



MEMORANDUM

Date: June 01, 2011
To: Water Right File 2-10325
From: medl
Re: FERC license amendment

The license for Shoshone Falls Hydroelectric Project FERC #2778 was amended by order on July 1, 2010. The order grants changes to capacity, aesthetic flows and license period.

Contingent upon commencement of operation of the 50-MW turbine, the license term has been extended 10 years to expire on July 31, 2044.

132 FERC ¶ 62,001
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company

Project No. 2778-035

ORDER AMENDING LICENSE AND REVISING ANNUAL CHARGES

(Issued July 01, 2010)

1. On August 17, 2006, Idaho Power Company (licensee) filed an application to amend its license for the Shoshone Falls Hydroelectric Project No. 2778 to redevelop the project to increase the installed capacity, to modify aesthetic flows, and to extend the current license term by a period of 20 years. The project is located on the Snake River in Jerome and Twin Falls Counties, Idaho and occupies 1.98 acres of federal lands managed by the U.S. Department of the Interior's Bureau of Land Management (BLM). As discussed below, this order grants the amendment in part.

Background

2. On August 4, 2004, the Commission issued new licenses with 30-year terms for five licensee-owned projects on the central portion of the Snake River Basin, in south-central Idaho. Starting farthest upstream, they were the instant Shoshone Falls Project, the Upper Salmon Falls Project No. 2777, the Lower Salmon Falls Project No. 2061, the Bliss Project No. 1975, and the C.J. Strike Project No. 2055.¹ The first four projects, located along a 57-mile-long reach of the river, are sometimes referred to as the Mid-Snake Projects.

3. The Shoshone Falls Project includes an 800-foot-long concrete diversion dam averaging 16 feet in height comprised of four sections separated by rock islands at the crest of Shoshone Falls; a 1.8-mile-long, 88-acre reservoir with a gross storage capacity of 1,500 acre-feet; a 450-foot-long, concrete-lined water-conveyance tunnel leading to a

¹ See August 4, 2004 orders issuing new licenses for the Shoshone Falls Project No. 2778, 108 FERC ¶ 61,125; the Upper Salmon Falls Project No. 2777, 108 FERC ¶ 61,126; the Lower Salmon Falls Project No. 2061, 108 FERC ¶ 61,127; the Bliss Project No. 1975, 108 FERC ¶ 61,128; and the C.J. Strike Project No. 2055, 108 FERC ¶ 61,129.

120-foot-long, 10-foot-diameter, steel-plate penstock; a powerhouse consisting of two sections: a 48-foot-long by 30.5-foot-wide by 31-foot-high concrete structure built in 1907 and housing two generating units, and a 72-foot-long by 33.5-foot-wide by 59.5-foot-high concrete-and-steel-frame-structure addition housing a third generating unit; three turbine/generator units having a total authorized installed capacity of 11.875 MW; and a 100-foot-long tailrace channel. The current average annual generation at the Shoshone Falls Project is 97,315 megawatt-hours (MWh).

4. The project is operated in a run-of-river mode under all flow conditions. The project's existing four-section diversion dam, located above the crest of Shoshone Falls, diverts water into an intake structure and thence into a tunnel and connected penstock, terminating at a powerhouse containing the three generators. Flows in excess of the project's hydraulic capacity spill over the diversion dam back into the river channel and then spill over the crest of Shoshone Falls.

Proposed Amendment

5. The licensee proposes the following modifications to the project.

A. Facility Modification

6. The project currently has a powerhouse that consists of two separate sections. The licensee proposes to remove the powerhouse sections that contain the 0.4-MW and 0.6-MW generating units, and construct a new concrete powerhouse section containing a single new 50-MW generating unit. The revised design would change the authorized installed capacity of the project from 11.875 MW to 60.875 MW and increase the hydraulic capacity of the project from 950 cubic feet per second (cfs) to 4,850 cfs. The licensee states that the project would remain a run-of-river facility, that no changes to flow duration, timing, or extent would occur either upstream or downstream of Shoshone Falls, and that reservoir elevations would not change. With the proposed upgrade, the project would have an incremental increase in average annual generation of 200 GWH.

7. The licensee also proposes the following modifications: (1) replace the wooden lift gates on one of the project diversion dam's four sections (Dam Section No. 4) with new hydraulically operated bottom-hinged gates; (2) lower the existing intake structure by 4 feet; (3) construct a new approach channel and intake structure; and (4) construct a new 17-foot-diameter tunnel leading from the intake structure to the new powerhouse.

B. Aesthetic Flow Modification

8. The licensee proposes to modify the timing of the aesthetic flows required pursuant to license Article 402 which currently requires minimum aesthetic releases of 300 cfs over Shoshone Falls to maintain the falls' visual attractiveness during daylight hours from April 1 through Labor Day. The licensee proposes to generate additional

power at the project by diverting additional water from Shoshone Falls Reservoir through a new intake structure, tunnel and penstock to a turbine for its proposed 50-MW generator, rather than spilling such water over Shoshone Falls. It therefore requests that the license be amended to reduce flows over the falls by providing minimum aesthetic releases over Shoshone Falls of 300 cfs from 9:00 a.m. to 8:00 p.m. (rather than during all daylight hours) from April 1 through Labor Day.²

9. The licensee also proposes to make supplemental aesthetic releases on weekends, from April 15 through June 16; on Fridays from 4:00 p.m. to 8:00 p.m.; and on Saturdays, Sundays, and Memorial Day from 9:00 a.m. to 8:00 p.m. On such weekends, plant flows for power generation would be limited to 950 cfs when total river flow is less than 9,950 cfs. When total flows exceed 9,950 cfs, plant flows would increase as high as 4,850 cfs while leaving a minimum of 9,000 cfs of water to flow over Shoshone Falls.³

C. Extension of License Term

10. In light of the capital investment required by its proposed project modifications, the licensee requests that the term of the license for the Shoshone Falls Project be extended from 30 to 50 years.

Public Notice

11. On October 11, 2006, the Commission issued public notice of the application to amend the license, and soliciting comments and motions to intervene.⁴ On February 27,

² See licensee's application for amendment of license, Exhibit B, Section B.1.3.

³ *Id.*

⁴ Before filing the application, the licensee in accordance with the Commission regulations consulted with the following entities: Advocates for the West, American Rivers, BLM, City of Jerome, Idaho, City of Twin Falls, Idaho, Columbia River Inter-Tribal Fish Commission, Idaho Attorney General's Office, Idaho Department of Environmental Quality, Idaho Department of Fish and Game (Idaho DFG), Idaho Department of Parks and Recreation (Idaho DPR), Idaho Department of Water Resources (Idaho DWR), Idaho State Historic Preservation Office (SHPO), Idaho Wildlife Federation, U.S. Department of the Interior (Interior), Jerome City Council, Jerome County Commission, National Park Service (NPS), Nez Perce Tribe, National Marine Fisheries Service, Shoshone-Bannock Tribe; Shoshone-Paiute Tribes, South Central Idaho Tourism and Recreation Development Association, Inc., Twin Falls Canal Company, Twin Falls County Commission, Twin Falls County Park and Waterways, U.S. Bureau of Indian Affairs, U.S. Bureau of Reclamation, and the U.S. Fish and Wildlife Service (FWS).

(continued)

2007, the Commission issued its draft environmental assessment (EA) for the proposed license amendment and requested comments to be filed by March 30, 2007. On March 2, 2007, the Commission issued a public notice announcing that the licensee's application was accepted for filing and ready for further environmental analysis, and soliciting comments, motions to intervene, recommendations, terms and conditions, and fishway prescriptions. The State of Idaho, the United States Department of the Interior (Interior), Idaho Rivers United, American Rivers, Country Club Estates, Larry Anderson, Jr., Eileen McDevitt, Judy Spooner, Eric and Susann Ettesvold, and Larry Anderson, Sr. filed timely comments and recommendations.

12. Interior and the State of Idaho filed timely motions to intervene in the proceeding. The Shoshone-Bannock Tribes were granted late intervention by notice issued on February 25, 2010.

