112 FERC ¶ 61,055
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

Public Utility District No. 1 of
Pend Oreille County

Project No. 2042-013

ORDER ISSUING NEW LICENSE

(Issued July 11, 2005)

INTRODUCTION

1. Pending before us is an application, filed by Public Utility District No. 1 of Pend Oreille County (District), for a new license for the continued operation of the 72-megawatt (MW) Box Canyon Hydroelectric Project, located on the Pend Oreille River in northeastern Washington and northwestern Idaho. The project occupies about 717 acres of federal lands, including about 190 acres within the Colville National Forest and about 493 acres within the Kalispel Indian Reservation.[1] The Kalispel Tribe of Indians opposes issuance of the license because the project reservoir occupies about ten percent of the land comprising the Tribe's 4,500-acre reservation. For the reasons discussed below, we find that issuing a new license is in the public interest because it would allow the project to continue generating electric energy to serve growing regional demand while requiring appropriate conditions to protect and enhance important environmental, recreational, tribal, and cultural resources.

[1]The project also occupies lands administered by the Bonneville Power Administration, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Bureau of Land Management.

BACKGROUND

2. The Commission issued an original license for the Box Canyon Project in 1952, for a term expiring January 31, 2002.[2] Since then, the District has operated the project under an annual license pending disposition of its new license application.

3. The Kalispel Indian Reservation lies along the Pend Oreille River in the upper half of the project's 55-mile-long reservoir, and the United States holds title to these lands. When the project was originally licensed, the upper 31 miles of the project's reservoir and the lands inundated in this part of the reservoir as a result of project operations (including portions of the Kalipsel Reservation) were not included within the project boundary. In 1963, the license was amended to allow the project to be operated in a manner that inundated additional lands, but the project boundary was not changed.[3]

4. In 1980, the U.S. Department of Justice (United States), as trustee for the Kalispel Tribe and individual Indian allottees of land along the Pend Oreille River, brought a trespass action in federal court against the District with respect to the Box Canyon Project's inundation of reservation lands. The United States eventually prevailed in that and related litigation, and the Federal District Court awarded the United States and the Tribe damages and injunctive relief.[4] In 1997, the District filed an application to amend

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[2] 11 FPC 786 (1952).

[3] *See Public Utility District No. 1 of Pend Oreille County, Washington,* 29 FPC 534 (1963). As originally licensed, the project was permitted to operate with a one-foot backwater at the U.S. Army Corps of Engineers upstream Albeni Falls Project. The 1963 amendment allowed for project operation with a two-foot backwater.

[4] *See United States v. Pend Oreille Public Utility District No. 1*, 926 F.2d 1502 (9th Cir. 1991), *cert. denied*, 502 U.S. 956 (1991); *United States v. Pend Oreille Public Utility District No. 1*, 28 F.3d 1544 (9th Cir. 1994), *cert. denied*, 514 U.S. 1015 (1995); and *United States v. Pend Oreille Public Utility District No. 1*, Docket No. C 80-116, E.D. Washington (unreported decision issued July 24, 1995), *aff'd, United States v. Public Utility District No. 1 of Pend Oreille County*, 135 F.3d 602 (9th Cir. 1998). For a more detailed procedural history and discussion of this litigation through 1996, *see Public Utility District No. 1 of Pend Oreille County*, 77 FERC ¶ 61,146 at 61,545-47 (1996) (denying the District's petition for a declaratory order that the license authorized the District to occupy the Kalispel Indian Reservation lands, and finding that the public interest requirements of sections 4(e) and 10(a)(1) of the FPA had not been met for the Box Canyon Project).

the license to include in the project boundary the full extent of lands inundated by the project reservoir. The U.S. Department of the Interior (Interior), the Tribe, and other parties opposed the license amendment. In 1998, the parties reached a settlement, and the Commission approved the amendment in 1999.[5] The amendment resolved the project boundary and related issues for the remainder of the existing license term, but was not intended to prejudge the position of any party with respect to any future relicensing proceeding.

5. The District filed its application for a new license on January 21, 2000. The Commission issued public notice of the application on July 14, 2000, and the following entities filed timely motions to intervene: Kalispel Tribe; Interior; Cominco, Ltd; U.S. Department of Agriculture, Forest Service (Forest Service); Washington Department of Fish and Wildlife (Washington DFW); and Washington Department of Ecology (Washington Ecology). The State of Idaho filed a late motion to intervene on October 3, 2000, which was granted.[6] For reasons discussed in more detail below, the Kalispel Tribe intervened in opposition to the new license.

6. In July 2001, Commission staff issued a scoping document to determine what issues and alternatives should be addressed in the relicensing proceeding. Public meetings and site visits were held in August 2001, and written comments were received from the Tribe and a number of agencies. Commission staff issued a revised scoping document in November 2001.

7. On September 4, 2001, the Commission issued public notice that the application was ready for environmental analysis and solicited comments, recommendations, terms and conditions, and prescriptions. The following entities responded: Kalispel Tribe; Interior; Forest Service; Washington DFW; Idaho Department of Fish and Game (Idaho DFG); Idaho Department of Parks and Recreation; and the U.S. Environmental Protection Agency (EPA). In response to the recommendations and terms and conditions filed by the resource agencies and Tribe, more than 50 letters were filed by retail electricity customers of the District. In addition, the District submitted two filings containing a total of more than 1,000 comments from its customers.

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[5] 86 FERC ¶ 61,200 (1999).

[6] *See* unpublished notice dated April 4, 2002.

8. On September 20, 2002, Commission staff issued for comment a draft environmental impact statement (draft EIS) evaluating the environmental effects of the District's proposal and alternatives for relicensing the Box Canyon Project. Comments were due within 60 days (by November 19, 2002).[7] Comment letters were received from 22 entities and 31 individuals, and motions to intervene were filed by American Rivers, Ponderay Newsprint Company, and Mr. Rocky Beach.[8] Commission staff considered these comments in preparing the final EIS (EIS), which it issued on October 21, 2004.[9]

9. As discussed in the remainder of this order, we have considered the motions to intervene, comments, recommendations, and conditions in determining whether, and on what terms, to issue a new license for the Box Canyon Project.

PROJECT DESCRIPTION

10. The Box Canyon Hydroelectric Project is located on the Pend Oreille River in northeastern Washington and northern Idaho. The Pend Oreille River flows north and is one of the major tributaries of the Columbia River. The project is located downstream of the Army Corps of Engineers' Albeni Falls Hydroelectric Project and discharges directly into the reservoir of Seattle City Light's Boundary Hydroelectric Project No. 2144.

A. Project Facilities

11. As currently licensed, the project includes the Box Canyon dam, a 62-foot-high, 260-foot-long concrete structure with an integral spillway located at river mile (RM) 34.4 (i.e. the distance upstream of the Pend Oreille River's confluence with the Columbia River).[10] The dam impounds about 55 miles of the Pend Oreille River to create Box Canyon reservoir, which crosses into Idaho about two miles below Albeni Falls dam.

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[7] In addition, on October 21 and October 22, 2002, Commission staff held public meetings on the draft EIS in Newport and Spokane, Washington.

[8] Under section 380.10(a) of the Commission's regulations, 18 C.F.R. § 380.10(a) (2004), motions to intervene that are submitted during the comment period for the draft EIS are deemed to be timely filed under 18 C.F.R. § 385.214.

[9] For a more detailed description of the procedural history and a description of the entities filing comments, *see* EIS at 3-6.

[10] This site is 13 miles from the Canadian border, 14 miles from the Idaho border, and 90 miles north of Spokane, Washington.

The reservoir's surface area is between 7,000 and 9,000 acres, depending on its elevation, which is determined by flow levels. At a pool elevation of 2,041.0 feet above mean sea level (msl), as measured at the town of Cusick (RM 70.1), it covers about 8,850 acres.[11] In addition to the dam and reservoir, the project includes a 217-foot-long, 35-foot-diameter diversion tunnel; a 1,170-foot-long forebay channel that parallels the river; a powerhouse containing four generating units with a total capacity of 72 MW; an auxiliary spillway located next to the powerhouse; and a switchyard.

B. Project Operation

12. Flows from the reservoir enter the diversion tunnel about 400 feet upstream from the dam, and the tunnel carries the water to the 1,170-foot-long forebay channel, from which it enters the powerhouse. From the powerhouse, water is returned to the Pend Oreille River about 550 feet downstream of the dam. When flows exceed the project's turbine capacity (27,400 cfs), water is spilled over the dam through spillway gates to maintain run-of-river operation. The project's switchyard is located 130 feet from the powerhouse and transfers power from the project directly to Bonneville Power Administration's Metaline Falls transmission line and two District-owned transmission lines.[12]

13. The District also operates the Calispell Creek pumping plant, located about 30 miles upstream of the dam near the mouth of Calispell Creek, a tributary of the Pend Oreille River. The pumping plant was originally constructed in the early 1900s to prevent flooding of agricultural lands along the Pend Oreille River. The plant pumps water from Calispell Creek over a railroad dike (near the mouth of the creek) into the project reservoir.[13] Operation of the pumping plant (which was not included as a project facility under the original license) allows the District to maintain a higher reservoir elevation for the project and thus produce more power. As discussed below, the District's relicensing application proposes to include the pumping plant as a project facility.

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[11] This equates to an elevation of 2,030.6 feet msl as measured at the dam.

[12] The transmission lines are not considered project features because they are not primary transmission lines. *See* section 3(11) of the Federal Power Act (FPA), 16 U.S.C. § 796(11).

[13] The railroad dike is owned by the Diking District No. 2 of Pend Oreille County, while the majority of the pumping plant is located on lands within the Kalispel Indian Reservation.

14. The project operates run of river, such that flows released from the project (through the powerhouse and over the dam) approximate flows released from the upstream Albeni Falls project. However, because of the reservoir's length (55.7 miles), gradient, and volume, flows entering the project at Albeni Falls take an average of 3.5 days to reach Box Canyon dam. Thus, changes in flows from Albeni Falls are not realized at Box Canyon dam immediately. For this reason, following a change to inflow from Albeni Falls, the District may alter its release from actual inflow to ramp up or down, as appropriate, to compensate for the reservoir retention time and the resulting delay in flows. This compensation allows the District to maintain a reservoir surface elevation at or below 2,041 feet msl, as measured at Cusick,[14] thus limiting the backwater effect of the reservoir at the Albeni Falls dam tailwater to two feet or less.[15]

C. Relicensing Proposal

15. The District proposes to continue to operate the project in a run-of-river mode. When ramping flows to compensate for the reservoir's retention time, the District proposes to limit the drawdown rate to a maximum of three inches per hour to protect fish and aquatic resources.

16. The District plans to replace all four turbines with new high-efficiency ones (two with "fish-friendly," minimum gap turbine runners)[16] and to rewind the generators. This would increase turbine capacity to 22.5 MW each for a total generating capacity of 90 MW and yield an additional 20,817 megawatt hours (MWh) per year of energy.[17] In

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[14] A 1999 license amendment, 86 FERC ¶ 61,200, approved a change in the project boundary to include all lands below elevation 2,041 feet msl as measured at Cusick.

[15] The 1963 license amendment, 29 FPC 534, approved an increase in the backwater effect at Albeni Falls dam from a one-foot maximum to a two-foot maximum at the base of the Albeni Falls dam. This increased head and generation at the Box Canyon project without impacting generation at the Albeni Falls project.

[16] "Fish-friendly" turbines or runners are designed to reduce blade strikes and limit stress on entrained fish from shear forces or turbulence. These turbines may include elongated runner blades in reduced numbers which allow for larger blade passages, reduced turbine rotational speed, reduced pressure and velocity gradients, and/or minimum gap spaces between the turbine blades, shaft and pressure casing to reduce pinching and blade strikes.

[17] Annual average is calculated using a 30-year license term.

addition, the District proposes to install gates in the auxiliary spillway bypass. These measures should help reduce total dissolved gas (TDG)[18] levels below the project.[19]

17. The District proposes to include in the project the Calispell Creek pumping plant. The pumping plant consists of two pump stations with six pumps and a total hydraulic capacity of 520 cfs. The pumps are operated under an agreement (Plan E) between the District and Diking District No. 2 of Pend Oreille County.[20] As noted above, the plant's operation allows the District to produce more power by maintaining a higher reservoir elevation for the project without flooding lands along Calispell Creek. Inasmuch as the railroad dike (including the culvert and gates) near the mouth of the creek is needed for this pumping operation, it is an integral component of the project's operation and must also be included in the license.

18. Under the current license, the District purchased two parcels of land totaling 700 acres, which it manages for wildlife purposes.[21] These wildlife management areas are located at Everett Island (near RM 76) and Tacoma Creek (near RM 66). The District proposes to continue to manage these areas for wildlife under the new license, implementing measures for wetland construction and enhancement, plantings to improve riparian habitat, and fencing to control grazing.

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[18] TDG is a measurement of the atmospheric air that has been dissolved into water. Water flowing over a spillway and entraining air into the spill flow at hydroelectric dams can cause an increase in TDG. High levels of TDG exceed the natural atmospheric pressure and result in the water becoming supersaturated with atmospheric air. The effect of this supersaturation on aquatic organisms is very similar to the bends in humans.

[19] *See* EIS at 70-75.

[20] Plan E provides for the plant to be operated in high-flow conditions in a manner that approximates flow conditions in Calispell Creek that existed prior to the construction of Box Canyon dam. This ensures that water levels in Calispell Creek do not exceed water levels in the reservoir under the current backwater constraint at Albeni Falls dam, thus preventing flooding of lands near Calispell Creek.

[21] The 1999 amendment required the licensee to acquire land for the protection, mitigation and enhancement of habitats affected by project operations. *See* 86 FERC at 61,709 and 61,719.

19. Further, the District proposes to monitor erosion and water quality, and to develop plans for aquatic plant, recreation, and cultural resource management.

PROJECT BOUNDARY

A. Original License

20. The existing project boundary encompasses the dam, powerhouse, diversion tunnel, forebay channel, auxiliary bypass, and the 55-mile-long reservoir, including the lowermost portions of some of the river's tributary creeks in which water is backed up as a result of project operation. The boundary also includes land adjacent to the reservoir, which varies in width from close to the high water line to more than 100 feet from it.

21. The project boundary from Box Canyon dam to the town of Ruby (about 24 miles up the reservoir) was established in the 1952 license and is defined by a survey line with metes and bounds. Upstream of Ruby, the boundary, which as discussed earlier was established in 1999, is the 2,041 feet msl contour line, which closely follows the existing shoreline and encompasses the full extent of lands inundated by the project tailwaters.[22] Project lands and waters cover more than 13,000 acres.

B. On Relicensing

22. On relicensing, the District proposes to expand the project boundary to encompass the Calispell Creek pumping plant, which will add an additional 1.03 acres of Kalispel Reservation lands. In addition, as discussed in this order, we are requiring the District to include within the project boundary the pumping plant's associated facilities (railroad dike, culvert, and gate), several recreation areas, and portions of two wildlife management areas, the other parts of which already lie within the project boundary.

SCOPE OF PROJECT

23. The District states that numerous small dikes, pump stations, and gated culverts exist adjacent to or near the project reservoir. As noted in the EIS, many of these non-project facilities were originally installed by local farmers, diking districts, and the U.S. Army Corps of Engineers prior to the construction of the project in order to protect

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[22] The river's natural high water mark (as measured at the town of Cusick) is 2,028 feet msl, and the project floods lands up to elevation 2,041 feet msl (also measured at Cusick).

adjacent lands from flooding along the Pend Oreille River. The EIS further noted that, after the project was constructed, the District accepted responsibility for the operation and maintenance of many of these facilities.[23]

24. The District states that, with the exception of the Calispell Creek pumping station and outlet works, these facilities are very small and do not directly increase power generation at the project. Thus, the District concludes, these facilities are not considered to be project works, as defined by the Commission, and are not included in the project boundary.

25. Section 3(12) of the FPA defines "project works" as the physical structures of a project.[24] FPA section 3(11) defines "project" as:

> the complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures including navigation structures, which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith ..... all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which is necessary or appropriate in the maintenance and operation of such unit.

26. As noted, the maximum reservoir elevation affected by the project is 2,041 feet msl, as measured at the Cusick gage, which level constitutes the project boundary in the upper half of the reservoir. Despite the District's contention that none of these existing structures should be part of the project, we find that at least some of the existing dikes, pump stations, and gated culverts, such as the Trimble Creek pumps,[25] may impound waters that contribute to the project's generating capability.[26] Therefore,

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[23] *See* EIS at 34-35.

[24] 16 U.S.C. §796(12).

[25] Although the District maintains that Box Canyon energy generation is not augmented in any way through or by the operation of this very small pump, the fact remains that the presence of the dike culvert and gate allows the District to maintain a reservoir elevation up to its limit at 2,041 feet msl at Cusick without flooding lands along Trimble Creek.

[26] *See Pacific Gas and Electric Company*, 102 FERC ¶ 61,309 (2003); *on reh'g* 105 FERC ¶ 61,133 (2003).

we are requiring the District, in Article 302, to evaluate all existing non-project facilities that hold the reservoir in its present configuration, preventing adjoining lands from being inundated. The District shall perform the evaluation in consultation with the Commission's Portland Regional Office and other appropriate entities, and to file a report documenting the results of this evaluation with recommendations, for Commission approval, to include the appropriate structures as part of the project.

SECTION 4(e) FINDINGS AND CONDITIONS

27. Section 4(e) of the FPA[27] provides that the Commission may issue a license for a project located on a federal reservation[28] only after it finds that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired. In addition, section 4(e) requires that any license for which we make this finding must include conditions prescribed by the Secretary under whose supervision the reservation falls.

28. The Box Canyon Project occupies 190.25 acres within the Colville National Forest and 493.03 acres of land within the Kalispel Indian Reservation. The national forest lands are under Forest Service supervision, and the Kalispel Reservation lands are under Interior's supervision.

A. Consistency Findings

1. Colville National Forest

29. The Colville National Forest was established in 1907 by presidential proclamation.[29] At that time, the Organic Administration Act of 1897[30] stated that all national forest lands were established and administered only for watershed protection and timber production. There is no evidence or allegation in this proceeding that relicensing the Box Canyon Project would interfere with the purposes of the Colville National Forest. We conclude that this license will not interfere or be inconsistent with those purposes.

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[27] 16 U.S.C. § 797(e)

[28] Reservations are defined in section 3(2) of the FPA, 16 U.S.C. § 794(2).

[29] *See* March 1, 1907 Proclamation of President Theodore Roosevelt, 34 Stat. 3288.

[30] 16 U.S.C. § 475.

2. Kalispel Indian Reservation

30. The Box Canyon Project was originally licensed in 1952. Although the District's original license application stated that the project would affect lands in the Kalispel Indian Reservation, no such lands were included in the project boundary.[31] Consequently, the original license was issued without full recognition of its effects on the reservation, without the requisite finding of no interference or inconsistency under FPA section 4(e), and without payment of annual charges under section 10(e). Initially, the project was operated in a manner that allowed the Tribe to continue its seasonal use of the land for growing wild hay. However, in 1963 the license was amended to increase the allowable backwater from one to two feet at Albeni Falls, again without full recognition of flooding effects on the reservation or consideration of the possible applicability of sections 4(e) or 10(e). As a result, the project flooded some 492 acres of land within the Kalispel Reservation, comprising approximately ten percent of the total acreage of the reservation, making them unavailable for the Tribe's use.

31. In 1983, a federal district court held that this occupation of reservation lands without an easement or other appropriate authorization constituted a trespass, and this holding was ultimately affirmed by the Ninth Circuit Court of Appeals.[32] Following this litigation, the parties developed a settlement agreement regarding the use of reservation lands and submitted this agreement to the Commission. Thus, the project's operation on reservation lands was not authorized until 1999, when the Commission amended the existing license in response to the parties' settlement agreement.[33]

32. In this proceeding, the Tribe argues that the project has unacceptable impacts on the reservation as a homeland for the Tribe, and urges us to find that the project interferes or is inconsistent with the purpose for which the reservation was created or acquired.[34] The Tribe states that the purpose of the reservation was to provide a permanent homeland

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[31] The application further stated that, because the District was not proposing to raise the water level above the existing mean high water level, only the proprietary right to lands owned by the State of Washington in the streambed would be affected.

[32] *See* n.4, *supra*, and cases there cited.

[33] 86 FERC ¶ 61,200 (1999).

[34] *See* Tribe's memorandum on the purposes of the Kalispel Indian Reservation and the Commission's section 4(e) determination (filed October 29, 2004); *See also* Tribe's reply memorandum (filed March 2, 2005).

for the Tribe and to allow its members to continue their traditional practices of hunting, gathering, and fishing, as well as to permit use of the land for agricultural purposes. The Tribe explains that the flooded land was traditionally used on a seasonal basis for growing wild hay, and that the year-round flooding attributable to project operation precludes such use.[35] The Tribe adds that, because a substantial portion of the Reservation's lands have been rendered useless for any past or potential uses and the project has had negative effects on fish and other resources of importance to the Tribe, the project significantly and adversely impairs the original purposes of the Kalispel Indian Reservation. The Tribe therefore urges that we find the project interferes or is inconsistent with the original purposes of creation of the reservation, and requests that we deny a new license that continues to impair those purposes.

33. The District counters that the primary purpose of the reservation was to protect the farming settlements of the Kalispel Indians, and to provide for the allotment of land to individual Indians for farming and grazing purposes. The District further argues that there was no mention of intent to protect fishing rights or resources in the Executive Order establishing the Kalispel Indian Reservation or other documentation leading up to the establishment of the Reservation. The District states that, in the district court litigation concerning the trespass issue, "the court found that there was no tilling or cultivating of the soil below the 2,041 elevation and that the impact of the Project was limited to inundation of grazing lands of minimal value."[36] The District adds that "the lands inundated by the Project were subject to flooding each spring due to natural causes prior to construction of the Project and remain subject to such natural flooding today."[37] The District therefore urges the Commission to conclude that the new license will not interfere or be inconsistent with the "Indian agricultural purposes" for which the Kalispel Indian Reservation was established.[38]

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[35] The Tribe notes that, in the litigation concerning the District's unlawful occupation of the reservation, it was specifically ruled that the Box Canyon Project interferes with agricultural and grazing uses of the Kalispel Indian Reservation. *See U.S. v. Pend Oreille Public Utility District No. 1*, 926 F.2d at 1506-07; *see also* 77 FERC ¶ 61,544 at 61,549.

[36] Letter from James B. Vasile, Counsel for District, to Magalie R. Salas, FERC, at 2 (filed April 19, 2005).

[37] *Id.*

[38] *Id.*

34. We agree with the Tribe that the Kalispel Indian Reservation was established not merely for agricultural purposes, but also to provide the Tribe with a permanent homeland where its members could continue to engage in their traditional practices of hunting, gathering, and fishing. The reservation was established in 1914 by Executive Order No. 1904. The order is very brief, and does not discuss the purposes of the reservation other than to state that the described lands in the State of Washington are "withdrawn from settlement, entry, or other disposal, and set aside as a reservation for the Kalispel Indians in that State."[39] However, the specific purposes of an Indian reservation were often not articulated in executive orders of this type, and the general purpose of providing a homeland for the Indians is a broad one that must be liberally construed.[40] Thus, in establishing an Indian reservation, the United States is presumed to intend to provide a suitable homeland for the Indians and to allow them to continue their traditional way of life.[41] For tribes that historically engaged in hunting, gathering, and fishing, this necessarily includes a reservation of rights to continue those activities on the reserved lands. It also includes an implied reservation of sufficient water to fulfill the purposes of the reservation.[42]

35. The Tribe argues that because the project prevents the use of the inundated reservation lands for tribal purposes, it interferes and is inconsistent with the purposes for which the reservation was created. However, this approach would appear to lead to the conclusion that any interference with a tribe's use of its reservation lands is, by definition, prohibited by FPA section 4(e). If that were the case, section 4(e) would serve no purpose, because any occupation of reservation lands by project works would necessarily interfere or be inconsistent with the tribe's use of those lands for alternate purposes. If this were the intended result, Congress could have flatly prohibited the licensing of project works on Indian reservations. But Congress did not do so. Rather, as the Supreme Court has observed, the FPA "gives every indication that, within its comprehensive plan, Congress intended to include lands owned or occupied by any

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[39] Executive Order 1904, March 23, 1914.

[40] *See Colville Confederated Tribes v. Walton*, 647 F.2d 42, 47-48 (9th Cir. 1981) *cert. denied*, 454 U.S. 1092 (1981). The language used in the executive order creating the Colville reservation, which states that the land is "set apart as a reservation for said Indians," is nearly identical to that used in creating the Kalispel reservation. *Id.* at 47.

[41] *Id.*

[42] *Id.* at 46; *see United States v. Winters*, 207 U.S. 564, 576 (1908).

person or persons, including Indians."[43] We therefore conclude that some interference with a tribe's use of the particular lands on which project works are to be situated must be permissible under the FPA, as long as the license will not interfere or be inconsistent with the purposes of the reservation as a whole.

36. In this case, the reservation borders the river for approximately 10 river miles. Because project operation expands the river, and creates backwater sloughs in some areas, it interferes with the Tribe's use of the strip of land that hugs the shoreline and is located below elevation 2,041. The record shows that before the project was built, this land hosted wild hay, which grew along the shore of the river and in the slough areas. Prior to project operation, the inundated land was sometimes unavailable because it was subject to seasonal flooding. Thus, its usefulness was primarily for seasonal agriculture.

