

148 FERC ¶ 62,110
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Ken Willis, Fire Mountain Lodge

Project No. 1992-003

ORDER ISSUING SUBSEQUENT LICENSE

(August 4, 2014)

INTRODUCTION

1. On April 25, 2008, Ken Willis, Fire Mountain Lodge (Mr. Willis or licensee) filed, pursuant to Part I of the Federal Power Act (FPA), an application for a subsequent license to continue operation and maintenance of the 50-kilowatt (kW) Fire Mountain Lodge Hydroelectric Project No. 1992. The project is located on Fern Springs Creek, in Tehama County, California. The project occupies about 1 acre of federal land within the Lassen National Forest, which is administered by the U.S. Forest Service (Forest Service).¹ As discussed below, this order issues a subsequent license for the project.

BACKGROUND

2. The Commission issued the original license for the project on May 6, 1980 with an effective date of May 1, 1980.² The license expired on April 30, 2010. Since then, Mr. Willis has operated the project under an annual license, pending the disposition of his relicense application.

3. On April 25, 2011, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, indicating that the project was ready for environmental analysis, and soliciting motions to intervene, protests, comments, recommendations, terms and conditions, and prescriptions.³ The notice set June 24, 2011, as the deadline for filing motions to intervene, comments, recommendations, terms and conditions, and prescriptions. In response, the Forest

¹ 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 lands.

² 11 FERC ¶ 62,086 (1980). The 1980 license was issued to Donald R. Townsend. It was transferred to Mr. Willis in 1987. 40 FERC ¶ 62,346 (1987).

³ 76 Fed. Reg. 24467 (May 2, 2011).

Service; United States Department of Commerce, National Marine Fisheries Service (NMFS); and California State Water Resources Control Board (Water Board) filed timely notices of intervention.⁴ The Forest Service and NMFS also filed comments and preliminary terms and conditions. Mr. Jay Francis, project manager for Collins Pine Company, filed comments. On June 27, 2011, Trout Unlimited filed a late motion to intervene that was granted on August 9, 2011.

4. An Environmental Assessment (EA) was prepared by Commission staff and issued on February 16, 2012, analyzing the impacts of the proposed project and alternatives to it. The Forest Service and NMFS filed comments on the EA.

5. 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

6. The project is located on Fern Springs Creek in a sparsely developed forested area in northeastern California, about 14 miles west of the town of Chester, California. Water flows out of Fern Springs and another unnamed spring, along Fern Springs Creek, approximately 575 feet to the project reservoir. About 1,700 feet below the dam, Fern Springs Creek flows into Gurnsey Creek, which joins Deer Creek 2.5 miles downstream. Deer Creek continues to flow about 11 miles downstream of the project past a natural fish barrier, Deer Creek Falls, and then downstream to where it empties into the Sacramento River.

B. Project Facilities

7. The project includes a 265-foot-long, variable height earth and concrete-filled dam that impounds an 0.8-acre reservoir. Water diverted to the powerhouse for project operation is drawn from the reservoir through a slotted intake tower along the right abutment of the dam and connected to a 1,580-foot-long penstock which conveys water to the powerhouse. The powerhouse, which is located southwest of the dam and reservoir, contains a 50-kW Pelton-wheel turbine generating unit. Upon exiting the powerhouse, water flows through a 225-foot-long tailrace channel to Gurnsey Creek. Project diversions create a bypassed reach in Fern Springs Creek of about 1,700 feet.

⁴ Under Rule 214(a)(2) of the Commission's Rules of Practice and Procedure, Forest Service, NMFS, and Water Board became parties to the proceeding upon timely filing of their notices of intervention. 18 C.F.R. § 385.214(a)(2) (2014).

8. Two existing outflow pipes on the west abutment of the dam, one 42 inches in diameter and the other 24 inches in diameter, pass excess water to the bypassed reach of Fern Springs Creek; a third 16-inch-diameter outflow pipe passing through the right abutment of the dam, discharges excess water to an intermittent stream that is a tributary to the bypassed reach.
9. Electricity generated at the powerhouse is transmitted via an approximately 1,000-foot-long transmission line to Mr. Willis' Fire Mountain Lodge. Mr. Willis accesses project facilities using a 16-foot-wide by 899-foot-long access road that extends from the powerhouse area to the foot of the dam. The project has no recreation facilities.
10. The project will also include the following new project facilities: an open-channel emergency spillway section at the east end of the dam and a grouted rip rap apron on the downstream face of the dam directly below the spillway and leading into the bypassed reach of Fern Springs Creek.⁵
11. A more detailed project description is contained in ordering paragraph (B)(2).

C. Project Operation

12. The project generally operates in a run-of-river mode approximately 8 to 10 months out of the year.⁶ Operations typically cease during the winter months due to freezing conditions. The project diverts up to 3 cubic feet per second (cfs) to the powerhouse, and excess flows are passed downstream to Fern Springs Creek through the

⁵ Mr. Willis filed a plan for the new spillway facilities in response to a 2008 letter from the Commission's Division of Dam Safety and Inspections (D2SI) ordering Mr. Willis to submit a plan for the design and construction of a new spillway that could pass a flow of 500 cubic feet per second (an estimated 100-year flood). On September 27, 2011, D2SI found Mr. Willis' proposal acceptable but noted that construction of the new spillway facilities would not be authorized until Mr. Willis provided evidence that he had received all required local, state, and federal permits as well as addressed concerns raised by the Forest Service. On May 8, 2014, Mr. Willis filed a request for permission to begin construction of the spillway facilities, stating that he received all permits and resolved the Forest Service's concerns. On July 16, 2014, D2SI authorized commencement of construction.

⁶ Run-of-river operation as defined here means that at any point time, inflow to the reservoir approximates the sum of outflows from the reservoir, including outflows through the project's intake and outflow pipes, such that there is only minimal fluctuation of the reservoir's surface elevation.

project's outflow pipes. While operating, Mr. Willis targets a reservoir surface elevation of between 4,763.0 and 4,763.5 feet msl.⁷

13. The emergency spillway facilities, once constructed and operational, will function in conjunction with the existing 24-inch and 42-inch outflow pipes to ensure that excess flows do not overtop the dam, especially in the event that the outflow pipes become plugged with debris. The emergency spillway will accommodate a flow equal to at least the 100-year flood flow of 500 cfs.

SUMMARY OF LICENSE REQUIREMENTS

14. As summarized below, this license, which authorizes 50 kW of renewable energy, requires a number of measures to protect and enhance environmental resources.

15. To limit erosion and prevent sediment from entering Gurnsey Creek, the license requires Mr. Willis to improve the stability of the project road, and control erosion and sedimentation during project-related land-disturbing activities.

16. To enhance aquatic resources in the Fern Springs Creek bypassed reach, the license requires Mr. Willis to monitor flows in Fern Springs and the unnamed spring feeding the project's reservoir, flow releases into the bypassed reach from the project dam, and all flows diverted for domestic and power use; provide minimum instream flows to the bypassed reach; and conduct periodic biological monitoring of the bypassed reach.

17. To protect aquatic resources during construction, the license requires Mr. Willis to: (1) maintain certain turbidity standards in project-affected waters; (2) implement measures to manage and reduce the risk of spill from stored hazardous materials; and (3) use netting to prevent fish from accessing habitat affected by construction activities.

18. To protect cultural resources, the license requires that Mr. Willis stop all land-clearing and land-disturbing activities, notify the Commission and the California State Historic Preservation Office (California SHPO), and implement protective measures if previously unidentified archeological or historic properties are discovered during the course of constructing or maintaining project works.

WATER QUALITY CERTIFICATION

19. Under section 401(a) of the Clean Water Act (CWA),⁸ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless

⁷ See "Operations Manual for Hydroelectric Power Generation" filed on June 14, 2010.

the state certifying agency either has issued water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.⁹

20. On September 15, 2011, Mr. Willis submitted, and the Water Board received, an application for water quality certification for the proposed project. Mr. Willis withdrew and resubmitted his application on August 16, 2012 and on July 26, 2013. On September 26, 2013, the Water Board filed a certification for the project with conditions for the new license which are set forth in Appendix A of this order and are incorporated into the license by ordering paragraph (E).¹⁰

21. The certification includes 20 general requirements regarding the limitations of the certification and other legal and administrative requirements of the certification. The certification also contains 12 specific conditions for the new license to protect water quality and other aquatic resources, including requirements for: (1) releasing and monitoring minimum streamflows; (2) monitoring aquatic biota; (3) stabilizing the project road to limit erosion and prevent sediment from entering Gurnsey Creek; (4) installing exclusion fencing to protect aquatic habitat during construction activities; (5) implementing best management practices and complying with a mitigation monitoring and reporting plan attached to the certification; (6) limiting turbidity increases caused by project activities and monitoring turbidity during construction; (7) installing erosion and sediment control measures prior to the commencement of ground-disturbing activities and maintaining the measures during and after the activities to prevent erosion and sediment discharges; (8) preventing substances that could be hazardous to aquatic life from entering project waters; (9) cleaning imported riprap, rocks, and gravels used for construction before installation; (10) causing no unset cement, concrete, grout, and related substances from contacting or entering project surface waters; (11) washing vehicles or equipment before use in project area; and (12) storing hazardous material away from watercourses.

22. Certification condition 3 requires Mr. Willis to conduct biological monitoring surveys in Fern Springs Creek for benthic macroinvertebrates, aquatic species including

⁸ 33 U.S.C. § 1341(a)(1) (2012).

⁹ 33 U.S.C. § 1341(d) (2012).

¹⁰ The certification also includes “Condition 1” which applies to the concurrent proceeding regarding Mr. Willis’ rebuilding of the dam’s emergency spillway as noted above.

salmonids, and Forest Service special status species within the first year after license issuance and every five years thereafter. In the EA, staff noted that the creek bypassed by the project is very small, emanating from a spring source, and therefore, has very little potential for supporting a significant fishery.¹¹ Staff also noted that existing information in the record already shows that the creek, even at full flow, only provides habitat for aquatic insects and is a temporary summer thermal refuge for trout from Gurnsey Creek, and that acquiring additional monitoring data would offer very little benefit for the management of aquatic resources in the bypassed reach. For these reasons, staff concluded that the minimal benefits of conducting the monitoring would not justify the cost.¹² However, the Water Board's provision for biological monitoring surveys is required by the water quality certification, and therefore, it is included as a condition of the license.