13. On May 1, 2007, FWS and Idaho DFG filed comments on the draft EA and recommendations for the protection of fish and wildlife at the project pursuant to section 10(j) of the Federal Power Act (FPA). Commission staff addressed these comments and recommendations in a final supplemental EA for the project issued on December 4, 2007. FWS, NPS, Idaho DFG, and Idaho DPR filed comments on the final supplemental EA. Findings of the final supplemental EA, comments, and section 10(j) recommendations are discussed below in appropriate sections of this order.

14. The motions to intervene, comments and recommendations have been fully considered in determining whether, or under what conditions, to approve this amendment of license.

Water Quality Certification

15. Under section 401(a)(1) of the Clean Water Act (CWA),⁵ the Commission may not authorize construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.⁶

⁵ 33 U.S.C. § 1341(a)(1) (2006).

⁶ 33 U.S.C. § 1341(d) (2006).

16. The licensee submitted its request for water quality certification for its proposed license amendment to the Idaho Department of Environmental Quality (Idaho DEQ) on February 13, 2006, thereby giving Idaho DEQ under section 401(a)(1) of the CWA one year until February 13, 2007, to act on the licensee's request for certification. By letter filed with the Commission on March 30, 2007, Idaho DEQ acknowledged that it had not acted on the licensee's certification request within the one year period.⁷ Idaho DEQ certification of the proposed license amendment is therefore deemed waived.

Threatened and Endangered Species

17. Section 7(a) of the Endangered Species Act (ESA)⁸ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species, or cause the destruction or adverse modification of the critical habitat of such species.

18. The project area contains potential habitat for two species of aquatic snails federally listed as endangered, the Snake River physa (*Physa natricina*) and Utah valvata (*Valvata utahensis*), and one snail species federally listed as threatened, the Bliss Rapids snail (*Taylorconcha serpenticola*).

19. On May 1, 2007, both FWS and Idaho DFG recommended that the licensee conduct pre-construction surveys to determine if listed snails occur in the project area.⁹

20. On December 7, 2007, the licensee filed with the Commission the results of its surveys for endangered and threatened snails. No listed snails were found in any of the 130 samples taken at four locations surveyed by the licensee within the Shoshone Falls Project area. Although the licensee found old *Valvata* shells in three dredge samples taken at an excavated location, it was unable to determine whether the shells had

⁷ Idaho DEQ states in its letter that since construction under the proposed license amendment will require a dredge and fill permit under section 404 of the CWA (33 U.S.C. §1344), it will seek to have its water quality concerns addressed through the section 404 permit certification process. Idaho DEQ nevertheless submitted recommendations for the protection of water quality which the Commission has considered under the discretionary authority granted it under 10(a) of the FPA. See subsection entitled "Construction Related Plans Impacting Water Quality" in this order's section on recommendations under section 10(a)(1) of the FPA.

⁸16 U.S.C. § 1536(a) (2006).

⁹ FWS and Idaho DFG's recommendations were made pursuant to their authority under Section 10(j) of the FPA.

originated in the surveyed area or had been swept in during a high flow event. It concluded that the absence of live *Valvata* snails in the surveyed areas indicated a low probability of the species occurring in the areas to be disturbed under the proposed license amendment. Staff has concluded that the proposed amendment of license is not likely to adversely affect the three above discussed federally listed snail species and their habitat.

21. In comments on the licensee's surveys filed on January 12, 2009, FWS agreed that a determination of no effect, or not likely to adversely affect federally listed threatened or endangered snails may be appropriate for the project. It added, however, that because final engineering plans for the proposed license amendment have not been prepared, it was not possible to know where all the construction impacts may occur and if sampling has been adequate. FWS therefore requested that the licensee file its finalized proposed construction plan for FWS review to determine if a No Effect determination is still appropriate, or if more sampling may be necessary. Article 418 requires the licensee to consult with FWS after final detailed engineering plans are prepared to determine if additional sampling is needed and file documentation of the consultation prior to any construction under the license as amended by this order.

22. In the event that ESA-listed Snake River snails are found to occur in the vicinity of the project, FWS also recommends that the licensee immediately notify it and the Commission, cooperate to determine appropriate actions to comply with section 7 of the ESA, and work with it to develop and obtain approval of a post-construction monitoring plan. Article 419 requires the licensee to develop appropriate species protection and mitigation measures, in consultation with FWS and Idaho DFG, prior to any construction activity for this license amendment in the event any ESA listed snails are identified in the vicinity of the project.¹⁰

¹⁰The supplemental EA notes that a rare plant, the chatterbox orchid (*Epipactis gigantean*), has been documented in the project vicinity. The chatterbox orchid is a state-priority species and a BLM sensitive species, but not a federally listed species. Under the project land management plan required by license Article 409, any areas within the project containing the chatterbox orchid affected by construction would qualify for measures to mitigate the impact of construction activity on the chatterbox orchid. The licensee proposes to document biological resources in the construction and dewatered areas of the project prior to and during construction. If the chatterbox orchid is identified in these areas, the licensee could under Article 409 implement appropriate mitigation measures, if needed, to minimize any effects of construction on this species.

Historic Resources

23. Under section 106 of the National Historic Preservation Act (NHPA),¹¹ and its implementing regulations,¹² 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 any undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer, and any Indian tribes that attach religious and cultural significance to historic properties potentially affected by the proposed action, to determine whether and how the action may affect historic properties and seek ways to avoid or minimize any adverse effects.

24. To satisfy its NHPA responsibilities at relicensing, the Commission on March 20, 2002, executed a Programmatic Agreement (PA) with the Advisory Council on Historic Preservation and the Idaho SHPO for managing historic properties that may be affected by the new license for the Shoshone Falls Project. Pursuant to the PA and license Article 408, which requires its implementation, the licensee prepared an historic properties management plan (HPMP), which the Commission approved on September 26, 2006. The HPMP specifies the measures and processes by which the licensee will resolve project effects on historic properties throughout the term of the license. The licensee in accordance with the HPMP has consulted with the Idaho SHPO regarding resolution of adverse effects on historic properties.

25. The Shoshone Falls Project powerhouse consists of two sections, built in 1907 and 1921, that are eligible for inclusion in the National Register of Historic Places. The licensee proposes to demolish the 1907 section of the powerhouse and replace it with a new section containing a new 50-MW generating unit. It proposes to resolve the adverse effects of its proposed demolition of the 1907 section by (1) nominating the 1907 and 1921 sections of the powerhouse to the National Register, (2) documenting the features of both sections to the standards of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER), and (3) donating equipment removed from the 1907 section to the Twin Falls County Historical Society for use in a permanent exhibit.

26. By letter to the licensee dated October 27, 2006, the Idaho SHPO concurred with the licensee's proposed measures for the project's existing and proposed new powerhouse. The licensee in turn has agreed to implement additional measures

¹¹ 16 U.S.C. § 470 (2006) *et seq.*

¹² 36 C.F.R. Part 800 (2009).

recommended by the SHPO to make the design of the new section of the powerhouse compatible with the 1921 section.

27. On March 5, 2007, the Commission sent the Shoshone Tribe of Wind River Reservation and the Shoshone-Bannock Tribes a copy of the draft EA for review and comment and requested concurrence with its findings under section 106 of the National Historic Preservation Act (NHPA). No responses were received from the two tribes.

28. To implement the licensee's proposed measures, Article 305 requires the licensee to consult with the NPS in the development of HABS/HAER documentation of the 1907 and 1921 sections of the powerhouse, design the new section of the powerhouse to be compatible with the design of the 1921 section of the powerhouse, meet the Secretary of the Interior's Standards and Guidelines for New Construction/Additions, and have the design reviewed by the SHPO during the planning stages. It also requires the licensee to coordinate with BLM during implementation of these cultural resources measures, and provide BLM with copies of the completed National Register forms and HABS/HAER documentation.

Section 18 Fishway Prescriptions

29. Section 18 of the Federal Power Act (FPA)¹³ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate. No fishway prescriptions or reservations of authority were filed under section 18 of the FPA for this proceeding.

Recommendations Pursuant to Section 10(j) of the FPA

30. Section 10(j)(1) of the FPA¹⁴ requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,¹⁵ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

¹³ 16 U.S.C. § 811 (2006).

