2014. This would be conducted on an annual basis starting in 2017.
 - b. Monitor flows during turbidity flush to insure flows during June flush are higher flows (or at minimum > 15 cfs) and that flush does not occur for more than 72 cumulative hours to help flush the sediment and minimize effects to bull trout. This would be conducted on an annual basis.
 - c. Monitor the bull trout population; collect bull trout data on abundance, distribution, and resident and fluvial life history in the East Fork and West Fork, at a minimum, once every ten years for the 50 year license period.

8.5 Reporting Requirements

If a dead, injured, or sick endangered or threatened species specimen (including a bull trout) is located, initial notification must be made to the nearest Service Law Enforcement Office, located at 9025 SW Hillman Court, Suite 3134, Wilsonville, OR 97070; phone: 503-682-6131. Care should be taken in handling sick or injured specimens to ensure effective treatment or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the responsibility

to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Review Requirement: The Reasonable and Prudent Measures, with their implementing Terms and Conditions, are designed to minimize incidental take that might otherwise result from the proposed action. These measures should decrease the level of take of bull trout to the degree possible, given the circumstances surrounding the proposed action. With implementation of these measures, the Service believes that some bull trout may be incidentally taken as quantified above. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided, the Commission must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Document Content(s)

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