23. Certification condition 4 requires Mr. Willis to file a Road Plan describing measures that will be taken to stabilize and maintain the project road for the purpose of limiting erosion and preventing sediment from entering Gurnsey Creek. In the EA, Commission staff found that the record does not support a finding that the project road causes erosion and an associated sediment load that could be detrimental to the bypassed reach of Fern Springs Creek or Gurnsey Creek.¹³ Further, staff noted that the highly vegetated riparian zones of the bypassed reach likely serve as natural buffer, abating the transmittal of sediment from any natural or project features during storm events. However, the provision for a Road Plan is required by the certification, and therefore it is included in the license.

¹¹ See EA at 39.

¹² *Id.*

¹³ See EA at 40-41.

COASTAL ZONE MANAGEMENT ACT

24. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),¹⁴ 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.

25. The project is located in the Sierra Nevada Mountains well outside of the boundary of the state's designated Coastal Zone Management Program, which extends from a few blocks to five miles inland from the sea (www.coastal.ca.gov); therefore, relicensing the project would not affect coastal zone resources and no coastal consistency is needed for the proposed project. Commission staff contacted the California Coastal Commission on April 17, 2014, to determine whether a consistency determination is needed for the Fire Mountain Lodge Project. The California Coastal Commission concurred that no Coastal Zone Management Act review is necessary.¹⁵

SECTION 4(e) FINDINGS AND CONDITIONS

26. Section 4(e) of the FPA,¹⁶ provides that the Commission can issue a license for the project located within a federal reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired.

27. Staff has reviewed the Organic Administration Act of 1897,¹⁷ which established the purpose for forest reservations, and the presidential proclamations that created the Lassen National Forest.¹⁸ There is no evidence or allegation in this proceeding

¹⁴ 16 U.S.C. § 1456(c)(3)(A) (2012).

¹⁵ See email communication filed on May 6, 2014.

¹⁶ 16 U.S.C. § 797(e) (2012).

¹⁷ 16 U.S.C. § 473 *et seq.* (2012).

¹⁸ The Lassen National Forest was first established as Lassen Park Forest Reserve by Presidential Proclamation issued June 9, 1905 (34 Stat. 3036). Its name was changed to Lassen National Forest by executive order issued July 2, 1908. At the time, the Organic Administration Act of 1897, 16 U.S.C. § 475 (2012) stipulated that all national forest lands were established and

indicating that relicensing of the Fire Mountain Lodge Project would interfere with the purposes of the Lassen National Forest within which the project is located. Therefore, the license, as conditioned, will not interfere or be inconsistent with the purposes for which the Lassen National Forest was created.

28. 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 project is located within the Lassen National Forest, which is under the Forest Service's supervision.

29. The Forest Service filed preliminary 4(e) conditions on June 22, 2011, and final 4(e) conditions on July 20, 2012. The final terms and conditions are set forth in Appendix B of this order and are incorporated into this license by ordering paragraph (F).

30. The Forest Service's 4(e) conditions require Mr. Willis to: (1) participate in periodic consultation with the Forest Service; (2) obtain Forest Service approval of any physical changes to the project; (3) protect Forest Service Special Status Species; (4) maintain suitable road crossings; (5) avoid disturbing land survey monuments; (6) follow Forest Service pesticide use restrictions; (7) obtain Forest Service approval for signs prior to posting; (8) collect streamflow data; (9) maintain minimum flows; (10) conduct periodic aquatic biological monitoring; (11) implement erosion and sediment control measures; (12) implement invasive weed control measures and conduct botanical surveys as requested; and (13) provide for project security and public safety. The Forest Service also reserved its right to revise its section 4(e) conditions in response to other agencies' requirements.

31. Forest Service condition 22, part 1, requires Mr. Willis to conduct biological monitoring in Fern Springs Creek below the dam, including a macroinvertebrate survey and a visual survey, to note the presence of Forest Service aquatic special status species and trout. As discussed above, the EA concluded that any biological monitoring of the bypassed reach would provide limited benefits that would not be justified by the cost.¹⁹ However, the Forest Service's provision for biological monitoring surveys is required in the license as a mandatory section 4(e) condition.

administered only for watershed protection and timber production.

¹⁹ See EA at 39-40.

32. Forest Service condition 24 requires Mr. Willis to implement practices to assure that invasive weeds are not introduced to the project area, revegetate disturbed areas with a Forest Service-approved seed mix, and periodically perform botanical surveys for Forest Service special status species. The EA noted that surveys conducted by the Forest Service in 2006 did not detect the presence of invasive or special-status plant species. However, the Forest Service's provision for invasive weed management is required in the license as a mandatory section 4(e) condition.

33. Forest Service condition 25 requires Mr. Willis to secure project facilities from public tampering that could lead to changes in project operation that might jeopardize the health and safety of the public and adjacent resources. The EA noted that due to its location in a sparsely populated area away from any recreational trails, public use of the lands near the project is minimal and vandalism is unlikely,²⁰ and concluded that even if vandalism of project controls were to occur, downstream impacts are likely to be minimal because the project controls very little flow and there are no major populated areas downstream of the project.²¹ Therefore, the EA concluded that this measure is unnecessary. However, the Forest Service's provision for securing project facilities is required in the license as a mandatory section 4(e) condition.

SECTION 18 FISHWAY PRESCRIPTIONS

34. Section 18 of the FPA²² 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 Commerce or the Secretary of the Interior as appropriate.

35. On June 22, 2011, the Secretary of Commerce requested that the Commission reserve authority to prescribe fishways at the Fire Mountain Lodge Project in the future. Consistent with Commission policy, Article 402 of this license reserves the Commission's authority to require fishways that may be prescribed by the Secretary of Commerce for the Fire Mountain Lodge Project.

ESSENTIAL FISH HABITAT

36. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act²³ requires federal agencies to consult with the Secretary of Commerce

²⁰ See EA at 41.

²¹ See EA at 41.

²² 16 U.S.C. § 811 (2012).

²³ 16 U.S.C. § 1855(b)(2) (2012).

regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH Conservation Recommendations for actions that would adversely affect EFH.²⁴ 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.²⁵

37. The project is located on a tributary of a tributary of Deer Creek, which supports Essential Fish Habitat for Chinook salmon. EFH for this species is located downstream of Deer Creek Falls, a natural anadromous fish barrier about 11 river miles downstream of the project.

38. In the EA, Commission staff concluded that licensing the project, with staff's recommended measures, would not adversely affect EFH in Deer Creek.²⁶ Therefore, no EFH consultation with NMFS is required.

THREATENED AND ENDANGERED SPECIES

39. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)²⁷ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

40. The federally listed threatened Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) evolutionarily significant unit (ESU), and threatened California Central Valley steelhead distinct population segment (*O. mykiss*) (DPS) are known to be present or have been present in Deer Creek, downstream of Deer Creek Falls. As noted above, Deer Creek Falls, a natural anadromous fish barrier, is located about 11 river miles downstream of the project. In the EA,²⁸ Commission staff determined that with staff's recommended measures, relicensing the Fire Mountain

²⁴ 16 U.S.C. § 1855(b)(4)(A) (2012).

²⁵ 16 U.S.C. § 1855(b)(4)(B) (2012).

²⁶ See EA at 11.

²⁷ 16 U.S.C. § 1536(a) (2012).

²⁸ See EA at 9-10.

Lodge Project is not likely to adversely affect the two listed species and their habitat. On April 10, 2013, Commission staff issued a letter to NMFS requesting concurrence with its findings. NMFS concurred with these findings by letter filed January 15, 2014. NMFS also concluded that the project is not likely to adversely affect these species federally listed critical habitats.

41. With its letter of concurrence, NMFS also recommended the following conservation measure be included as a license condition:

Integrated conservation measures and standard best management practices (BMPs) should be included in the project that will control for dust, erosion, sedimentation, turbidity, and water quality during construction activities. Implementation of the construction BMPs and conservation measures should reduce project-related construction impacts to the waterways in the action area to an insignificant level and should not result in introduction of that material into tributaries that feed into anadromous habitat in Deer Creek, downstream of the project.

42. NMFS' conservation recommendation is consistent with the Forest Service's section 4(e) condition 23 and the Water Board's water quality certification condition 4, which, as noted above, are included as conditions of the license.

NATIONAL HISTORIC PRESERVATION ACT

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

44. In the EA,³¹ Commission staff determined that there are no historic properties on project lands, and therefore, the continued operation and maintenance of the Fire Mountain Lodge Project would have no adverse effect on historic properties. On July 19, 2011, Commission staff sent a letter, with the EA attached, to the SHPO for

²⁹ 16 U.S.C § 470 *et seq.* (2012).

³⁰ 36 C.F.R. Part 800 (2014).

³¹ *See* EA at 30-31.

concurrence on the determination. In a letter filed on September 19, 2011, the SHPO concurred with staff's determination.

45. While there are no known historic properties at the project, such archeological resources could be discovered as a result of project construction, operation, or maintenance. Therefore, if archeological resources are discovered during the license term, Article 404 of the license requires Mr. Willis to cease any and all land-clearing and land-disturbing activities and consult with the California SHPO. If a discovered resource is eligible for the National Register of Historic Places, Article 404 requires Mr. Willis to develop an Historic Properties Management Plan for Commission approval.

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

46. Section 10(j)(1) of the FPA³² 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,³³ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

47. In response to the April 25, 2011 public notice that the project was ready for environmental analysis, NMFS filed three recommendations under section 10(j).³⁴ One recommendation was determined to be outside the scope of 10(j) and is discussed in the next section. This license includes conditions consistent with the two remaining recommendations that are within the scope of section 10(j). This includes the recommendation to file an erosion and sediment control plan (condition 8 of Appendix A and condition 23 of Appendix B) and the recommendation to implement certain minimum instream flows for Fern Springs Creek, install flow gages and collect flow data for two years, and provide for adaptive management (condition 2 of Appendix A and condition 21 of Appendix B).

³² 16 U.S.C. § 803(j)(1) (2012).

³³ 16 U.S.C. §§ 661 *et seq.* (2012).

³⁴ NMFS filed the recommendations on June 22, 2011.

SECTION 10(a)(1) OF THE FPA

48. Section 10(a)(1) of the FPA³⁵ 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. NMFS Recommendation

49. NMFS made one recommendation under section 10(j) that is not a specific measure to protect, mitigate damages to, or enhance fish and wildlife. Consequently, this recommendation is not considered under section 10(j) of the FPA, but is considered under the broad public-interest standard of section 10(a)(1).³⁶

50. NMFS recommended that Mr. Willis be required to submit a draft biological evaluation or draft Biological Assessment prior to construction of new project features or operations and maintenance activities to analyze project effects on federally listed anadromous salmonids and habitat. As noted above, Commission staff already conducted that analysis and informally consulted on it with NMFS pursuant to the ESA. Therefore, there is no basis for adopting NMFS' recommendation as a license requirement.