¹⁴ 16 U.S.C. § 803(j)(1) (2006).

¹⁵ 16 U.S.C. § 661 *et seq.* (2006).

31. In response to the Commission's March 2, 2007 public notice soliciting comments and recommendations on the licensee's application, FWS filed five and Idaho DFG filed six recommendations under section 10(j) of the FPA.¹⁶

32. This order adds new license article requirements consistent with four FWS recommendations and four Idaho DFG recommendations found to be within the scope of section 10(j). Accordingly, this order requires: (1) project compliance with applicable Idaho water quality standards as recommended by FWS (Article 415); (2) development and implementation of a long-term water quality monitoring plan as recommended by FWS (Article 415); (3) initiation of project-specific methods to ameliorate low dissolved oxygen (DO) conditions in consultation with FWS and the State of Idaho, if the results of post construction monitoring indicate the project is causing DO levels below State of Idaho standards as recommended by FWS (Article 415); (4) development and implementation of a water quality monitoring plan that complies with state of Idaho water quality standards to avoid adverse water quality impacts and identifies best management practices (BMP's) and other environmental measures that the licensee would implement during construction to control potential water quality impacts as recommended by Idaho DFG (Article 416); (5) development of a water quality enhancement plan as recommended by Idaho DFG (Article 415); (6) licensee estimation of the potential mortality rates due to stranding behind cofferdams during construction, development of a fish stranding plan, and acquisition of appropriate permits to salvage/transport fish as recommended by Idaho DFG (Article 417); and (7) completion of surveys prior to construction to determine if federally listed Snake River snails occur in the project area as recommended by both FWS and Idaho DFG (Articles 418 and 419).

Section 10(j) Recommendations Determined to be Inconsistent with the FPA or Other Applicable Law

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

¹⁶See FWS' and Idaho DFG's letters providing section 10(j) recommendations, filed on May 1, 2007.

34. In the final supplemental EA issued on December 4, 2007, staff found that three of the recommendations (DO monitoring both upstream and downstream of the project (Idaho DFG), collection of data on the downstream Pillar Falls fishery (Idaho DFG), and preparation of a white sturgeon conservation and mitigation plan (FWS)) were inconsistent with the FPA. In a January 18, 2008 letter to the Commission, Idaho DFG concurred with staff that DO monitoring both upstream and downstream of project and collection of data on the downstream Pillar Falls fishery were unnecessary.¹⁷

35. By letter of August 21, 2009, Commission staff advised FWS that staff had made an initial determination that FWS' section 10(j) recommendation to develop and implement a second white sturgeon conservation and mitigation plan may be inconsistent with the substantial evidence standard of section 313(b) and the public interest standard of section 10(a)(1) of the FPA. In an email message to Commission staff dated October 26, 2009, FWS indicated that it had no additional comments on the matter. The inconsistency therefore was not resolved.

36. Article 405 of the current license for the project requires the licensee to file for Commission approval a White Sturgeon Conservation Plan for the purpose of evaluating limiting factors affecting white sturgeon populations and developing implementation measures to protect, mitigate damages to, and enhance white sturgeon populations in the project area. The article requires that the plan, at a minimum, include: (1) specific descriptions of measures proposed for the protection, mitigation, and enhancement of white sturgeon in the project area and the estimated cost of such measures; (2) an evaluation of the feasibility of providing upstream and downstream fish passage at the project dam, and (3) an implementation schedule.

37. On May 31, 2006, the Commission staff issued an order accepting a licensee-developed white sturgeon conservation plan for the Shoshone Falls Project and the licensee's other downstream Mid-Snake projects and the C.J. Strike Project (Project Nos. 2777, 2061, 1975, and 2055).¹⁸ The plan was developed pursuant to Article 405 of the

¹⁷ The EA noted that the licensee is currently required to monitor DO and water temperature in the Shoshone Falls tailrace from March 1 to November 15 under Article 404 of the current project license. In addition, the licensee, from June 15 to October 15, monitors DO and water temperature in the downstream tailrace of its Twin Falls Project No. 18, located 0.5 mile upstream from Shoshone Falls, pursuant to Article 404 of the Twin Falls Project license. Continuing currently required DO monitoring at the tailraces of the Shoshone Falls and Twin Falls projects along with new measures required by Article 415 for total dissolved gas monitoring will provide the upstream and downstream DO and water temperature data sought by Idaho DFG.

¹⁸ 115 FERC ¶ 62,239 (2006).

license for the Shoshone Falls Project and equivalent articles in the other four project licenses. No entities sought rehearing of the 2006 order.

38. Asserting in its May 1, 2007 filing that actual measures for sturgeon restoration must proceed without further delay, FWS recommends under its section 10(j) authority that the licensee complete and implement within one year of issuance of the proposed license amendment, a Final White Sturgeon Conservation and Mitigation Plan that would essentially modify or supersede the plan approved by staff in 2006. It states that its recommended plan must go beyond study and monitoring fish populations and specifically require implementation of measures aimed at increasing white sturgeon populations.¹⁹ FWS however does not identify any such measures.

39. The approved plan includes an analysis of risks to the long-term existence of white sturgeon populations in the 500 river-mile reach between Shoshone Falls and Lower Granite Dam and requires protection, mitigation, and enhancement for white sturgeon for reaches as recommended by a white sturgeon technical advisory committee made up of representatives from FWS and other federal, state, tribal entities and requires an implementation schedule and estimated costs for proposed measures.

40. Under the currently approved white sturgeon conservation plan, the Commission reserves the right to require changes to the plan including its implementation schedule if conditions warrant. The plan additionally requires the licensee to file with the Commission beginning in 2006 at least five annual progress reports on implementation of

¹⁹ FWS' section 10(j) recommendation for a White Sturgeon Conservation and Mitigation Plan reads in its entirety as follows:

The Licensee shall, within one year of issuance of the amended license, for the conservation, development, and mitigation of damages to fish and wildlife resources, complete and implement a Final White Sturgeon Conservation and Mitigation Plan (Mitigation Plan) for the Snake River reach from Shoshone Falls to the upper end of Lower Granite Reservoir. The Mitigation Plan shall be completed in consultation with the Service, the State fish and wildlife agencies, and the affected Tribes. The Mitigation Plan shall, of necessity, go beyond study and monitoring, and shall include the implementation of specific operational changes, structural changes, aquatic habitat restoration measures, supplementation, and/or other actions aimed at increasing sturgeon reproduction, growth, and survival in the Snake River downstream of Shoshone Falls.

the plan along with any comments on the reports from FWS and other specified federal, state and tribal entities.²⁰

41. For the above reasons and in accordance with FPA section 10(j)(2)(A), the FWS' recommendation is inconsistent with the substantial evidence standard of section 313(b) and the comprehensive planning standard of section 10(a) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, I find that the measures required by the project license as amended by this order will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project.

Recommendations under Section 10(a)(1) of the FPA

42. Section 10(a)(1) of the FPA²¹ requires that any project for which the Commission issues a license shall 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. Idaho DEQ, Idaho DFG, FWS, and NPS made recommendations that I have considered under the broad public interest standard of FPA section 10(a)(1).

A. TDG Monitoring Plan

43. Excessive dissolved-gas concentrations in rivers can have adverse effects on freshwater aquatic life. Spills over Twin Falls, located 2.5 miles upstream from the Shoshone Falls reservoir, entrain air resulting in supersaturated total dissolved gas (TDG) levels downstream of Twin Falls. TDG levels remain high downstream through Shoshone Falls reservoir and in water passing through the Shoshone Falls Project penstock and powerhouse.

44. The licensee's TDG monitoring studies indicate that routing water through the project's turbines does not have a predictable effect on TDG and that allowing water to flow over the natural falls has varying effects on TDG levels in the project tailrace.²² Commission staff cannot predict with any certainty how the licensee's proposed changes to project operations will affect TDG levels at the project until the licensee's proposed

²⁰ FWS had no comments on the two most recent progress reports filed with the Commission on July 3, 2008 and July 1, 2009.