37. We conclude that, while the project interferes with the use of the corridor of land that hugs the river's original shoreline and the backwater sloughs, the rest of the reservation remains available for the Tribe's unrestricted use, and appears adequate to provide a suitable permanent homeland and to allow the tribe to continue its traditional practices of hunting, gathering, and fishing. We therefore find that issuing a new license for the Box Canyon Project will not interfere or be inconsistent with the purposes for which the Kalispel Indian Reservation was created.

B. Mandatory Conditions

38. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations "shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation."

1. Colville National Forest

39. As noted above, the project occupies 190.25 acres of national forest lands. These lands, which constitute less than two percent of the project, comprise 12 parcels located along the reservoir's shoreline. Nine of the parcels are along the lower half of the reservoir, and the other three are at the reservoir's upper end. Most are undeveloped, but several include recreation facilities.

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[43] *See Escondido Mutual Water Co. v. La Jolla Band of Mission Indians*, 466 U.S. 765, 786 (1984), *citing FPC v. Tuscarora Indian Nation*, 362 U.S. 99 (1960).

40. On January 14, 2005, the Forest Service filed 19 mandatory conditions[44] for the project pursuant to FPA section 4(e).[45] Condition 1 reserves the Forest Service's authority to modify the section 4(e) conditions if the license is for a term longer than 30 years. The remaining conditions require the following: (2) Forest Service approval prior to beginning any habitat- or ground-disturbing activities on Forest Service lands; (3) plan to coordinate and implement license conditions; (4 and 5) tying project boundary to Public Land Survey system and re-establishing Public Land Survey corners; (6) historic properties management plan; (7) recreation plan; (8 and 9) erosion monitoring and control plans; (10) hazardous materials control; (11) sensitive species protection plan; (12) protection and restoration of cottonwoods and riparian shrub habitat; (13) monitoring plan for the bald eagle, osprey, cormorant, and great blue heron; (14) creation or restoration of amphibian habitats; (15) compliance with FPA section 18 fish passage conditions; (16) compliance with water quality certifications issued under section 401 of the Clean Water Act; (17) monitoring and control of Eurasian water milfoil vegetation in the project reservoir; (18) noxious weed control plan; and (19) compliance with established guidelines for use and development of borrow and quarry pits.

41. Some of the conditions require the licensee to take actions on national forest system lands "within and adjacent to the Project" (Conditions 5, 7, and 8), "directly or indirectly affected" by project-related activities and operations (Conditions 11 and 18), or "in the project area" (Conditions 11, 12 and 13). Other conditions require actions on licensee-owned or other, non-forest-system lands (Conditions 12 and 14), or at project facilities that do not occupy forest service lands (Condition 15). This license includes the nineteen conditions, but only to the extent the conditions apply to national forest lands within the project boundary or to project facilities located on national forest lands.[46]

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[44] Mandatory here means the Commission's obligation to include such conditions in any license it issues. It does not refer to a licensee's compliance obligation, inasmuch as all license conditions (whatever their source) are mandatory as to the licensee.

[45] *See* October 26, 2004 letter to Forest Service from Commission staff confirming January 19, 2005 deadline for submitting 4(e) conditions.

[46] *See Escondido Mutual Water Co. v. La Jolla Band of mission Indians,* 466 U.S. 765, 780-81 (1981); and *Upper Peninsula Power Co.*, 110 FERC ¶ 61,141 at P 9-10 (2005).

42. The conditions are contained in Appendix B and included in this license by ordering paragraph (E). Many of the conditions do not lend themselves to parsing according to what is a mandatory 4(e) and what is not, so the appendix contains verbatim all the conditions submitted by the Forest Service, with the understanding that the Forest Service's section 4(e) conditions apply only to the extent they address forest service lands (or any project works on those lands) occupied by the project.

2. Kalispel Indian Reservation

43. As noted above, the project occupies 493.03 acres of the Kalispel Reservation. These lands are comprised of lands on which the Calispell Creek pumping plant is located and submerged lands along the reservoir shoreline.

44. On May 21, 2004, Interior filed 18 mandatory conditions for the project pursuant to FPA section 4(e).[47] The conditions require the following: (1) plan to coordinate and implement license conditions; (2) establishment of resource technical committee; (3) ramping rates, fish stranding studies, erosion monitoring; (4) compliance with water quality certifications issued under section 401 of the Clean Water Act, and water quality monitoring, including for total dissolved gas; (5) compliance with FPA section 18 fish passage conditions; (6) plan and fund for trout assessment and restoration; (7) replacement of wildlife habitat on Kalispel Reservation; (8, 9, 10, and 11) management and monitoring of cultural resources and protection of human remains; (12) funding of ethnobiological study; (13) funding of recreation facilities for Tribe; (14) procedures for notifying Tribe and Interior when required by these conditions; and (15) access to the project by the Tribe and Interior. The remaining conditions contain provisions for Interior's approval of the District's implementation of these 4(e) conditions (Condition 16); the licensee's obligation to comply with the conditions (Condition 17); and a reservation of Interior's authority to modify its conditions (Condition 18).

45. As with the conditions submitted by the Forest Service, some of Interior's conditions require the licensee to take actions that fall outside the scope of FPA section 4(e). For example, paragraphs (C)(4)(f) and (D)(3) of Condition 4 require monitoring of water quality in the project's tailrace, some 30 miles downstream of the reservation. Condition 6 requires the District to undertake trout habitat restoration measures in tributary streams that are neither on the reservation nor within the project

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[47] *See* March 31, 2004 letter from J. Mark Robinson, Director, Office of Energy Projects, granting Interior's request for an extension of the deadline (to May 21, 2004) for submitting its final conditions.

boundary. Condition 7 requires the District to replace wildlife habitat on reservation lands that are outside the project boundary, and Condition 13 requires the funding of tribal recreation facilities, the majority of which are outside the project boundary. While all of Interior's conditions are reprinted in Appendix A, ordering paragraph (D) includes them as mandatory FPA section 4(e) conditions, only to the extent the conditions apply to Kalispel Reservation lands within the project boundary or to project facilities located on the Reservation. However, as discussed elsewhere in this order, we have included some of these conditions in the license to meet our responsibilities under FPA section 10(a) or other statutes.

WATER QUALITY CERTIFICATION

46. Under section 401(a)(1) of the Clean Water Act (CWA),[48] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.[49]

47. On January 5, 2002, the District applied to Washington Ecology for water quality certification for the Box Canyon Project in the State of Washington. On December 30, 2002, Washington Ecology issued water quality certification for the project, which it amended on February 21, 2003.[50] The certification contains conditions relating to total dissolved gas (TDG)[51] abatement to ultimately bring TDG levels into compliance with

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[48] 33 U.S.C. § 1341(a)(1).

[49] 33 U.S.C. § 1341(d).

[50] The February 2003 filing revised the deadlines for filing various plans so as to be measured from license issuance rather than from issuance of the certification. Because the original certification contains no reservation of authority for Washington Ecology to amend it in this manner, and the revisions were issued after the one-year deadline for state action, the Commission is not required to accept the revised certification. However, the changes to the certification were requested by the District and are reasonable and in the public interest. Accordingly, we include the revised certification as a condition of this license.

[51] *See* n.18, *supra.*

state water quality standards,[52] aquatic plant management, interim temperature management, and water quality monitoring. The certification conditions are set forth in Appendix D of this order and incorporated into the license by ordering paragraph (G).

48. On January 5, 2002, the District applied to EPA for water quality certification for the project within the Kalipsel Indian Reservation. On January 2, 2003, EPA issued water quality certification for the Calispell Creek pumping plant, which discharges waters from Calispell Creek into Box Canyon reservoir within the Kalispel Indian Reservation. EPA based its certification on established Washington water quality standards, since the Tribe's standards had not yet been approved by EPA.[53] EPA's certification requires the District to mitigate for water quality impacts of waters discharged from Calispell Creek into the Kalispel Indian Reservation. The EPA certification conditions are set forth in Appendix E of this order and incorporated into the license by ordering paragraph (H).

SECTION 18 FISHWAY PRESCRIPTIONS

49. Section 18 of the FPA[54] states that the Commission shall require the construction, maintenance, and operation by a licensee at its own expense of such fishways as may be prescribed by the Secretary of Commerce or Secretary of Interior, as appropriate. Interior provided preliminary fishway prescriptions by letter dated November 5, 2001. In a letter dated May 21, 2004, Interior provided modified section 18 prescriptions.[55] These prescriptions are attached in Appendix C and made conditions of the license by ordering paragraph (F). Interior's fishway prescription includes measures for upstream and downstream passage of bull trout, westslope cutthroat trout, and mountain whitefish (target species) at Box Canyon dam and at the Calispell Creek pumping plant. The prescription also includes monitoring and effectiveness plans and studies.

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[52] TDG levels in excess of the state standard have been recorded below the project's spillway. *See* EIS at 70.

[53] EPA subsequently approved Water Quality Standards for Kalispel Indian Community on the Kalispel Indian Reservation on June 24, 2004.

[54] 16 U.S.C. § 810.

[55] *See* n. 47, *supra.*

A. Fish Passage at Box Canyon Dam

50. Interior uses a phased approach for upstream fish passage. The District is to install and operate a temporary trap-and-haul upstream fish passage facility.[56] Upon completion of the proposed turbine upgrade[57] and the installation of the auxiliary spillway bypass gates,[58] or within 10 years of license issuance, whichever occurs first, the temporary trap-and-haul facility shall be replaced by an interim trap-and-haul facility.[59] When at least 97 westslope cutthroat trout or 97 bull trout use the interim facility in any calendar year, Interior will consider the recommendations of resource agencies and the Kalispel Tribe to decide whether to require permanent upstream passage at Box Canyon dam (a fish ladder). Once installed, the permanent fish ladder would be operated for the remainder of the license term.[60]

51. Interior also prescribes an interim downstream fish passage facility at Box Canyon dam. This facility is to provide effective downstream passage of target species by a non-turbine method such as an open-channel or non-pressurized pipe. If the District can demonstrate that the interim fishway meets an effectiveness target, then the FWS will designate the interim fishway as permanent. If the fishway cannot meet the target, then, upon completion of the proposed turbine upgrade and the installation of the auxiliary spillway bypass gates, or within ten years of license issuance, whichever occurs first, the interim facility shall be replaced by a permanent one. Like the interim structure, the

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[56] This temporary facility would likely use guidance nets to trap the fish.

[57] In its comments on the EIS, the District states for the first time, contrary to its application, that it proposes to install only one "fish-friendly" turbine. *See* the District's filing dated November 22, 2004, and filed November 24, 2004, at 37. In the EIS, staff recommended installation of two "fish-friendly" turbines. Two "fish-friendly" turbines would ensure greater likelihood of safe fish passage. In this proceeding we have analyzed the potential environmental impacts of two "fish-friendly" turbines, and fashioned license conditions based on this analysis. If the District wishes to modify its proposal, it will have to seek an amendment to its license.

[58] The turbine replacements and bypass spillway gates must be completed within nine years of license issuance. *See* Article 405 of this license.

[59] This interim facility likely would use a structural trapping facility.

[60] Staff estimates that, based on this criteria, the permanent facility, if installed, would begin operation about 14-17 years after license issuance. *See* EIS at 267.

permanent one will provide non-turbine passage and will have the same effectiveness target. FWS can thereafter require changes to the facility until the effectiveness goal is reached.

B. Fish Passage at Calispell Creek Pumping Plant

52. Interior requires that within 7.5 years of license issuance, the District is to begin plans to install and operate an interim trap-and-haul upstream fish passage facility at the pumping plant.[61] The interim facility must be installed and operational within one year after the FWS approves the design. If warranted by subsequent monitoring, FWS may require changes to the facility or operation. If notified by FWS that at least two streams, tributary to Calispell Creek and upstream of the pumping plant, provide adequate habitat and will allow the unrestricted movement of target species between the designated tributaries and the pumping plant, the District shall design and install a permanent upstream passage facility (e.g., a fish ladder).

53. Within five years of license issuance, the District is to begin plans to install and operate a permanent downstream fish passage facility at the pumping plant. After the preliminary designs are approved, the licensee has one year to submit final designs. After those are approved, the District has two years to install and begin operation of the facility.

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[61] The District argues that Interior has no authority to establish section 4(e) conditions or prescribe section 18 fishways at the Calispell Creek railroad dike. The District maintains that this is the case because: Interior granted a right-of-way in 1910 authorizing the railroad to cross lands occupied by a member of the Kalispel Tribe, including the bed of Calispell Creek, before the Kalispel Indian Reservation was established; the Reservation was made subject to any existing valid rights or claims; and none of the conditions of the right-of-way involved the protection of fish resources. This argument is not persuasive. As discussed above, we have concluded that the railroad dike and gated culvert across Calispell Creek are necessary to operation of the pumping stations and therefore must be included in the license as project works. As a result, Interior's FPA authority is applicable to those structures.

THREATENED AND ENDANGERED SPECIES

54. Section 7(a) of the Endangered Species Act of 1973 (ESA)[62] 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 designated critical habitat. When a federal agency determines that a proposed action may affect a threatened or endangered species, it must consult with FWS or NOAA Fisheries and obtain a Biological Opinion on whether the action is likely to result in a violation of the ESA. After the initiation of formal consultation, section 7(d) of the ESA[63] prohibits an agency from making any irreversible or irretrievable commitment of resources that would foreclose the formulation or implementation of any reasonable and prudent alternative measures that would not violate section 7(a)(2).

55. One federally listed fish species, two federally listed plant species, and four federally listed wildlife species may occur in the project area. Bull trout, grizzly bear Canada lynx, water howellia and Ute ladies'-tresses are listed as threatened. The bald eagle is also listed as threatened, but has been proposed for de-listing because of the success of recovery efforts. The gray wolf is listed as endangered. On September 25, 2002, the Commission initiated formal consultation with the FWS on bull trout as a result of staff's finding that the project was likely to adversely affect bull trout and requested the FWS's concurrence on staff's finding that the project was not likely to adversely affect water howellia, Ute ladies'-tresses, gray wolf, grizzly bear, Canada lynx or bald eagle.

56. On February 7, 2005, the FWS filed a draft Biological Opinion for the Box Canyon Project in response to our December 9, 2004 request. On March 30, 2005, staff provided comments to the FWS on its draft Biological Opinion. FWS filed its final Biological Opinion on April 29, 2005.

57. The Biological Opinion includes a determination that implementation of the proposed project is not likely to adversely affect the federally listed gray wolf, grizzly bear, bald eagle, Canada lynx, water howellia, and Ute ladies-tresses. The Biological Opinion also determined that the implementation of the proposed project may affect and is likely to adversely affect bull trout and designated bull trout habitat, but is not likely to jeopardize the continued existence of the bull trout or result in the destruction or adverse modification of critical habitat.

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[62] 16 U.S.C. ə 1536(a).

[63] 16 U.S.C. ə 1536(d).

58. FWS concluded that relicensing of the project with Interior's section 18 fishway prescriptions and section 4(e) conditions includes sufficient measures to help minimize and track the level of incidental take associated with relicensing and continued operation of the project on bull trout. FWS further concluded that as long as the Commission issues a new license consistent with the proposed action and the Biological Opinion, no additional reasonable and prudent measures or terms and conditions are necessary at this time. The conditions of this license are consistent with the proposed action evaluated by FWS as part of the consultation process.

59. As discussed above, to the extent that Interior's 4(e) conditions wholly or in part require the District to take actions outside of the project's boundary and/or off of the Kalispel Indian reservation lands, we do not consider them to be valid section 4(e) conditions. Interior's Condition 6 (trout habitat restoration in tributary streams) and a portion of Condition 4 (total dissolved gas monitoring in the project's tailrace) are examples of such conditions, and the District is not required to implement them as mandatory conditions under section 4(e). However, the FWS in its Biological Opinion states that it "believes that the proposed Action, the relicensing of the Project including the Department's [Interior's] FPA section 18 fishway prescriptions and section 4(e) conditions, includes sufficient measures to help minimize and track the level of incidental take associated with the Project relicensing and continued operation of the Project." Because Interior's 4(e) Condition 4(C)(4)(f) and Condition 6 are directly related to trout habitat restoration, fish passage, and water quality monitoring, all of which are measures to help protect and enhance bull trout populations, we are requiring the District to comply with these conditions (Article 406).

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

60. Section 10(j)(1) of the FPA,[64] requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,[65] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

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[64] 16 U.S.C. § 803(j)(1).

[65] 16 U.S.C. §§ 661, *et seq.*

61. In response to the September 4, 2001 public notice that the project was ready for environmental analysis, a total of 37 different recommendations were filed collectively by Interior, Washington DFW, and Idaho DFG.[66] Five of the recommendations were subsequently withdrawn by the recommending agency. Five others were determined to be outside the scope of section 10(j), and they are discussed in the next section. This license includes conditions consistent with 24 of the remaining 27 recommendations that are within the scope of FPA section 10(j). These include recommendations concerning ramping rates (Article 403); water quality monitoring (Article 401); aquatic habitat restoration (two recommendations) (Article 406); management of riparian habitat including the installation of a staff gage at Trimble Creek (Article 407 and Article 416); wildlife lands (Article 407); waterfowl (Article 407), amphibians (Article 407); cottonwood (Article 407); noxious weeds (Article 410); bald eagle protection (seven recommendations) (Article 407); grizzly bear awareness program (Article 407); monitoring of osprey, great blue heron, and double-crested cormorant (three recommendations) (Article 407); fish passage (two recommendations) (Interior's section 18 prescription); and fish hatchery funding (Article 406).

62. If the Commission believes that any section 10(j) recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2)[67] 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. Staff found three such circumstances where the agencies' recommendations were determined to fall within the scope of section 10(j) and were not subsequently resolved.

63. Commission staff made an initial determination that certain Interior, Washington DFW, and Idaho DFG recommendations may be inconsistent with the comprehensive planning standard of section 10(a)(1), the public interest standard of section 4(e), and the substantial evidence standard of section 313(b) of the FPA. By letters dated October 7, 2002, Commission staff advised the agencies of its preliminary determinations and attempted to resolve the apparent inconsistencies. Interior responded by letter filed

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[66] Interior filed recommendations on November 5, 2001, and Washington DFW and Idaho DFG filed recommendations on November 2, 2001.

[67] 16 U.S.C. § 803(j)(2).

November 21, 2002, and Washington DFW responded by letter filed November 26, 2002. A meeting was held on June 29, 2004, to attempt to resolve the inconsistencies. Based on the results of the meeting and filing of mandatory licensing conditions, only three inconsistencies remain, as discussed below.

64. We do not adopt Interior's recommendation to reconvene the Habitat Evaluation Procedures (HEP) Team (comprised of representatives of the District, Washington DFW, FWS, and the Kalispel Tribe) to analyze and mitigate any habitat losses anticipated to occur during the term of the new license. This measure is estimated to cost about $108,000 annually. As staff found in the EIS, none of the actions being proposed would substantially alter or degrade wildlife habitat. In fact, required measures would enhance wildlife habitat.[68] The cost of this measure thus would significantly outweigh the expected benefits. We accordingly conclude that this recommendation is inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA. We have, however, included in this license Article 407, which requires a comprehensive wildlife management plan that will provide significant benefits to wildlife.

65. We do not adopt Interior's recommendation to install artificial perches or create snags to benefit bald eagle perching at a cost of about $6,300 per year. As discussed in the EIS, staff found no evidence that the amount of perching habitat is limiting or that additional snags are necessary.[69] Therefore, we find this recommendation inconsistent with the substantial evidence standard of section 313(b) of the FPA. Sufficient measures have been included in this license to protect and enhance the bald eagle as part of a comprehensive wildlife management plan (Article 407), which includes bald eagle nest monitoring and nest surveys, development of bald eagle nest management plans, and bald eagle habitat improvements.

66. We do not adopt Idaho DFG's recommendation to seasonally lower reservoir elevations during fall, winter, and spring to improve rainbow and brown trout spawning below Albeni Falls dam. As discussed in the EIS, the cost of this measure would be about $3 million per year in lost energy but would have only a minor effect on habitat conditions, representing very little benefit to rainbow and brown trout in Box Canyon reservoir over existing conditions. The significant cost of this measure would not be worth the limited benefits. Therefore, we find this recommendation inconsistent with the

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[68] *See* EIS at 151.

[69] *Id.* at 318.

comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA. While this license does not include specific measures for resident and brown trout, it does include measures to enhance other resident salmonid populations, including implementation of the trout assessment and restoration plan (Article 406).

67. For the above reasons, we conclude, in accordance with FPA section 10(j)(2)(A), that Interior's recommendation regarding the HEP Team and Idaho DFG's recommendation for lower reservoir elevations are inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA, and Interior's recommendation to install artificial perches and snags is inconsistent with the substantial evidence standard of section 313(b) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, we find that the measures required by this license 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

A. Federal and State Fish and Wildlife Agencies' Recommendations

68. Interior, Washington DFW, and Idaho DFG made six recommendations that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife or were untimely filed. Consequently, we do not consider these recommendations under section 10(j) of the FPA. Instead, we have considered these recommendations under the broad public interest standard of FPA section 10(a)(1).[70] The license contains conditions consistent with five of the recommendations: compliance with water quality standards (two recommendations) (Washington Ecology's water quality certification); modeling to upgrade gas abatement technology (Washington Ecology's water quality certification and Interior's section 4(e) Condition 4); coordination of the Albeni Falls and the Box Canyon projects (Article 306); and establishment of a technical committee to deal with environmental issues (Interior's section 4(e) Condition 2).

[70] 16 U.S.C. § 803(a)(1).

69. In the remaining recommendation, Washington DFW recommends that the District provide funding for the revitalization of the Usk fish hatchery ($100,000) and annual funding ($75,000) for the production of native salmonids.[71] We recognize the need for the rearing of native salmonids to be used in restoration activities. Interior's trout assessment and restoration plan required by Article 406 of the license allows for funds to be used for supplementation of native trout populations through conservation aquaculture. Therefore, we do not find it necessary to provide additional, hatchery-specific funding for the propagation of native salmonids.

B. Kalispel Tribe's Recommendations

70. The Tribe made nineteen recommendations (letter filed December 11, 2001) that we have evaluated under section 10(a)(1).[72] The license contains conditions consistent with fifteen of the recommendations: reservoir drawdown limitations and other stabilization measures (Interior 4(e) Condition 3); water quality remediation and monitoring plan (Interior 4(e) Condition 4); fish passage at Box Canyon dam and Calispell Creek pumping plant (Interior section 18 prescription); fish assessment and remediation plan (Article 406); installation of "fish-friendly" turbines (Article 405); monitoring and management of ospreys, native amphibians, grazing, and cottonwoods (Article 407 plan); vegetation management (Washington Ecology Water Quality Certification Condition IID); cultural resource management plan (Article 413); cultural resources monitoring (Interior 4(e) Condition 9); management of remains and records recovered from trust lands (Interior 4(e) Condition 10); ethnobiological study (Interior 4(e) Condition 12); and establishment of a technical committee (Interior 4(e) Condition 2). In addition, except as discussed below, the license contains conditions largely consistent with the other four recommendations: monitoring and management of bald eagles, great blue herons, double-crested cormorants, and waterfowl (Article 407).

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[71] This funding would be in addition to the $25,000 annual funding of the Colville hatchery that Washington DFW recommended under section 10(j). The requirements of license Article 406 are consistent with the section 10(j) recommendation. Washington DFW submitted the recommendation for additional funding long after the deadline for submitting 10(j) recommendations, and we therefore consider it under section 10(a).

[72] By its terms, section 10(j) does not apply to recommendations by Indian Tribes. Thus, we consider tribal recommendations under section 10(a).

71. We do not adopt the Tribe's recommendation that the District purchase or manage 70 acres of deciduous forest for the great blue heron. As discussed in the EIS, because the fairly recent abandonment of two colonies near the Box Canyon reservoir appears to have been related to timber harvest rather than project operation, staff did not find a connection to project effects.[73] We anticipate that enhancement of at least 87 acres of deciduous and mixed forest within the project's two wildlife management areas, cottonwood plantings at other locations around the reservoir, and measures to help control shoreline erosion and disturbance at sensitive sites, will meet habitat objectives for this species.

72. The Tribe recommends that the District purchase 100 acres of habitat for waterfowl and restore 40 acres of riparian forest in addition to the enhancements to be undertaken in the wildlife management areas. As discussed in the EIS, the wildlife management areas (Article 407) contain over 400 acres of emergent grassland habitat, plus riparian tree and shrub habitats along sloughs and shorelines. With enhancement measures in place, these areas should provide high-quality habitat for ground-nesting waterfowl.[74] Therefore, we believe that purchase of additional lands is not warranted.

73. We do not require that the predatory bird monitoring plan provisions of the comprehensive wildlife management plan (Article 407) include measures to offset impacts if monitoring indicates that double-crested cormorants appear to be competing with other species for nest/perch sites or for other habitat components. As discussed in the EIS, we believe that cormorants are not likely to compete with bald eagles, osprey, or great blue herons for fish.[75] We also do not require the construction of artificial perch sites for bald eagles as discussed above.[76]

C. Forest Service Recommendations

74. Although Forest Service Condition 14 was submitted under FPA section 4(e), it is not accorded section 4(e) status inasmuch as it requires the District to create or restore at least 60 acres of amphibian habitat on licensee-controlled lands (such as the wildlife management areas). Moreover, we do not think it is necessary to include this condition

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[73] *See* EIS at 159.