B. Project Flow Diversions

51. The Forest Service recommended that the Commission obtain documented evidence from the Water Board of the springs specifically named in the water rights diversion for the project and an accounting of all water used by Mr. Willis under the water right. The Forest Service also recommended that Mr. Willis only divert those waters specifically approved by the water right into the project and return all flow in excess of 3 cfs to the bypassed reach.

52. The Water Board's water quality certification filed on September 26, 2013, clarifies that Mr. Willis holds Water Rights License No. 4976 (Application No. 012096) that allows him to use up to, but not exceed, 3 cfs of water from Fern Springs for power and domestic use year round. Consistent with the Forest Service's recommendation,

³⁵ 16 U.S.C. § 803(a)(1) (2012).

³⁶ 16 U.S.C. § 803(a)(1) (2012).

condition 2 of Appendix A and condition 21 of Appendix B of the license requires that Mr. Willis not exceed a project flow diversion of 3 cfs.

EXEMPTION OF THE FERC FORM 80 RECREATION REPORT

53. The FERC Form 80 Recreation Report (Form 80) collects recreation usage data on recreation facilities at a licensed hydroelectric project through the term of the license. There is little or no potential for recreation facilities at the project, because the project's reservoir is extremely small. Therefore, Mr. Willis is exempt from filing the Form 80 during the term of the license (Article 403).

ADMINISTRATIVE PROVISIONS

A. Annual Charges

54. 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 use and occupancy of U.S. lands. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW, like this project, will not be assessed an annual charge for administration of the FPA.³⁷

B. Exhibit F

55. Exhibit F drawings must show all major project structures in sufficient detail to provide a full understanding of the project. In addition, the Exhibit F drawings must be consistent with the project description provided in Exhibit A. The revised Exhibit F drawing filed on June 14, 2010, does not conform to the Commission's Regulations, because the drawing is inconsistent with information provided in Exhibit A. Specifically, Exhibit A of the license application as supplemented with additional information filed on June 14, 2010, indicates that the dam has a length of 265 feet and a variable height of 24 to 30 feet. Using the given scale and our interpretation of the dam's footprint,³⁸ the Exhibit F drawing shows a dam less than 200 feet long, and the section detail shows a dam height of only 11 feet. Therefore, Article 202 requires the filing of a revised Exhibit F drawing(s) that clearly delineates the footprint of the dam, the dam's height, and the dam's length, and is consistent with the project description provided in Exhibit A.

³⁷ 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.

³⁸ The Exhibit F drawing does not clearly delineate the entire footprint of the dam.

C. Exhibit G

56. Exhibit G drawings are required to show a project boundary enclosing all project works and other features that are to be licensed. The project boundary must enclose those lands necessary for operation and maintenance of the project. The Exhibit G drawing filed on June 14, 2010, does not show the project's access road; does not clearly show the project's transmission line, including the interconnection with Fire Mountain Lodge; does not show a project boundary enclosing the reservoir, dam, penstock, outflow pipes, powerhouse, tailwater ditch, access road, and transmission line; and does not identify non-federal project lands owned in fee by Mr. Willis, non-federal lands Mr. Willis plans to acquire in fee, or non-federal lands over which Mr. Willis has acquired or plans to acquire rights to occupancy and use other than fee title, including rights to be acquired by easement or lease. Therefore, the Exhibit G drawing filed on June 14, 2010, is not approved.

57. In the EA, staff found a discrepancy between the Forest Service's and Mr. Willis' calculations of the land area occupied by the project. Staff noted that Mr. Willis calculated a federal land area of 1.07 acres based upon the actual footprint of project facilities, while the Forest Service calculated a federal land area of 1.32 acres based upon the actual footprint of project facilities, plus a buffer area. Staff concluded that Mr. Willis' calculation of 1.07 acres is insufficient, because the amount does not include all of the land needed to properly maintain the project's facilities.³⁹

58. Therefore, Article 203 requires Mr. Willis to file a revised Exhibit G drawing(s) clearly showing: (1) all project facilities, including the dam, reservoir, penstock, outflow pipes, powerhouse, tailwater ditch, access road, transmission line, and transmission line interconnection point with the lodge; (2) a project boundary enclosing the project facilities and including sufficient land around the facilities needed for effective operation and maintenance; and (3) non-federal project lands owned in fee by Mr. Willis, non-federal lands Mr. Willis plans to acquire in fee, or non-federal lands over which Mr. Willis has acquired or plans to acquire rights to occupancy and use other than fee title, including rights to be acquired by easement or lease. The article also requires Mr. Willis to provide a tabulation of federal lands within the project boundary for the purposes of revising the annual charges for federal land use and occupancy.

³⁹ See EA at 41.

D. Project Land Rights Progress Report

59. Standard Article 5 set forth in L-Form L-16 requires Mr. Willis to acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project, within five years. In order to ensure compliance with Article 5, Article 204 requires Mr. Willis to file no later than four years after license issuance, documentation that he has the necessary rights to all lands within the project boundary. The report shall include specific documentation of the rights that have been acquired as of the filing date of the progress report, and if necessary, a plan and schedule to acquire all remaining land prior to the five-year deadline.

E. Use and Occupancy of Project Lands and Waters

60. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 405 allows Mr. Willis 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. Permanent or Temporary Modifications

61. Article 301 requires that any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission's Division Dam Safety and Inspections San Francisco Regional Office at the beginning of the planning and design phase. This includes modifications resulting from license environmental requirements.

G. Commission Approval of Resource Plans, and Filing of Reports and Amendment Applications

62. In Appendices A and B, there are certain conditions that do not require Mr. Willis to file plans with the Commission for approval, do not require Mr. Willis to file reports with the Commission that are needed to demonstrate compliance with license requirements, and require Mr. Willis to develop and implement plans that may specify structural or operational changes to the project as licensed. Therefore, Article 401 requires Mr. Willis to: (a) file listed plans for Commission approval; (b) file listed reports with the Commission; and (c) file amendment applications, as appropriate.

STATE AND FEDERAL COMPREHENSIVE PLANS

63. Section 10(a)(2)(A) of the FPA,⁴⁰ 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.⁴¹ Under section 10(a)(2)(A), staff identified and reviewed three comprehensive plans that are relevant to this project.⁴² No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

64. In accordance with section 10 of the FPA,⁴³ and the Commission's regulations, Mr. Willis' record as a licensee with respect to the following: (A) need for power; and (B) safe management, operation, and maintenance of the project is evaluated below.

A. Need for Power

65. The Fire Mountain Lodge Project is not connected to the electrical grid. When unable to operate the project, Mr. Willis uses a standby generator set powered by diesel. Therefore, the power produced by the project reduces Mr. Willis' dependence on diesel generation.

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

66. We have reviewed Mr. Willis' record of 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 the project does not currently meet the Commission's Engineering Guidelines, and Mr. Willis has a poor history of operating and maintaining the project and has been unresponsive to FERC correspondence in the past.

⁴⁰ 16 U.S.C. § 803(a)(2)(A) (2012).

⁴¹ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2014).

⁴² California Advisory Committee on Salmon and Steelhead Trout, Restoring the Balance: 1988 annual report; California Department of Fish and Game, 1996 Steelhead Restoration and Management Plan for California, November 2003; and Forest Service 1992 Lassen National Forest Land and Resource Management Plan.

⁴³ 16 U.S.C. § 803 (2012).

67. However, the compliance record described above does not warrant the denial of Mr. Willis' application for a new license because once the proposed spillway construction has been completed, Mr. Willis should be able to safely manage, operate, and maintain these facilities under a subsequent license. However, due to Mr. Willis' poor history of maintenance and unresponsiveness, special consideration must be given to license requirements to ensure that Mr. Willis complies with the terms and conditions of the new license. Therefore, Article 501 is included as part of this license. Article 501 requires Mr. Willis develop and file, for Commission approval, a Hydropower Compliance Management Program that will ensure conformity with the terms and conditions of the new license.

PROJECT ECONOMICS

68. 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.*,⁴⁴ 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.

69. In applying this analysis to the Fire Mountain Lodge Hydroelectric Project, staff considered two options: Mr. Willis' proposal and the project as licensed herein. Under Mr. Willis' proposal, the project would continue to operate as it has before with no additional environmental measures. As proposed by Mr. Willis, the levelized annual cost of continuing to operate and maintain the Fire Mountain Lodge Hydroelectric Project is \$11,325, or \$43.09/megawatt-hour (MWh). The proposed project would generate an average of 262.8 MWh of energy annually. When the estimate of average generation is multiplied by the alternative power cost of \$203.69/MWh,⁴⁵ the total estimated value of the project's power is \$53,530 in 2013 dollars. To determine whether the proposed project is economically beneficial, the project's cost is subtracted from the

⁴⁴ 72 FERC ¶ 61,027 (1995).

⁴⁵ The alternative power cost of \$203.69/MWh is based on the cost of producing alternative energy from a diesel generator with a current average cost of diesel fuel of \$4.14 per gallon and consuming 12,930 gallons annually. See EA at 32.

value of the project's power.⁴⁶ Therefore, in the first year of operation, the project would cost \$42,205 or \$160.60/MWh, less than the likely alternative cost of power.

70. As licensed herein with staff measures, the levelized annual cost of continuing to operate and maintain the project would be about \$11,845, or \$45.07/MWh. Based on the same amount of estimated average generation of 262.8 MWh as proposed, the project would produce power valued at \$53,530 when multiplied by the \$203.69/MWh value of the project's power. Therefore, in the first year of operation, project power would cost \$41,685 or \$158.62/MWh, less than the likely cost of alternative power.

COMPREHENSIVE DEVELOPMENT

71. Sections 4(e) and 10(a)(1) of the FPA⁴⁷ 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 shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

72. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record for this proceeding, including the EA and the comments thereon, licensing the Fire Mountain Lodge Hydroelectric 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.

73. Based on an independent review and evaluation of the Fire Mountain Lodge 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 Fern Springs Creek.

74. This alternative is selected because: (1) issuance of a subsequent license will serve to maintain a beneficial, dependable, and an inexpensive source of electric energy;

⁴⁶ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued June 28, 2013.

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

and (2) the required environmental measures will protect and enhance fish and wildlife resources, and water quality.