²¹ 16 U.S.C. § 803(a)(1) (2006).

²² See Supplemental EA at 29-31.

new 50-MW turbine is installed and operating. Staff therefore concurs with FWS' recommendation that the licensee monitor TDG. Article 415 requires the licensee to monitor TDG at the project in addition to DO.

B. Turbine Fish Mortality

45. Survival rates of fish passing through turbines are affected by many factors to include water pressure changes, cavitation, shear/turbulence, and mechanical contact. Such rates are generally higher for fish passing through Kaplan turbines than for Francis turbines.²³ The licensee's proposed new 50-MW Kaplan generating unit would replace the project's existing Francis generating Units 1 and 2. Commission staff in the supplemental EA concurred with the licensee's conclusion that the potential for turbine blade strikes and resultant fish mortality with the proposed new turbine would be limited and that no substantial effects on fish populations are expected to occur.²⁴ However, the FWS in comments suggests that the Commission staff should re-evaluate the supplemental EA's conclusions about Kaplan turbines in light of recent scientific papers on fluid dynamics not considered by staff in the supplemental EA.²⁵ The FWS did not recommend turbine mortality studies nor any mitigative measures to address turbine mortality. Staff has reviewed these papers referenced by the FWS, which report on simulated fish passage and finds that while water pressure change is a factor to be considered in turbine mortality, other factors identified above play a role and should not be overlooked when assessing turbine related mortality. Further, these papers investigated the effects of turbine passage on downstream migrating juvenile salmonids. The fish resource found in the project impoundment is dominated by resident non-game species with no migratory need to move downstream of the project to complete life history requirements. Therefore, staff finds that operation of the new turbine would not cause significant impacts to the fish population of the project area.

C. Construction Related Plans Impacting Water Quality

46. Idaho DEQ recommends that the licensee be required to provide to Idaho DEQ for approval, prior to any construction, detailed plans and specifications for proposed construction, an erosion sediment control plan, and a construction-related water quality monitoring plan.²⁶ The Commission retains final approval authority over all plans

²³ *Id* 32.

²⁴ *Id* at 32-33.

²⁵ *See* FWS comments filed on January 23, 2008 at 2.

²⁶ *See* Idaho DEQ letter to the Commission filed on March 30, 2007.

required to be filed with the Commission. However, Article 416 requires the licensee to prepare for Commission approval a project construction water quality monitoring plan developed in consultation with Idaho DEQ and the Corps. Article 303 requires that the licensee's construction plans and specifications for the proposed license amendment include an erosion and sediment control plan. These two license article provisions should address the concerns raised by Idaho DEQ's recommendation.

D. Recreation and Aesthetic Resources

1. Shoshone Falls

47. Shoshone Falls is a major Idaho scenic attraction, particularly during spring high flows in the Snake River. The falls cascade down 212 feet into the river, a drop greater than that of Niagara Falls. Public observation points provide panoramic views of the falls and surrounding gorge. The falls and the Shoshone Falls Project make up a visual unit that includes the upper and lower waterfall areas, plunge pool and downstream portion of the river, powerhouses, ancillary structures, and adjacent shoreline. The City of Twin Falls, Idaho's Shoshone Falls Park, immediately below the falls on the south bank of the Snake River and readily accessible by car, is the primary site for viewing the falls.

2. Licensee's Proposed Changes to Aesthetic Flows over Shoshone Falls

48. Article 402 of the new license as issued in 2004 requires a minimum-release flow of 300 cfs, or the inflow to the project reservoir, if less than 300 cfs, over Shoshone Falls during daylight hours, from April 1 through Labor Day. The prescribed minimum falls flow release under the article may be temporarily modified if required by operating emergencies beyond the licensee's control and for short periods upon agreement among the licensee and NPS, Idaho DPR, and Idaho DEQ. Before April 1 and after Labor Day, the licensee is permitted to use all available flows for power generation during an entire 24-hour day.

49. The licensee proposes to generate additional power at the project by diverting additional water from Shoshone Falls Reservoir through a new intake structure, tunnel and penstock to its proposed modified powerhouse containing its proposed new 50-MW generator, rather than spilling such water over Shoshone Falls. It therefore requests that the license be amended to reduce the hours of the day that the 300 cfs minimum aesthetic releases are made over Shoshone Falls to between 9:00 a.m. and 8:00 p.m. (rather than during all daylight hours) from April 1 through Labor Day.²⁷ During the remaining hours of each 24-hour day, the licensee from April 1 to Labor Day would be permitted to

²⁷ See licensee's application for amendment of license, Exhibit B, Section B.1.3.

use all available flows for power generation. Before April 1 and after Labor Day, the licensee would be permitted to use all available flows during the entire 24-hour day.

50. To minimize the adverse effect of its proposed minimum flows on the visual appearance of flows over the falls, the licensee also proposes to make supplemental aesthetic releases on weekends from April 15 through June 16; on Fridays from 4:00 p.m. to 8:00 p.m.; and on Saturdays, Sundays, and Memorial Day from 9:00 a.m. to 8:00 p.m. On those occasions, depending on inflows, flows over the falls would be one of the following: (a) a minimum falls flow of 300 cfs until inflow exceeds 1,250 cfs; (b) a minimum falls flow of inflow less 950 cfs when inflow is between 1,250 and 9,950 cfs; (c) a minimum falls flow of 9,000 cfs when inflow is between 9,950 and 13,850 cfs; or (d) a minimum falls flow of inflow less 4,850 cfs when inflow exceeds 13,850 cfs.²⁸

3. Staff's Environmental Assessment

51. The 9:00 a.m. to 8:00 p.m. period for 300 cfs minimum aesthetic flow releases proposed by the licensee is somewhat shorter than the all-daylight-hours period required under the current license. However, data reviewed in Commission staff's supplemental EA provided by the licensee on visitation during the months of April, May, and June 2005, indicated that about 87 percent of viewers at Shoshone Falls Park observed the falls between 9:00 a.m. and 8:00 p.m. Staff therefore believes that the proposed reduction in hours for minimum aesthetic flow releases would not be expected to result in any large reduction in visitors to the falls during the prime (April 1 through Labor Day) viewing season.

52. Idaho DPR asserts that staff's supplemental EA on the proposed license amendment does not adequately address the effect that the licensee's proposed change in project operations would have on Shoshone Falls.²⁹ NPS and Idaho DPR assert that the increase in hydraulic capacity from the licensee's proposed expansion of generating capacity would reduce the flows over the falls and have a negative impact on recreation visitation rates for the falls.³⁰ However, as shown below, the supplemental EA adequately assessed the comparative magnitudes and frequency of flows over Shoshone Falls as they currently occur under the license and as they would be expected to occur under the proposed license amendment. It also adequately addressed the proposed amendment's expected impact on recreation and aesthetic resources and water quality.

²⁸ *Id.*

²⁹ See Idaho DPR comments filed on January 22, 2008.

³⁰ See NPS and Idaho DPR'S comments filed on January 3, 2008, and January 22, 2008, respectively.

The supplemental EA indicates that the popularity of the falls as a scenic attraction during the prime viewing season (April 1 through Labor Day) should not decline under the licensee's proposal because the aesthetic experience of viewing the falls will not be unacceptably degraded by the licensee's proposed changes to required minimum flow releases over the falls.