[74] *Id.* at 315.

[75] *Id.* at 158.

[76] *See* P 68, *supra.*

in the license under section 10(a). The District's draft wildlife management plans for Everett Island and Tacoma Creek contain measures to protect and enhance 416 acres of emergent grasslands. Implementation of these plans (required by Article 407) would provide adequate protection and enhancement for wildlife found in emergent grassland habitats, including native frogs such as the northern leopard frog, if present, and other amphibian species. It would also improve emergent grassland habitat for big game, small mammals, bats, furbearers, songbirds, wading birds, waterfowl, and raptors.[77]

75. The Forest Service also submitted five recommendations under section 10(a), and the license contains conditions consistent with four of them: shoreline management plan (Article 409); plan to educate landowners on the importance of riparian habitat and preventing riverbank erosion (Article 408); native fish restoration plan (Article 406); and if feasible, use of prairie cordgrass in erosion control measures (Article 408).

76. In addition, the Forest Service recommends that the District improve trails, interpretative signing, and overlook facilities at the existing Box Canyon viewpoint and develop a comprehensive information and education package explaining recreational opportunities. While the recreation plan required by Article 412 of the license requires trail and signing improvements, we are not aware of any recreation demand data that indicate a need to develop such an information and education package or improve facilities at the viewpoint. Several existing and planned information and education facilities are already located in the project area. The Forest Service did not provide any support for the need for improvements at the Box Canyon viewpoint. Existing facilities appear adequate to meet current recreational needs. Moreover, the recreation plan will provide the opportunity to address changing recreational needs during the term of the license.

OTHER ISSUES

A. Request for Trial-Type Hearing

77. On December 10, 2004, the District filed a motion for an expedited trial-type hearing to resolve certain issues regarding mandatory conditions filed by Interior in this relicensing proceeding. The District also conditionally requested that the trial-type hearing address the Commission staff's socio-economic analysis in the final EIS. Interior and the Tribe filed answers in opposition to the motion.

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[77] For the same reason, we decline to adopt under section 10(a) Interior's Condition 7, which is not accorded Section 4(e) status to the extent it applies to non-project lands.

78. Specifically, the District raised the following issues it stated are disputed material facts that cannot be resolved on the written record: (1) whether the Box Canyon Project has changed the essential nature of the Pend Oreille River; (2) whether river temperatures have increased significantly; (3) whether river velocities have significantly changed; (4) whether fish habitats have been significantly altered; (5) whether fish populations have been significantly affected; and (6) whether the mandatory conditions inappropriately require mitigation for non-project impacts.

79. We believe that the extensive written record in this proceeding contains sufficient evidence regarding these science-based issues and that there is no need for a trial-type hearing for us to analyze those matters. Although certain parties in this proceeding have differing interpretations of the factual record, we can resolve them based on the pleadings and the thorough EIS. Under the FPA and the Commission's regulations, hydroelectric proceedings are normally conducted using notice-and-comment hearings.[78] The decision whether to conduct a trial-type hearing is in the Commission's discretion.[79] Accordingly, we deny the request for an evidentiary trial-type hearing.

B. Tribal Environmental Issues

80. As discussed earlier in this order, the Tribe challenges the legality of the original license because it did not demonstrate the project's consistency with the purposes of the Kalispel reservation. As a result, the Tribe maintains that the Commission's environmental analysis must begin with pre-project conditions (before 1952) as an environmental baseline.

81. We previously acknowledged that the 1952 and 1963 licensing orders did not comply with FPA section 4(e).[80] This does not mean, however, that the Commission must attempt to establish a pre-project baseline for conducting its environmental analysis. Rather, it is our longstanding and judicially-approved policy to use the existing environment as a starting point for our environmental review.[81] Project works that are

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[78] *See* 18 C.F.R. ∋ 4.34.

[79] *See Central Nebraska Public Power and Irrigation District*, 51 FERC & 61,257 at 61,741 (1990) (*citing Amador Stage Lines, Inc. v. United States*, 685 F.2d 333, 335 (9th Cir. 1982)).

[80] *See* 77 FERC ¶ 61,146 at 61,548-49.

[81] *See American Rivers v. FERC*, 201 F.3d 1186, 1195-99 (9th Cir. 1999).

already in existence are considered as part of the existing environment, whether or not they were previously licensed. However, we also take into account a project's past environmental effects in determining what measures are appropriate to protect, mitigate, and enhance natural resources for the new license term. We find no basis for departing from our baseline policy in this case.

82. The Tribe also argues that decommissioning should be included as an alternative to continued operation of the Box Canyon Project because the project is inconsistent with the purposes of the reservation. The EIS includes a discussion of the effects of project retirement, both positive and negative, and concludes that it is not a reasonable alternative. This analysis, although brief, is sufficient to provide a general understanding of the environmental and other effects that would occur if the Commission were to determine that a new license should not be issued. A more detailed environmental analysis would then be required in connection with the licensee's proposal for project retirement. As discussed earlier, we conclude that relicensing the project would not interfere or be inconsistent with the purposes for which the reservation was created. We therefore find that a more detailed analysis of decommissioning as an alternative is not required.

C. Annual Charges for Use of Reservation Lands

83. Under FPA section 10(e), when a license is issued involving the use of tribal lands embraced within Indian reservations, the Commission must fix a reasonable annual charge for the use of such lands, subject to the approval of the tribe having jurisdiction of the lands. Commission regulations provide that annual charges for projects using tribal lands within Indian reservations will be determined on a case-by-case basis.[82] The Commission has used a variety of procedures to satisfy its section 10(e) obligation to

[82] *See* 18 C.F.R. § 11.4(a) (2004). Annual charges for the other federal lands used by the project are calculated under 18 C.F.R. §11.2(b)(2004).

determine annual land use charges for the few projects occupying tribal reservation lands.[83] Our current practice is that annual charges for Indian reservation lands should rest on agreements between the parties, the terms of which we will then incorporate in the license unless they are patently unreasonable.[84]

84. Article 201 of the license allows a six-month period for negotiation of an annual charge for the use of Kalispel Indian Reservation lands. If no agreement is reached by such time, the Commission will determine the annual charge. Article 201 also specifies that annual charges must be paid effective as of the first day of the month in which the license is issued.

D. Other Environmental Measures

85. As explained in the EIS, shoreline erosion is occurring in various locations and to varying degrees throughout the project reservoir. There are a number of factors that can contribute to this erosion, including project operations, natural flood events and landslides, shoreline development, wave action, and natural flowing water. Past monitoring efforts have been unable to establish the degree to which project operations contribute to this shoreline erosion.[85]

86. The District proposes to develop a plan to monitor shoreline erosion at representative points throughout the reservoir to determine the rate, location, and causes of such erosion, including its relationship to project operations. Article 408 requires such a monitoring plan and, in addition, requires the District to develop and implement a two-phase erosion control plan. These measures should clarify the site-specific causes of this erosion and the degree to which project operations contribute to the problem, and should also provide increased erosion control.

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[83] *See generally Montana Power Co. v. FPC*, 298 F.2d 335 (D.C. Cir. 1962) (affirming charges for third generating unit based on sharing of net benefits method); *Montana Power Co. v. FPC*, 445 F.2d 739, 743 (D.C. Cir. 1970) (affirming Commission's jurisdiction to readjust annual charges after 20 years), *cert. denied*, 400 U.S. 1013 (1971); *Montana Power Co. v. FPC*, 459 F.2d 863 (D.C. Cir.) (affirming readjusted annual charges of $950,000), *cert. denied*, 408 U.S. 930 (1972).

[84] *See, e.g.*, 77 FERC ¶ 61,146 at 61,553; *Wisconsin Power & Light Co.*, 79 FERC ¶ 61,181 at 61,855 (1997); *Minnesota Power & Light Co.*, 75 FERC ¶ 61,131 (1996).

[85] *See* EIS at 30.

87. The EIS concluded that certain additional measures would be necessary to protect, mitigate damages to, or enhance the project's environmental resources.[86] These measures, which are to be implemented on project lands owned or managed by the District, are reflected in the Articles 410 (integrated weed management) and 411 (rare plant/sensitive species management).[87]

E. Payment to the U.S. Army Corps of Engineers

88. In October 1952, the licensee and the Corps of Engineers entered into an agreement to compensate the United States for the tailwater encroachment on the Albeni Falls Dam Project resulting from the operation of the Box Canyon Project. The agreement provides that, from the power produced at Box Canyon dam, the licensee will deliver into the federally-owned regional power system, electrical energy at no cost or expense to the government, equal to the electrical energy which cannot be generated or is lost at the Albeni Falls dam because of the permitted tailwater encroachment. Power losses are computed and repayments made in kilowatt-hour units.[88] The existing contract allows the District to back up water to a level not to exceed two feet. This backup decreases the ability of Albeni Falls to generate electricity. The District currently provides monthly energy payments to the Corps. Accordingly, Article 306 requires that the District continue this payment to the United States.

F. Recreation

89. To ensure that the project meets the area's existing and future public recreational needs, Article 412 requires the District to develop and implement a recreation plan for the project that includes provisions for the continued operation and maintenance of the District's Campbell Park, visitor center, and scenic overlook. In the EIS, staff concluded that most of the District's proposed recreation measures would contribute to meeting the recreation needs in the project area.[89] Therefore, Article 412 also requires

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[86] *See* EIS at 145-48.

[87] The District owns less than three percent of the lands within the project boundary.

[88] Article 29 of the original license required that the licensee enter into an agreement with the Chief of Engineers, Department of the Army, to compensate the United States for encroachment of the Albeni Falls Project resulting from operation of the Box Canyon Project.

[89] *See* EIS at 320.

implementation of these measures. They include the installation of additional picnic tables at Campbell Park; redevelopment, operation and maintenance of a public boat launch site (Ponderay Shores); the improvement, operation and maintenance of the Town of Cusick's boat launch facility; the operation and maintenance of the Town of Ione's existing park; deeding or granting an easement of a 1.8-acre parcel of District-owned land to the town of Oldtown for recreational vehicle camping; and signage to enhance public access and use of public recreation sites. Finally, the required plan also includes provisions for monitoring recreation through the license term, periodically updating the recreation plan, and providing additional facilities if monitoring indicates such facilities are needed.

90. We are not including in the license the District's proposal to provide funding and other assistance to the Heritage Scenic Byways Program for the North Pend Oreille Scenic Byways Program, including improvements to a trail located five miles downstream of the project dam.[90] The Heritage Scenic Byways Program is not specifically tied to the project's recreation facilities or project purposes.[91]

91. We note that some of the recreation facilities required for project purposes are not included within the current or proposed project boundary. Specifically, the District's existing Campbell Park, the proposed boat launch site at Ponderay Shores, the town of Cusick's existing boat launch site, the town of Ione's existing park, the Forest Service's Pioneer Park campground, and the 1.8-acre parcel of District land located adjacent to the town of Oldtown's Riverside Park are all located outside the project boundary. It is our

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[90] The Heritage Scenic Byways Program highlights Washington's natural, recreation, scenic, and cultural qualities by designating special points of interest along a series of byway routes throughout the state. The North Pend Oreille Scenic Byways program pertains to a 27-mile-long scenic byway along State Route 31 in northeast Washington and highlights numerous points of interest along the route, including the recreation facilities at the Box Canyon dam. The vast majority of these points of interest are located north of the project area.

[91] *See* EIS at 213.

policy that, if lands are needed for project purposes, they should be brought within the project boundary.[92] Therefore, we are requiring the District, under Article 202, to submit for Commission approval, exhibit G drawings adding the above lands/sites fully within the project boundary.

92. Interior section 4(e) Condition 13 specifies, among other things, that the District provide funding for the construction of Kalispel Tribe's Pow Wow campgrounds, and the Manresa Grotto Beach site, located on Kalispel Indian Reservation lands but outside the project boundary. As previously noted, to the extent that Interior's 4(e) conditions wholly or in part require the District to take actions outside of the project's boundary and/or off of the Kalispel Indian reservation lands, we do not consider them to be valid section 4(e) conditions. Consequently, we consider the condition under FPA section 10(a).

93. FPA Section 10(a) requires that enhancements contained in licenses issued by the Commission must address beneficial public uses, including recreational purposes. In the EIS, staff found that public access to the Pow Wow Grounds and the Manresa Grotto Beach site is either very limited or prohibited.[93] Therefore, given that public access to the Kalispel Tribe's recreation facilities is either very limited or prohibited, we find that this condition is not consistent with comprehensive planning standard of FPA section 10(a).

G. Wildlife Management Areas

94. The District has developed draft wildlife management plans for the Everett Island and Tacoma Creek wildlife management areas that include measures for wetland construction and enhancement, plantings to improve riparian habitat, and fencing to control grazing. The primary habitat objective for the two wildlife management areas is to restore, protect, and enhance existing farmland and pasture to improve riparian and

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[92] *See, e.g., Kennebec Water Power Company,* 102 FERC ¶ 61,259 at 61,798 (2003) ("Lands dedicated to project purposes must be included in the project boundary…"). The fact that the lands in question are to be within the project boundary does not, however, mean that the District must acquire title to them; rather, it must have sufficient interests to carry out project purposes. *See Wisconsin Public Service Corporation,* 104 FERC ¶ 61,295 at n. 16.

[93] *See* EIS at 321.

wet-meadow habitats. Over time, these wildlife management areas would provide high-quality habitat for big game, muskrat and beaver, waterfowl, wading birds, bald eagle, osprey, native amphibians, and a variety of songbirds.

95. The filed Exhibit G (project boundary) drawings indicate that a small portion of each of the two wildlife areas is not within the project boundary. To ensure that the licensee is able to carry out its responsibilities with respect to the wildlife management areas through the term of the license we require, by Article 202, the addition of these lands to the project boundary.

PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

96. In 1980, Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act).[94] This act created the Northwest Power Planning Council (now known as the Northwest Planning and Conservation Council) and directed it to develop a Columbia River Basin Fish and Wildlife Program. The purpose of the Program is to protect, mitigate damages to, and enhance fish and wildlife resources affected by the development and operation of hydroelectric projects on the Columbia River and its tributaries, while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply.[95] Section 4(h)(11)(A) of the Northwest Power Act[96] provides that federal agencies operating or regulating hydroelectric projects within the Columbia River Basin shall exercise their responsibilities to provide equitable treatment for fish and wildlife resources with other purposes for which the river system is utilized and shall take the Council's Program into account "at each relevant stage of decision making processes to the fullest extent practicable." Specific provisions affecting non-federal hydropower projects are outlined in Appendix B of the Program.

97. Our requirements in this license are consistent with applicable provisions of the Program. As part of the Program, the Council has designated over 40,000 miles of river in the Pacific Northwest region as not being suitable for hydroelectric development ("protected area"). The project is not located within a protected area designated under

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[94] 16 U.S.C. § 839(b) *et seq.*

[95] 16 U.S.C. § 839b(h)(5).

[96] 16 U.S.C. § 839(h)(11)(A).

Appendix B of the Program. Further, Article 414 reserves to the Commission the authority to require future alterations in project structures and operations to take into account, to the fullest extent practicable, the applicable provisions of the program.

NATIONAL HISTORIC PRESERVATION ACT

98. The National Historic Preservation Act (NHPA)[97] requires federal agencies to manage cultural resources under their jurisdiction and authorizes the Secretary of Interior to maintain the National Register. Section 106 of the NHPA and its implementing regulations[98] require federal agencies to take into account the effect of any proposed undertaking on properties listed or included for listing in the National Register (defined as historic properties). If an agency official determines that an undertaking may have adverse effects on historic properties, the agency official must afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

99. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the Washington and Idaho State Historic Preservation Officers and the Kalispel Tribe, and invited the District, Interior's Bureau of Indian Affairs, and the Forest Service to concur with the stipulations of the PA. The Bureau of Indian Affairs and the Forest Service concurred. The District declined.[99] The PA requires the licensee to implement prepare and implement an Historic Properties Management Plan (HPMP) for the term of any new license issued for this project. Execution of the PA and implementation of the HPMP demonstrate the Commission's compliance with section 106 of the NHPA. Article 413 requires the licensee to implement the PA and requires that the District develop and file its HPMP with the Commission within one year of license issuance.

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[97] 16 U.S.C. § 470 *et seq.*

[98] 36 C.F.R. Part 800 (2004).

[99] *See* letter (dated and filed March 14, 2005) from the District to the Commission's Secretary.

STATE AND FEDERAL COMPREHENSIVE PLANS

100. Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. Consistency with comprehensive plans is one of several factors considered in our licensing decision. Under section 10(a)(2), federal and state agencies have filed 113 qualifying comprehensive plans, of which we identified 30 Washington/Idaho plans and 12 federal plans to be potentially applicable.[100] We did not find any inconsistencies.

101. Four other plans, which do not qualify as comprehensive plans within the meaning of section 2.19 of the regulations,[101] were filed by the Kalispel Tribe.[102] Nevertheless, we have considered those plans and found no conflicts.[103]

APPLICANT'S PLANS AND CAPABILITIES

102. In accordance with sections 10(a)(2)(c)and 15(a) of the FPA, we have evaluated the District's record as a licensee with respect to the following: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission service; (G) cost effectiveness of plans; and (H) actions affecting the public. We accept staff's findings in each of the following areas.

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[100] *See* EIS at B-1 through B-4.

[101] Section 2.19 of the regulations, 18 C.F.R. § 2.19, defines a qualifying plan as one that is prepared by an authorized federal or state agency; is a comprehensive study of one or more beneficial uses of a waterway; describes the standards, data, and methodology employed; and is filed with the Commission's Secretary. The Tribe is not an authorized agency.

[102] *See* EIS at 335.

[103] *See* 18 C.F.R. §2.1c(k)(2004).

A. Conservation Efforts

103. FPA section 10(a)(2)(C) requires the Commission to consider the extent of electric consumption efficiency programs for license applicants primarily engaged in the generation or sale of electric power. The District is such an applicant. The District has programs to promote cost-effective conservation for its residential, commercial, industrial, and agricultural customers. Through these programs, District is making satisfactory efforts to conserve electricity and reduce peak hour demands.

B. Compliance History and Ability to Comply with the New License

104. FPA section 15(a)(3)(A) requires the Commission to "take into consideration . . . the existing licensee's record of compliance with the terms and conditions of the existing license."[104] The Tribe argues that the Box Canyon Project "presents a case of longstanding noncompliance with both § 4(e) and §10(e) [of the FPA], repeated resistance to efforts by the Commission to clarify Project boundaries in regard to Kalispel Reservation lands, and repeated efforts to relitigate matters previously decided against it."[105] In light of this history, the Tribe argues that the Commission should find the project inconsistent with the purposes of the reservation under FPA section 4(e) and deny the District's application for a new license. As discussed in more detail above, we decline to do so, and find that a new license should be issued with Interior's mandatory conditions to protect the reservation under section 4(e) and a requirement that the District pay the Tribe a reasonable annual charge under section 10(e) for the use of reservation lands. We further find that the District's history of compliance with regard to this issue does not require us to deny its relicense application.

105. In our 1996 order on the District's petition for a declaratory order and Interior's complaint, we declined to make a finding that the District was in violation of its license by flooding reservation lands without authority to do so. We noted that the existing license did not grant authority to flood the lands, but neither did it require the District to obtain the necessary authority. We added that, because the court proceedings had already resulted in a judicial finding of trespass and resulted in remedial action, we viewed the issue of remedial action in our proceeding as moot. We observed that the amendment application would permit us to deal with the deficiencies found in the earlier action taken

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[104] 16 U.S.C. § 808(a)(3)(A).

[105] Tribe's response to District's April 21, 2005 filing at 6 (filed May 17, 2005).

under FPA sections 4(e) and 10(e), as well as to establish the proper boundary for the project.[106] We subsequently amended the license in 1999 in response to the parties' settlement agreement, thus resolving these issues for the remainder of the existing license term.[107]

106. While the District's actions were found by the courts to have been improper, they do not constitute an extensive pattern of non-compliance that causes us to doubt that the District will meet the terms of its new license. Apart from these matters, we find that the District's overall record of making timely filings and compliance with its license is satisfactory.

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

107. We reviewed the District's management, operation, and maintenance of the Box Canyon Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. We conclude that the dam and other project works are safe, and there is no reason to believe that the District cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

108. We reviewed the District's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. We find that the District has been operating the project in an efficient manner within the constraints of the existing license and is likely to continue to do so under a new license.

E. Need for Power

109. The Box Canyon Project is estimated to generate an average of 452,000 MWh per year under current conditions. The District blends the energy it generates with energy obtained from other sources, and distributes it to various commercial and residential users. The District also obtains power from Seattle City Light's Boundary dam, Avista Corporation, and Bonneville Power Administration (BPA). The District sells this energy to meet its obligations for retail power sales to residential, commercial, and industrial users and to meet various contractual power sales agreements. A portion, for example, is sold to Seattle City Light under the terms of a power sales agreement executed in 1955.

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[106] 77 FERC ¶ 61,146 at 61,553.

[107] 86 FERC ¶ 61,200 at 61,708.

A large part of the energy distributed by the District within Pend Oreille County is used by the Ponderay Newsprint Company. This large industrial use offsets most of the Box Canyon operating costs, allowing the District to maintain a policy of distributing its lowest-cost energy to residential ratepayers first.

110. Although the District does not have any plans to change operation of the Box Canyon Project, it does propose to upgrade the turbines, increase the hydraulic capacity of the project, and rewind the generators. These measures affect energy generation, resulting in an 18 MW increase in generation or 20,817 additional MWh per year of regionally available energy.

111. In the Western Electricity Coordinating Council (WECC) reliability region where the Box Canyon Project is located, the capacity mix includes a proportionately large amount of hydropower relative to other parts of the region. To consider regional power needs, we reviewed a recent demand forecast and other information from the Northwest Power Planning Council (NPPC) and other energy planning entities, including the BPA and WECC. In 1998, the NPPC adopted a Revised Fourth Northwest Conservation and Electric Power Plan, which also includes a 20-year demand forecast (NPPC, 1998).[108] The plan shows that a need for more power is likely to exist in the Pacific Northwest during the 20-year planning horizon (1995 to 2015). Recent electricity demand forecasts project growth rates between 0.7 and 1.9 percent per year (NPPC, 1998). More recent forecasts from WECC suggest that peak demand and annual energy will grow in the Northwest Power Pool Area at annual compound rates of 1.6 percent and 1.7 percent, respectively, over the period 2003 through 2012.

112. The western states as a whole are more constrained with respect to capacity during the summer months; however, because of the colder northwest climate, the winter peak is more critical for the Northwest Power Pool. Summer peak load in the Northwest Power Pool is forecast to rise from 48,704 MW in 2003 to 56,461 MW in 2012. Generation additions totaling 11,863 MW are forecast to come on-line over the same ten-year period. Winter peak load is estimated to increase from 57,499 MW in winter 2003–04 to 66,071 MW in winter 2012-13 (WECC, 2003).[109] BPA is forecasting a potential for winter

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[108] Northwest Power Planning Council Revised Fourth Northwest Conservation and Electric Power Plan-1998. Northwest Power Planning Council, Portland, Oregon.

[109] Western Electricity Coordinating Council (WECC). Ten-Year Coordinated Plan Summary, Planning and Operation for Electric System Reliability. December 2003.

capacity deficits in the Pacific Northwest.[110] For January (a peak demand month for the region), total regional firm load is projected to be 39,477 MW in 2013 and total net power resources are expected to be 33,423 MW. The colder winter months are most susceptible to deficits, and deficits could also occur in late April and May (BPA, 2003).[111]

113. Continuing to operate the existing project would provide both firm energy and dependable capacity that would be useful in meeting part of the projected short and long term needs of the District and the region. Based on the above projections, the power from the Box Canyon Project would continue to be useful in meeting local as well as part of the regional power needs. The project would continue to displace some of the fossil fueled electric power generation the regional utilities now use, thereby conserving nonrenewable resources and reducing the emission of noxious byproducts caused by the combustion of fossil fuels.

F. Transmission Services

114. The project's transmission facilities that are required to be licensed include the generator leads, station transformers, buses and switchyard located at the powerhouse. The District proposes no changes that would affect transmission facilities.

G. Cost Effectiveness of Plans

115. The District's past record as a licensee indicates it is likely to carry out these plans in a cost-effective manner.

H. Actions Affecting the Public

116. In its license application, the District cited numerous examples of actions it has taken that positively affect the public including acquiring land for park and recreation development, fish stocking, and providing funding for recreation facilities and programs.

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[110]The BPA Pacific Northwest region is smaller than the WECC Northwest Power Pool area because it does not include Alberta or British Columbia, and only includes Montana west of the Continental Divide and those portions of Nevada, Utah, and Wyoming within the Columbia River drainage basin.

[111]Pacific Northwest Loads and Resources Study. Bonneville Power Administration, Portland, Oregon. December 2002.

PROJECT ECONOMICS

117. In determining whether to issue a new 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.*,[112] 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.