LICENSE TERM

75. Section 15(e) of the FPA,⁴⁸ provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.⁴⁹ This license authorizes no new construction or new capacity, and only a minor amount of new environmental measures. Consequently, a 30-year license for the Fire Mountain Lodge Hydroelectric Project is appropriate.

The Director orders:

(A) This license is issued to Ken Willis, Fire Mountain Lodge (licensee), for a period of 30 years, effective the first day of the month in which this order is issued to construct, operate, and maintain the Fire Mountain Lodge 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 the licensee's interests in those lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 265-foot-long by 24- to 30-foot-high earth and concrete-filled dam that creates an 0.8-acre reservoir at an elevation of 4,763.5 feet above mean sea level; (2) a 31-foot-long, concrete-lined, trapezoidal-shaped, open-channel emergency spillway; (3) a 24-foot-long, 10-foot-wide grouted rip rap apron below the spillway on the downstream face of the dam leading into the bypassed reach of Fern Springs Creek; (4) a 39-inch-diameter slotted intake tower along the right abutment of the dam; (5) a 15- to 18-inch diameter by 1,580-foot-long penstock leading to a powerhouse containing a Pelton-wheel turbine, with an installed capacity of 50 kW; (6) an approximately 225-foot-long by 4-foot-wide open channel tailwater ditch that empties

⁴⁸ 16 U.S.C. § 808(e) (2012).

⁴⁹ See *Consumers Power Company*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

into Gurnsey Creek; (7) two existing outflow pipes, one 42 inches in diameter by about 45 feet long and the other 24 inches in diameter by about 40 feet long, on the left abutment of the dam, approximately 3 feet below the crest of the dam to release excess water to the bypassed reach of Fern Springs Creek; (8) a 16-inch-diameter, 120-foot-long outflow pipe, whose inlet is positioned at the bottom of the reservoir, exiting the dam on the right abutment and discharging to an intermittent stream that is a tributary to the bypassed reach; (9) an approximately 1,000-foot-long transmission line extending from the project's powerhouse to the licensee's Fire Mountain Lodge; (10) a 16-foot-wide by 899-foot-long access road; and (11) appurtenant facilities.

The project works generally described above are more specifically shown and described by Exhibit A filed on April 25, 2008, as revised by letter filed on June 14, 2010 as follows:

Page 3 (item 7 of the June 14 letter) indicating a reservoir surface area of 0.8 acre and a dam height ranging from 24 to 30 feet; page 4 (item 8 of the June 14 letter) indicating that the project is located on a total of 1.07 acres of federal lands of which 0.33 acre is occupied by the project access road, 0.1 acre is occupied by the powerhouse, 0.04 acre is occupied by the penstock, and 0.6 acre is occupied by the reservoir; appended operations manual at page 1 indicating a total installed capacity of 50 kW; and appended drawing showing a transmission line length of about 1,000 feet.

(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 Exhibit A described above is approved and made part of the license. The Exhibit F and G drawings filed as part of this license do not conform to Commission regulations and are not approved.

(D) The following sections of the Federal Power Act (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 of the water quality certification filed by the California State Water Resources Control Board on October 7, 2013, under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1431(a)(1) (2012), as those conditions are set forth in Appendix A to this order.

(F) This license is subject to the conditions submitted on July 20, 2012, by the U.S. Department of Agriculture - Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix B to this order.

(G) 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 FPC 1799 *et seq.*), as set forth in this order, including the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall 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 50 kilowatts (kW). Under the regulations currently in effect, projects with an 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 1.07 acres of its lands (other than for transmission line right-of-way).

Article 202. Revised Exhibit F Drawings. Within 90 days of the date of issuance of the license, the licensee shall file, for Commission approval, a revised Exhibit F drawing(s) clearly delineating the footprint of the dam, the dam's height, and the dam's length, a cross-section view of the dam from the downstream toe at the 16-inch-diameter outlet to the upstream toe, and plan and elevation views of the powerhouse. The Exhibit F drawing(s) must conform with sections 4.39 and 4.41 of the Commission's regulations, including the requirement that drawing(s) be consistent with the information included in Exhibit A.

Article 203. Revised Exhibit G Drawings. Within 90 days of the date of issuance of the license, the licensee shall file, for Commission approval, a revised Exhibit G drawing(s) enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including the reservoir, dam, penstock, outflow pipes, powerhouse, tailwater ditch, access road, and transmission line. The project boundary must include sufficient land around the facilities, including the powerhouse and transmission line, necessary to effectively operate and maintain the facilities. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations, including the requirements to indicate non-federal project lands owned in fee by the licensee, non-federal lands the licensee plans to acquire in fee,

or non-federal lands over which the licensee has acquired or plans to acquire rights to occupancy and use other than fee title, including rights to be acquired by easement or lease. The licensee must also provide a tabulation of federal lands within the revised project boundary so that Article 201 can be amended for purpose of annual charges for federal land use and occupancy.

Article 204. *Project Land Rights Report.* No later than four years after license issuance, the licensee shall file a report with the Commission describing the status of rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report shall also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) if necessary, the licensee's plan and schedule for acquiring all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 301. *Project Modification Resulting From Environmental Requirements.* Any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission's Division Dam Safety and Inspections (D2SI) – San Francisco Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements. This schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 401. *Commission Approval, and Filing of Reports and Amendment Applications.*

(a) *Requirement to File Plans for Commission Approval*

A condition of this license found in the State Water Resources Control Board's (Water Board) final section 401 Water Quality Certification (WQC) conditions (Appendix A) requires the licensee to prepare a plan in consultation with other entities for approval by the Water Board and implement specific measures without prior Commission approval. The plan shall also be submitted to the Commission for approval. The following table indicates the agencies that the licensee shall consult before preparing the plan along with the deadline for filing the plan with the Commission for approval.

Appendix A, Condition no.	Plan Name	Consulted Entities	Due Date
4	Road Plan	USFS; SWRCB	Within one year of license issuance

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

(b) Requirement to File Reports

Some of the State Water Resources Control Board's (Water Board) final section 401 Water Quality Certification (WQC) conditions (Appendix A) and Forest Service's section 4(e) conditions (Appendix B) require the licensee to file reports with other entities. These reports document compliance with requirements of this license and may have bearing on future actions. Each such report shall also be submitted to the Commission. These reports are listed in the following table:

Appendix A, Condition no.	Appendix B, Condition no.	Report	Due Date
2(a)	21, part 1	Streamflow	By January 31 of each year, following installation of measurement devices.
Not applicable	23, part 1	Erosion and sedimentation evaluation protocols	Within one month of filing any amendment to license for any future ground-disturbing activities.
3	22, part 1	Aquatic Biological Monitoring	Within four months of completion of monitoring

(c) *Requirement to File Amendment Applications*

Certain conditions in Appendices A and B contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. These conditions are listed below.

Appendix A, Condition no.	Appendix B, Condition no.	Modification
31	2	Changes in any constructed project features or facilities or in the uses of project lands and waters, or any departure from requirements of exhibits filed with the Commission
Not applicable	18	Any proposed ground-disturbing activities
Not applicable	21, part 3	Changes to minimum instream flows based upon adaptive management review
Not applicable	22, part 2(c)	Mitigations deemed necessary by the Forest Service following review of requirements of Forest Service conditions 2, 11, and 18
Not applicable	23, part 1	Erosion and sediment mitigation
25		Changes to project based upon climate changes

Article 402. *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 Commerce pursuant to section 18 of the Federal Power Act.

Article 403. *FERC Form 80 Exemption.* There is little or no potential for recreation facilities within the project boundary. Therefore, the licensee is exempt from 18 C.F.R. §8.11, the requirement to file a Licensed Hydropower Development Recreation Report (Form 80) for the Fire Mountain Lodge Hydroelectric Project.

Article 404. Protection of Undiscovered Cultural Resources. If the licensee discovers previously unidentified cultural resources during the course of constructing, maintaining, or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the California State Historic Preservation Office (California SHPO) to determine the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee shall file with the Commission documentation of its consultation with the SHPO immediately.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places (National Register), the licensee shall file for Commission approval a historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the California SHPO. In developing the HPMP, the licensee shall use the Advisory Council on Historic Preservation and the Federal Energy Regulatory Commission's Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects, dated May 20, 2002. The HPMP shall include the following items: (1) a description of each discovered property, indicating whether it is listed in or eligible to be listed in the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. The Commission reserves the right to require changes to the HPMP.

The licensee shall not resume land-clearing or land-disturbing activities in the vicinity of a cultural resource discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 405. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies, for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and

requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter with the Commission, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Commission's authorized representative, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

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

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

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner

that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

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

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

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

Article 501. Hydropower Compliance Management Program. Within 6 months of license issuance, the licensee shall file a Hydropower Compliance Management Program (HCMP) for Commission approval. The HCMP shall include the following elements for each license requirement: (1) the identification of, and a schedule for, each action necessary to complete the license requirements; (2) schedule for the start and completion of the consultation process with each resource agency required to be consulted for each action necessary to complete the license requirement. A copy of the filing must also be filed with any agency consulted; and (3) the identification of specific individuals in each agency that need to be consulted on each action necessary to complete the license requirement.

The licensee shall file an annual report with the Commission, on or before each anniversary of the issuance date of this license, which demonstrates the progress made toward completion of each license requirement under the schedules presented in the HCMP. The report shall also document compliance with all requirements of the license that do not require specific filings with the Commission.

Unless indicated otherwise in the license, all filings must be made electronically via the Internet in lieu of paper. See 18 CFR § 385.2001(a)(1)(iii) (2013) and the instructions on the Commission's Web site under <http://www.ferc.gov/docs->

[filing/efiling.asp](#). With each filing, please include a cover letter with the project number (P-1992) and the reason for the filing. The Commission strongly encourages electronic filings; otherwise, the licensee must submit a copy of its submittal to the address below:

The Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., PJ-12
Washington, D.C. 20426

The Commission reserves the right to require the licensee to make modifications to the HCMP and to take other measures necessary to ensure compliance by the licensee with the terms and conditions of the license.

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

(I) 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. § 825l (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2014). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

Form L-16
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

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**California State Water Resources Control Board Water Quality Certification filed
October 7, 2013**

Accordingly, based on its independent review of the record, the State Water Resources Control Board certifies that Ken Willis' Fire Mountain Lodge Hydroelectric project relicensing and dam safety repairs will comply with Sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of State law, if the Licensee complies with the following terms and conditions during the Project activities certified herein.