53. The final supplemental EA concludes that aesthetic qualities of Shoshone Falls would be affected by the proposed license amendment as the proposed modified project's increased generating capacity, an increase of 11.875 MW to 60.875 MW, would result in more water passing through the project generators and less water passing over the falls. Such changes would reduce the incidence of flows over the falls rated highest (2400 cfs or more) for their aesthetic qualities.³¹

54. The final supplemental EA used aesthetic resource evaluations conducted by the licensee in preparation of the 2004 relicensing of the project that assessed the relationship between flows over the falls and visitor experience, as well as the relative beauty of the falls at different flows. Based on an evaluation of sets of photographs, the study results show that the magnitude of flows is directly correlated with aesthetic appreciation. Using a scale of 1 to 10 for beauty (with 10 being the most beautiful), study scores were 4.5 at flows of 50 cfs, 5.9 at 250 cfs, 6.6 at 578 cfs, 7.2 at 1,200 cfs, and 9.0 at 2,400 cfs.³²

55. Visitor experience, when flows were between 300 and 600 cfs was rated good or excellent by 80 percent of respondents, compared with about 70 percent at lower flows. The study found the quality of the aesthetic experience of viewing the falls increases with increasing flow over the falls, but that additional flow increments beyond 300 cfs result in aesthetic gains of lesser magnitude.³³ At 300 cfs, all of the fall's major plumes and sheet flow areas receive at least some flow, and light mist is apparent at the base of the falls. At higher flows, water covers an increasing percentage of the rock features on the face of the falls until, at 1,200 cfs, cascading water becomes the dominant feature accompanied by moderate to heavy mist rising from the base of the falls.³⁴

³¹ See Supplemental EA at 37.

³² See Environmental Impact Statement on relicensing of the four Mid-Snake Projects (Project Nos. 1975, 2061, 2777, and 2778), issued on August 2, 2002, at 381 and Staff Supplemental EA, issued on December 4, 2007, at 24.

³³ See supplemental EA at 38.

³⁴ *Id.*

56. As mentioned above, both under the license as issued in 2004 and under the proposed amendment, flows over the falls of 300 cfs or more would be released continuously. Currently, flows over the falls exceed 300 cfs about 56 percent of the time. Under the proposed license amendment, flows over the falls would exceed 300 cfs about 30 percent of the time.³⁵

57. Under both the current license and the proposed license amendment, the days when no water flows over the falls, a seasonal occurrence, would occur primarily outside of the prime viewing season during the period between the day after Labor Day and March 31. During the months outside of the viewing season the supplemental EA estimates that the annual incidence of days when no water flows over the falls would increase to 208 days from 53 days currently in a low water year, to 208 days from 108 days currently in a median water year, and to 81 days from 0 days in a high water year. However, most of this no flow effect (61 percent of the total no flow effect in low flow years, 76 percent of the total no flow effect in median flow years, and 23 percent of the total no flow effect in high flow years) would occur from November to February, when very few people visit Shoshone Falls.³⁶

58. While the currently mandated 300-cfs minimum flow would continue under the proposed license amendment, excess flows above 300 cfs, which now increase flows over the falls at times during the April 1 through Labor Day viewing season, would occur less frequently on the days the licensee is not making supplemental aesthetic releases. Staff expects that the licensee's proposal would result in flows exceeding 300 cfs minimum flow on 28 days in a low flow year compared with 127 days currently. In median water years under the proposed license amendment, flows over the falls would exceed 300 cfs on 76 days compared with 154 days currently, and in a high water year, on 84 days compared with 159 days currently.³⁷

59. The occurrence of flows of 2,400 cfs or higher rated high for aesthetic quality would be reduced over the year under the proposed amendment to 0 days from 4 days currently in a low water year, to 31 days from 75 days currently in a median water year, and to 164 days from 239 days currently in a high flow year. During the April 1 through Labor Day prime viewing season, median flows over the falls under the proposed license amendment would be reduced in a high flow year to 3,240 cfs from 5,690 cfs. However,

³⁵ *Id* at 37-38.

³⁶ *Id* at 38. Commission staff in the supplemental EA made specific comparisons of the incidence of flows using 1994 as a low water year, 1995 as a median water year, and 1999 as a high water year.

³⁷ *Id*.

flows over the falls of 4,000 cfs or higher would still occur during the April 1 through Labor Day viewing season on 27 days in a median flow year and 72 days in a high flow year.³⁸

60. The supplemental EA also found that weekend flows during the April 15 through June 16 period proposed for supplemental releases had been found to vary from 1,050 to 1,110 cfs in a low water year, 526 to 13,450 cfs in a median water year, and 4,480 to 11,250 cfs in a high water year.³⁹ Such flow levels are well above the 300 cfs to 600 cfs range considered good to excellent by 80 percent of the visitors who evaluated Shoshone Falls in the aesthetic resource evaluations used in the supplemental EA.

4. Conclusions Regarding the Licensee's Proposed Minimum Flows

61. Based on the above findings on expected impacts to aesthetic resources and visitation, and mindful of the benefits of the additional generating capacity being proposed, I find that the requested modification of Article 402's flow release requirements is in the public interest.

62. Although the licensee's proposed license amendment would result in less water passing over the falls, measures proposed by the licensee would ensure that the preferred 300-cfs target bypass flows would be released over the falls during the hours of the day when visitor numbers are highest⁴⁰ and that higher aesthetically pleasing flows would likely be released over the falls during a substantial part of the April 1 through June 16 viewing period. The proposed flows, which would include the licensee's proposed supplemental flows on weekends during the most popular parts of the viewing season (April 15 through June 16), would ensure that the recreational experience of viewing the falls at prime viewing times would not be unacceptably diminished. Ordering Paragraph (I) therefore modifies the minimum falls flow requirements of Article 402 as requested by the licensee. Ordering Paragraph (J) additionally requires the licensee to file for Commission approval a revised operational compliance monitoring plan for the project that would describe how the project would maintain compliance with Article 402.

63. To ensure that the aesthetic qualities of Shoshone Falls as an important public recreational resource are not unnecessarily degraded, Article 420 requires the licensee to conduct a two-year visitor use survey to assess the actual impact the licensee's proposed change in flows may have on visitation and the aesthetic experience of viewing the

³⁸ *Id.*

³⁹ *Id.* at 39.

⁴⁰ *Id.* at 33-40.

falls.⁴¹ Most importantly, Article 420 provides that the Commission may, following completion of the survey, and after notice and opportunity for hearing, modify the flow release requirements of Article 402 as the Commission deems appropriate.

New Powerhouse, Generating Unit, Lift Gates, and Lowered Intake

64. The licensee proposes to replace the project's existing 1907 powerhouse section containing the 0.4-MW and 0.6-MW generating units with a new larger powerhouse section containing a single 50-MW generating unit. It plans to design its proposed new powerhouse section to blend architecturally with the project's remaining 1927 powerhouse section. The revised design would change the authorized installed capacity of the project from 11.875 MW to 60.875 MW and the hydraulic capacity of the project from 950 cfs to 4,850 cfs.

65. The existing switchyard currently near the east end of the 1907 powerhouse section would be removed and the new switchyard equipment would be located approximately 200 feet away to an area adjacent to the licensee's existing Cliff power transmission substation, which is outside of the project boundary and not part of the project. Electricity would be transmitted to the relocated switchyard via underground 13.8-kilovolt (kV) cables. The existing overhead line into the current switchyard would be removed. Overhead transmission lines into the project canyon at this location would be limited to a single 138-kV line extending down to the expanded Cliff substation.

66. Ordering paragraph (C) includes the proposed relocated switchyard as part of the project. Ordering paragraph (G) requires the licensee to file for Commission approval a revised Exhibit G map of the project with a revised project boundary that includes all existing and proposed project works, including the relocated switchyard.

67. The licensee also proposes to replace one of the project dam's wooden lift gates and lower the elevation of an existing project intake to better maintain its submergence. Ordering paragraphs (A) and (C) approve the licensee's construction of the new powerhouse section and installation of a replacement lift gate subject to license article requirements.

68. Cofferdams would be necessary to construct the new powerhouse, new intake and intake approach channel, powerhouse tailrace, and to replace the wooden gates at Dam No. 4. Article 302 requires the licensee to file with the Commission for approval, contractor-designed and licensee approved cofferdams construction drawings and specifications.

⁴¹ See NPS comments filed on January 3, 2008, recommending a visitor use survey.

69. In order to control erosion and minimize the quantity of sediment and other potential water pollutants resulting from construction, spoil disposal, or maintenance, Article 303 requires the licensee to file with the Commission a plan for controlling erosion and sediment.

Project Economics

70. In determining whether to grant this license amendment for a proposed expansion, 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.,⁴² 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 amendment.