118. In applying this analysis to the Box Canyon Project, we have considered three options: no action, the applicant's proposal, and the project as licensed in this order. Under the no-action alternative, the levelized annual cost of operating the Box Canyon project is $5,710,000, or $12.6 per megawatt hour (MWh). The project now generates an estimated average of 452,000 MWh annually. When we multiply our estimate of average generation by the alternative power cost of $36/MWh,[113] we get a total value of the project's power of $16,272,000 in 2004 dollars. To determine whether the project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.[114] Therefore, in the first year of a new license, the project would cost $10,561,900, or $23.4/MWh, less than the likely alternative cost of power.

119. Under the District's proposal (four upgraded turbines and three-inch-per-hour drawdown constraint), the levelized annual cost of operating the project would be about $8,218,300, or $17.4/MWh. Based on an estimated average annual generation of 472,817 MWh, the project would produce power valued at $17,026,400 when multiplied

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[112] 72 FERC ¶ 61,027 (1995).

[113] Staff estimates the value of energy and capacity to be $36/MWh. This value is consistent with recent FERC western region EISs in which we applied a $40/MWh value for investor-owned utilities (IOUs). Because municipal utilities have lower financing costs, the rate would be somewhat less than for an IOU. The value also compares favorably with the BPA 2005 priority firm exchange program rate.

[114] Details of staff's economic analysis for the project as licensed in this order and for various alternatives are included in the EIS.

by the $36.0/MWh value of the project's power. Therefore, in the first year of the new license, the power would cost $8,808,100, or $18.6/MWh, less than the likely cost of alternative power.

120. As licensed in this order, with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about $10,506,300 or $23.0/MWh. Based on an estimated average annual generation of 456,091 MWh[115] as licensed, the project would produce power valued at $15,965,300 when multiplied by the $36.0/MWh value of the project's power. Therefore, in the first year of the new license, project power would cost $5,459,000, or $12.0/MWh, less than the likely cost of alternative power.

121. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

122. The Commission received numerous comments from the District's retail electric customers, expressing concern that relicensing the project with environmental conditions in addition to those proposed by the District would result in increased retail electric rates that could adversely affect the District's customers.[116] Pend Oreille County currently has the second lowest electricity rates in the United States.[117] The project as licensed in this order would likely result in increased electric rates to the District's customers.[118]

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[115] This estimate of the project's average annual generation accounts for the District's plans to modify the project's turbines.

[116] Ponderay Newsprint Company is the largest private employer in the county, with more than 200 employees. In 2001, the company purchased about 80 percent of the power produced at the Box Canyon project. *See* EIS at 235-36.

[117] *See* EIS at 235.

[118] The EIS contains an extensive discussion and a detailed analysis of the economic effects of changes in electricity rates. *See* EIS at 233-55.

However, a licensed project encompasses a variety of beneficial purposes in addition to the generation of power; and in determining whether, or under what conditions to issue a license, the Commission must strike an appropriate balance of these competing purposes.

COMPREHENSIVE DEVELOPMENT

123. Sections 4(e) and 10(a)(1) of the FPA[119] require the Commission, in acting on license applications, 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 license this project, and the terms and conditions included herein, reflect such consideration.

124. The EIS for the Box Canyon Project contains background information, analysis of effects, and support for related license articles. The project will be safe if operated and maintained in accordance with the requirements of this license.

125. Based on our independent review and evaluation of the Box Canyon Project, recommendations from the resource agencies and other interested entities, and analysis of the proposed action and alternatives as documented in the EIS, we have selected the proposed project, with the mandatory agency terms and conditions and staff-recommended measures, as the preferred alternative.

126. Issuance of a new license will serve to maintain a beneficial and dependable source of electric energy. The required environmental measures will improve water quality, protect and enhance fish and wildlife resources, improve public use of recreation facilities and resources, improve multiple use and management of project lands, and maintain and protect historic and archeological resources within the area affected by project operation. The electric energy generated from a renewable resource will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution. For all these reasons, we find that relicensing the Box Canyon Project as described in this order is best adapted to a comprehensive plan for improving or developing the Pend Oreille River.

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[119] 16 U.S.C. §§ 797(e) and 803(a)(1).

LICENSE TERM

127. Pursuant to section 15(e) of the FPA,[120] relicense terms shall not be less than 30 years nor more than 50 years from the date on which the license is issued. Our general policy is to establish 30, 40, and 50-year terms for projects with, respectively, little, moderate, or extensive redevelopment, new construction, new capacity, or additional environmental measures.[121]

128. This license requires upgrading all four project turbines with new high-efficiency runners and rewinding generators. The District also will install "fish-friendly" runners on two of the turbines and auxiliary spillway gates, and implement an extensive amount of additional environmental measures. Therefore, the license term will be 50 years, effective on the first day of the month in which this order is issued.

The Commission orders:

(A) This license is issued to the Public Utility District No. 1 of Pend Oreille County, Washington (licensee) for a period of 50 years, effective on the first day of the month in which this license is issued, to operate the Box Canyon Hydroelectric Project Canyon. This license is subject to the terms and conditions of the Federal Power Act (FPA), which are incorporated as part of this license, and to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands enclosed by the project boundary shown by Exhibit G filed January 21, 2000:

Exhibit G:

Drawing	FERC No.	Showing
G-1	2042-1001	Project Boundary & Location Map
G-2	2042-1002	Project Boundary & Location Map
G-3	2042-1003	Project Boundary & Location Map

[120] 16 U.S.C. ə 808(e).

[121] *See Consumers Power Company*, 68 FERC & 61,077 at 61,383-84 (1994).

G-4	2042-1004	Project Boundary & Location Map
G-5	2042-1005	Project Boundary & Location Map
G-6	2042-1006	Project Boundary & Location Map
G-7	2042-1007	Project Boundary & Location Map
G-8	2042-1008	Project Boundary & Location Map
G-9	2042-1009	Project Boundary & Location Map
G-10	2042-1010	Project Boundary & Location Map
G-11	2042-1011	Project Boundary & Location Map
G-12	2042-1012	Project Boundary & Location Map
G-13	2042-1013	Project Boundary & Location Map
G-14	2042-1014	Project Boundary & Location Map
G-15	2042-1015	Project Boundary & Location Map
G-16	2042-1016	Project Boundary & Location Map
G-17	2042-1017	Project Boundary & Location Map
G-18	2042-1018	Project Boundary & Location Map
G-19	2042-1019	Project Boundary & Location Map
G-20	2042-1020	Project Boundary & Location Map
G-21	2042-1021	Project Boundary & Location Map
G-22	2042-1022	Project Boundary & Location Map
G-23	2042-1023	Project Boundary & Location Map

G-24	2042-1024	Project Boundary & Location Map
G-25	2042-1025	Project Boundary & Location Map
G-26	2042-1026	Project Boundary & Location Map
G-27	2042-1027	Project Boundary & Location Map
G-28	2042-1028	Project Boundary & Location Map
G-29	2042-1029	Project Boundary & Location Map

(2) The development consists of: (a) a 62-foot-high, 260-foot-long reinforced concrete dam with integral spillway; (b) a 217-foot-long, 35-foot-diameter diversion tunnel; (c) a 1,170-foot-long forebay channel; (d) an auxiliary spillway with gates; (e) a powerhouse containing four generating units (four upgraded turbines and four rewound generators) with a combined capacity of 90 MW; (f) an 8,850-acre reservoir at a maximum operating pool elevation of 2,030.6 feet above mean sea level, as measured at the dam; (g) the Calispell Creek pumping plant, including two pumping stations, outlet works, gates, culverts, and the railroad dike; and (h) a switchyard with four rewound main transformers, circuit breakers, and transmission line connectors.

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

Exhibit A: The following sections of exhibit A filed on June 28, 2001:

Pages A-2 to Page A-14

Exhibit F: The following sections of exhibit F filed on June 28, 2001:

Drawing	FERC No.	Showing
F-1	2042-1030	General Plan and Elevation
F-2	2042-1031	Typical Sections, Water Conductors
F-3	2042-1032	Spillway, Plan and Sections
F-4	2042-1033	Powerhouse, Plans and Transverse Sections
F-5	2042-1034	Powerhouse, Roof Plan and Longitudinal Section

F-6	2042-1035	One Line Diagram
F-7	2042-1036	Calispell Creek Pump House No.1and No. 2, Plan and Sections

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

(C) The Exhibits A, F, and G[122] described above are approved and made part of the license.

(D) This license is subject to the conditions submitted by the U.S. Department of the Interior under section 4(e) of the Federal Power Act, to the extent that those conditions apply to reservation lands or waters within the project boundary, as those conditions are set forth in Appendix A to this order.

(E) This license is subject to the conditions submitted by the U.S. Department of Agriculture under section 4(e) of the Federal Power Act, to the extent that those conditions apply to reservation lands or waters within the project boundary, as those conditions are set forth in Appendix B to this order.

(F) This license is subject to the conditions submitted by the U.S. Department of the Interior under section 18 of the Federal Power Act, as those conditions are set forth in Appendix C to this order.

(G) This license is subject to the conditions of the water quality certification issued by the Washington Department of Ecology pursuant to section 401(a) of the Clean Water Act, as those conditions are set forth in Appendix D to this order.

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[122] The Exhibit G drawings filed do not meet the Commission's current standards for maps and drawings as set forth in Article 202. Specifically, the maps are not stamped by a registered surveyor and are not positionally accurate to the National Map Accuracy Standards for maps at 1:24,000 scale.

(H) This license is subject to the conditions of the water quality certification issued by the U.S. Environmental Protection Agency pursuant to section 401(a) of the Clean Water Act, as those conditions are set forth in Appendix E to this order.

(I) This license is subject to the articles set forth in Form L-5 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States," 54 FPC 1792, 1832 (October 1975), and the following additional articles:

Article 201. *Annual Charges*. (a) The licensee shall pay the United States the following annual charges, effective as of the first day of the month in which this 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:

(1) reimbursing the United States for the cost of administration of Part I of the FPA. The authorized installed capacity for that purpose is 72 megawatts until the date of commencement of operation of each increment of new capacity authorized by this license, after which time the authorized installed capacity shall include such new capacity up to the maximum authorized installed capacity of 90 megawatts; and

(2) recompensing the United States for the use, occupancy and enjoyment of 223.57 acres of lands, other than for the use of transmission lines.

(b) For the purpose of reimbursing the Kalispel Tribe of Indians for the use, occupancy, and enjoyment of 493.03 acres of its lands within the Kalispel Indian Reservation, the licensee shall, subject to approval by the Commission, negotiate with the Kalispel Indian Tribe a reasonable annual charge for the use of tribal lands. Such payment agreement shall be filed with the Commission within six months of the date of issuance of the license. In the event that no agreement is reached by such time, the Commission will take appropriate action to establish the annual charge, after notice and opportunity for hearing.

Article 202. *Exhibit F and G Drawings*. Within 90 days of the date of issuance of the license, the licensee shall file exhibit drawings F and G described in ordering paragraph (C) in aperture card and electronic formats that meet the requirements of 18 C.F.R. §4.39 and 4.41(h). The Exhibit F drawings shall also include outlet works, gates, culverts and the railroad dike of the Calispell Creek pumping plant and the outlet works, gate, culverts, dike and the pumps of the Trimble Creek pumping plant. The Exhibit G drawings shall also include the licensee's Tacoma Creek and Everett Island wildlife management areas, and the following recreation facilities: Campbell Park, the town of Cusick's boat launch facility; the town of Ione's Ione City Park; the U.S. Forest

Service's Pioneer Park campground site, the licensee proposed boat launch site at Ponderay Shores, and the 1.8-acre parcel of licensee-owned land located adjacent to the town of Oldtown's existing park.

(a) Four sets of the 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 Drawing Number (e.g., P-1234-1001 through P-1234-###) 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 (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards along with form FERC-587 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. The remaining set of aperture cards and a copy of Form FERC-587 shall be filed with the Bureau of Land Management office at the following address:

State Director
Bureau of Land Management
Land Services Section (ID-943-A)
1387 S. Vinnell Way
Boise, ID 83709-1657
ATTN: FERC Withdrawal Recordation

(b) The licensee shall file two separate sets of exhibit drawings in electronic 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 critical energy infrastructure information (CEII) material (defined in 18 CFR § 388.113(c)). Exhibit G drawings must be identified as non-internet public information (NIP) material under 18 C.F.R. § 388.112. Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension [e.g., P-1234-####, F-1, General Plan and Elevation, 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

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points, arranged in a triangular format. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown and identified on the drawing.

(c) The licensee shall file three separate sets of the project boundary data in a geo-referenced vector electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format) with the Secretary of the Commission, ATTN: OEP/DHAC. The file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-1234, boundary vector data, MM-DD-YYYY. SHP]. The geo-referenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. A single electronic boundary data file is preferred and must contain all reference points shown on the individual project boundary drawings. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown. The data must be accompanied by a separate text file describing the map projection used (*i.e.*, UTM, State Plane, Decimal Degrees, etc.), the map datum (*i.e.*, North American 27, North American 83, etc.), and the units of measurement (*i.e.*, feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-1234, project boundary metadata, MM-DD-YYYY.TXT].

In addition, for those projects that occupy federal lands, a separate geo-referenced vector (or polygon) file(s) is required that identifies transmission line acreage and non-transmission line acreage affecting federal lands for the purpose of meeting the requirements of 18 CFR §11.2. The file(s) must also identify each federal owner and federal acreage affected by the project boundary. Depending on the geo-referenced electronic file format, the vector (or polygon), point, and federal lands data can be included in a single file with multiple layers.

Article 203. *Headwater Benefits*. If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater

improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Revised Exhibits*. Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's Portland Regional Office, the Commission's Director, Division of Dam Safety and Inspections, and the Director, Division of Hydropower Administration and Compliance.

Article 302. *Evaluation of Structures.* The licensee shall conduct an evaluation of existing dikes, gated culverts, levees, and pump stations and other structures located throughout the reservoir and identify which of these structures impound waters that constitute a project structure.

Within one year from the date of issuance of the license, the licensee shall file a report documenting the results of this evaluation. The report shall include, for each identified structure: (a) a description of its type, size, location, ownership, and entity or entities responsible for operation and maintenance; (b) a finding as to whether it impounds water up to elevation 2,041 feet msl, as measured at the Cusick gage; and (c) a recommendation, for Commission approval, as to whether it should be included as a project work in the license supported by site-specific information.

The licensee shall conduct the evaluation and prepare the report in consultation with the Commission's Portland Regional Office and the owners of each of the existing structures to be evaluated. The licensee shall include with the report documentation of consultation, copies of comments and recommendations on the report after it has been prepared and provided to the consulted entities, and specific descriptions of how the entities' comments are accommodated by the report. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require the licensee to file the necessary revised exhibits to include the appropriate structures as part of the project. Upon a Commission determination that additional structures shall be included in the license, the licensee shall file the necessary revised exhibits, including any changes required by the Commission.

Article 303. *Cofferdam Construction Drawings*. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 304. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications the Commission's Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The licensee may not begin construction until the Regional Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied. The submittal to the Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

Article 305. *Communication and Coordination Protocol for Project Operations*. Within 180 days of the date of issuance of the license, the licensee shall develop and file with the Commission a communication and coordination protocol to be developed in consultation with the U.S. Army Corps of Engineers (Corps). The protocol shall describe how the licensee will communicate with the Corps and coordinate project operations with the Corps' operation of the Corps' Albeni Falls project to prevent unanticipated reservoir elevation changes in the Box Canyon reservoir and maintain run-of-river operations at the Box Canyon project.

Article 306. *Compensation Agreement*. The licensee shall compensate the United States for encroachment, not to exceed two feet, on the Albeni Falls project resulting from operation of the Box Canyon project. Pursuant to the agreement dated October 15, 1952, (refiled June 14, 2005) between the licensee and the Chief of Engineers, Department of the Army, the licensee shall deliver power into the federally-owned regional power system at no cost or expense to the government, in an amount equal to the electrical energy that cannot be generated or is lost at the Albeni Falls dam because of the tailwater encroachment authorized by this license. Power losses shall be computed and repayments shall be made in kilowatt-hour units.

Article 401. *Mandatory Plans for Commission Approval.* Various conditions of this license found in the U.S. Department of the Interior's (Interior) section 4(e) conditions (Appendix A) and section 18 prescriptions (Appendix C), the U.S. Forest Service's (Forest Service) section 4(e) conditions (Appendix B), the Washington Department of Ecology's (Ecology) water quality certification conditions (Appendix D) and the U.S. Environmental Protection Agency's (EPA) water quality certification (Appendix E) require the licensee to prepare plans and reports in consultation with other entities for approval by Interior, the Forest Service, Ecology or EPA. Upon agency approval, the plans are to be submitted to the Commission and specific measures implemented without prior Commission approval. Each such plan and report shall also be submitted to the Commission for approval. These plans are listed below.

(a) U.S. Department of the Interior FPA Section 4(e) Conditions

CONDITION NO.	**PLAN NAME**	**DUE DATE** (from license issuance)
(1) 1.A.	Implementation & Monitoring Plan	1 year
(2) 3. D.	Fish Stranding Study Plan	1 year
(3) 3. E.	Geotechnical Study Plan	1 year
(4) 3. F.	Erosion Monitoring Plan	1 year
(5) 8. E.	Cultural Resource Mgmt. Plan	1 year

(b) U.S. Forest Service FPA Section 4(e) Conditions

(1)	3.	Resource Coordination and Monitoring Implementation Plan	2 years
(2)	6.	Heritage Properties Management Plan	1 year
(3)	7.	Recreation Resource Management Plan	1 year
(4)	8.	Erosion Monitoring Plan	1 year
(5)	9.	Erosion Control, Prevention, and	3 years

		Remediation Plan	
(6)	10.	Spill Prevention and Control, and Hazardous Materials Management Plan	1 year
(7)	11.	Sensitive Species Consultation Plan	1 year
(8)	12.	Site-Specific Cottonwood and Riparian Habitat Management Plan	3years
(9)	13.	Bald Eagle, Osprey, Cormorant, & Heron Monitoring Plan	1 year
(10)	17.	Aquatic Plant Management Plan	1 year
(11)	18.	Integrated Weed Management Plan	1 year

(c) Washington Department of Ecology Water Quality Certification Conditions

(1)	II C.	TDG Abatement Plan	180 days
(2)	II D.	Aquatic Plant Management Plan	180 days
(3)	II E.	Interim Temperature Management Plan	180 days
(4)	III. A.	Water Quality Monitoring and Quality Assurance Project Plan	180 days

(d) Environmental Protection Agency Water Quality Certification Conditions

(1)	14.	Plan for Pump Operations	180 days
(2)	17.1	Water Quality Monitoring and Quality Assurance Project Plan for Calispell Creek	180 days

(e) U.S. Department of the Interior Fishway Prescription

Box Canyon Dam Temporary Upstream Fishway			
(1)	1.2.1.1	Temporary Trap & Haul Upstream Fishway Installation Plan	180 days
(2)	1.2.1.2	O & M Plan	180 days
(3)	1.2.1.3	Monitoring Plan	180 days
(4)	1.2.1.4	Post-Installation Effectiveness Evaluation Plan	180 days
Box Canyon Dam Interim Upstream Fishway			
(5)	1.2.2.2	Conceptual Design Plan for Interim Upstream Fishway	10 years
(6)	1.2.2.3	Final Design Plan	12 years
(7)	1.2.2.4	O & M Plan	12 years
(8)	1.2.2.5	Monitoring and Reporting Plan	12 years
(9)	1.2.2.6	Post Installation Effectiveness Evaluation Plan	12 years
Box Canyon Dam Interim Downstream Fishway			
(10)	1.3.1.1	Plan for Completing Design investigations for Interim Downstream Fishway	180 days
(11)	1.3.1.2	Preliminary Design Plan	2.5 years
(12)	1.3.1.2	Final Design Plan	3 years
(13)	1.3.1.3	O & M Plan	3 years
(14)	1.3.1.4	Monitoring and Reporting Plan	3 years
(15)	1.3.1.5	Post-Installation Effectiveness Evaluation Plan	3 years

Calispell Creek Interim Upstream Fishway			
(16)	1.5.1.1	Conceptual Design Plan for Pumping Plant Interim Upstream Fishway	7.5 years
(17)	1.5.1.2	Final Design Plan	8.5 years
(18)	1.5.1.3	O & M Plan	8.5 years
(19)	1.5.1.4	Monitoring and Reporting Plan	8.5 years
(20)	1.5.1.5	Post Installation and Effectiveness Plan	8.5 years
Calispell Creek Permanent Downstream Fishway			
(21)	1.6.1	Preliminary Design Plan for Pumping Plant Permanent Downstream Fishway	5 years
(22)	1.6.2	Final Design Plan	6 years
(23)	1.6.3	O & M Plan	6 years
(24)	1.6.4	Monitoring and Reporting Plan	6 years
(25)	1.6.5	Installation and Effectiveness Evaluation Plan	6 years

The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plans, 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 or changes in project operations or facilities, including any changes required by the Commission.

Article 402. *Schedule for Permanent Fish Passage.* Within 60 days of the licensee's receipt of a letter from the U.S. Fish and Wildlife Service (FWS), requesting the construction of permanent, upstream and/or downstream fish passage facilities at Box Canyon dam and/or the Calispell Creek Pumping Plant, the licensee shall file the letter and, for Commission approval, a schedule for filing plans to construct the requested

fish passage facilities in accordance with Conditions 1.2.3.2 through 1.2.3.7, 1.3.2.2 through 1.3.2.4, and 1.5.2.1 through 1.5.2.6 of Appendix C of this order. The licensee shall file the schedule after consultation with the FWS, the Forest Service, and the Washington Department Fish and Wildlife.

The licensee's filing shall include documentation of its consultation, copies of comments and recommendations made in connection with the schedule, and a description of how the schedule 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 the schedule. Upon Commission approval, the licensee shall implement the schedule, including any changes required by the Commission.

Article 403. *Run-of-River Operation.* The licensee shall at all times operate the project in a run-of-river mode. The licensee shall minimize the fluctuation of the Box Canyon reservoir surface elevation by maintaining a discharge from the project so that flows, as measured immediately downstream of the project tailrace, approximate the sum of inflows to the project reservoir. The licensee shall not exceed a maximum reservoir elevation of 2,041 feet mean sea level at Cusick (river mile 70.1) and shall limit the backwater effect in the Albeni Fall's tailrace to two feet or less. The licensee, in an effort to minimize the fluctuation of the Box Canyon reservoir surface elevation, shall not change the surface elevation by a rate that exceeds three-inch-per-hour as measured at Box Canyon Dam.

Run-of-river operations may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods, upon mutual agreement among the licensee, Washington Department of Fish and Wildlife, Idaho Department of Fish and Game, and the U.S. Fish and Wildlife Service. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but not later than 10 days after each such incident.

Article 404. *Pumping Plant Operations – Plan E.* The licensee shall operate the Calispell Creek Pumping Plant in coordination with the project, subject to the Public Utility District of Pend Oreille County's agreement with Diking District No. 2 of Usk, Washington (Plan E, dated September 26, 2000), which is attached as Appendix F to this order.

Article 405. *Turbine Upgrade and Installation of Auxiliary Spillway Bypass.* Within one year of the date of issuance of the license, the licensee shall submit a schedule for: (a) replacement of the each of the project's existing four turbines (18 MW capacity) with turbines having a greater hydraulic capacity (22.5 MW capacity); and (b) installation

of an auxiliary spillway bypass. The first turbine upgrade shall commence no later than three years from license issuance, and the last turbine upgrade shall be completed not later than seven years from license issuance. Additionally, the first two turbines to be replaced shall incorporate "fish-friendly" runners. Installation of the auxiliary spillway bypass shall be completed within nine years of license issuance.

Article 406. *Bull Trout Protection.* For the protection of bull trout, the licensee shall comply with the Department of the Interior's (Interior) Conditions 4(C)(4)(f), 4(D)(3) and 6, which are contained in Appendix A of this order. Condition 6 requires that licensee develop a Trout Assessment and Restoration Plan (TARP) in consultation with the Department of the Interior, the Kalispel Indian Tribe, the U.S. Forest Service and the Washington Department of Fish and Wildlife. This plan shall be submitted to the Commission for approval within one year of the date of issuance of the license. The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plans, 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 or changes in project operations or facilities, including any changes required by the Commission.

Article 407. *Comprehensive Wildlife Management Plan.* Within one year of the date of issuance of the license, the licensee shall file, for Commission approval, a comprehensive wildlife management plan. The licensee shall include the enhancement, monitoring, and evaluation provisions contained in the draft wildlife management plans for the Tacoma Creek and Everett Island Management Areas, filed with the Commission on June 28, 2001. In addition, the plan shall include, for each of the categories listed below, the following: (a) objectives; (b) a schedule and budget for implementation of the measures; (c) provisions for monitoring and maintenance; and (d) provisions for review and reporting.

Cottonwood Enhancement: measures to enhance cottonwood habitat outside the wildlife management areas, including: (1) provisions to investigate the causes of impaired cottonwood recruitment; (2) identification of areas and a schedule for cottonwood planting within two years of license issuance; and (3) measures to provide assistance to other private landowners around the reservoir who may wish to improve cottonwood habitat on their property.

Grazing Management: provisions to eliminate livestock grazing on licensee-owned lands within the project boundary.