Conditions Applicable to FERC's Division of Dam Safety and Inspections Work:

Condition 1. Within 18 months of receiving FERC's Division of Dam Safety and Inspections authorization to perform work, the Licensee shall complete the repairs to the existing dam and outfall, and installation of the open channel spillway. If weather prohibits completion of the work within this timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed work period and provide notification to FERC's Division of Dam Safety and Inspections. The Licensee shall also comply with Conditions 5-33 of this certification.

Conditions Applicable to Fire Mountain Lodge Hydroelectric Project Relicensing:

Condition 2. Streamflow Requirements

(A) Collect Streamflow Data:

The Licensee shall install Parshall flumes (or similar flow gages) to measure streamflows associated with the Project and the Licensee's water rights. In consultation with the USFS and State Water Board staff, the Licensee shall develop a plan to measure, document, and report inflows from Fern Springs and the Unnamed Spring, flow releases into Fern Springs Creek from the Project dam, and all flows diverted for domestic and power use. The plan shall be submitted to the Deputy Director for review and approval within four months of license issuance. The Deputy Director may require modifications as part of the approval. Upon Deputy Director approval of the plan, the plan and its implementation shall become a condition of this certification.

Within two months after license issuance, the Licensee shall consult with the United States Army Corps of Engineers (ACE) to determine whether a Clean Water Act section 404 permit (404 permit) is needed for installation of flow measurement devices. The Licensee shall provide

the State Water Board with documentation of consultation with the ACE. After license issuance and within six months of receiving either a 404 permit from the ACE or documentation from ACE that a permit is not required, the Licensee shall install flow measurement devices. If weather prohibits installation of the flow measurement devices within the required timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed installation period. Within three days of flow measurement device installation, the Licensee shall begin recording one instantaneous flow measurement per week.

The Licensee shall provide the Deputy Director with evidence that substantiates that the devices are functioning properly within one month of installation and every five years thereafter for the term of the license and any annual extensions. Evidence shall include current photographs of the system in place and a statement, signed by the Licensee, certifying that the system is calibrated as needed on a regular basis, and is operating as designed.

Annually, by January 31 of each year following installation of the measurement devices, the Licensee shall submit to the Resource Agencies⁵⁰ and the State Water Board all flow measurement data and average monthly streamflow measurements (based on weekly measurements) reported in cfs for the locations identified below. The submittal shall include the measurement (in cfs), as well as the date, time and location of each streamflow measurement collected. The Licensee shall measure, document, and report the following streamflows:

Inflows from the reach of each spring which feeds the Project reservoir (i.e., Fern Springs and the Unnamed Spring);

Minimum streamflow releases into Fern Springs Creek from the Project dam;

Flows diverted for power use; and

Flows diverted from Fern Springs for the Licensee's domestic use.

⁵⁰ "Resource Agencies" refers to the National Marine Fisheries Service (NMFS), USFS, United States Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife.

If weekly flow measurements cannot be made for one month due to conditions beyond the control of the Licensee, the Licensee shall notify the Deputy Director in writing within seven days. This information shall also be reported annually with the flow measurement information to the Resource Agencies and the State Water Board. The Deputy Director may require the collection of additional streamflow data based on the Licensee's submittals.

(B) Minimum Streamflow Requirements:

Upon license issuance, the Licensee shall bypass or pass-through all inflow from the Unnamed Spring into Fern Springs Creek. It is the Licensee's responsibility to maintain continuity of flow from the Unnamed Spring to Fern Springs Creek at all times, including prior to and while the flow measurement devices are installed. The minimum instream flow requirements for the Project are as follows:

In all years and at all times, the amount of water matching the flow (in cfs) entering the Project reservoir from the Unnamed Spring shall be released into Fern Springs Creek (between the Project dam and Gurnsey Creek confluence); and

The Licensee shall release flows from Fern Springs or the Project reservoir into Fern Springs Creek (between the Project dam and Gurnsey Creek confluence) as follows:

- a. **In all years** (except those designated as "dry"⁵¹): All flows that exceed the Licensee's prescribed water right of 3.0 cfs (Water Rights License No. 4976; Application No. 012096); or
- b. **In dry years:** 1.0 cfs or the entire flow from Fern Springs if less than 1.0 cfs, to establish and maintain water connectivity between Fern Springs Creek at the Project dam and its confluence with Gurnsey Creek.

(C) Review and Adaptive Management for Minimum Streamflow Requirements:

Within three months following the initial two years of streamflow data

⁵¹ Dry years are defined as years when the flow from Fern springs that feeds the reservoir is less than 4.0 cfs.

collection pursuant to section A of Condition 2 above, the Licensee shall meet and consult with the Resource Agencies and State Water Board staff to discuss the adequacy of the minimum flow releases required in section B of Condition 2 to determine if any adjustments to the minimum streamflow requirements are needed.

If, based on the outcome of the consultation, the Resource Agencies and State Water Board staffs recommend adjustments to the minimum streamflow, the Licensee shall submit the recommended flow modification(s) to the Deputy Director for review and approval. The Deputy Director may require modifications as part of the approval. Upon receiving all necessary regulatory approvals, the Licensee shall submit a request to the Commission to adjust the minimum streamflow requirements in the license. The Licensee shall implement the new minimum streamflow requirements upon Commission approval.

Condition 3. Within the first year after license issuance and every five years thereafter for the term of the new license and any annual extensions, the Licensee shall conduct aquatic biological monitoring at a time of year agreed to by the Resource Agencies and the State Water Board, as follows:

- (A) For benthic macroinvertebrates (BMI), the Licensee shall follow the State Water Board's Surface Water Ambient Monitoring Program's (SWAMP) protocol or other current protocol (if approved by the Deputy Director) for monitoring BMI in Fern Springs Creek below the Project dam.
- (B) The Licensee shall conduct an aquatic survey of Fern Springs Creek, noting USFS aquatic special status species (e.g., cascade frogs) and salmonid species. This work may be conducted concurrently with the BMI monitoring outlined in Section A of Condition 3. The aquatic survey shall include electrofishing. Additionally, the aquatic survey shall evaluate and document changes to the Fern Springs Creek channel and riparian community. The Licensee shall confirm the current list of USFS aquatic special status species with the USFS prior to the initial and each five-year monitoring survey.

The Licensee shall provide the results of the monitoring required in this condition to the Deputy Director within four months of completion of the monitoring. The data shall also be provided in accordance with Condition 20.

Condition 4. To limit erosion and prevent sediment from entering Gurnsey Creek, the Licensee shall stabilize and maintain all portions of the Project road on any lands. The Project road is the road that crosses Gurnsey Creek and leads to the

Project dam. Within nine months of license issuance, the Licensee shall file a road stabilization and maintenance plan (Road Plan) with the Deputy Director for approval. The Deputy Director may require modifications as part of the approval.

The Road Plan shall describe the measures that will be taken to stabilize and maintain the Project road. The Road Plan shall be consistent with the USFS's Maintenance of Roads: Practice 2-22 in Attachment 1a to USFS's *Final §4(e) License Terms and Conditions and §10(a) Recommendation*. The Road Plan shall include measures to repair existing damage and minimize erosion from the Project road. At a minimum, the Road Plan shall include disconnecting road sediment sources to Gurnsey creek and implementing erosion control measures, such as waterbars, filter strips, rolling dips, cross-drains, etc.

The Road Plan shall be developed in consultation with the USFS and State Water Board staff. The Licensee shall include with the Road Plan documentation of consultation with State Water Board staff and the USFS, copies of comments and recommendations made in connection with the Road Plan, and a description of how the Road Plan accommodates the comments and recommendations of the USFS and State Water Board staff. The Licensee shall allow a minimum of 45 days for the USFS and State Water Board staff to comment and make recommendations before filing the Road Plan with the Deputy Director for approval. Upon Deputy Director approval of the Road Plan, the plan and its implementation shall become a condition of this certification.

Within four months of Deputy Director approval of the Road Plan, the Licensee shall complete the road stabilization work. If weather prohibits road stabilization work within this timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed road stabilization work period and provide notification to the USFS. The Licensee shall report to the Deputy Director on the actions taken to stabilize the Project road within two months of road work completion.

Following completion of the initial road stabilization work, the Licensee shall perform ongoing maintenance of the Project road to limit erosion and prevent sediment from entering Gurnsey Creek. The Licensee shall implement the Road Plan when performing road maintenance work. Any updates to the Road Plan necessary to perform maintenance work shall be submitted and approved by the Deputy Director prior to implementation. The Licensee shall perform the necessary stabilization or maintenance activities as needed, but no less than every five years for the term of the license and any annual extensions. The Licensee shall report on these road maintenance activities to the Deputy Director no less than every five years and whenever stabilization or maintenance activities are performed.

Condition 5. The Licensee shall ensure that exclusion fencing is used to fence off aquatic habitats prior to any construction activities.

Condition 6. All best management practices described in the application for certification and supplemental information are hereby incorporated by reference and are conditions of approval of this certification. Notwithstanding any more specific conditions in this certification, the Licensee shall comply with all measures described in the application for certification and its supplements, and the attached MMRP.

Condition 7. Project activities shall not cause an increase in turbidity downstream of the Project area greater than those identified in the Sacramento-San Joaquin Basin Plan. Waters shall be free of changes in turbidity (due to Project activities) that cause nuisance or adversely affect beneficial uses. Except for in-water work, as discussed at the end of this condition, increases in turbidity shall not exceed background levels (natural turbidity measured Nephelometric Turbidity Units [NTUs] prior to the start of Project activities) by more than the thresholds identified below and as outlined in the Sacramento-San Joaquin Basin Plan:

Background Level or Natural Turbidity	Downstream Turbidity (after starting construction)
Less than 1 NTU	Total turbidity shall not exceed 2 NTU
Between 1 and 5 NTU	Increases shall not exceed 1 NTU
Between 5 and 50 NTU	Increases shall not exceed 20 percent
Between 50 and 100 NTU	Increases shall not exceed 10 NTUs
Greater than 100 NTU	Increases shall not exceed 10 percent

Monitoring shall be conducted immediately upstream outside the influence of the Project and 300 feet downstream from the active work area. Monitoring results shall be reported to the Deputy Director within two weeks of initiation of monitoring and every two weeks thereafter for the remainder of construction activities. Monitoring shall occur every four hours during Project construction. Throughout construction, the Licensee shall also monitor whenever activities result in the creation of a visible plume in surface waters. If monitoring shows that turbidity has exceeded the water quality objective, construction shall cease and the violation shall be reported within 24 hours to the Deputy Director and the Executive Officer for the Central Valley Water Board (Executive Officer). Construction may not re-commence without the permission of the Deputy Director.