71. Commission staff applied this analysis to the Shoshone Falls Project. As proposed by the licensee, the levelized annual cost of operating the Shoshone Falls Project is \$7,929,000, or \$39.64/megawatt-hour (MWh). The proposed upgrade would generate an estimated average of 200,000 MWh of incremental energy annually. When the estimate of average incremental generation is multiplied by the alternative power cost of \$57.62/MWh, the total value of the project's power is \$11,524,000 in 2010 dollars. To determine whether the proposed upgrade is currently economically beneficial, the project's upgrade cost is subtracted from the value of the project's incremental power. Therefore, in the first year of operation after upgrade, the project incremental power benefit would be \$3,595,000 or \$17.98/MWh less than the likely alternative cost of power.

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

⁴² 72 FERC ¶ 61,027 Mead Corporation, Publishing Division, issued July 13, 1995.

73. Section 10(a)(2)(A) of the FPA 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. Commission staff identified 11 comprehensive plans⁴³ that are applicable to the proposed Shoshone Falls Project license amendment and the other Mid-Snake Projects and found no conflicts.

Applicant's Plans and Capabilities

A. Conservation Efforts

74. Section 10(a)(2)(C) of the FPA requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities.

75. The licensee has programs to promote cost-effective conservation and load management for residential, commercial, industrial, and agricultural customers. In light of these efforts by the licensee, Commission staff concludes that the licensee complies with Section 10(a)(2)(C) of the FPA.

⁴³ (1) Monument Resource Area Proposed Management Plan and Final Environmental Impact Statement, 1984, Bureau of Land Management, Department of the Interior, Shoshone, Idaho; (2) Land and Resource Management Plan for the Sawtooth National Forest, 1987, USDA Forest Service, Twin Falls, Idaho; (3) Idaho Fisheries Management Plan 2001 to 2006, Idaho Department of Fish and Game, Boise, Idaho; (4) Idaho Water Quality Standards and Wastewater Treatment Requirements, 1997, Idaho Department of Health and Welfare, Division of Environment, Boise, Idaho; (5) 1998 Idaho Comprehensive Outdoor Recreation and Tourism Plan, July 1998, Idaho Department of Parks and Recreation, Boise, Idaho; (6) Comprehensive State Water Plan: Milner Dam to King Hill, 1993, Idaho Water Resource Board, Boise, Idaho; (7) Comprehensive State Water Plan, Snake River: Milner Dam to King Hill, 1993, Idaho Water Resource Board; (8) Northwest Conservation and Electric Power Plan, 1998 (Revised), Northwest Power Planning Council, Portland, Oregon; (9) Protected Areas Amendments and Response to Comments, Document 88-22, 1988, Northwest Power Planning Council, Portland, Oregon; (10) Columbia River Basin Fish and Wildlife Program (Revised), Northwest Power Planning Council, Portland, Oregon; (11) Draft white sturgeon management plan: status and objectives of Idaho's white sturgeon resources in the Snake River, 2003, Idaho Department of Fish and Game, Boise, Idaho.

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

76. Commission staff has reviewed the licensee's operation, maintenance, and management of the Shoshone Falls Project pursuant to the requirements of 18 C.F.R. Part 12 of the Commission's regulations and the Commission's Engineering Guidelines. Staff concludes that project works are safe, and that there is no reason to believe that the licensee cannot continue to safely manage, operate, and maintain these facilities under an amended license.

Comprehensive Development

77. Sections 4(e) and 10(a)(1) of the FPA⁴⁴ require the Commission to give equal consideration to the developmental and environmental uses of the waterway on which a project is located. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to issue this amendment of license, and the terms and conditions included herein, reflect such consideration.

78. The final supplemental EA for the licensee's proposal contains background information, analysis of impacts, and support for related license articles. Based on the record of this proceeding, including the final supplemental EA and comments thereon, staff concludes that issuing an amendment to the license 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 the license.

79. Based on my independent review and evaluation of the project, recommendations from resource agencies, and the no-action alternative, as documented in the final supplemental EA, I selected the licensee's proposal, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Snake River. Operation of the project in the manner required by this order and the project's license will protect and enhance fish and wildlife resources, water quality, aesthetic resources, recreational resources, and cultural resources.

License Term

80. The Commission's general policy is to establish 30-, 40-, and 50-year terms for projects with, respectively, little, moderate, or extensive redevelopment, new

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

construction, new capacity, or additional environmental measures.⁴⁵ Requiring only modest environmental measures, the current license for the Shoshone Falls Project issued in 2004 has a 30-year term that expires in 2034.

81. The licensee requests that the term of the current license for the Shoshone Falls Project be extended from 30 to 50 years in light of the capital investment its proposed project modifications would entail.⁴⁶ Idaho DPR, Interior, and NPS oppose extending the license term. Idaho DPR argues that a license term that is inconsistent with the licensee's other four projects provides an unnecessary burden on the public in terms of the time and effort necessary to completely understand all the issues involved in the relicensing process. Interior and NPS argue that the request for a 50-year term should have been made during the relicensing process.⁴⁷

82. Section 15(e) of the FPA⁴⁸ mandates that any new license issued for a project must be for a term of 30 to 50 years that the Commission determines to be in the public interest.⁴⁹ In furtherance of the public interest, it is the Commission's policy to coordinate the expiration dates of licenses in the same river basin to the maximum extent possible, to maximize future consideration of cumulative impacts at the same time in contemporaneous proceedings at relicensing.⁵⁰ Coordinating relicensing proceedings helps ensure that each project meets the public interest comprehensive development standard of section 10(a)(1) of the FPA,⁵¹ which requires that each project is best

⁴⁵ See *Consumers Power Company*, 68 FERC ¶61,077, at 61,383-84 (1994).

⁴⁶ The licensee estimates that proposed new project construction will cost 75.85 million dollars. See application for amendment of license, Exhibit D at p. D-1.

⁴⁷ See Idaho DPR, Interior, and NPS' letters to the Commission filed on January 22, 2008, May 1, 2007, and January 3, 2008, respectively.

⁴⁸ 16 U.S.C. § 808(e) (2006).

⁴⁹ See *Public Utility District No. 1 of Chelan County, Washington*, 127 FERC ¶ 61,152 (2009) at P 15.

⁵⁰ *Id.* at P 10.

⁵¹ 16 U.S.C. § 803(a)(1) (2006). That section requires that the Commission determine that any licensed project is "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 (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in

(continued)

adapted to a plan for the comprehensive development of the waterway for all beneficial public purposes, including mitigation and enhancement of fish and wildlife resources.

83. In accordance with this policy, the Commission, in issuing new licenses for the Shoshone Falls Project and the licensee's downstream Project Nos. 2777, 2061, 1975, and 2055, determined that the public interest was best served by coordinating the expiration dates for the five project licenses to expire on the same date in 2034 to comport with a plan for the protection of federally listed threatened or endangered snail species in the river basin as provided for in a Commission approved settlement agreement between the licensee and FWS. The new license for the Shoshone Falls project includes conditions consistent with the terms of that settlement agreement as approved by the Commission and as set forth in its August 4, 2004 order issuing a new license for the licensee's Bliss Project No. 1975.⁵²

84. A basis for extending a license term is the licensee's need for additional years over which it can amortize the cost of a substantial increase in generation capacity and /or substantial new environmental measures.⁵³ Another factor to be considered is whether a longer term of license is needed to ensure the financial feasibility of the proposed redevelopment. The redevelopment of the Shoshone Falls Project as proposed by the licensee, increases the generating capacity by almost 5 times the existing authorized capacity and is estimated to cost over \$75 million (2005 dollars).

85. On balance, a 40-year term will provide the licensee an additional 10 years to recoup its investment costs and yet the expiration date is close enough to the other license terms of the Mid Snake projects for a coordinated review in the future. In addition, Article 421 is included, which reserves the Commission's authority to revise the terms and conditions of the Shoshone Falls license for the protection of fish and wildlife resources, endangered species, or for other project purposes, should it become necessary when the other Mid Snake projects are relicensed. Furthermore, Ordering Paragraph (B) provides that the license term is extended to 40 years only upon completion of construction and commencement of operation of the new 50-MW turbine authorized by this order. Finally, in the event the licensee does not commence construction within the time prescribed in this order, or as extended by the Commission, Article 306 provides that the authorization to develop the project facilities approved in this order may be terminated by the Commission pursuant to section 6.3 of the Commission's regulations, 18 C.F.R. § 6.3 (2010).

section 4(e)."