Wetland Creation and Enhancement in Wildlife Management Areas: (1) detailed design drawings of the wetland creation and enhancement sites, including topographic information; (2) hydrologic information and design drawings showing the water control features; (3) provisions for drawdowns to impair bullfrog production in the ponds; (4) proposed vegetation plantings in plan view and cross-section; and (5) provisions to monitor other existing wetland habitats in the Everett and Tacoma Creek Wildlife Management Areas, with the variables described in the draft wildlife management plans.

Waterfowl Management: (1) provisions for habitat protection and enhancement on lands owned by the licensee within the project boundary; (2) provisions to support the efforts of local conservation groups, school groups, or landowners to improve waterfowl nesting habitat; (3) measures to construct and install artificial nest structures within the wildlife management areas.

Grizzly Bear Awareness: (1) measures to improve grizzly bear awareness; (2) provisions for posting signs and/or providing educational pamphlets at each of its recreation facilities to inform visitors of steps they can take to prevent conflicts with grizzly bears (e.g., proper sanitation and food storage); and (3) measures to include the resupply of informational materials, such as posters and pamphlets, into the regular maintenance program.

Bald Eagle Management:

(1) measures to consult with the agencies and tribes and affected landowners in developing individual nest site management plans for established nest stands, preferred perches, winter roosts, and foraging areas for bald eagle pairs that nest on lands within the project boundary and for pairs that nest nearby, but that rely on the Box Canyon reservoir as a foraging areas;

(2) provisions to develop cooperative management plans and identify which entities are responsible for managing various aspects of disturbance (e.g., the licensee, the Army Corps of Engineers, Washington Department of Fish and Wildlife, Pend Oreille County or Bonner County);

(3) measures to complete two years of survey at each known nest site within the project boundary to provide data needed to develop nest site management plans;

(4) measures to complete annual surveys during the breeding season to monitor both nesting and nest productivity; annual surveys in winter to document winter use; and surveys to investigate establishment of new nests;

(5) provisions to produce and distribute annual reports to track changes in bald eagle populations and productivity;

(6) protocols to compare results with survey information collected on osprey, great blue heron, and double-crested cormorant populations, identify areas of resource conflict, and define any necessary changes in management;

(7) documentation of how the bald eagle protection measures would be coordinated with the licensee's routine operation and maintenance and with the shoreline management plan, the recreation management plan, and the erosion control plan;

(8) provisions for providing information about bald eagle protection (e.g., signage and brochures) at licensee-operated recreational sites; and

(9) provisions for silvicultural treatments to improve potential bald eagle nesting habitat along the reservoir between river mile 47 and river mile 90.

Fish-eating Bird Monitoring: (1) provisions to monitor population trends of osprey and great blue heron within the project area; (2) measures to conduct annual nesting and population surveys for osprey and great blue heron until a threshold is reached, with an appropriate threshold to be determined as part of plan development (e.g., less than 10 percent change over a three-year period); and (3) provisions for reporting and regular meetings with the agencies and the Kalispel Tribe of Indians to review monitoring results and determine whether additional study or management action is needed.

The comprehensive wildlife management plan shall be prepared after consultation with the U.S. Fish and Wildlife Service, Forest Service, Kalispel Tribe of Indians, Washington Department of Fish and Wildlife, and 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 agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan with the Commission for approval. 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. No land-disturbing or land-clearing actions associated with plan activities shall 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 408. *Erosion Control and Monitoring.* (a) *Erosion Monitoring.* Within six months of the date of issuance of the license, the licensee shall file for Commission approval, a plan to monitor shoreline erosion throughout the project reservoir. The purpose of the plan is to determine the location and rate of shoreline erosion that is occurring at various points throughout the reservoir and the degree to which project operations contribute to such erosion. The plan shall include, a minimum of 29 monitoring stations throughout the project reservoir including a reasonable number of monitoring stations on Kalispel Indian Reservation and national forest lands within the project boundary.

The monitoring plan shall include: (1) provisions to continue monitoring shoreline erosion at nine existing monitoring stations at the project included in Appendix E8-2 of the license application, including identification of the specific monitoring stations selected and a description of all past monitoring results for the nine existing sites; (2) a listing and maps depicting 20 new monitoring stations throughout the reservoir, including site conditions, and existing erosion rate category; (3) a description of the monitoring methodology and maintenance program for all the monitoring stations; and (4) a schedule for filing the annual monitoring reports with the Commission.

Following Commission approval, the licensee shall monitor erosion at each monitoring site twice a year for the term of the license. In addition to twice-yearly monitoring, monitoring shall also be performed after floods with a 20-year or greater recurrence interval and after drawdown rates in excess of three inches per hour.

The licensee shall file annual reports identifying erosion monitoring results after it has consulted with the Forest Service, U.S. Department of the Interior, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe on the results. The annual reports shall include: (1) a comparison of data and observations from the twice-yearly monitoring; (2) assessments categorizing erosion rates into low, moderate, and high; the processes causing erosion at the various monitoring sites; and whether, and to what extent, erosion can be attributed to project operation; and (3) identification of significant new or recurring erosion areas.

(b) *Erosion Control and Prevention.* Within two years of the date of issuance of the license, the licensee shall file for Commission approval, a plan to provide erosion control, protection, and restoration of areas around the project reservoir with high, moderate, low, and non-active erosion rate categories. The plan shall be developed based on information on areas where erosion can be clearly attributed to project operations in (a) above.

The plan shall: (1) identify areas of high, moderate, low, and non-active erosion categories; (2) identify the degree to which the project causes or exacerbates erosion; (3) include a plan and schedule for implementing necessary measures to control, prevent, and repair identified erosion areas, with emphasis on addressing high and moderate erosion areas in the short-term; (4) investigate the feasibility of incorporating prairie cordgrass for erosion control; and (5) include an erosion education program to educate the public on erosion prevention, control, and remediation, including, but not limited to, measures to assist Pend Oreille Conservation District in educating the public on the causes of erosion, bank protection and stabilization techniques, and related issues..

The licensee shall prepare the plans required under (a) and (b) after consultation with the Forest Service, Washington Department of Fish and Wildlife, Department of the Interior, and Kalispel Indian Tribe.

The licensee shall include with the plans documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the entities, and specific descriptions of how the entities' comments are accommodated by the plans. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plans with the Commission for approval. 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 plans. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 409. *Shoreline Management Plan.* Within one year of the date of issuance of the license, the licensee shall file, for Commission approval, a management plan for the use of the shoreline around the project reservoir. The plan, at a minimum, shall include: (1) a detailed description of proposed shoreline use and development requirements, guidelines, or permitting programs; (2) a description of the licensee's proposed cooperation or coordination with jurisdictional entities in its management of the shoreline; (3) appropriate maps showing proposed shoreline development and uses; and (4) provisions to provide comprehensive land use maps to Pend Oreille County and other interested entities.

The licensee shall prepare the plan after consultation with the Forest Service, the Washington Department of Fish and Wildlife, U.S. Department of the Interior, the Kalispel Indian Tribe, Pend Oreille County, and other local municipalities.

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 entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 410. *Integrated Weed Management Plan.* Within one year of the date of issuance of the license, the licensee shall file for Commission approval, a final integrated weed management plan to be implemented within two years of license issuance. The plan shall include the measures contained in the licensee's integrated weed management plan filed January 21, 2000, and June 28 and July 18, 2001.

In addition, the plan, at a minimum, shall include: (a) measures to survey, monitor, and manage noxious weeds on all licensee-owned and managed project lands, project campgrounds, and at reservoir boat launches within the project boundary; (b) provisions for educational programs and/or brochures to raise public awareness of noxious weed issues; (c) provisions to coordinate with the Pend Oreille County Noxious Weed Control Board and its efforts to eradicate purple loosestrife and leafy spurge; (d) measures to incorporate noxious weed monitoring into other programs the licensee will be implementing; and (e) a schedule for implementation.

The licensee shall prepare the plan after consultation with, the U.S. Fish and Wildlife Service, Forest Service, Kalispel Tribe of Indians, Washington Department of Fish and Wildlife, Idaho Department of Fish and Game, and Pend Oreille County Noxious Weed Control Board. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to 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. No land-disturbing or land-clearing actions associated with plan activities shall 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 411. *Rare Plant/Sensitive Species Management Plan.* Within one year of the date of issuance of the license, the licensee shall file, for Commission approval, a rare plant/sensitive species management plan. The plan shall include measures to protect Forest Service sensitive and rare plants, including the rare plant *Hedeoma,* growing on licensee-owned or licensee-managed land within the project boundary.

The licensee shall prepare the plan after consultation with the Forest Service, the U.S. Fish and Wildlife Service, Washington National Heritage Program, and 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 agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan with the Commission for approval. 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. No land-disturbing or land-clearing activities associated with this plan shall 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 412. *Recreation Plan.* Within one year of the date of issuance of the license, the licensee shall file, for Commission approval, a plan to manage and develop the project's recreation resources. The plan shall provide for the following:

(a) The measures identified in the licensee's June 29, 2001, supplement to its license application for the town of Ione's City Park; the town of Cusick's boat launch facility; and for deeding or granting an easement to the town of Oldtown for a 1.8-acre parcel of licensee-owned land, located adjacent to the town of Oldtown's existing park, for the development of recreational vehicle camping.

(b) operation and maintenance of (1) Campbell Park; (2) the visitor center; and (3) the scenic overlook located in the vicinity of the project dam.

(c) appropriate drawings and schedules for constructing, operating, and maintaining: (1) three additional picnic tables at Campbell Park; (2) signs on Highways 31 and 20 and LeClerc Road to identify public recreation facilities and boat launches; (3) Ponderay Shores Primitive public boat launch, to include additional parking, a paved boat launch and day-use facilities; and (4) signs at all public boat launches around the reservoir addressing Eurasian water milfoil.

(d) provisions for monitoring (to begin within five years of license issuance) of recreation use in the project area to ensure that existing facilities are meeting public recreation needs, filing monitoring results every six years, in conjunction with the filing date (April 1) of the project's Form 80 report.

Monitoring reports shall include: (1) annual recreation use figures; (2) a discussion of the adequacy of recreation facilities at the project site to meet recreation demand; (3) a description of the methodology used to collect all study data; (4) if there is a need for additional facilities, a revised plan and schedule proposed by the licensee to accommodate recreation needs in the project area; (5) documentation of agency consultation with and agency comments on the revised plan after it has been prepared and provided to the agencies; and (6) specific descriptions of how the agencies' comments are accommodated by the revised plan.

The licensee shall prepare the plan and monitoring reports after consultation with the Forest Service; the U.S. Department of the Interior; the Kalispel Indian Tribe; the Washington Department of Fish and Wildlife; Pend Oreille County, Washington; and the towns of Ione, Cusick, and Oldtown.

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

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

Article 413. *Programmatic Agreement and Historic Properties Management Plan.* The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Washington and Idaho Historic Preservation Officers and the Kalispel Tribe of Indians for Managing Historic Properties that May be Affected by a License Issuing to Public Utilities District No. 1 of Pend Oreille County for

the Continued Operation of the Box Canyon Hydroelectric Project in Pend Oreille County, Washington and Bonner County, Idaho (FERC No. 2042-013)," filed on June 15, 2005, and including but not limited to the Historic Properties Management Plan (HPMP) for the project. Pursuant to the requirements of this Programmatic Agreement, the licensee will file for the Commission's approval an HPMP within one year of issuance of this order. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the HPMP, the licensee shall obtain approval from the Commission and the Washington State and the Idaho State Historic Preservation Officers, before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effects.

Article 414. *Columbia River Basin Fish and Wildlife Program.* The Commission reserves the authority to order, upon its own motion or upon the recommendation of federal and state fish and wildlife agencies, affected Indian Tribes, and the Northwest Power and Conservation Council, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed and amended pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 415. *Staff Gage Plan.* Within six months from the date of issuance of the license, the licensee shall file with the Commission, for approval, a plan to install a staff gage in Trimble Creek within the Cusick Unit of the Little Pend Oreille National Wildlife Refuge to monitor water levels in Trimble Creek and correlate those levels with water levels in the Box Canyon reservoir.

The plan shall include: (1) a description of the type, design, and location of the staff gage; and (2) a schedule for installation of the staff gage; providing periodic monitoring data to the U.S. Fish and Wildlife Service; and repairing or replacing the gage if it becomes damaged.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, U.S. Geological Survey, and the Washington Department of Fish and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan with the Commission for approval. 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. No land-disturbing or land-clearing activities associated with this plan shall 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. *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 reservoir 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 reservoir. 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 Exhibit R or 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 submit a letter to the Director, Office of Energy Projects, 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 Director, 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 shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or 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.

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

(K) This order is final unless a request for rehearing is filed within 30 days of the date of its issuance, as provided in section 313 of the FPA. 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, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission. Chairman Wood concurring with a separate statement attached. Commissioner Kelliher dissenting with a separate statement attached.

(S E A L)

Linda Mitry,
Deputy Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of Pend Oreille County

Project No. 2042-013

(Issued July 11, 2005)

WOOD, Chairman, *concurring*:

Section 4(e) of the Federal Power Act (FPA) requires that Commission licenses for projects located within federal reservations "shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate projection and utilization of such reservation." Moreover, Section 18 of the FPA states that the Commission shall require the construction, maintenance, and operation by a license at its own expense of fishways, as may be prescribed by the Secretary of Commerce or the Secretary of the Interior.

While I support this Order, I am concerned with the decision by the Interior Department to mandate prescriptions for fish passage at this project. I do not believe that there is sufficient evidence to support these prescriptions. In fact, our Environmental Impact Statement (EIS) concluded that fish passage at the project has not been established because of the lack of data indicating that substantial numbers of target species are attempting to migrate past Box Canyon dam and the low numbers of these fish found below the dam. For these reasons, I do not believe that the results of our EIS warrant the construction and operation of expensive fish passage facilities at this project.

Ultimately though, I recognize that the Interior Department's prescriptions are mandatory and the license incorporates them accordingly. It is up to a court, not the Commission, to determine whether those prescriptions are warranted by the facts.

Pat Wood, III
Chairman

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of Pend Oreille County Project No. 2042-013

(Issued July 11, 2005)

KELLIHER, Commissioner, *dissenting in part*:

I am dissenting in part from this order, not because of what it says, but because of what it does not say.

It is settled that the Commission in issuing a license for a hydroelectric project must include certain fishway prescriptions prescribed by the Secretary of Commerce or the Secretary of Interior. The Commission does not have the discretion to reject these conditions, known as mandatory conditions, even if they are unsupported by the record or are otherwise inappropriate in the context of the broader licensing action taken by the Commission.

In this case, involving an application for a new license for the continued operation of the Box Canyon Hydroelectric Project, Interior mandated that measures be taken to ensure upstream and downstream fish passage at project facilities. The environmental impact statement (EIS) prepared by the Commission to analyze the environmental impacts of the proposed new license concluded that the need for fish passage at the facilities has not been demonstrated or supported.

Specifically, the EIS concluded that the need for upstream fish passage at Box Canyon dam has not been established because of the lack of data indicating that substantial numbers of target species are attempting to migrate past Box Canyon dam and the low numbers of these fish found below the dam. [1] Therefore, the EIS recommended that the licensee undertake a fish movement analysis to determine the need for fish passage before constructing fishways. Should it be determined that upstream fish passage is warranted, the EIS recommended a less expensive two phase approach. [2]

The EIS likewise found that the need for downstream fish passage has not been demonstrated. [3] It determined that there are no data indicating that substantial numbers

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[1] EIS at 306.

[2] *Id.* at *306-07.*

[3] *Id.*

of target species are attempting to migrate downsteam past Box Canyon dam, and low numbers of these fish are found within the Box Canyon reservoir. [4] Also, providing downstream fish passage immediately after license issuance is premature because the license that is being issued for this project requires the licensee to install two fish friendly turbines. If these turbines prove to be effective at passing fish downstream without harm, the licensee could replace all four turbines with the fish friendly turbines and negate the need for a downstream fish passage structure. Finally, should it be determined that the downstream fish passage is warranted, the EIS recommended constructing a permanent downstream fish passage facility, thus avoiding Interior's more expensive interim step. [5]

The purpose of an EIS is to ensure that an agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger audiences that may also play a role in both the decisionmaking process and the implementation of that decision. [6] That purpose has been accomplished here.

However, the Commission's responsibility for determining whether to issue a license does not stop with the preparation and distribution of an EIS. The Commission is required to analyze a wide range of issues to determine whether a project is in the public interest. The Commission must reflect its weighing of the public interest in an order that lays out for public scrutiny the factors that enter into its decision. This obligation is grounded in law and in good government practices. Without such a discussion, it is impossible for the public and for courts to determine if the Commission, and in this case a sister agency, has acted appropriately in reaching its decision.

In short, I believe that the Commission has an obligation to provide its views on the actions taken in its order, including mandatory conditions required by other agencies. For this reason, I would have included in this order a discussion of the conclusions in the EIS regarding the validity of the conditions imposed by Interior.

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[4] *Id.* at 87.

[5] *Id.* at 307-08.

[6] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

When an agency with mandatory conditioning authority attaches a condition that is unsupported by facts, the only recourse left a licensee is to seek judicial review. By not making plain to a Commission licensee any disagreements with Interior, we have made it more difficult for the licensee to mount an effective challenge. That strikes me as fundamentally unfair.

Joseph T. Kelliher

APPENDIX A

THE U.S. DEPARTMENT OF THE INTERIOR MODIFIED CONDITIONS FILED WITH THE FEDERAL ENERGY REGULATORY COMMISSION PURSUANT TO SECTION 4(e) OF THE FEDERAL POWER ACT FOR THE BOX CANYON HYDROELECTRIC PROJECT PEND OREILLE RIVER, WASHINGTON[1]

1. Box Canyon Section 4(e) Implementation and Monitoring Plan and Annual Reporting

A. Section 4(e) Implementation and Monitoring Plan

1. Within 120 days after license issuance, the Licensee, in collaboration with the Department of the Interior, the Kalispel Indian Tribe ("Tribe"), the Washington Department of Fish and Wildlife, the U.S. Forest Service, and other relevant resource agencies, shall prepare and submit for Secretarial approval an outline of a Section (e) Implementation and Monitoring Plan (IMP) providing specific information about how the Licensee intends to comply with the requirements specified in the Department's Section 4(e) Conditions Nos. 3 through 13. In its submission, the Licensee shall include documentation of its collaboration with the above entities.

2. Subject to the same requirements as the outline described in paragraph (A) (1), the Licensee shall submit a final IMP within 1 year after license issuance. Subsequent to Secretarial approval, the Licensee shall submit the IMP to the Federal Energy Regulatory Commission (Commission).

3. The IMP shall include the items listed below. More detail on what each item shall include is provided under the specific condition numbers listed in parentheses.

   a. Sampling strategy and procedures to assess fish stranding resulting from drawdowns (Condition No. 3);

   b. Plan for Geotechnical Engineering studies (Condition o. 3);

   c. Erosion monitoring plan (Condition No. 3)

[1] By letter dated May 20, 2004 unless otherwise indicated.

d. Trout Assessment and Restoration Plan (Condition No. 6);

e. Cultural resources Management Plan (Condition No. 8);

f. Plan to monitor cultural resources on the KIR (Condition No. 9)

4. In all elements of the IMP, the Licensee shall include:

a. Scientifically rigorous and current methodologies.

b. Specifically quantified program goals;

c. Criteria by which to measure progress towards program goals;

d. Procedures for redirecting effort, including funding, as necessary under adaptive management to achieve the stated goals;

e. Schedule for implementation of activities to achieve goals;

f. A monitoring plan to evaluate progress towards achievement of goals; and

g. A format for reporting annually, as required in paragraph (B), on i) progress made during the previous year and ii) the activities planned for the forthcoming year.

B. Annual Reporting

Each year on the anniversary date of the Secretary's acceptance of the IMP, the Licensee shall submit to the Secretary an Annual Report detailing the work accomplished the previous year, progress made toward program goals, plans or suggestions to redirect effort per adaptive management with a detailed justification of why this is warranted, and documentation of collaboration with the Tribe and resource agencies and their responses.

1. The Annual Report shall include:

a. Written verification from the USGS that the Licensee's gage at the Box Canyon Dam headwater is consistent with USGS quality assurance and quality control procedures for hourly water level measurement (Condition 3).

b. Documentation and records describing any emergencies or other operating condition(s) beyond the control or knowledge of the

Licensee occurring in a given year that require the Licensee to deviate from the drawdown limitation in Condition No. 3, as well as resulting Project operations that occurred for the duration of the deviation(s) (Condition No. 3);

c. Summary and analysis of monthly operational reports (Condition No. 3);

d. Fish stranding data and analysis in relevant years following drawdown events (Condition No. 3);

e. Fish stranding data and analysis in relevant years following drawdown events that occur after trout population levels reached, respectively, 25%, 50%, 75%, and 100% of the reservoir target levels specified in Condition No. 5 (Condition No. 3).

f. Results of geotechnical engineering studies (Condition No. 2);

g. Updates to slope stability model using data from erosion monitoring (Condition No. 3);

h. Results of biannual erosion monitoring and results of all other monitoring, studies, assessments, remedial measures, and other items (Condition No. 3);

i. Results of water quality monitoring (Condition No. 4);

j. Results of TDG monitoring, including physical and biological parameters (Condition No. 4);

k. Summary of any non-compliance reports filed in a given year (Condition No. 4);

l. Reports on restoration, enhancement, or supplementation measures implemented pursuant to the TARP, trout population assessment results, comparison against target levels, and calculation of TRF contribution (Condition No. 6);

m. Updated TARP in relevant years (Condition No. 6);

n. Full accounting of all transactions under the Trout Remediation Fund, including funds deposited, detailed description of funds expended, and interest earned (Condition No. 6);

o. Progress made towards replacing lost wildlife habitat AAHUs and cottonwood habitat, and results of monitoring replace efforts (Condition No. 7);

p. Results of all cultural resource monitoring (Condition No. 9)

q. Report on progress made towards ethnobiology study (Condition No. 12);

r. Results of recreation surveys in relevant years (Condition 13); and

s. An Annual Work Plan detailing the coming year's expected activities. The work plan must provide sufficient detail for the Secretary to determine whether the Plan continues to provide for the protection and utilization of the reservation. The Annual Work Plan shall include but not be limited to: i) detailed information on methods to be employed; ii) schedule of activities; and iii) explanations of how planned activities will help attain program goals.

2. The Secretary will review the Annual Report and reserves the authority to accept, reject, or otherwise alter the document, in whole or in part, to ensure the adequate protection and utilization of the KIR. Subsequent to Secretarial acceptance of the Annual Report the Licensee shall submit the report to the Commission.

2. Box Canyon Resource Technical Committee

A. Formation and Participation

Within 15 days after license issuance, the Licensee shall request in writing that the U.S. Bureau of Indian Affairs, the U.S. Fish and Wildlife Service, the United States Forest Service, the Washington State Department of Fish and Wildlife, the Kalispel Tribe of Indians, the Washington State Department of Ecology, the Idaho Department of Fish and Game, and the U.S. Environmental Protection Agency designate representatives to participate with the Licensee as members of a Box Canyon Resource Technical Committee (Technical Committee). The Licensee shall request that the above entities advise the Licensee in writing within 30 days of the request whether they wish to participate in the Technical Committee and, if so, that they have designated a representative for that purpose. Within 60 days after license issuance, the Licensee shall convene the first meeting of the Technical Committee. Thereafter, the Technical Committee shall determine the frequency and location of its meetings, as well as other procedural aspects of its operation not specifically defined in this condition. The Technical Committee shall function, as

necessary, for the term of the license and any subsequent annual licenses. Each member with a representative on the Technical Committee may designate replacements or make substitutions for its representative at any time.

B. Duties and Functions

The duties of the Technical Committee shall include, but are not limited to:

1. guiding and advising the Licensee in the development and preparation of plans and reports to be submitted by the Licensee for approval of the Secretary of the Interior (Secretary), as required by these conditions.

2. reviewing and providing comment on drafts of plans and reports required by these conditions;

3. identifying, developing, and reviewing specific measures – including goals, methods, schedules, and costs for implementing such measures – that may be appropriate to carry out the requirements of these conditions;

4. identifying, developing, and reviewing plans for implementing identified measures;

5. identifying, developing, and reviewing short- and long-term monitoring necessary to ensure that proposed measures achieve desired results;

6. ensuring that all proposed measures adhere to scientifically sound principles and that they are implemented in a cost effective manner; and

7. preparing and reviewing scopes of work and proposals to implement the measures contained in such scopes of work, and making recommendations to the Licensee as to the selection of contractors and/or means of implementing proposed measures.

C. Scopes of Work

Except as otherwise provided herein, the Technical Committee shall prepare a detailed statement defining the scope of work for each project to be carried out pursuant to plans developed and approved in accordance with these conditions. Each scope of work may include, but may not be limited to, a description of the tasks to be accomplished; a description of the methods to be employed and a schedule for each task; a proposed budget for each task and project; monitoring and oversight by the Technical Committee; and preparation of interim and final reports. Each scope of work may also identify potential bidders or entities that

members of the Technical Committee believe may be interested in the type of project being proposed.