Standard turbidity limits may be eased during in-water working periods to allow a turbidity increase of up to 15 NTU over the background turbidity as measured in surface waters 300 feet downstream from the working area. For in-water working

periods, turbidity shall not exceed 15 NTU over background turbidity.

Condition 8. Control measures for erosion, excessive sedimentation and turbidity shall be implemented and be in place at commencement of, during and after any ground clearing activities, excavation, or any other Project activities that could result in erosion or sediment discharges to surface waters. Erosion control blankets, liners with berms, and/or other erosion control measures shall be used for any stockpile of excavated material to control runoff resulting from precipitation, and prevent material from contacting or entering surface waters.

Condition 9. The Licensee shall ensure that all required bypass flows and diversion(s) are consistent with the provisions outlined in Water Rights License No. 4976 (Application No. 012096) throughout the term of the new license and any annual extensions.

Condition 10. Construction materials, debris, spoils, soil, silt, sand, bark, slash, sawdust, rubbish, steel, other organic or earthen material, or any other substances which could be hazardous to aquatic life resulting from Project related activities shall be prevented from entering surface waters. All construction debris and trash shall be contained and regularly removed from the work area to the staging area during construction activities. Upon completion, all Project-generated debris, building materials, excess material, waste, and trash shall be removed from all the Project sites for disposal at an authorized landfill.

Condition 11. All imported riprap, rocks, and gravels used for construction shall be pre-washed. All wash water shall be contained and disposed of in compliance with State and local laws, ordinances, and regulations.

Condition 12. No unset cement, concrete, grout, damaged concrete, concrete spoils, and wash water used to clean concrete surfaces shall contact or enter surface waters. No leachate from truck or grout mixer cleaning stations shall percolate into Project area soils. Cleaning of concrete trucks or grout mixers shall be performed at a designated concrete washout area within the staging site. Washout water shall be held in a temporary pit or bermed area of sufficient volume to completely contain all liquid and waste concrete or grout generated during washout procedures. Hardened concrete or grout shall be disposed of at an authorized landfill, in compliance with State and local laws, ordinances and regulations.

Condition 13. All equipment must be washed prior to transport to the Project site and must be free of sediment, debris and foreign matter. Any maintenance or refueling of vehicles or equipment occurring on-site will be done in a designated area with secondary containment, located away from drainage courses to prevent the runoff of stormwater and the runoff of spills. All equipment using gas, oil, hydraulic

fluid or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generator, etc.) and vehicles not in use shall be positioned over drip pans or other types of containment. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be maintained onsite at all locations where such equipment is used or staged.

Condition 14. Onsite containment for storage of chemicals classified as hazardous shall be away from watercourses and include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

Condition 15. A copy of this certification shall be provided to the contractor and all subcontractors conducting the work, and copies shall remain in their possession at the Project site. The Licensee shall be responsible for work conducted by its contractor, subcontractors or other persons conducting Project-related work.

Condition 16. The Deputy Director and the Executive Officer shall be notified one week prior to the commencement of ground disturbing activities. Upon request, a construction schedule shall be provided to agency staff. The Licensee shall provide State Water Board staff access to Project sites to document compliance with this certification.

Condition 17. No construction shall commence until all necessary federal, state, and local approvals are obtained.

Condition 18. This certification requires compliance with all applicable requirements of the Sacramento-San Joaquin Basin Plan. The Licensee must notify the Deputy Director and Executive Officer within 24 hours of any unauthorized discharge to surface waters.

Condition 19. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.

Condition 20. Unless otherwise specified in this certification or at the request of the State Water Board, data and/or reports must be submitted electronically in a format accepted by the State Water Board to facilitate the incorporation of this information into public reports and the State Water Board's water quality database systems in compliance with California Water Code section 13167.

Condition 21. Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred or subsumed by another state or federal agency shall apply equally to the successor agency.

Condition 22. The State Water Board's approval authority includes the authority to withhold approval or to require modification of a proposal or plan prior to approval. The State Water Board may take enforcement action if the Licensee fails to provide or implement a required plan in a timely manner.

Condition 23. The State Water Board reserves the authority to add to or modify the conditions of this certification: (1) if monitoring results indicate that continued operation of the Project could violate water quality objectives or impair the beneficial uses of Deer Creek and its tributaries; (2) to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water; (3) to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act; or (4) to incorporate changes in technology, sampling, or methodologies and/or load allocations developed in a total maximum daily load developed by the State Water Board or a Regional Water Quality Control Board.

Condition 24. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to California Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

Condition 25. Future changes in climate projected to occur during the license term may significantly alter the baseline assumptions used to develop the conditions in this certification. The State Water Board reserves authority to modify or add conditions in this certification to require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect the beneficial uses assigned to the Project-affected stream reaches.

Condition 26. Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act.

Condition 27. Certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28 and owed by the Applicant.

Condition 28. This certification does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050-2097) or the federal ESA (16 U.S.C. §§ 1531- 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable ESAs for the Project authorized under this certification.

Condition 29. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to any remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, processes or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

Condition 30. In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Wat. Code, §§ 1051, 13165, 13267 and 13383.) The State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

Condition 31. The Licensee must submit any change to the Project, including Project operation that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for prior review and written approval. If such a change would also require submission to the FERC, the change must first be submitted and approved by the State Water Board. If the State Water Board is not notified of a significant change to the Project, it will be considered a violation of this certification.

Condition 32. Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

Condition 33. The State Water Board will provide notice and an opportunity to be heard in exercising its authority to add or modify any of the conditions of this certification.

Attachment B

Mitigation Monitoring and Reporting Plan

Water Quality Certification for Federal Energy Regulatory Commission Project No. 1992

Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs

The State Water Resources Control Board (State Water Board) is responsible for issuing the water quality certification (certification) for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs. The State Water Board is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq) for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs. This Mitigation Monitoring and Reporting Plan (MMRP) has been prepared in conformance with Public Resources Code section 21081.6 and was developed based on the analysis of potentially significant impacts identified in the Initial Study/Mitigated Negative Declaration (IS/MND) developed for issuance of this certification.

The MMRP lists mitigation measures recommended in the IS/MND and specifies implementation and monitoring responsibilities. Pursuant to Public Resources Code section 21081.6, subdivision (b), each of the mitigation measures identified in the MMRP is included as enforceable measures in the certification. Implementation of mitigation measures is the sole responsibility of the Licensee.

CEQA prohibits an agency from approving a project for which significant effects have been identified, unless the agency can make one or more of a set of three findings set forth in Public Resources Code section 21081, subdivision (a):

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
- (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers,

make infeasible the mitigation measures or alternatives identified in the environmental impact report. (See also Cal. Code Regs., tit. 14, g 15091.)

The mitigation measures shown in the table below (Attachment C) together with the conditions in the certification mitigate or avoid all significant impacts of the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs identified in the IS/MND. Changes or alterations have been required in, or incorporated into the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs which mitigate or avoid the significant effects on the environment.

Attachment C

Mitigation Measures

The Applicant has agreed to include the following mitigation measures in the Project to reduce impacts to a less than significant level.

Mitigation Measure 1: The Licensee shall ensure that exclusion fencing be used to fence off aquatic habitats prior to any construction activities.

Mitigation Measure 2: The Licensee shall ensure that a qualified biologist performs a pre-construction survey for special status plant and animal species within the immediate vicinity of the construction areas not more than seven days prior to initiation of ground disturbing construction activities. The qualified biologist may recommend protective species-specific measures. The Licensee shall ensure that any species-specific measures recommended by the qualified biologist are implemented.

Mitigation Measure 3: The Licensee shall ensure that a qualified biologist conducts a pre-construction survey for nesting birds if Project construction is to begin during avian breeding season (February 1 through August 15). The Licensee shall ensure that a qualified biologist conducts a pre-construction survey not more than seven days prior to initiation of ground disturbing construction activities to confirm the presence or absence of active bird nests for special status species in the Project area. If active nests are encountered, the Licensee shall ensure that species-specific measures designed to protect reproductive success be prepared by a qualified biologist, and that these measures are implemented to prevent abandonment of the active nest(s). The Licensee shall ensure that the perimeter of any nest setback zone(s), as determined by the qualified biologist, be fenced or adequately demarcated with staked flagging, and construction personnel and equipment be restricted from the area.

Mitigation Measure 4: The Licensee shall vegetate all disturbed soil with native species or seed with native grasses. If vegetation cannot be reestablished before expected rainfall, mulching, erosion control fabric, or other sediment control measures shall be implemented to prevent delivery of sediment to the drainages.

Mitigation Measure 5: All materials required to implement BMPs and mitigation measures shall be on-site and ready for timely deployment before the start of construction activities.

Mitigation Measure 6: The Licensee shall conduct construction activities when flows are lowest, typically during September and October.

Mitigation Measure 7: The Licensee shall install all erosion control measures prior to construction periods and preferably by October 15. The Licensee shall maintain all erosion control measures throughout the construction period, including installation of flow measurement devices (e.g., weirs, flumes, etc.). Straw rolls and silt fences shall be placed around the proposed flow measurement device location during installation to prevent sediment from entering waterways. If needed, clean rock slope protection shall be installed in the streambed to reduce erosion. The Licensee shall remove temporary erosion and sediment control measures after disturbed areas are stabilized and work is completed.

Mitigation Measure 8: All equipment shall be maintained in good working order and spill kits shall be on hand once equipment is onsite and throughout construction and cleanup activities. Fueling of equipment shall occur away from water courses, in bermed, lined areas to prevent potential spills from infiltrating groundwater and surface water. Hazardous materials shall be properly stored away from creeks in the Project area.

Mitigation Measure 9: For cast in place structures, the area to receive wet concrete shall be completely bermed and isolated to contain any and all wet concrete, even if water is not present. The berm may be made of sandbags or soil, but the berm shall be lined with plastic to prevent the seepage of material outside the berm.

Mitigation Measure 10: Any surplus soil or construction material will be taken to an appropriate disposal site in accordance with applicable state and federal regulations, and shall not be deposited in or near any creeks.

Mitigation Measure 11: The work area within the streambed and riparian zone shall be limited to the minimum area needed for installation of the flow measurement device(s).

Mitigation Measure 12: Use of soil stabilization materials that contain synthetic materials (e.g., plastic, nylon, etc.) within waters of the United States or waters of the State is prohibited.

Mitigation Measure 13: Use of erosion control materials that contain synthetic (e.g., plastic or nylon) netting for permanent erosion control (i.e., to be left in place for longer than two years from the date of installation) is prohibited. Photodegradable synthetic products are not considered biodegradable and shall not be used. The Licensee shall

remove any remaining synthetic netting or material no later than two years from the date of installation.