⁵² 108 FERC ¶ 61,128 (2004).

⁵³ *The Montana Power Company*, 47 FERC ¶ 61,277 (1989).

Administrative Conditions**A. Annual Charges**

86. The proposed license amendment would result in an increase in the project's installed capacity. The total installed capacity of the project would increase from 11.87 MW to 60.875 MW. The Commission collects annual charges from licensees for administration of the FPA. Article 201 of the license provides for the collection of funds for administration of the FPA. Ordering paragraph (G) of this order revises Article 201 to reflect the installation of proposed new capacity authorized by this order.

87. Article 205 requires the licensee to file with the Commission the construction start date for the new capacity authorized by this order, which will be used to revise the annual charges under Article 201 of the license.

B. Exhibit Drawings

88. The licensee included in its application for amendment of license a revised Exhibit A project description and revised Exhibit F drawings reflecting its proposed project modifications. Ordering Paragraph (F) approves the submitted revised Exhibit A which supersedes the previously approved Exhibit A. Ordering Paragraph (D) approves the submitted revised Exhibit F drawings as described in that paragraph. Ordering paragraph (E) requires their filing in specific aperture card and electronic formats.

89. The Exhibit G map submitted as part of the amendment application has not been approved as the map does not show the location of all existing and proposed principle project works within the project boundary as required by the Commission.⁵⁴ The submitted map does not clearly enclose within the boundary the site of the project's proposed switchyard to be relocated near the existing Cliff power transmission substation. Ordering paragraph (G) requires the licensee to file, for Commission approval, an acceptable revised Exhibit G.

90. Additionally, Article 304 requires the licensee to file as-built exhibit drawings within 90 days of the completion of construction authorized by this order.

The Director orders:

(A) Idaho Power Company's application for amendment of license for Project No. 2778, filed on August 17, 2006, is approved, in part, to the extent provided for in ordering paragraphs (C) through (L) of this order, effective the day this order is issued.

⁵⁴See 18 C.F.R. § 4.20(b)(5) (2009).

(B) Upon commencement of operation of the 50-MW turbine authorized by this order, the license term for Project No. 2778 will be extended 10 years to expire on July 31, 2044.

(C) The project description in ordering paragraph (B)(2) of the Commission's August 4, 2004 order issuing a new license for Project No. 2778 is revised, in part, to read as follows:

(1) an 800-foot-long, 16-foot-high (average) concrete diversion dam at the crest of Shoshone Falls comprising four sections, including a 380-foot-long gated section and 3 uncontrolled spillway sections separated by rock islands; (2) a 1.8-mile-long, 88-acre reservoir at normal maximum water surface elevation of 3,355 feet mean sea level (msl), with gross storage capacity of about 1,500 acre-feet; (3) a 43-foot-long by 38.5-foot-wide by 30.5-foot-high concrete intake structure equipped with trashracks and with a wheel gate at the tunnel entrance, and a 100.0-foot-long by 47.0-foot-wide by 60.0-ft-high concrete intake structure equipped with trashracks with a wheel gate at the tunnel entrance; (4) a water conveyance system consisting of a 450-foot-long concrete-lined tunnel section with a cross-sectional area of 92.5 square feet and a 120-foot-long, 10-foot-diameter steel-plate penstock section, and a 577-foot-long tunnel section (507 feet concrete lined and 70 feet steel lined) with a 17-foot-diameter and an approximately 20-foot-long steel reducer penstock section between the steel-lined tunnel and the turbine inlet pipe; (5) a powerhouse consisting of two sections: a 72-foot-long by 33.5-foot-wide by 59-foot-high concrete and steel-frame structure built in 1921, and a new 93-foot-long by 63.0-foot-wide by 88.0-foot-high concrete structure; (6) one 10.875-MW vertical-shaft Francis turbine/generator and one 50.0-MW vertical-shaft Kaplan turbine/generator for a total installed capacity of 60.875 MW; (7) a switchyard adjacent to a non-project power transmission substation; (8) two tailrace channels; and (9) other appurtenant facilities.

(D) The following Exhibit F drawings filed on August 17, 2006, are approved and assigned drawing numbers shown in the following table:

Exhibit	FERC Drawing No.	Title	Superseding
F-1	2778-1009	General Site Plan	2778-1001
F-3	2778-1010	Power Facilities	2778-1003
F-7	2778-1011	Intake Approach Channel and Cofferdam	-
F-8	2778-1012	Intake Cofferdam Sections	-
F-9	2778-1013	Power Tunnel Profile & Sections	-

Exhibit	FERC Drawing No.	Title	Superseding
F-10	2778-1014	Powerhouse Site Plan	-
F-11	2778-1015	Powerhouse Elevation	-
F-12	2778-1016	Vicinity and Locations Map	-
F-13	2778-1017	Powerhouse Draft Tube Plan at El. 3100	-
F-14	2778-1018	Powerhouse Spiral Case Plan at El. 3118	-
F-15	2778-1019	Powerhouse Generator Plan at El. 3114.9	-
F-16	2778-1020	Powerhouse Transverse Section	-
F-17	2778-1021	Powerhouse Longitudinal Section	-
F-18	2778-1022	Powerhouse Longitudinal Section	-
F-19	2778-1023	Powerhouse Reservoir Widening	-
F-20	2778-1024	Dam No. 4 Gate Replacement	-
F-21	2778-1025	Modifications Map	-

Superseded drawings are eliminated from the license.

(E) Within 45 days of the date of issuance of this order, the licensee shall file the exhibit drawings approved in ordering paragraph (D) in aperture card and electronic file formats. a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P- 2778-1009) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-9), Drawing Title, and date of this order shall be typed on the upper left corner of each aperture card. See Figure 1.

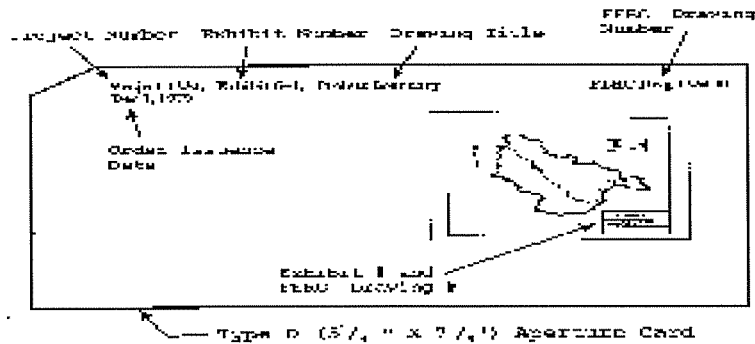


Figure 1.

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office.

b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this order, and file extension in the following format [P-2778-1010, F-3, Power Facilities, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
 FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
 RESOLUTION – 300 dpi desired, (200 dpi min)
 DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)
 FILE SIZE – less than 1 MB desired

(F) The revised Exhibit A filed with the amendment application is approved, superseding the Exhibit A under the license.

(G) Within 45 days of the issuance date of this order, the licensee shall file, for Commission approval, a revised Exhibit G map that shows within the project boundary all existing and proposed principal project works and features including the licensee's proposed switchyard to be located near the Cliff substation.

(H) Paragraph (A) of Article 201 of the license is revised to read as follows:

For the purposes of reimbursing the United States for the Commission's

administrative costs, pursuant to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 11.875 megawatts (MW).

In addition, upon commencement of construction of the additional authorized capacity, the total authorized installed capacity for that purpose will be 60.875 MW.

(I) Article 402 of the license is revised to read as follows:

Article 402. Minimum Falls Flow. Commencing within 60 days of Commission approval of the Revised Operational Compliance Monitoring Plan required by Article 403, the licensee shall, for the maintenance of the aesthetic qualities of Shoshone Falls, release a minimum flow of 300 cubic feet per second (cfs), or inflow to the project reservoir if less, over Shoshone Falls from 9:00 a.m. to 8:00 p.m. each year from April 1 through Labor Day.