D. Selection and Approval of Contractors

All measures required by these conditions shall be carried out, as agreed to by the Technical Committee, a) by the Licensee, through a qualified contractor selected by competitive bidding, "sole source" procedures, or other lawful contracting procedures, or b) by any of the other members of the Technical Committee, in accordance with the requirements of applicable law, including but not limited to the Interlocal Cooperation Act, ch. 39.34 RCW. The Technical Committee may recommend the persons, entities, or specific arrangements for carrying out any requirement of these conditions, and the Licensee shall follow that recommendation unless it provides the Technical Committee in writing sufficient information to show that such arrangement would be unlawful or that such persons or entities would not be qualified to perform the work.

E. Bidding and Procurement

The procedures set forth below shall apply to the execution of any contracts proposed to be let by the Licensee pursuant to competitive bidding to carry out the requirements of these conditions:

1. The Licensee shall advertise for bids or statements of qualifications for each project in accordance with applicable procurement laws. Any member of the Technical Committee may submit a bid or statement of qualification in response to the Licensee's advertisement or request. The Licensee shall submit all bids or statements of qualification to the non-bidding members of the Technical Committee for evaluation, and shall request that the non-bidding members make a joint recommendation to the Licensee as to the selection of a potential contractor and/or the terms of the contract to accomplish the project. As soon as is practicable during the evaluation of bids and statements of qualification, and prior to any recommendation, the Licensee shall provide the non-bidding members of the Technical Committee with any and all reasons known to it that a bidder may not be qualified to perform the proposed project or should otherwise lawfully be excluded from consideration.

2. If the Licensee accepts the recommendation described in paragraph (E) (1), the Licensee shall enter into a contract with the selected contractor to carry out the project in accordance with the scope of work.

3. If the Licensee does not accept the recommendation described in paragraph (E) (1), it shall state its reasons in writing. The Licensee shall submit the bids or statements of qualification of alternative potential contractors to the non-bidding members of the Technical Committee for evaluation and shall request that the non-bidding members make a joint recommendation to the Licensee that attempts to resolve the Licensee's concerns. The Licensee shall repeat this process as necessary until the non-bidding members of the Technical Committee have made a recommendation that is accepted by the Licensee.

F. Determinations Regarding Proper Expenditure of Funds

Any and all funds provided by the Licensee under these conditions shall be spent only on measures for the protection, enhancement, or mitigation of erosion control, water quality, fish and wildlife resources, cultural resources, recreation, and other resources, as provided in these conditions. Except where the precise amount of funding to be provided by the Licensee is specified by these conditions, funding for particular measures designed to carry out the requirements of these conditions shall be determined by the Technical Committee.

G. Administration of Contracts

The Licensee shall administer each contract in accordance with applicable procurement laws and shall provide an annual report to the Technical Committee and the Commission, documenting all project activities and payments made to contractors for work performed pursuant to the requirements of these conditions. The Licensee shall make available for inspection by the members of the Technical Committee and by the Secretary copies of all contract documents, reports and products associated with work performed pursuant to the requirements of these conditions. The Licensee shall provide copies of these items upon reasonable notice. The Licensee shall be responsible for funding any and all costs of contract administration separate and apart from the funds required by these conditions.

H. The Technical Committee may form technical subcommittees, and may delegate responsibilities to such subcommittees or individual members, provided that the Licensee shall have the right to be represented on any technical subcommittee. All subcommittee decisions are subject to the terms of paragraphs (A)-(G) of this condition. The Licensee shall provide reasonable administrative, clerical, and support facilities for the Technical Committee and any subcommittees separate and apart from the funds required by these conditions, but the Licensee shall be responsible for funding only its own participation on the Technical Committee and any subcommittees.

I. Dispute Resolution

Unless otherwise agreed to by the members of the Technical Committee, the following provisions shall govern the resolution of disputes:

1. In performing its duties and function, and in carrying out any other requirements in paragraphs (A)-(H), the Technical Committee shall strive to achieve consensus. In the event that consensus cannot be achieved, to the extent practicable, the Technical Committee shall resolve matters pursuant to a majority vote of the Technical Committee members.

2. Notwithstanding the provisions of paragraph (I) (1), any member of the Technical Committee may, in writing, raise a dispute to the other members of the Technical Committee. Upon receipt of a written dispute, the members of the Technical Committee shall engage in good faith discussions to resolve the dispute for a period not to exceed 10 days from the date that the written dispute is received by the Technical Committee.

3. In the event that resolution cannot be reached by the Technical Committee, the members of the Technical Committee shall engage the services of a mutually agreed upon third party facilitator with expertise regarding the matter in dispute. The Technical Committee and the facilitator shall agree on the means and schedule for achieving resolution under this process. The Licensee shall pay for the cost of the facilitator.

J. Nothing in the condition shall be construed to limit or substitute for the authority of the Secretary, with regard to section 4(e) conditions, or the Federal Energy Regulatory Commission, with regard to any conditions of the license.

3. Erosion Control and Fish Stranding Prevention

A. Except as provided in paragraph (B), the Licensee shall, for the term of the License and any subsequent annual licenses, operate the Project so that at all times, the rate of drawdown of the Box Canyon Reservoir water surface stage does not exceed 3 inches within any one-hour period, as proposed by the Licensee in its Final License Application. Compliance with this requirement shall be measured at the Licensee's gage at the Box Canyon Dam headwater. As part of the Annual Report required by Condition No. 1, the Licensee shall submit to the Secretary of the Interior (Secretary) verification from the United States Geological Survey (USGS) that this gage is consistent with USGS quality assurance/quality control procedures for hourly water level measurement.

B. In the event of emergencies or other operating conditions beyond the Licensee's control or knowledge, the Licensee may deviate temporarily from the 3-inch-per-hour drawdown rate limit, provided:

1. The Licensee shall immediately notify the Secretary, the Kalispel Indian Tribe ("Tribe"), and the Federal Energy Regulatory Commission ("Commission") of the emergency or other operating condition beyond the Licensee's control or knowledge that caused deviations from the 3-inch-per-hour drawdown rate limit.

2. Within seven (7) days of the notification required by paragraph (B) (1), the Licensee shall provide the Secretary, the Tribe, and the Commission documentation and records describing the emergency or other operating condition beyond the Licensee's control or knowledge that caused the deviation, as well as the resulting Project operations, including hourly stage and hourly change-in-stage (measured at the gage identified in paragraph (A)) that occurred for the duration of the deviation. The Licensee shall also include this information in the Annual Report for the year in which the deviation(s) occurred.

3. For purposes of this condition, the Licensee's compliance with the reservoir drawdown requirement of Plan E, as proposed in the Licensee's Final License Application, or with any other operating constraint shall not constitute an emergency or other operating condition beyond the Licensee's control or knowledge.

C. Monitoring Reports

The Licensee shall, on a monthly basis for the term of the license and any subsequent annual licenses, produce and submit to the Secretary, the Tribe and the Commission a monitoring report within 2 weeks after the end of each month. The Licensee shall also summarize the monthly monitoring reports and include them in the Annual Report required by Condition No. 1. The Licensee shall provide the following information in the monthly monitoring reports:

1. A record of monitoring data of the previous completed month, including spreadsheet tables and chart plots of actual measurements of hourly stage and hourly change-in-stage at the gage identified in paragraph (A); and

2. An evaluation of monitoring data collected for the previous month documenting compliance with, and any deviations from, the operating requirements of paragraph (A). In its evaluation of monitoring data, the Licensee shall include an examination of the stage and hourly change-in-

stage data with an explanation for any deviations from the operating requirements of this condition.

D. Fish Stranding Studies

1. As part of the Section 4(e) Implementation and Monitoring Plan required by Condition No. 1, the Licensee shall develop a study plan to assess fish stranding, and its effects on fish, that results from drawdown events during which the Licensee lowers the Box Canyon Reservoir surface stage for 12 or more consecutive hours at a rate of 3 inches per hour. In the plan, the Licensee shall include provisions for assessing the following effects:

    a. Stranding in high risk areas (e.g. Cusick Flats);

    b. Physical condition and stress factors (e.g. elevated water temperature, low dissolved oxygen, increased predation, lack of forage);

    c. Stranding by season, species, and life stage.

2. The Licensee shall assess fish stranding following each of the first 5 drawdown events described in paragraph (D)(1) that occur during the license term and any subsequent annual licenses.

3. Notwithstanding paragraph (D)(2), the Licensee shall assess fish stranding following each of the first 3 drawdown events described in paragraph (D)(1) that occur after trout production levels have reached, respectively, 25%, 50%, 75%, and 100% of the reservoir target levels specified in condition No. 6.

E. Geotechnical Engineering Studies

As part of the Section 4(e) Implementation and Monitoring Plan (IMP) required by Condition No. 1, the Licensee shall develop a plan for conduction geotechnical engineering studies on the Kalispel Indian Reservation (KIR), including:

1. Accurate field surveys of the shoreline profile at 8 erosion monitoring transects located on the KIR. The eight transects shall include the one at river mile 64.5 identified in the Erosion Monitoring Plan the Licensee filed in response to the Commission's February 27, 2001, Additional Information Request (AIR), as well as 7 additional erosion monitoring transects located on the KIR and identified through consultation with the Secretary and the Tribe. The Licensee shall coordinate the locations of the erosion monitoring

transects with data needs for other resources, such as cultural resources and fisheries resources, to maximize the value of the data collected.

2. Monitoring of shoreline embankment ground water elevations with respect to a fixed elevation reference to determine changes in the phreatic surface in response to reservoir level fluctuations.

3. Incorporation of soil/site parameters (including, but not limited to, stratigraphy, friction angle, cohesion, graduation, unit weight, permeability, and ground water level) into a quantitative slope stability model to determine how the 3 inch-per-hour drawdown rate limit affects KIR shorelines. The model can be calibrated with field measurements acquired during erosion monitoring (described in paragraph F) with updates included in the Annual Reports required by Condition No. 1.

F. Erosion Monitoring Plan

As part of the Section 4(e) Implementation and Monitoring Plan (IMP) required by Condition No. 1, the Licensee shall develop an Erosion Monitoring Plan (EMP) for Trust lands affected or potentially affected by the Box Canyon Hydroelectric Project (Project). The EMP shall incorporate the Licensee's erosion monitoring plan, as described in the Licensee's final License Application (FLA) and amended by the Licensee's June 27, 2001 Response to the Commission's February 27, 2001, AIR. As part of the EMP, the Licensee shall:

1. Establish monitoring stations on the KIR at the 8 erosion monitoring transects described in paragraph (E) (1).

2. Conduct biannual monitoring during early spring and early fall. In addition, within 7 days after an emergency event or operating condition beyond the control of the Licensee, or within seven days after a flood event with a recurrence interval of 20 years or greater (as measured at USGS gage number 12395500, Pend Oreille River at Newport, Washington), the Licensee shall conduct additional monitoring, the results of which the Licensee will provide to the Secretary, the Tribe, and the Commission within 14 days of the emergency event or operating condition.

3. Update the Erosion Occurrence Maps located at Figure 8.1 in Appendix E8-1 of the District's FLA 1) within 3 years after license issuance, 2) at intervals not greater than 5 years thereafter, and 3) within 1 year after a flood event with a recurrence interval of 20 years or greater.

4. Monitor areas that are currently actively eroding at low, moderate and high rates as described in Appendix E8-1 of the District's FLA.

5. Monitor areas for which the erosion hazard is moderate or high, as described in Appendix E8-1 of the District's FLA.

6. Identify the effects of Project operations, including drawdowns, on wave action, undercutting, bank toppling, slumping, ground water piping, and rilling and dry ravel erosion processes.

7. Identify the effects of project operation on riparian habitat loss caused by inundation, bank toppling and slumping.

8. Identify remedial measures.

G. The Secretary reserves the authority to adjust the drawdown limit in paragraph (A) or to require bank stabilization on the KIR based on information from the fish stranding, geotechnical or erosion monitoring studies. In this regard, the Secretary can either accept or reject the Licensee's recommendations for remedial measures.

4. Compliance With Applicable Water Quality Standards

A. The Licensee shall operate the Box Canyon Hydroelectric Project ("Project") so that, at all times during the license term and any subsequent annual licenses, it complies with applicable numeric and narrative federal, state, and tribal water quality standards and with all requirements of applicable certifications issued under section 401 of the Clean Water Act.

B. The Licensee shall provide the Secretary of the Interior ("Secretary") and the Kalispel Indian Tribe ("Tribe") copies of all plans developed pursuant to applicable 401 certifications.

C. Water Quality Monitoring

Within 1 year after license issuance, the Licensee shall begin monitoring water quality in the Box Canyon Reservoir and in Calispell Creek. Specifically, the Licensee shall:

1. Monitor water quality parameters including, but not limited to, pH, temperature, dissolved oxygen, total dissolved gases (TDG), and turbidity.

2. Use monitoring methods consistent with those used by federal, state, and tribal agencies that regulate water quality that are capable of discerning

Project impacts from background levels, and that are capable of representing spatial and temporal dimensions.

3. Use fixed automated instruments that meet industry standards for accuracy, that contain an internal datalogger capable of storing a minimum of four month's data.

4. Collect data hourly from fixed automated instruments at the following locations:

   a. Box Canyon Reservoir – RM 88.3 (Albeni Falls tailrace);

   b. Box Canyon Reservoir – RM 71.8 (mid-reservoir, near the Kalispel Indian Reservation);

   c. Calispell Creek – at or near the pump station(s) on the upstream side of the railroad dike;

   d. Calispell Creek – at or near the discharge point of the pump stations:

   e Box Canyon Reservoir – RM 37.9 (Box Canyon Dam forebay); and

   f. Boundary Dam Reservoir – RM 34.4 (Box Canyon Dam tailrace)

5. Report water quality monitoring data as part of the Annual Report required by Condition No. 1.

D. Monitoring for Total Dissolved Gas at Box Canyon Dam

1. The licensee shall conduct biological monitoring in accordance with conditions 10.2.1.3(D), 10.2.2.5(C), and 10.2.3.6(C) of the Department's section 18 fishway prescriptions for upstream passage at Box Canyon Dam and conditions 10.3.1.5(D) and 10.3.2.5(D) of the Department's section 18 fishway prescriptions for downstream passage at Box Canyon Dam. In addition to reporting requirements of the prescription, the licensee shall also submit results of biological monitoring as part of the Annual Report required by Condition No. 1.

2. Beginning with the first spill event after license issuance, the Licensee shall collect data on TDG pressure every 15 minutes during periods of spill using fixed automated instruments described in paragraph (C) (3) at locations identified in paragraphs (C)(4)(e) and (f). As part of the Annual Report

required by Condition No. 1, the Licensee shall provide monitoring data indicating the following:

a. The presence, levels, and duration of TDG pressure and percent saturation in the forebay and tailrace at Box Canyon Dam; and

b. Project-induced TDG and upriver cumulative contributions.

3. In addition to the monitoring required in paragraph (D) (2), the Licensee shall monitor TDG levels in the tailrace using automated instruments arranged in a spatial pattern adequate to quantify instantaneous TDG data along lateral and longitudinal lines through out the TDG mixing zone, describing both spatial and temporal variability in TDG exchange processes in relation to Project operations ("grid monitoring"). The Licensee shall coordinate grid monitoring with dam operations to collect data encompassing the entire range of flows (i.e. up to 90,000 cfs) and associated spillway gate configurations. The Licensee shall conduct grid monitoring once in the first spill season after license issuance, and then again at the end of the ten-year compliance period allowed under the State of Washington Department of Ecology's 401 certification. The Licensee shall provide this information in the Annual Report for the year(s) in which grid monitoring is performed.

E. Non-compliance Report

The Licensee shall immediately notify the Secretary and the Tribe of any non-compliance with any applicable state, federal or tribal water quality standard detected at any monitoring stations. Within 7 days after notification of such non-compliance, the Licensee shall submit to the Secretary, the Tribe, and the Federal Energy Regulatory Commission ("Commission") a Non-Compliance Report containing the following information:

1. Date(s) the non-compliance occurred;

2. Water quality data from the monitoring site(s) where non-compliance occurred;

3. Facts and circumstances that lead to the non-compliance event and any documentation thereof;

4 Measures the Licensee took or will take to correct the non-compliance and to prevent future non-compliance.

F. Request for Variance, Use Attainability Analysis, Site-Specific Criterion

In the event that the Licensee (1) requests a variance from applicable water quality standards for the Project or for the stretch of the Pend Oreille River that includes the Project; (2) requests to conduct a Use Attainability Analysis for removal of a designated use on the Pend Oreille River; or (3) submits an analysis for the development of new site-specific water quality criterion for any of the parameters identified in paragraph (C)(1), the Licensee shall provide the Secretary a copy of the request or analysis and any scientific justification used in support of such request or analysis.

1. If the Secretary determines, through analysis of scientific data that the operation of the Project according to the terms set forth in an approved variance, Use Attainability Analysis, or site-specific water quality criterion is adversely affecting aquatic species, in particular native salmonids, the Licensee shall consult with the Secretary and the Tribe for a period not to exceed six (6) months to develop additional measures to mitigate for the adverse effect caused by the Project. Such measures may include, but are not limited to, restoration of aquatic habitat, supplementation of native fish species, or other measures to benefit native fish species.

2. If at the end of the consultation period described in paragraph (F)(1), the Licensee, the Secretary, and the Tribe cannot agree on additional mitigation measures, the Licensee shall implement such additional mitigation measures as the Secretary deems necessary for the protection of the aquatic species of concern.

5. Fish Passage

For purposes of its authority under section 4(e) of the Federal Power Act (FPA), the Department of the Interior ("Department") adopts, and incorporates by reference, the prescriptions for upstream and downstream fishways submitted to the Federal Energy Regulatory Commission by the Department pursuant to section 18 of the FPA.

6. Trout Assessment and Restoration [Section replaced by Trout Habitat Restoration Program- see Box Canyon Settlement Appendix A]

A. Trout Assessment and Restoration Plan

As part of the Section 4(e) Implementation and Monitoring Plan required by Condition No. 1, the Licensee, in collaboration with the Kalispel Indian Tribe (Tribe), the U.S. Fish and Wildlife Service, the U.S. Forest Service, and the Washington Department of Fish and Wildlife, shall develop a Trout Assessment

and Restoration Plan (TARP) indicating: 1) the methods the Licensee will use to assess trout populations in the Box Canyon Reservoir and its tributaries to demonstrate progress toward the target trout population levels listed in Table 1; and 2) the strategies and implementation schedule the Licensee will use to produce naturally sustainable trout populations that achieve the target.

Table 1. Minimum targets levels for naturally sustainable trout populations.

		Trout Densities (No./Mi)				
		Bull Trout		Westslope Cutthroat Trout		
Area	Length (mi)	Resident	Migratory	Resident	Migratory	Other[a]
Box Canyon Reservoir[b]	55.7	435[d]	NA	870[c]	NA	695
Bull trout recovery tributaries[e]	208.2	450	50	90[c]	10	--
Other Tributaries[f]	119.7	135	15	270	30	--

[a] Rainbow and brown trout only.
[b] BCR densities are intended to provide an index to the success of tributary remediation since these fish will be recruited from the tributaries.
[c]Based on 44% of the total trout, the percent composition from historical creel records (1948 to 1956).
[d]Based on the target of bull trout being 50% of westslope cutthroat trout densities used in the Kalispel Natural Resource Department's fisheries management plan (KNRD 1997).
[e]Calispell, Indian, Mill, Cedar, Ruby, Tacoma, and LeClerc creeks.
[f]Cee Cee Ah, Cusick, Trimble, Gardiner, Middle, Lost, Maitlen, Renshaw, Big Muddy, Little Muddy, Exposure, Mickey, Davis, Skookum, Bracket, Kent, and McCloud creeks.

B. Implementation of TARP

1. Trout Habitat Restoration and Enhancement, and Supplementation

Beginning with the first field season after approval of the TARP, the Licensee, using funds contributed to the Trout Restoration Fund (TRF), described in paragraph (C), shall implement tributary habitat restoration, enhancement and/or supplementation measures in accordance with the TARP for the duration of the license term, including any annual licenses, or until target levels are met. Such measures shall include, but are not limited to:

a. Tributary habitat enhancement measures, including but not limited to, instream and riparian restoration, conservation and maintenance, removal of impassable barriers, purchase of land or conservation easements, and exotic species control;

b. Supplementation of natural production of native trout through conservation aquaculture using stock of appropriate local genetic makeup.

2. Trout Population Assessment Surveys

a. Three-Year Baseline Trout Population Assessment Survey

Beginning with the first field season after approval of the TARP, the Licensee shall conduct a three-year baseline trout population assessment survey ("Baseline TPAS"). Data from the three survey years shall be averaged to estimate trout population levels and shall be used to calculate the Licensee's TRF contribution.

b. Three-Year Trout Population Assessment Surveys

After completion of the Baseline TPAS, the Licensee shall conduct three-year trout population assessment surveys every five (5) years for the duration of the license (see Table 2), including any annual licenses, or until target levels are met. Data from the three survey years of each TPAS shall be averaged and used to determine progress toward target levels and to calculate the Licensee's TRF contribution until the completion of the next TPAS.

Table 2. Example of TARP implementation schedule for first 20 years of license.

	License Year																			
Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 etc.
TARP Development and approval	X																			
3-year trout population assessment survey		X	X	X						X	X	X						X	X	X

Trout habitat restoration, enhancement, supplementation		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Licensee contributions to TRF	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

c. The Licensee shall assess trout population levels using methods that are accepted, and commonly used, in fisheries science. Assessments must include both adfluvial (migratory) and resident fish, and population estimates must differentiate between these two life history types.

3. Within 3 months after completion of each TPAS described in paragraph (B)(2)(b), he Licensee shall update the TARP, identifying strategies for achieving target trout population levels and providing a schedule according to which those strategies will be implemented for the next eight years.

4. Costs associated with developing and updating the TARP and costs associated with population assessments shall be borne by the Licensee without using the Trout Restoration Fund.

C. Trout Restoration Fund

1. Throughout the term of the license and any annual licenses, the Licensee shall contribute to a Trout Restoration Fund (TRF). The amount of the Licensee's annual contribution shall be determined using the following formula:

[TARGET(A/S/S/C) – OBSERVED(A/S/SC)] * HL * RV

Where:

TARGET = Targeted species-specific trout densities from Table 1 (no/mi);

OBASERVED = Observed species-specific trout densities based on assessments (no/mi);

A/S/SC = A = Area in question from Table 1 (bull trout recovery tributaries, or other tributaries);S = Species (bull trout, westslope cutthroat trout, or others [rainbow and brown trout, not to include brook trout]);SC = size category based on proportional stock density ratio (stock vs quality size);

Proportional Stock Density, defined as [number of fish > = quality length] / [number of fish >= stock length];

HL = Habitat length (in miles) of the area in question; and

RV = Replacement value based on American Fisheries Society recommendations, adjusted to current U.S. dollars value for the appropriate year.

2. Within 30 days after license issuance, the Licensee shall contribute $1.426 million to the TRF. This amount shall constitute the Licensee's entire contribution to the TRF for the first 4 years of the license. If the Baseline TPAS is not completed at by the end of Year 4, the Licensee shall contribute $356.441 each year on the anniversary date of its first contribution until completion of the Baseline TPAS. Upon completion of the Baseline TPAS, the Licensee shall calculate the contributions it will make to the TRF until the completion of the next TPAS. Thereafter, the Licensee shall calculate its contribution to the TRF after completion of each TPAS.

3. Funds in the TRF shall be expended exclusively for use in achieving the target trout population levels listed in Table 1, using measures described in paragraph (B)(1). Funding levels for tributary enhancement measures and supplementation shall be weighted in accordance with strategies identified, and the implementation schedule set forth, in the TARP.

4. Once the targets in Table 1 are met, the Licensee shall contribute not less than $50,000 annually to the TRF for operation and maintenance of completed tributary restoration and enhancement projects.

5. Except as provided in paragraph (C)(2), the Licensee shall make all contributions to the TRF on or before January 15 of each year of the license term, including any annual licenses. Funds shall be placed in a separate interest-bearing account, held by the Licensee and managed by a fiduciary of its choosing pursuant to an escrow agreement that provides for exclusive use of such funds for the benefit of the fishery of the Box Canyon Reservoir and associated tributaries. The escrow agreement may be reviewed by the Secretary at his/her option. Funds not spent in the year in which they are deposited shall be carried forward with accrued interest for subsequent

expenditure in accordance with the TARP. All amounts in this condition are stated in 2002 U.S. dollars and shall be adjusted at time of payment to current dollars using the Consumer Price Index (CPI).

6. The Licensee shall obtain all necessary permits and shall comply with all applicable state and Federal planning requirements, including the National Environmental Policy Act. Costs associated with these efforts, and all other administrative and legal costs associated with implementing the TARP, shall be borne by the Licensee without using the Trout Restoration Fund.D. The Licensee shall include results of population assessment surveys, a comparison of existing population levels against target levels, and a record of the Licensee's calculations regarding its TRF contribution as part of the Annual Report for the year in which surveys are completed and contributions are calculated.

E. The Secretary reserves the authority to modify target levels during the license period based on results of fisheries assessments, population response to tributary enhancement and supplementation measures, fisheries management strategy changes, and new information that may become available. Modifications may include, but are not limited to, adjusting species-specific target densities and size structures, and shifting target levels from native to replacement stocks. In the event the Secretary makes any of the above modifications, the Licensee shall modify the TARP accordingly.