Mitigation Measure 14: If erosion control netting or other products entrap or harm wildlife, the Licensee shall immediately remove the netting or product and replace it with wildlife-friendly biodegradable products. Similar erosion control netting or products shall also be removed and replaced elsewhere in the Project area within five days.

Mitigation Measure 15: The Licensee shall prevent any debris, soil, silt, cement, oil, or other such foreign substance from entering into or being placed where it may be washed by rainfall runoff into adjacent waters. The Licensee may divert runoff to a settling area away from disturbed soil to prevent sediment from entering surface waters during and after construction, or filter runoff from disturbed areas to prevent sediment from entering surface waters during and after construction.

Mitigation Measure 16: The Licensee shall enclose and cover exposed stockpiles of dirt or other loose, granular construction materials (e.g., gravel from pathway) that could contribute sediment load in waterways.

Mitigation Measure 17: The Licensee shall remove all temporary fill and restore all temporarily affected streambed and riparian zones to pre-construction contours prior to Project completion.

APPENDIX B

U.S. Forest Service Section 4(e) Conditions filed July 20, 2012

ADMINISTRATIVE FOREST SERVICE PROVISIONS

Condition No. 1 – Consultation

The Licensee shall participate in meetings when requested by the Forest Service, to discuss environmental or operational concerns, such as, but not limited to: erosion (dam, road, penstock, etc.), dam stability, Project access, invasive weeds, special status flora or fauna, or other project- affected impacts to National Forest System lands. The goals of these meetings are to discuss Forest Service concerns and develop specific Forest Service approved measures required to be implemented by the Licensee to avoid or mitigate these effects. While there is no established consultation interval, it is expected that the Licensee shall meet with the Forest Service periodically throughout the license term.

The Forest Service reserves the right, after notice and opportunity for comment, to require changes in the Project and its operation through revision of the Section 4(e) conditions to accomplish protection and utilization of NFS lands and resources.

Condition No. 2 – Approval of Changes

Notwithstanding any license authorization to make changes to the Project, when such changes directly affect NFS lands the Licensee shall obtain written approval from the Forest Service prior to making any changes in any constructed Project features or facilities, or in the uses of Project lands and waters or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the Forest Service, and a minimum of 60-days prior to initiating any such changes, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This condition does not relieve the Licensee from the amendment or other requirements of Article 2 or Article 3 of this license.

Condition No. 3 -Maintenance of Improvements on or Affecting NFSL

The Licensee shall maintain all its improvements and premises on NFS lands to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the Forest Service. Disposal of all materials will be at an approved existing location, except as otherwise agreed by the Forest Service.

Condition No. 4 – Existing Claims

The license shall be subject to all valid claims and existing rights of third parties. The United States is not liable to the Licensee for the exercise of any such right or claim.

Condition No. 5 - Compliance with Regulations

The Licensee shall comply with the regulations of the Department of Agriculture for activities on NFS lands, and all applicable Federal, State, county, and municipal laws, ordinances, or regulations in regards to the area or operations on or directly affecting NFS lands, to the extent those laws, ordinances or regulations are not preempted by federal law.

Condition No. 6 – Surrender of License or Transfer of Ownership

Prior to any surrender of this license, the Licensee shall provide assurance acceptable to the Forest Service that Licensee shall restore any Project area directly affecting NFS lands to a condition satisfactory to the Forest Service upon or after surrender of the license, as appropriate. To the extent restoration is required, Licensee shall prepare a restoration plan which shall identify the measures to be taken to restore such NFS lands and shall include or identify adequate financial mechanisms to ensure performance of the restoration measures.

In the event of any transfer of the license or sale of the Project, the Licensee shall assure that, in a manner satisfactory to the Forest Service, the Licensee or transferee will provide for the costs of surrender and restoration. If deemed necessary by the Forest Service to assist it in evaluating the Licensee's proposal, the Licensee shall conduct an analysis, using experts approved by the Forest Service, to estimate the potential costs associated with surrender and restoration of any Project area directly affecting NFS lands to Forest Service specifications. In addition, the Forest Service may require the Licensee to pay for an independent audit of the transferee to assist the Forest Service in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition No. 7 – Protection of United States Property

The Licensee, including any agents or employees of the Licensee acting within the scope of their employment, shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this license.

Condition No. 8 - Indemnification

The Licensee shall indemnify, defend, and hold the United States harmless for:

- any violations incurred under any laws and regulations applicable to, or
- judgments, claims, penalties, fees, or demands assessed against the United States caused by, or
- costs, damages, and expenses incurred by the United States caused by, or

- the releases or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment related to the construction, maintenance, or operation of the Project works or of the works appurtenant or accessory thereto under the license.

The Licensee's indemnification of the United States shall include any loss by personal injury, loss of life or damage to property caused by the construction, maintenance, or operation of the Project works or of the works appurtenant or accessory thereto under the license.

Indemnification shall include, but is not limited to, the value of resources damaged or destroyed; the costs of restoration, cleanup, or other mitigation; fire suppression or other types of abatement costs; third party claims and judgments; and all administrative, interest, and other legal costs. Upon surrender, transfer, or termination of the license, the Licensee's obligation to indemnify and hold harmless the United States shall survive for all valid claims for actions that occurred prior to such surrender, transfer or termination.

Condition No. 9 – Damage to Land, Property, and Interests of the United States

The Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from the Licensee's construction, maintenance, or operation of the Project works or the works appurtenant or accessory thereto under the license. The Licensee's liability for fire and other damages to NFS lands shall be determined in accordance with the Federal Power Act and standard Form L-1 Articles 22 and 24.

Condition No. 10 - Risks and Hazards on National Forest System Lands

As part of the occupancy and use of the Project area, the Licensee has a continuing responsibility to reasonably identify and report all known or observed hazardous conditions on or directly affecting NFS lands within the Project boundary that would affect the improvements, resources, or pose a risk of injury to individuals. Licensee will abate those conditions, except those caused by third parties or not related to the occupancy and use authorized by the License. Any non-emergency actions to abate such hazards on NFS lands shall be performed after consultation with the Forest Service. In emergency situations, the Licensee shall notify the Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. Whether or not the Forest Service is notified or provides consultation, the Licensee shall remain solely responsible for all abatement measures performed. Other hazards should be reported to the appropriate agency as soon as possible.

Condition No. 11 – Protection of Forest Service Special Status Species

Before taking actions to construct new project features on NFS lands that may affect Forest Service special status species or their critical habitat, the Licensee shall prepare and submit a biological evaluation (BE) for Forest Service approval. The BE shall evaluate the potential impact of the action on the species or its habitat. In coordination with the Commission, the Forest Service may require mitigation measures for the protection of the affected species.

The biological evaluation shall:

- Include procedures to minimize adverse effects to special status species.
- Ensure project-related activities shall meet restrictions included in site management plans for special status species.
- Develop implementation and effectiveness monitoring of measures taken or employed to reduce effects to special status species.

Condition No. 12 - Access

Subject to the limitations set forth under the heading of "Road Use by Government" in Condition No. 19 hereof, the Forest Service reserves the right to use or permit others to use any part of the licensed area on NFS lands for any purpose, provided such use does not interfere with the rights and privileges authorized by this license or the Federal Power Act.

Condition No. 13 - Crossings

The Licensee shall maintain suitable crossings as required by the Forest Service for all roads and trails that intersect the right-of-way occupied by linear Project facilities (powerline, penstock, ditch, and pipeline). This includes maintaining and allowing right of entry across the foot bridge over Gurnsey Creek, which provides pedestrian access to the Project when high flows in Gurnsey Creek do not allow vehicle access across the creek road ford.

Condition No. 14 – Surveys, Land Corners

The Licensee shall avoid disturbance to all public land survey monuments, private property corners, and forest boundary markers. In the event that any such land markers or monuments on NFS lands are destroyed by an act or omission of the Licensee, in connection with the use and/or occupancy authorized by this license, depending on the type of monument destroyed, the Licensee shall reestablish or reference same in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," (2) the specifications of the County Surveyor, or (3) the specifications of the Forest Service. Further, the Licensee shall ensure that any such official survey records affected are amended as provided by Law.

Condition No. 15 – Pesticide-Use Restrictions on National Forest System Lands

Pesticides may not be used on NFS lands or in areas affecting NFS lands to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, non-native fish, etc., without the prior written approval of the Forest Service. During the Annual Consultation Meeting described in Condition 1, the Licensee shall submit a request for approval of planned uses of pesticides for the upcoming year. The Licensee shall provide at a minimum the following information essential for review:

- whether pesticide applications are essential for use on NFS lands;
- specific locations of use;
- specific herbicides proposed for use;
- application rates;
- dose and exposure rates; and
- safety risk and timeframes for application.

Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made.

Pesticide use will be excluded from NFS lands within 500 feet of known locations of Forest Service Special Status aquatic species or culturally significant plant populations. Application of pesticides must be consistent with Forest Service riparian conservation objectives.

On NFS lands, the Licensee shall only use those materials registered by the U.S. Environmental Protection Agency and consistent with those applied by the Lassen National Forest and approved through Forest Service review for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers. The Licensee may also submit Pesticide Use Proposal(s) with accompanying risk assessment and other Forest Service required documents to use pesticides on a regular basis for the term of the license as addressed further in Condition 25: Vegetation and Invasive Weed Management. Submission of this plan will not relieve the Licensee of the responsibility of annual notification and review.

Condition No. 16 – Forest Service Reserves the Right to Revise Section 4(e) Conditions in Response to Other Agencies Requirements

The Forest Service reserves the right to modify these conditions, if necessary, to respond to modifications required by either 1) the U.S. Fish and Wildlife Service or NOAA Fisheries biological opinion issued for the relicensing of the Project; and 2) the water quality certification issued by the California Water Resources Control Board.

Condition No. 17 - Signs

The Licensee shall consult with the Forest Service prior to erecting signs related to safety issues on NFS lands covered by the license. Prior to the Licensee erecting any other signs or advertising devices on NFS lands covered by the license, the Licensee must obtain the approval of the Forest Service as to location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee-erected signs to neat and presentable standards.

Condition No. 18 – Ground Disturbing Activities

If the Licensee proposes ground-disturbing activities on or directly affecting NFS lands that were not specifically addressed in the Commission's NEPA processes, the Licensee, in consultation with the Forest Service, shall determine the scope of work and potential for Project-related effects, and whether additional information is required to proceed. Upon Forest Service request, the Licensee shall apply for a Special Use Authorization to cover these activities, and shall be responsible for funding all costs associated with its issuance, including any Forest Service's staff time and expenses.