The licensee shall also maintain supplemental aesthetic releases from April 15 through June 16 from 4:00 p.m. to 8:00 p.m. on Fridays and from 9:00 a.m. to 8:00 p.m. on Saturdays, Sundays, and Memorial Day. During these weekend and Memorial Day supplemental release periods, flow over the falls, depending on inflow, shall be one of the following:

<u>Inflow, cfs</u>	<u>Minimum Flow, cfs</u>
Less than 1,250	300
Between 1,250 and 9,950	Inflow - 950
Between 9,950 and 13,850	9,000
Greater than 13,850	Inflow - 4,850

The above prescribed flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon agreement among the licensee and the National Park Service, Idaho Department of Parks and Recreation, and Idaho Department of Environmental Quality. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

(J) The first paragraph of Article 403 of the license is revised to read as follows:

Article 403. Revised Operational Compliance Monitoring Plan. Within six months of the issuance date of this order, the licensee shall file with the Commission, for approval, a revised operational compliance monitoring plan for the project.

(K) The license is subject to the following additional articles:

Article 205. Administrative Annual Charges Notification. Within 30 days of the start of construction of the authorized generating capacity, the licensee shall file with the Commission notification of the construction commencement date. The Commission will use the commencement of construction date to revise the project's annual charges under Article 201.

Article 302. Cofferdams and Deep Excavations. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of any project construction and shall ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee shall file 2 copies with the Commission, and submit 1 copy with the Commission's Portland Regional Engineer, of the approved cofferdam construction drawings and specifications and the letter(s) of approval.

Article 303. Contract Plans and Specifications. At least 60 days prior to the start of any project construction activities associated with the 50-MW project powerhouse, intake and intake approach channel, and powerhouse tailrace, the licensee shall submit one copy of its plans and specifications to the Commission's Division of Dam Safety and Inspections (D2SI) – Portland Regional Engineer, and two copies to the Commission (one of which shall be a courtesy copy to the Director, D2SI). The submittal also must include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Erosion and Sediment Control Plan.

The licensee may not begin any land-disturbing or land-clearing activities until the D2SI-Portland Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 304. As-Built Drawings. Within 90 days of completion of any project construction approved by this order, the licensee shall file, for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show the project as-built. A courtesy copy shall be filed with the Commission's D2SI-Portland Regional Engineer, and the Director D2SI.

Article 305. Design of New Powerhouse Section. The licensee shall consult with the National Park Service in the development of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER) documentation, design the new powerhouse section authorized by this order to be compatible with the design of the 1921 powerhouse section, meet the Secretary of the Interior's Standards and

Guidelines for New Construction/Additions, and have the design reviewed by the State Historic Preservation Officer during the planning stages. The licensee shall also coordinate with the U.S. Bureau of Land Management (BLM) during implementation of these cultural resources measures, and provide BLM with copies of the completed National Register forms and HABS/HAER documentation. Within 30 days of the acceptance of HABS/HAER documentation and design of the new powerhouse by the State Historic Preservation Officer (SHPO), the licensee shall file with the Commission SHPO's acceptance.

Article 306. *Start of Construction or Installation.* The licensee shall commence construction or installation of project works authorized by this order amending license within two years from the issuance date of this order and shall complete construction or installation of such works within three years from the issuance date of this order. Pursuant to section 6.3 of the Commission's regulations, 18 C.F.R. § 6.3 (2010), if the licensee, within the time prescribed or as extended by the Commission, fails to commence actual construction of the project works authorized by this order, the Commission may terminate the authority granted by this order.

Article 415. *Water Quality Enhancement and Total Dissolved Gas Monitoring Plan.* Within one year from the date of issuance of this order, the licensee shall file, for Commission approval, a Water Quality Enhancement Plan. The plan shall require: (1) measures and actions to be implemented to ensure that any project adverse effects on dissolved oxygen and total dissolved gas are detected and corrected immediately to comply with the state of Idaho water quality standards and minimize any potential adverse effects on aquatic resources; and (2) monitoring of total dissolved gas for a period of time mutually agreed upon with the resource agencies. The licensee shall prepare the plan in consultation with the U.S. Fish and Wildlife Service, Idaho Department of Environmental Quality, and the Idaho Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the resource agencies, and specific descriptions of how the resource agencies' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the resource agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 416. *Construction Water Quality Monitoring Plan.* At least 90 days

before the start of construction approved by this order, the licensee shall file, for Commission approval, a Construction Water Quality Monitoring Plan to minimize any adverse effects on water quality and aquatic resources during construction. The plan must identify best management practices and other measures that the licensee would implement during any construction at the project to control potential water quality impacts. The licensee shall prepare the plan in consultation with the Idaho Department of Environmental Quality and the U.S. Army Corps of Engineers. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the resource agencies, and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 417. Fish Stranding and Salvage Plan. At least 90 days before the start of construction approved by this order, the licensee shall file, for Commission approval, a Construction Fish Stranding and Salvage Plan to minimize any short-term adverse effects on fish that may be stranded behind cofferdams during construction. The licensee shall prepare its plan in consultation with the U.S. Fish and Wildlife Service and the Idaho Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the resource agencies, and specific descriptions of how the resource agencies' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the resource agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 418. ESA Snail Sampling. After the final detailed engineering plans for new construction and associated changes to the project authorized by this order are prepared, the licensee shall consult with the U.S. Fish and Wildlife Service to determine whether additional sampling for three snail species listed as threatened or endangered

under the Endangered Species Act, the endangered Snake River physa (*Physa natricina*) and Utah valvata (*Valvata utahensis*) and the threatened Bliss Rapids snail (*Taylorconcha serpenticola*) is required by licensee changes to project works and operation approved by this order. Documentation of this consultation shall be filed with the Commission 30 days prior to the start of any construction authorized by this order.

Article 419. ESA Notification. In the event that snails listed as threatened or endangered under the Endangered Species Act (ESA) are identified by the licensee during the construction of the facilities authorized by this order, the licensee shall notify the U.S. Fish and Wildlife Service and the Commission within 24 hours and shall file for Commission approval at least 90 days prior to the start of construction of the new section of the powerhouse and 50-MW generating unit authorized by this order, a plan for (a) pre-construction measures including any necessary proposals for further amendments of the license to protect threatened or endangered snail species based on biological evaluations, and (b) post-construction snail monitoring to document any effects of any project construction on snail populations. The licensee shall prepare its plan in consultation with the U.S. Fish and Wildlife Service and the Idaho Department of Fish and Game.

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

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

Article 420. Visitor Use Survey and Monitoring Plan. Within 90 days after the generating unit authorized by this order is put into operation, the licensee shall file a plan, for Commission approval, to conduct a visitor use survey. The plan for the survey shall be sent to the U.S. Fish and Wildlife Service, the Idaho Department of Fish and Game, the National Park Service, and Idaho Department of Parks and Recreation for review and comment at least 30 days before filing with the Commission.

The licensee shall implement the Commission approved visitor use survey for a period of two years after the new flow regime and new generating unit operation authorized by this order are implemented to assess the impacts of the new project flow

releases required by Article 402 on recreational visitors to Shoshone Falls and file with the Commission a report of the survey results.

Following Commission receipt of the study report, and after notice and opportunity for hearing, the Commission may issue such orders modifying Article 402's requirements for flow releases over Shoshone Falls as it deems appropriate.

Article 421. Reservation of Authority. To the extent that the expiration date of this license is later than the expiration of the licenses for the Upper Salmon Falls Project No. 2777, the Lower Salmon Falls Project No. 2061, the Bliss Project No. 1975, and the C.J. Strike Project No. 2055, the Commission reserves its authority to revise the terms and conditions of the Shoshone Falls license for the protection of fish and wildlife resources, endangered species, or for other project purposes, should it become necessary when the other Mid Snake projects are relicensed in the future.

(L) This order constitutes final agency action. Any party to this proceeding 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 Federal Power Act, 16 U.S.C. § 825l(2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713(2010). The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order.

Edward A. Abrams
Director
Division of Hydropower Administration
and Compliance

Document Content(s)

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