7. Replacement of Wildlife Habitat Lost on Kalispel Indian Reservation

A. Within 1 year after license issuance, the Licensee, in collaboration with the Kalispel Indian Tribe ("Tribe"), shall identify:

1. 6 acres of sandbar habitat on the Kalispel Indian Reservation (KIR), or other lands owned by the Tribe, that are capable of producing a cottonwood riparian community.

2. Lands on the KIR, or other lands owned by the Tribe, that are suitable for replacing the following habitat values lost on the KIR:

   a. Deciduous Forest - 8 AAHUs
   b. Pond - 8.47 AAHUs
   c. Emergent and/or wet Grassland - 65.89 AAHUs

If it is impossible to replace lost habitat values on the KIR, or on other lands the Tribe owns, the District may use lands it owns after receiving concurrence from the Secretary of the Interior and the Tribe.

B. Within 1 year after identifying lands described in paragraph (A), the Licensee shall, in collaboration with the Tribe, develop a scope of work for the restoration, enhancement, and annual operation and maintenance of cottonwood habitat and other habitat values identified pursuant to the requirements of paragraph (A).

C. The Licensee shall implement the scope of work developed pursuant to paragraph (B) and report all efforts and progress made toward achieving cottonwood restoration and target AAHUs in the Annual Report required by Condition No. 1.

8. Identification, Evaluation, Assessment and Treatment; Cultural Resource Management Plan

In addition to complying with all federal and state cultural resource protection laws, the Licensee shall:

A. In consultation with the State Historic Preservation Officer (SHPO) and the Kalispel Indian Tribe ("Tribe"), identify cultural resource sites on trust lands located on the Kalispel Indian Reservation (KIR) within the Box Canyon Hydroelectric Project ("Project") boundary.

B. Evaluate for eligibility on the national Register of Historic Places all identified cultural resource sites on trust lands located on the KIR within the Project boundary. In consultation with the SHPO, and guided by the Secretary of the Interior's ("Secretary") Standards and Guidelines for Evaluations, the Licensee shall apply the National Register criteria (36 C.F.R. Part 60) to identified cultural resource sites that have not been previously evaluated for National Register eligibility.

C. Assess effects of the Project on all historic and traditional cultural properties on trust lands located on the KIR within the Project boundary. If there are historic or traditional cultural properties which may be affected by the Project, the Licensee shall notify the Tribe, the Secretary, and the SHPO and invite their views on the effects and assessment of adverse effects. In meeting the requirement of this condition, the Licensee, in consultation with the Tribe, the Secretary, and the SHPO, shall apply the criteria of adverse effect (36 C.F.R. § 800.5(a) (1).

D. With the approval of the Tribe and the concurrence of the Secretary, determine the appropriate treatment and protection of adversely affected historic and traditional cultural properties located on the KIR within the Project boundary. In making this determination, the Licensee shall consult with the Tribe, the Secretary, and the SHPO to develop and evaluate alternatives or modifications to the Project that

could avoid, minimize, or mitigate adverse effects to such historic and traditional cultural properties.

E. Within one (1) year after license issuance, develop and adhere to a Cultural Resources Management Plan (CRMP)[2] that will address the identification, evaluation, assessment, and treatment of historic and traditional cultural properties on trust lands located on the KIR within the Project boundary. In doing so, the Licensee shall consult with the Tribe, the Secretary, and the SHPO. Prior to completing the CRMP, the Licensee shall obtain the concurrence of the Secretary. The CRMP shall be included in the Section 4(e) Implementation and Monitoring Plan required by Condition No. 1.

F. In the event that the Tribe establishes a Tribal Historic Preservation Officer (THPO), such THPO shall be consulted relative to the exercise of all responsibilities of the SHPO for purposes of paragraphs A-E of this condition.

9. Cultural Resource Monitoring

A. Within 1 year after license issuance, the Licensee, in consultation with the SHPO, the Secretary of the Interior, and the Kalispel Indian Tribe, shall develop and fund a program of ongoing cultural resources monitoring of trust lands located on the Kalispel Indian Reservation within the Box Canyon Hydroelectric Project ("Project") boundary. Specific monitoring procedures and intervals of study shall be appropriate to the nature and intensity of potential Project impacts, and shall include, but not be restricted to:

1. Monitoring, per the CRMP, of known cultural resource sites (including historic and traditional cultural properties and archaeological sites) to assess impacts from Project activities, recreational use, vandalism, or any other impacts;

2. Periodic reconnaissance (at intervals of no less than every 5 years) of the impoundment shorelines to assess damage to known cultural resources and to identify and avoid adverse project effects to previously unknown cultural resources exposed by erosion; and

3. Monitoring of all ground-disturbing activities by the Licensee in relation to the Project to identify, and avoid adverse effects to, previously unknown cultural resources.

[2] This is identified as a Historic Properties Management Plan (HPMP) in the FEIS.

B. Monitoring shall be performed by a qualified archaeologist, anthropologist, or historic structures specialist, as appropriate, retained by the Licensee at its own expense.

C. The Licensee shall report results of all monitoring activities in the Annual Reports required by Condition No.1, provided that the Licensee shall not make available to the public sensitive information, such as nature and location, related to any archaeological resources identified through monitoring.

10. Management of Remains and Records Recovered from Trust Lands

A. The Licensee shall fund the initial processing, cataloging, and accessioning of material remains and associated records recovered and developed as a result of cultural resource surveys or excavations on trust lands located on the Kalispel Indian Reservations (KIR) within the Box Canyon hydroelectric Project ("Project") boundary pursuant to 36 CFR § 79.7(d).

B. The Licensee shall fund the storage, inspection, inventory, maintenance, and conservation of material remains and associated records recovered and developed as a result of cultural resource surveys or excavations on trust lands located on the KIR within the Project boundary pursuant to 36 CFR § 79.7(d).

C. The Licensee shall fund the long-term curatorial services described in paragraphs (A) and (B) in and by a suitable repository that means the requirements of 36 CFR § 79.9. At such time as the Kalispel Indian Tribe establishes a suitable repository on the KIR, the Licensee shall fund the storage in that facility of all collections of material remains and associated records recovered from trust lands located on the KIR within the Project boundary.

11. Human Remains

If, as a result of either its operation of the Box Canyon Hydroelectric Project ("Project") or its compliance with any condition of the license, the Licensee inadvertently disinters or discovers human remains on trust lands located on the Kalispel Indian Reservation (KIR) within the Project boundary, the following conditions shall apply:

A. In addition to complying with all applicable requirements of 43 C.F.R. §§ 10.1-10.7, the Licensee shall immediately cease work in the area of the disinterment or discovery; shall promptly protect the remains from public view and from exposure to weather; and shall immediately notify the Kalispel Tribal Police and the Kalispel Business Council.

B. The Licensee, at its own expense, shall retain a qualified archaeologist to determine whether any additional human remains exist on the KIR within the Project boundary in the area of the discovered human remains. If so, the archaeologist shall also determine whether, as a result of either the Licensee's operation of the Project or its compliance with any condition of the license, the additional human remains are in danger of being disinterred.

C. The Licensee shall consult with the Kalispel Indian Tribe (Tribe) to determine appropriate measures to secure, protect, and prevent additional damage to any identified remains or associated graves or cemeteries, and at its own expense, shall implement such measures deemed necessary by the Tribe.

12. Ethnobiological Study

Within 1 year after license issuance, the Licensee shall deposit in an interest-bearing account held by the Licensee and managed by a fiduciary of its choosing pursuant to an escrow agreement that provides for exclusive use of such fund by the Kalispel Indian Tribe (Tribe), funding in an amount to be determined by a scope of work developed by the Tribe and approved by the Licensee for an ethnobiological study to salvage traditional knowledge of plant and animal species affected by the Box Canyon Hydroelectric Project. The Licensee, after consultation with the Tribe, shall report progress made toward completing the study in the annual Report required by Condition No. 1.

13. Recreation Resources [Section replaced by Tribal Recreation- refer to Box Canyon Settlement Agreement Appendix D]

A. Within 60 days of license issuance, the Licensee shall deposit in an interest-bearing account held by the Licensee and managed by a fiduciary of its choosing pursuant to an escrow agreement that provides for exclusive use of such monies by the Tribe, funding in the amount of $457,800 for construction of recreational facilities at the Pow Wow Grounds and the associated Kalispel Boat Launch and at Manresa Grotto Beach. The escrow agreement may be reviewed by the Secretary at his/her option.

B. Each year on or before the anniversary date of license issuance, the Licensee shall deposit in the account described in paragraph (A) funding in the amount of $38,000 for daily operation and maintenance to sustain the facilities in good service and repair over the term of the license and any subsequent annual licenses.

C. Each year on or before the anniversary date of license issuance, the Licensee shall deposit in the account described in paragraph (A), funding in the amount of $19,786 for major maintenance to sustain facilities in good service and repair over the term of the license and any subsequent annual licenses.

D. All funding amounts in this condition are stated in 2002 U.S. dollars and shall be adjusted at time of payment using the Consumer Price Index (CPI) for the appropriate year. All interest earned on these monies shall be made available to the Tribe for purposes of construction, operation, and maintenance of the recreation facilities in accordance with this condition.

E. The Licensee shall conduct recreation use surveys at the above-named recreation sites every 6 years during the term of the license and any subsequent annual licenses.

1. The Licensee shall complete surveys in sufficient time to include the prior year's peak season recreation data in the Licensee's Form 80 submission to the Federal Energy Regulatory Commission.

2. The Licensee shall use on-site observations and interviews to ascertain facility occupancy, use trends and visitor preference information at the above-named recreation sites, and shall include in its surveys a minimum of two non-holiday weekend days, two weekdays in July, and two of the same weekdays in August.

3. The Licensee shall report results of recreation use surveys in Annual Reports for the years in which surveys are completed.

F. If survey results indicate that use levels at the Pow Wow Grounds exceed 90% of capacity, determined by the higher of the two averages for weekdays or weekend day surveyed, the Licensee shall deposit in the account described in paragraph (A) funding in the amount of $49,000 for expansion of facilities at the Pow Wow Grounds.

14. Notice

For purposes of these conditions, whenever the Licensee is required to notify the Secretary of the Interior ("Secretary") or the Kalispel Indian Tribe ("Tribe"), the following shall constitute notice:

A. Written notice to the Secretary or the Secretary's designee or, in the case of the Tribe, written notice to the Tribal Chairman and the Director of the Kalispel Natural Resources Department.

B. In the event of an emergency requiring immediate notice to any of the above, a phone call to the above mentioned parties, as appropriate, followed by written notice required by paragraph (A).

15. Inspection

The Licensee shall allow representatives of the Kalispel Indian Tribe ("Tribe") and the Department of the Interior ("Department") access to, through, and across Box Canyon Hydroelectric Project lands and works for the purpose of inspecting facilities and monitoring data to ensure compliance with license conditions; provided that representatives of the Tribe and the Department show proper credentials, give the Licensee advanced notice of such inspections, and follow the Licensee's standard safety procedure when engaged in such inspections.

16. Secretarial Approval

For purposes of these conditions, whenever the Licensee is required to obtain the approval of the Secretary of the Interior (Secretary), the Secretary may accept or reject, in whole or in part, the Licensee's submission. In the event the Secretary rejects the Licensee's submission, or any portion of it, the Licensee shall have 45 days to resubmit the rejected portion.

17. Consistency with Section 4(e) of the Federal Power Act

The Licensee's performance of all requirements of these conditions shall be consistent with the purposes of section 4(e) of the Federal Power Act, 16 U.S.C.§ 797 (e), to provide for the adequate protection and utilization of the Kalispel Indian Reservation (KIR) and to ensure that the Box Canyon Hydroelectric Project does not interfere or is not inconsistent with the purposes for which the KIR was established.

18. Secretarial Authority

A. Regardless of whether a condition requires review or approval by the Secretary of the Interior (Secretary), the Secretary reserves the authority to review the Licensee's compliance with any requirement of these conditions. In the event that the Licensee is not in compliance with any requirement of these conditions, the Secretary may seek such permissible remedies as provided by the Federal Power Act and other applicable law.

B. The Licensee shall implement, upon order of the Federal Energy Regulatory Commission, such additional measures as may be identified by the Secretary, pursuant to the authority provided in section 4(e), as necessary to ensure the adequate protection and utilization of the Kalispel Indian Reservation.

APPENDIX B

Final (e) TERMS AND CONDITIONS
USDA Forest Service Pacific Northwest Region
January 2005

LICENSE CONDITIONS NECESSARY FOR PROTECTION AND UTILIZATION OF THE COLVILLE NATIONAL FOREST IN CONNECTION WITH THE APPLICATION FOR LICENSED PROJECT NO. 2042, BOX CANYON HYDROELECTIC PROJECT.

I. GENERAL

License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-1 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the USDA Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Colville National Forest. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of National Forest System lands and resources. These terms and conditions are based on those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resources Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of the National Forest System lands shall also be included in any license issued for the Box Canyon Hydroelectric Project (Project).

II. USDA FOREST SERVICE CONDITIONS

Condition No. 1 – Implementation and Modification of USDA Forest Service Conditions

The USDA Forest Service reserves the authority to modify its 4(e) terms and conditions if the term of the new license issued by the Commission exceeds 30 years.

Condition No. 2 - Implementation of Activities on National Forest Lands

The Licensee is precluded from commencing implementation of habitat or ground disturbing activities on National Forest System lands until authorized by the Forest Supervisor according to USDA Forest Service policy in effect at the time the project is undertaken.

Additional National Forest System Lands

If additional National Forest System lands are necessary for project purposes and are not included within the Project boundary, the Licensee shall obtain from the USDA Forest Service a special-use authorization for occupancy and use of those National Forest System lands. Within six months of license issuance and before any habitat or ground disturbing activities, the Licensee shall obtain from the USDA Forest Service and file with the Commission a special use authorization for occupancy and use of National Forest System lands.

Additional lands authorized for use by the Licensee in a new special-use authorization shall be subject to laws, rules, and regulations applicable to the National Forest System. The terms and conditions of the USDA Forest Service special-use authorization are enforceable by the USDA Forest Service under the laws, rules, and regulations applicable to the National Forest System. The special-use authorization also shall be subject to applicable sanctions and enforcement procedures of the Commission at the request of the USDA Forest Service. Should additional National Forest System lands be needed for this Project over the license term, the special-use authorization shall be amended.

Approval of Changes on National Forest System Lands after License Issuance

Notwithstanding any license authorization to make changes to the Project, the Licensee shall receive written approval from the USDA Forest Service to the extent required by law prior to making changes in the location of any constructed Project features or facilities, or in the uses of Project land and waters on or directly affecting National Forest System lands and resources, or any departure from the requirements of any approved exhibits filed by the Licensee with the Commission. Following receipt of such approval from the USDA Forest Service, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the USDA Forest Service for such changes. The Licensee shall file an exact copy of the report with the USDA Forest Service at the time it is filed with the Commission.

Coordination with other authorized uses on National Forest System Lands

Portions of the Project area may be under federal authorization for other activities and permitted uses. After consultation with the USDA Forest Service and before starting any

activity on National Forest System land that the USDA Forest Service determines may affect another authorized activity, the Licensee shall resolve potential conflicts with representatives of those permitted uses.

Site Specific Plans

Site-specific plans will be prepared by the Licensee and approved by USDA Forest Service for habitat and ground disturbing activities on National Forest System Lands required by the license including activities contained within resource management plans required by the license that will be prepared subsequent to license issuance. Site-specific plans for activities will be prepared two years in advance of required implementation dates. Site-specific plans shall include:

1. A map depicting the location of the proposed activity and GPS coordinates.

2. A description of the Colville National Forest Land and Resource Management Plan (Forest Plan) land management area designation for the location of the proposed activity and applicable standards and guidelines.

3. A. description of alternative locations, designs and mitigation measures considered, including erosion control and implementation and effectiveness monitoring designed to meet applicable standards and guidelines.

4. Data collected from surveys, biological evaluations or consultation as required by regulations applicable to ground or habitat disturbing activities on National Forest System lands in existence at the time the plan is prepared.

5. If determined necessary by the Forest Supervisor, an environmental analysis of the proposed action that meets USDA Forest Service requirements for implementing the National Environmental Policy Act (NEPA) in existence at the time the plan is prepared.

Environmental Analysis

For any ground- or habitat-disturbing activities on National Forest System lands required for implementation of any protection, mitigation and enhancement measure, the Licensee shall, when determined necessary by the Forest Supervisor, conduct or fund an environmental analysis, including, but not limited to, scoping, site-specific resource analyses, and cumulative-effects analyses, sufficient to meet the criteria set forth in USDA Forest Service regulations for NEPA in existence at the time the activity is initiated.

Cost Reimbursement

The Licensee shall provide funding to the USDA Forest Service for all costs associated with the analysis, review, inspection and monitoring required to implement habitat and ground disturbing activities on National Forest System lands required by the license including activities contained within resource management plans required by the license that will be prepared subsequent to license issuance. Funding for USDA Forest Service employees involved in the analysis, review, inspection and monitoring of site-specific projects on National Forest System lands required by the new license or as amended shall be through the use of a Collection Agreement or other instrument consistent with USDA Forest Service regulations in effect at the time the project is proposed. Such instrument shall be executed by the Licensee and the Colville National Forest.

Condition No. 3 – Resource Coordination and Monitoring Implementation Plan

Within two years of license issuance, the Licensee shall prepare a Resource Coordination and Monitoring Implementation Plan (RCMP). The plan shall be developed in consultation with and subject to approval by the USDA Forest Service and filed with the Commission. The RCMP shall establish a process for information exchange and coordination of the implementation of license conditions and ongoing Project operations and maintenance activities potentially affecting National Forest System lands and resources. The RCMP shall provide for coordination of the implementation of the various management plans required under the new license, such as, but not limited to: historic properties management, integrated weed management, fish and wildlife management, sensitive species management, recreation resource management, monitoring, erosion control and other resource protection plans. The plan shall require the Licensee to:

1. Ensure timely consultation and coordination with the USDA Forest Service and other state and federal agencies, and Tribal governments concerning ongoing Project-related activities.

2. Document the requirements, tasks, methods and reports related to monitoring the effects of Project operations and facilities on natural and/or social resources and effectiveness of protection, mitigation and enhancement measures where that monitoring is required by USDA Forest Service terms and conditions or plans.

3. Provide a mechanism for revising implementation strategies and methods to reflect improvement in sampling procedures and/or changes in regulations or environmental conditions.

4. Identify practices for record keeping and annual reporting.

5. Include provisions for the routine updating of the implementation plan including incorporation of monitoring measures identified in site-specific plans prepared under the requirements of USDA Forest Service Condition No. 2.

6. Develop a process to assure that this monitoring is coordinated with other activities and agencies.

7. Hold at least one meeting annually with the USDA Forest Service and other agencies to evaluate the past-years activities, to develop a proposed implementation schedule for the next three years, and to finalize an implementation schedule for the upcoming year's activities. Minutes of the annual meeting shall be provided to the participants by the Licensee and filed with the Commission.

8. Develop a field manual identifying standard operating procedures that field personnel and contractors of the Licensee shall follow while conducting activities on National Forest System lands.

9. Identify a process to resolve disagreements regarding the implementation of the RCMP. Designate an Environmental Coordinator to coordinate the implementation of the RCMP and Licensee activities with the USDA Forest Service.

Condition No. 4 – Project Boundary

No later than two years from the date Federal Energy Regulatory Commission issues a new project license, the Licensee shall ensure that any part of the project's boundary on National Forest System land is 1) agreed to by the USDA Forest Service, 2) located on the ground with monuments tied to known corners of the Public Land Survey System, and 3) encompasses necessary land for project purposes such as public recreation, shoreline control, and environmental resource protection.

Condition No. 5 – Boundary Survey

Within three years of license issuance, the Licensee shall re-establish the Public Land Survey Meander Corners, or establish witness corners governing National Forest System property boundaries within and adjacent to the Project area. The corners, which need to be re-established, are identified in Exhibit 1 to Condition No. 4. The Licensee shall also survey, mark and post to USDA Forest Service standards and specifications those National Forest System lands adjacent to the Project, as identified in Exhibit 1. The Licensee shall be responsible for all USDA Forest Service administrative costs associated with surveying, marking and posting of National Forest System lands identified in Exhibit 1.

Exhibit 1
Condition No. 4 – Boundary Survey
Willamette Meridian

Legal Description	***Meander Corners***	Survey and Post
T38N, R43E Section 19	1. North of ¼ Corner common to sections 19/20 2. North Line of section	Government Lot 6
T38N, R43E Section 20	-	South Line between ¼ Corner and Meander Corner
T37N, R43E Section 33	1. North Line 2. South Line	Government Lots 1, 4, 5 and 8
T36N, R43E Section 15	1. North Line 2. South Line	Government Lots 5 and 8
T36N, R43E Section 22	1. North Line 2. South Line	Government Lot 1
T35N, R44E Section 7	-	Government Lot 4
T35N, R44E Section 19	-	1. North Line of NE1/4NE1/4 2. East Line between ¼ Corner and Meander Corner 3. Government Lots 1 and 2
T35N, R44E Section 20	-	Government Lot 3
T35N, R44E Section 29	South Line	South Line of Government Lots 4 and 5
T34N, R44E Section 18	1. North Line 2. South Line 3. West Line	Government Lot 5
T31N, R45E Section 12	East Line	-
T31N, R45E Section 13	1. North Line 2. East Lines	North and East Lines NE1/4

Condition No. 6 – Historic and Archaeological Properties [Section replaced by Box Canyon Settlement Agreement Appendix B]

In addition to complying with all federal and state cultural resource protection laws, the Licensee shall:

Within 1 year of license issuance prepare a Heritage Properties Management Plan (HPMP) in consultation with and approved by the USDA Forest Service and file the plan with the Commission. The Licensee shall implement the plan for all actions on National Forest System lands which shall require, at a minimum, that the Licensee:

Within 1 year of license issuance, perform formal determinations of effects from continued project operations on all eligible historic properties located on National Forest System lands, and submit determinations of effect to the USDA Forest Service and Washington State SHPO for review and concurrence.

Within 3 years of license issuance, provide for the stabilization, protection, restoration, and data recovery or mitigation of currently known damage and future damage to eligible historic properties on National Forest System lands as identified in the APE. These sites include, but are not limited to, 45PO149, 45PO150, 45PO185, 45PO491, and CNF-517. Mitigation shall meet USDA Forest Service standards, and conservation archaeology shall be applied whenever possible. The HPMP shall require that all proposed mitigation work shall be reviewed and approved by the USDA Forest Service.

Within 2 years of license issuance, implement the schedule for data recovery of known eligible historic properties, which will be part of the HPMP.

Within 7 years of license issuance, provide for the nomination of eligible historic properties to the National Register of Historic Places. Nomination may be accomplished though inclusion of Colville National Forest eligible historic properties within a larger Historic District encompassing the entire Project boundary.

Provide for curation of materials recovered from eligible historic properties located within the Area of Potential Effect (APE) that meets the curation standards for artifacts recovered from historic properties as defined in 36 CFR 79.

Provide for curation of materials previously recovered from 45PO149 and 45PO150, including materials currently located at Washington State University and materials located at the Colville National Forest.

Provide for public outreach and interpretation as required by the Archaeological Resources Protection Act. Within 3 years of license issuance, in consultation with and approved by the USDA Forest Service, the Licensee shall complete an Interpretation and Education (I&E) Plan that will include, at a minimum, designs and an implementation

schedule for the Licensee's new interpretive displays, brochures and public outreach and interpretation which shall begin within 5 years of license issuance and continue for the term of the license. The Licensee shall file the I&E Plan with the Commission and implement the plan.

Provide for the cost of operations, maintenance, and any replacement costs for the Pioneer Park Campground interpretive trail and for the Panhandle Campground interpretive kiosk. This shall include any new interpretive displays located on National Forest System lands.

Provide for the development and implementation of a monitoring program that shall include annual monitoring of known historic properties (both eligible and not eligible). Annual monitoring shall consist of, at a minimum, visiting each eligible historic property to ascertain efficacy of mitigations and/or possible effects to eligible properties, and to evaluate non-eligible historic properties to determine if conditions indicate a need for eligibility re-evaluation. Historic properties identified as looted shall require monitoring on intervals that shall be determined between the Licensee and the USDA Forest Service on a site-specific basis.

The monitoring program shall provide for a process, at an interval of no greater than 5 years, to determine the efficacy of mitigation measures and treatment plans. These evaluations shall be included in the subsequent annual report.

The monitoring program shall also provide for coordination with the Erosion Monitoring Plan and the Erosion Control Prevention and Remediation Plan in the development and implementation of provisions for erosion monitoring of historic properties.

Provide a schedule for completing all actions required in the HPMP.

Provide for the development and implementation of a process, which ensures protection of, and resolves any adverse effects upon, historic properties that may be discovered during the life of the license.

Provide that undertakings in response to other USDA Forest Service terms and conditions (Resource Coordination and Monitoring Implementation Plan) which affect or may affect eligible historic properties on National Forest System lands be implemented in a way that addresses the undertaking in an interdisciplinary manner and insures compliance with NHPA Section 106.

Provide development and implementation standards and oversight protocol.

Provide for designation of a HPMP coordinator.

Provide for development and implementation of a method and protocol for dispute resolution.

Provide for pre-disturbance inventories in areas slated for ground disturbance in the APE.