Condition No. 19 – Road Use by Government

The United States shall have unrestricted use of any road over which the Licensee has control within the Project area for all purposes deemed necessary and desirable in connection with the protection, administration, management, and utilization of NFS lands or resources. When needed for the protection, administration, and management of NFS lands or resources the United States shall have the right to extend rights and privileges for use of the right-of-way and road thereon, to States and local subdivisions thereof, as well as to other users. The United States shall control such use so as not to unreasonably interfere with the safety or security uses, or cause the Licensee to bear a share of the costs disproportionate to the Licensee's use in comparison to the use of the road by others.

Condition No. 20 – Road Use by Licensee

The Licensee shall confine all vehicles being used for Project purposes, including but not limited to administrative and transportation vehicles and construction and inspection equipment, to roads or specifically designated access routes. The Forest Service reserves the right to close any and all such routes where damage is occurring to the soil or vegetation, or, if requested by Licensee, to require reconstruction/construction by the Licensee to the extent needed to accommodate the Licensee's use. The USFS agrees to provide notice to the Licensee and the Commission prior to road closures, except in an emergency, in which case notice will be provided as soon as practicable.

ADDITIONAL FOREST SERVICE PROVISIONS

Condition No. 21 – Streamflow

Part 1. Collect Streamflow and Water Rights Data

- a) Within one month of license issuance, Licensee shall measure, document, and submit to involved resource agencies, actual streamflow, in cubic feet per second (cfs), flowing from Fern Springs and associated un-named Project-affected springs as well as in Fern Springs Creek. The flows shall be measured by installation of a Parshall (or similar measuring) type flume, following Forest Service design approval, at the specific sites described below as Streamflow Measuring Sites:
 - i. In each spring contributing to the Project reservoir between their origin and entry into the Project Reservoir.
 - ii. Below the Project dam as inflow into Fern Springs Creek.
 - iii. As measured within the Project penstock.
 - iv. As measured within the domestic diversion from Fern Springs.

Flows shall be measured monthly for a period of at least two years, resulting in 24 measurements at each of the four sites listed above. If licensee cannot collect monthly flow measurements due to conditions beyond control of Licensee, such as access or flow is frozen, Licensee shall notify Forest Service in writing.

- b) Within one month of license issuance, Licensee shall submit to the FERC, SWRCB, and USFS, documents showing water rights for Project facilities.

Part 2. Minimum Instream Flow (MIF) Requirements

Upon License issuance the Licensee shall bypass all inflow into Fern Springs Creek, until the Licensee has installed the flow measurement devices described above. After installation of the flow measurement devices, the Licensee shall release into Fern Springs Creek (between the Project Dam and Gurnsey Creek confluence) the following:

- a) **In all years:** release all flows that exceed Licensee's state water right (presumed to be 3 cfs).
- b) **In dry years** (defined as years when combined flows are less than 4 cfs from Fern and Project-affected Springs with appropriated water rights are available for diversion): release sufficient flows, estimated at this time to be 1 cfs, to provide connectivity of water in Fern Springs Creek between the Project dam and confluence with Gurnsey Creek.

Part 3. Adaptive Management Review of Minimum Streamflow Requirements

Following the two years of data collection required by Part 1 of this condition, the jurisdictional resource agencies will determine if any adjustments to the minimum instream flow requirement in part 2 are needed based on actual flow information. This

may include a determination of whether differing seasonal MIF are required in years that start out as "non- dry", but then drop below 4 cfs inflow later in the season.

Condition No. 22 – Aquatic Biological Monitoring

Part 1. Periodic Monitoring

Licensee shall every five years from license issuance, and for the life of the license, conduct aquatic biological monitoring (at a time of year agreed to by the Forest Service) as follows:

- a) For benthic macro invertebrates (BMI), follow the State Surface Water Ambient Monitoring Program (SWAMP) or current protocol for monitoring BMI in Fern Springs Creek below the Project dam.
- b) Conduct an aquatic survey (developed in collaboration with the Forest Service) of Fern Springs Creek, noting any Forest Service aquatic special status species (e.g. cascade frogs) and salmonid species. Additionally, the aquatic survey should evaluate and document changes to the Fern Springs Creek channel and riparian community. The Licensee shall obtain a current list of Forest Service aquatic special status species prior to each five-year monitoring survey.

Part 2. Mitigations

Licensee shall during ground or aquatic disturbing activities, implement the following applicable measures:

- a. Install protective exclusion fencing around sensitive habitats prior to ground disturbing activities.
- b. Complete pre-construction surveys within 30 days of ground disturbing construction activities to identify and relocate Forest Service aquatic special status species within the construction imprint to appropriate habitat outside the construction footprint.
- c. Any additional mitigations as determined necessary by the Forest Service for resource protection following review of Licensee proposed changes to the Project, as required by License Condition No.2. *Approval of Changes*, No. II *Protection of Forest Service Special Status Species*, and No. 18 *Ground Disturbing Activities*.

Condition No. 23 – Erosion and Sediment Control and Management**Part 1. Best Management Practices and Evaluation Protocols**

Following license issuance, Licensee shall adhere to Best Management Practices (BMPs) when implementing ground-disturbing activities. Potentially applicable BMPs for this project that shall be implemented during applicable construction and maintenance activities (Attachment 1a)⁵² include:

- 2-2: Erosion Control Plan
- 2-3: Timing of Construction Activities
- 2-4: Stabilization of Road Slope Surfaces & Spoil Disposal Areas
- 2-5: Road Slope Stabilization Construction Practices
- 2-7: Control of Road Drainage
- 2-10: Construction of Stable Embankments (Fills)
- 2-11: Control of Sidecast Material During Construction & Maintenance
- 2-12: Servicing and Refueling of Equipment
- 2-13: Control of Construction & Maintenance Activities Adjacent to SMZs
- 2-14: Controlling In-Channel Excavation
- 2-15: Diversion of Flows Around Construction Sites
- 2-17: Bridge and Culvert Installation
- 2-20: Specifying Riprap Composition
- 2-22: Maintenance of Roads
- 2-23: Road Surface Treatment to Prevent Loss of Materials
- 2-28: Surface Erosion Control at Facility Sites
- 7-2: Conduct Floodplain Hazard Analysis and Evaluation
- 7-4: Forest & Hazardous Substance SPCC Plan
- 7-5: Control of Activities Under Special Use Permit
- 7-6: Water Quality Monitoring

Licensee shall complete evaluation protocols (listed below and detailed in Attachment 1 b.)⁵³ or BMP's that require monitoring, to detect/evaluate erosion and sediment from Project activities (including roads) during and/or following (as instructed) applicable ground-disturbing activities.

⁵² Attachment 1a (Applicable Best Management Practices) may be found attached to the Forest Service's Final 4(e) Conditions, filed with the Commission on July 11, 2012.

⁵³ Attachment 1b (Evaluation Forms and Instructions for Applicable Best Management Practices) may be found attached to the Forest Service's Final 4(e) Conditions, filed with the Commission on July 11, 2012.

- a) E08: Road Surface, Drainage and Slope Protection
- b) E11: Control of Sidecast Material
- c) E12: Servicing and Refueling
- d) E13: In-Channel Construction Practices
- e) E15: Rip Rap Composition
- f) E19: Restoration of Borrow Pit and Quarries

Completed evaluation protocols are to be submitted to the Forest Service for review within 10 days of completion. Timing for each specific evaluation protocol differs and is specified in the User Guide for each Best Management Practice (BMP) - Evaluation Protocol form (Attachment 1b & 1c).⁵⁴

If evaluation protocols identify occurrence of erosion or sediment, Licensee shall additionally submit proposed mitigation solution(s) with the evaluation(s) and dates within 1 month of submittal when the Licensee is available to meet with the Forest Service to review the mitigation(s) (as provided for in License Condition No. 1 "Consultation"). Following Forest Service revision or approval of the mitigation(s), Licensee shall implement the mitigation(s).

Part 2. Preventative Measures During Ground Disturbing Activities

During ground disturbing activities (including Project operation, maintenance, construction, reconstruction, repairs, etc.) on NFS lands, the Licensee shall propose, for Forest Service approval, specific measures to prevent erosion and sediment run-off. These may include, but not necessarily be limited to the following:

- Installation and maintenance of waterbars, rolling dips, culverts or other water diversion measures.
- Temporary installation of protective measures during ground disturbing activities such as straw waddles, mats, or other measures.
- Temporary installation of fencing to restrict construction activities from areas that could induce erosion or sedimentation.
- Temporary application of water or dust palliatives to control dust.
- Limit non-emergency ground disturbing operations/construction to periods with dry soil conditions and minimal runoff.
- Prevent sidecast and spoil material from entering stream courses during ground-disturbing, construction or road maintenance activities.

⁵⁴ Attachment 1b & 1c (Best Management Practices User Guide) may be found attached to the Forest Service's Final 4(e) Conditions, filed with the Commission on July 11, 2012.

Condition No. 24 – Botanical Surveys and Invasive Weed Management

Prior to any ground disturbing activity on NFS lands, the licensee shall implement applicable measures listed below, or others as deemed necessary and approved by the Forest Service prior to initiation of ground disturbing activities:

- All construction equipment will be weed-free prior to entering NFS lands. To ensure this, Licensee will clean such equipment of seeds, soil, vegetative matter, and other debris that could contain or hold seeds. Licensee shall notify Forest Service of its cleaning measures and make the equipment available for inspection. Forest Service shall have 2 days, excluding weekends and federal holidays to inspect equipment after it has been made available. Equipment shall be considered clean when a visual inspection does not disclose seeds, soil, vegetative matter, and other debris that could contain or hold seeds. Licensee shall not be required to disassemble equipment unless so directed by the Forest Service after inspection.
- Licensee shall submit a proposed native seed mix to Forest Service for review. Following Forest Service approval, Licensee shall apply approved seed mix and mulch on all disturbed soils where vegetation growth is appropriate.
- If necessitated by a change in Forest Service special status species lists, Licensee may need to perform additional botanical surveys during the term of the license, as notified by the Forest Service.

Condition No. 25 – Project Security and Public Safety

Licensee to secure Project facilities (e.g. powerhouse, gates, etc.) by locks or other means, against access or tampering by unauthorized parties. This measure will provide for public safety on adjacent public lands as well as downstream aquatic resources.

Document Content(s)

P-1992-003Order.DOC.....1-64