Provide for periodic review and/or revision of the HPMP that addresses, at an interval of no greater than every 5 years:
Changes in technology over time,
New knowledge about historic property conditions or effects, or
Changes in site eligibility as defined by regulation.

Provide an annual report that describes the progress of mitigation measures and treatment plans, records the findings of historic properties monitoring, and assesses the effectiveness of the HPMP. The annual report shall also address and include all information that is pertinent to each part of the HPMP that is implemented within that reporting period.

Provide a process for managing human remains discoveries, which shall insure that the USDA Forest Service be immediately informed of the discovery of any human remains, funerary items, sacred objects or objects of cultural patrimony, as defined in Native American Graves Protection and Repatriation Act (NAGPRA) and implementing regulations (43 CFR 10), discovered on National Forest System lands within the APE.

Provide for confidentiality of the nature and location of historic properties as required by ARPA.

Provide for coordination with the Erosion Monitoring Plan and the Erosion Control Prevention and Remediation Plan in the development and implementation of provisions for these Plans as they may affect historic properties. Monitoring shall include all historic properties, regardless of their eligibility.

Condition No. 7 – Recreation Management Plan [Section replaced by Box Canyon Settlement Agreement Appendix C]

Within one year of license issuance, the Licensee shall develop a Recreation Resource Management Plan (RRMP) which includes National Forest System lands and facilities within or adjacent to the Project. The RRMP shall be developed in consultation with and approved by the USDA Forest Service and filed with the Commission. The Licensee shall implement the RRMP and update it every six years in conjunction with filing the Commission's Form 80.

The RRMP shall include an annual implementation schedule, consultation and approval procedures, and shall require that:

1. Within six years of license issuance, provide for the rehabilitation of disturbed areas between County Road 9325 and the reservoir while leaving pull-off parking for at least 5 vehicles at:

- The old Ruby Ferry Landing area (T35N, R44E, Section 19)
- The area north and adjacent to Panhandle CG (T35N, R44E, Sections 20 and 29)

2. Within one year of license issuance the Licensee shall, either by itself, or through annual contributions provide for the operations, maintenance and replacement of overnight facilities at Edgewater, Panhandle and Pioneer Park. If the Licensee chooses to contribute funds annually to the USDA Forest Service, it shall be at a rate of 30 percent of the USDA Forest Service costs to operate and maintain those facilities until the study required by item 4 (below) is completed. Contributions shall be based on the cost of maintaining the sites to the Development Scale 4 to attain National Quality Standards for USDA facilities as generally described in Appendices B and H of the USDA Forest Service Recreation, Heritage and Wilderness Resources Integrated Business Systems (USDA 2004) as amended over the license term.

3. Within one year of license issuance the Licensee shall, either by itself, or through annual contributions provide for the operations, maintenance and replacement of day use facilities at Edgewater, Panhandle and Pioneer Park. If the Licensee chooses to contribute funds annually to the USDA Forest Service, it shall be at a rate of 80 percent of the USDA Forest Service costs to operate and maintain those facilities until the study required by item 4 (below) is completed. Contributions shall be based on the cost of maintaining the sites to the Development Scale 4 to attain National Quality Standards for USDA facilities as generally described in Appendices B and H of the USDA Forest Service Recreation, Heritage and Wilderness Resources Integrated Business Systems (USDA 2004) as amended over the license term.

4. In the event that the Licensee elects not to assume responsibility for operation, maintenance and replacement of day use and overnight facilities at Edgewater, Panhandle and Pioneer Park, the Licensee shall develop and implement a 3-year study to more accurately establish the percentage of overnight camping and day use at National Forest facilities that is Project related. The study shall be designed in consultation with and approved by the USDA Forest Service. The study shall be completed by the end of the 5th anniversary of the date of the new license with data ready to modify the RRMP in year 6 of the new license. After completion of the study, the Licensee shall contribute funds annually to the USDA Forest Service for that percentage of project related operation and maintenance established by the study starting in year 7 of the new license for the remainder of the new license term.

5. The Licensee provide for future recreation needs and demands on National Forest System lands and related to the Project by:

a. Within one year of license issuance, developing and implementing an on-going monitoring process for evaluating recreation use at National Forest facilities, and recreation user preferences and trends within the Project area. This process will incorporate results from USDA Forest Service annual site visitation records and the National Visitor Use Monitoring Project (NVUM, www.fs.fed.us/recreation).

b. Providing for management strategies, facilities, and/or programs, as determined by the USDA Forest Service, to address impacts to National Forest System lands when monitoring required by 5(a) shows that average use levels over a 3-year period at any individual National Forest facility exceed 40 % of the capacity during the Managed Season of Use and 90% of the capacity during the Peak Use period (weekends during the July 1 to Labor Day period and intense-use holidays).

Contributions by the Licensee to provide for operation and maintenance may be adjusted, upon approval of USDA Forest Service, based on the actual costs to provide that operation and maintenance on an annual basis, or as otherwise agreed to by the Licensee and USDA Forest Service. For example, in the event the USDA Forest Service or its concessionaire collects fees at Edgewater, Panhandle or Pioneer Park and Congressional authorization exists to retain such fees, funds collected, less overhead, retained and expended at the respective sites by USDA Forest Service, may commensurately reduce the Licensee s annual obligation at the site at which fee revenues are expended.

All capital improvements and activities on National Forest System lands are subject to site specific planning in accordance with Condition No. 2 - Implementation of Activities on National Forest System Lands.

Condition No. 8 – Erosion Monitoring Plan

Within one year of license issuance, the Licensee shall develop and begin implementation of an Erosion Monitoring Plan specific to National Forest System lands within and adjacent to the Project boundary for the term of the new license. The objective of this monitoring plan is to identify the location, extent and types of Project -caused and Project -exacerbated erosion processes on National Forest System lands. The plan shall be developed in consultation with, and approved by the USDA Forest Service, and filed with the Commission.

The plan shall require the Licensee to:

1. Develop the Erosion Monitoring Plan in cooperation with the USDA Forest Service.

2. Submit the plan to a peer review process approved by the USDA Forest Service.
3. After peer review, the USDA Forest Service will have final approval of the plan for National Forest System lands.

Objectives: The objectives of the plan shall be similar to the monitoring plan filed as Appendix E-8-2 in the FLA, as amended by the response to the 2001 Additional Information Request. Additional wording shall be added to the objectives to ensure that data collection and analysis addresses the effects of Project operations, primarily water surface elevation and flow, on erosion processes.

Site Selection: Monitoring shall include, but not limited to, sites of undercutting, bank toppling, dry ravel, rill erosion on steep unvegetated and poorly vegetated terrace escarpments, and areas with other resource concerns such as recreation, heritage, noxious weeds, and sensitive plants. Sites selection shall also consider reservoir characteristics such as morphology and geometry, and shoreline characteristics such as bank stratigraphy and texture. Transects shall extend to the location of the lowest water elevation during the past 10 years. The location of monitoring sites shall be approved by the USDA Forest Service prior to installation of any monitoring device or markers.

Site Documentation: As a minimum, site documentation shall include:

1. A paper map, at an agreed-upon scale, displaying the locations of the monitoring sites on National Forest System lands, and an electronic map compatible with the Geographic Information System (GIS) used on the Colville National Forest.
2. GPS coordinates so the sites can be reestablished in the event they are damaged.
3. Photographic documentation of each site.
4. Description of the overall setting including, but not limited to, the stratigraphy, composition of the shoreline material, slopes, reservoir width, and the reservoir setting.

Measurement Frequency: Transects shall be measured at least twice annually, once following the annual high flow, and again in late fall to record changes occurring at lower flows. Different timing may be approved by USDA Forest Service based on adequate rationale.

Methods: Erosion-monitoring techniques and methods, shall be adequate to identify and record erosion caused or exacerbated by Project operations. Specifically:

1. The method shall be able to record subtle shoreline changes, in the order of magnitude of 1 inch. This is the order of magnitude of change observed in

the undercutting and raveling slopes found on National Forest System lands near Edgewater Campground.

2. The method shall be capable of recording changes in undercut vegetation, such as observed on National Forest System lands at Ruby Ferry.

Reporting Frequency: The Licensee shall annually provide the USDA Forest Service with the results of the monitoring. A more comprehensive report will be provided to USDA Forest Service at 5-year intervals.

Report Content: Annual reports shall, at a minimum, include:

1. Individual profile data for each profile on National Forest System lands, including elevation information so the data can be compared to water surface elevation and flow data for the monitoring period,
2. Water surface elevation and flow data for the monitoring period,
3. Photographic documentation of site conditions when measured,
4. Observations including erosion processes and general site conditions (e.g., evidence of recreation or wildlife activities, changes in the nearby shoreline, etc.).

The 5-year reports shall, at a minimum, include:

1. Documentation of changes in bank profile (erosion) for each site over the monitoring period.
2. For individual sites, a comparison of erosion rates and locations with water surface elevation and flow regimes during the monitoring periods.
3. A comparison of changes in bank profile between similar sites (e.g., Erosion Occurrence class, Erosion Hazard class, bank height, cohesion of bank material, vegetation, river width, etc.).
4. Discussion addressing how erosion monitoring data may be used to refine the erosion occurrence and hazard mapping on National Forest System lands.
5. Discussion addressing how the erosion monitoring data may help illuminate the impact of the Project on erosion processes.
6. An update the Shoreline Erosion Hazard and Occurrence map for National Forest System lands.

Condition No. 9 – Erosion Control, Prevention and Remediation Plan

Within 3 years of license issuance, the Licensee shall develop and begin implementation of an Erosion Control, Prevention and Remediation Plan (ECPRP) specific to National Forest System lands adjacent to BCR, for the term of the new license. The objective of the ECPRP is to reduce or eliminate Project -caused and Project -exacerbated erosion of

National Forest System lands. The plan and all updated plans shall be developed in consultation with and approved by the USDA Forest Service and filed with the Commission.

The plans shall include site-specific procedures, measures and actions the Licensee shall undertake to control, prevent, or remediate shoreline erosion on National Forest System lands in order to protect public resources, and meet soil productivity and other standards contained in the Colville National Forest Land and Resource Management Plan, as amended.

National Forest System Sites to be Addressed in the Initial Plan: Within 3 years following issuance of the license, the Licensee will prepare and implement and Initial Erosion Control, Prevention and Remediation Plan for the following sites on National Forest System lands:

1. Edgewater Campground. T. 38N, R. 43E, Section 32. About 2,000 linear feet of moderate to high streambank, classified by the Licensee as "Slow" and "Moderate" erosion occurrence. These slopes clearly show undercutting at the elevation at which the reservoir water surface is held through most of the summer. This undercutting is accompanied by ravel and calving. Some undercutting of vegetation is occurring. The eroding slope is located adjacent to a developed campground.
2. Ruby Ferry. T. 35N, R. 44E, Section 19. On this 4,800 ft. of shoreline, PUD classified erosion occurrence as "Moderate" and "Slow". The soils are fine-sands and silt. The terraces are low (<10'), and the primary erosion is undercutting of dense vegetation followed by toppling. The eroding slope is located adjacent to a dispersed recreation site, and other sensitive resources.

Contents of the initial and subsequent Plans: Site specific plans will be developed for each site. These plans will:

1. Contain maps, drawings and descriptions of the proposed treatments, including access routes, and any storage or staging areas,
2. Utilize the best available scientific and engineering technology available consistent with the uses and emphasis of the National Forest System lands.
3. Document integration with other resource protection requirements including, but not limited to,
    a. Wildlife and sensitive plants, including any consultation required under the Endangered Species Act,
    b. Heritage resources, including any consultation required under the NHPA,

c. Vegetation and noxious weeds, including a revegetation plan, and any requirements under the Guide to Seeding and Planting Vegetation on the Colville National Forest (2000), the Colville National Forest Weed Prevention Guidelines (1999), the USDA Forest Service Guide to Noxious Weed Prevention Practices (undated), and any applicable noxious weed or invasive plant environmental assessments or environmental impact statements,
d. Water quality, including the development and use of appropriate Best Management Practices for the protection of water quality.

4. Contain analysis and documentation, as required, by USDA Forest Service Term and Condition Number 2.
5. A description of site characteristics such as soil stratigraphy, and current hydraulics. Collected data will be precisely located and available for river model applications appropriate for assessing changes in hydraulic factors such as shear stress, river velocity, and sediment transport potential.
6. A site-specific effectiveness monitoring plan.

Periodic Review and Revised Plans: Within 5 years following issuance of the license, and at least every 5 years thereafter, the Licensee with meet with the USDA Forest Service to review the periodic results from the Erosion Monitoring Plan (USDA Forest Service Condition 8). Based upon monitoring results, and other evidence, the USDA Forest Service will identify other areas where the Project is causing or exacerbating shoreline erosion on National Forest System lands. The Licensee will prepare a revised ECPRP to address these new sites. The revised plans shall emphasize treatment of sites with active erosion and/or where significant public resources (recreation, wildlife, sensitive plants, heritage) are at risk.

Condition No. 10 – Spill Prevention and Control, and Hazardous Materials Management

Within one year of license issuance and before starting any habitat or ground disturbing activities on National Forest System lands, the Licensee shall prepare a plan for hazardous materials storage, spill prevention and cleanup. This plan shall be prepared in consultation with and approved by the USDA Forest Service and filed with the Commission. The plan shall be in compliance with 40 CFR Part 112, and shall include at a minimum, an implementation schedule, inspection and maintenance program, and evidence of consultation with and approval by the Washington Department of Ecology and the USDA Forest Service. The plan shall require the Licensee to:

1. Locate storage facilities for oil, fuel and toxic and hazardous materials so as to prevent any spillage into waters or channels leading into water.
2. Develop containment areas with berms and impervious surfaces as needed.

3. Maintain a supply of spill cleanup equipment in the Project area suitable to contain any spill from the Project or storage area.
4. Annually inform the USDA Forest Service of the location of any spill cleanup equipment on National Forest System lands and of the location, type and quantity of oil, fuel, and toxic and hazardous substances stored in the Project area.
5. Inform the USDA Forest Service immediately of the nature, time, date, location, and action taken for any spill.
6. Maintain the capability to respond to a hazardous material or waste spill within 24 hours or less.
7. Dispose of and remove from federal lands, in accordance with state and federal requirements and regulations, all hazardous and toxic waste materials, including lead based paint, solvents and asbestos waste materials.

Condition No. 11 – Sensitive Species Management

Sensitive Species Consultation Plan

Within one year of license issuance and prior to any habitat improvements or ground disturbing activities on National Forest System lands, the Licensee shall prepare a Sensitive Species Consultation Plan. This plan shall be developed in consultation with and approved by the USDA Forest Service, and filed with the Commission. The plan shall identify how the Licensee shall consult with the USDA Forest Service to address the potential effects of Licensee activities to plants and animals identified on the Regional Forester's Sensitive Species List. The plan shall require the Licensee to:

1. Describe the process the Licensee shall follow to determine when field surveys, biological evaluations/ assessments, and monitoring shall be undertaken to assess whether proposed changes in Project operations, habitat improvements, or ground disturbing activities, could potentially affect sensitive species on National Forest System lands.
2. Establish standards for field surveys (protocols, sighting forms, etc.). Maintain a record of sensitive species occurrences in the Project area, and provide a mechanism for sharing this information with the USDA Forest Service.
3. Ensure that biological evaluations /assessments are completed according to USDA Forest Service policy and include mitigation to avoid or minimize adverse effects to sensitive species, if necessary.
4. Ensure that measures used to reduce adverse effects to sensitive species will be implemented and monitored for their effectiveness.
5. Periodically review and update the plan as species are added to or removed from the sensitive species list, or as new information pertaining to managing the species is obtained. Updates to the plan shall be completed in

consultation with and approved by the USDA Forest Service and submitted to the Commission for approval.

Sensitive Plant Survey and Protection

1. Within one year of license issuance, the Licensee shall provide USDA Forest Service all their sensitive plant survey data including maps of areas surveyed and methods used.
2. Within two years of license issuance, the Licensee shall complete additional surveys on National Forest System lands for Nuttall's pussytoes, black snake-root, purple meadowrue, Canadian St. John's-wort, prairie cordgrass, and adder's tongue, and provide the survey results to USDA Forest Service. Surveys shall be conducted according to USDA Forest Service protocols in effect at the time the surveys are undertaken and completed at the appropriate time of year to positively identify these species.
3. The Licensee shall monitor and protect sensitive plant populations on National Forest System lands that are potentially affected by Project - induced erosion and related noxious weed infestations. Monitoring and reporting schedules and protection measures shall be developed in consultation with and approved by the USDA Forest Service.

Condition No. 12 – Cottonwood and Wet Shrub Habitats

Habitat Protection / Restoration

Within three years of license issuance, the Licensee shall provide for the protection / restoration of at least 14 acres of cottonwoods and at least 11 acres of riparian shrub habitat in the Project area. Lands owned by the Licensee may be used for this purpose, but shall not include their wildlife management areas (WMAs) purchased to meet the terms of the Settlement Agreement. Protected / restored lands shall be dedicated to wildlife habitat over the term of the new license. To the extent possible, lands shall be protected / restored in one block. Additional acreage of cottonwoods may be substituted for riparian shrub habitat.

Within one year of dedicating the above property, the Licensee shall develop and implement a site-specific habitat management plan. The plan shall be developed in consultation with and approved by the USDA Forest Service and filed with the Commission. The plan shall detail how the parcel will be managed to maintain, restore, or promote mature habitat conditions by the end of the new license term. Effectiveness monitoring shall be incorporated into the plan to determine whether management is creating habitat components for beavers, cavity excavators, raptors, great blue heron, migratory songbirds and sensitive plants.

Cottonwood Restoration on National Forest System Lands

The Licensee shall restore three acres of cottonwoods on National Forest System lands in the Project area. Cuttings and / or rooted stock will be collected locally and planted. The Licensee shall monitor survival of plantings annually for a minimum of five years, or as long as necessary to achieve an 80% survival rate. If 80% survival is not achieved, the Licensee shall conduct additional replanting and / or protect plantings from moderate to severe hedging until this objective is achieved. The Licensee shall cage existing young cottonwoods present in the habitat to be restored in order to protect them from browse damage and assist in the restoration effort.

Maintenance of Alternate Mature Tree Habitat on National Forest System Lands

The Licensee shall complete habitat improvements on National Forest System lands to enhance or maintain alternate mature tree habitat (conifers) for bald eagles and other wildlife species within the Project area. All improvements shall be completed in coordination with and approved by the USDA Forest Service. In general the Licensee shall:

- Remove trees from 0 - 6" dbh from around large (20+" dbh) ponderosa pines growing within the Riparian Habitat Conservation Area (RHCA) of the Project area. This treatment shall occur within an area extending from the tree bole to 10 feet beyond the drip line of each tree.
- Plant widely spaced ponderosa pine trees in upland openings or other areas where over-story trees are lacking within the RHCA,
- Pre-commercially thin (14' x 14'spacing) or under-burn through conifer stands located within the RHCA.
- Create snags from selected live conifers. Trees will be selected so as to reduce competition for neighboring dominant trees (alternate mature tree habitat). Treatments could include chainsaw topping, top girdling, or stem inoculation. Preferred species to treat will be lodgepole pine and western larch.

Exhibit No. 1 to Condition Number 12 displays habitat improvements to be completed on National Forest System lands within the Project area.

Exhibit 1

Condition No. 12 – Cottonwood and Wet Shrub Habitats

Activity	Units	Initial Treatment	Follow-up Treatment
Plant cottonwoods	3 acres	within 5 years of license issuance	As needed to produce target acreage within 15 years
Cage existing cottonwood seedlings/saplings	50 cages	within 5 years of license issuance	Move cages as needed
Pre-commercial thin around large pines	17 trees	within 5 years of license issuance	Re-treat 15 years after license issuance if necessary
Plant pine trees	100 trees	within 5 years of license issuance	Monitor and evaluate the need for replanting as stated below
Pre-commercial thin and /or underburn	24 acres total	within 5 years of license issuance	Re-treat 20 years after license issuance if necessary
Create snags	17 trees	within 5 years of license issuance	Create an additional 17 trees 15 years after license issuance
Monitoring	snags/perch trees – monitor use twice annually (once in winter, once in nesting season) for ten years. plantings – monitor annually until survival standards are met. Also, evaluate the need for caging or replanting. caging – monitor annually as needed, evaluate the need to move cages to smaller plants as necessary. thin/underburn – monitor for two years after treatment, evaluate the need to repeat treatment after 20 yrs.		

Condition No. 13 – Bald Eagle/Osprey/Cormorant/Heron Monitoring

The Licensee shall conduct or provide funding for a qualified wildlife biologist(s) to annually survey nests of bald eagles, osprey, double-crested cormorants, and great blue herons within the Project area. Within one year of license issuance the Licensee shall develop a monitoring plan in consultation with and approved by the USDA Forest Service to guide these activities. Monitoring shall include nest use and productivity,

specific searches for new nests, and any pertinent field observations related to resource partitioning / competition between cormorants and the other species.

The Licensee shall complete an annual report that includes the above data, as well as the population status of each species across the Project area. Monitoring reports shall be provided to the USDA Forest Service within 60 days of the end of the calendar year.

If monitoring reveals that cormorants are increasing in the Project area with a coincident, threshold reduction in any of the other species, the Licensee shall consult with the USDA Forest Service on these findings, and assist in determining the specific direct or indirect effects the cormorants are having on the other birds (if any), and what measures should be taken to mitigate those impacts. If mitigation measures are needed to reduce affects to the other species, the Licensee shall undertake any that are related to habitat enhancement for the affected species within the Project area (such as the creation of supplemental nest or perch sites).

Condition No. 14 – Native Amphibian Habitats

The Licensee shall create or restore at least 60 acres of amphibian habitats on existing wildlife management areas (WMAs) or other Licensee-controlled lands. Created wetlands / ponds shall be designed to incorporate water control devices that allow water levels to be drawn down in the winter, thereby reducing non-native bullfrog populations that compete with and predate native frogs.

The Licensee shall consult with the USDA Forest Service to finalize the wetland creation and enhancement measures described in the draft Wildlife Management Plans for the Everett Island and Tacoma Creek WMAs. The sections of these plans dealing with the constructed wetlands shall include detailed topographic maps; hydrologic information and design drawings showing the water control features; the consideration of complete or nearly complete draw downs to impair bullfrog production in the ponds; proposed vegetation plantings in plan view and cross-section; and detailed information about operation, maintenance, monitoring methods, schedules and budgets.

The Licensee shall conduct or fund a qualified wildlife biologist to evaluate the habitat in created or restored wetlands / ponds using the pond breeding HSI model. The Licensee shall monitor amphibian populations at the sites using methods such as annual egg mass counts and nighttime call surveys in the spring, and /or summer or late fall funnel trapping. The Licensee shall also monitor the effectiveness of water level draw down in order to determine how best to manage the sites to promote native amphibians.

Condition No. 15 – Fish Passage

The Licensee shall meet all requirements and timelines prescribed for fish passage by the Department of Interior through the United States Fish and Wildlife Service (USFWS)

under Section 18 of the Federal Power Act.

The USDA Forest Service reserves the right to issue terms and conditions in coordination with appropriate federal and state fisheries managment agencies for volitional fish passage at Box Canyon Dam and Calispell Creek under Section 4(e) of the Federal Power Act.

Condition No. 16 - Water Quality

The Licensee shall meet all water quality standards required by the Clean Water Act in accordance with the water quality certification issued by Washington Department of Ecology (WDOE), or other authorized entity, under section §401 of the Clean Water Act.

The USDA Forest Service reserves the right to issue terms and conditions, in coordination with appropriate state, federal and tribal entities, for water quality standards in compliance with the Colville National Forest Land and Resource Management Plan and the Clean Water Act for the Box Canyon Hydroelectric Project under Section 4(e) of the Federal Power Act.

Condition No. 17 –Management of Non-Native Aquatic Vegetation

Within one year of license issuance, the Licensee shall prepare an Aquatic Plant Management Plan in consultation with the USDA Forest Service and approved by the USDA Forest Service and file the plan with the Commission. The plan shall address the control of Eurasian water milfoil (EWM), within BCR and the prevention of the spread of this vegetation to other water bodies on National Forest System lands. This plan shall include: control actions, an implementation schedule, and a monitoring plan for evaluating effectiveness of proposed actions. The plan shall require the Licensee to:

1. Develop, fully fund and implement a schedule for the rotovation to control Eurasian watermilfoil along the edge of BCR, at a minimum, at all public boat ramps and access points. Rotovation shall include the removal of the aquatic vegetation uprooted within the affected area along the shoreline and disposal outside of the reservoir at sites approved through consultation with the USDA Forest Service and others.

2. Fully fund and implement as necessary, other actions to supplement rotovation. These actions, may include, but would not be limited to, supplementation of predatory weevils, hand pulling EWM plants with divers and establishing vegetation barriers adjacent to public boat ramps and access points.

3. Develop, fully fund and implement a monitoring plan to determine the ffectiveness of any implemented treatment as a means to reduce the density

of EWM plants within treatment areas. Monitoring would include measuring density and composition of aquatic weed beds before and after treatment. If, after 5 years of operation within the new license period, monitoring indicates that rotovation with removal is not effective at reducing the density of this noxious weed, other methods, such as limited, moderate drawdown of the reservoir or some agreed-upon other means of control, would be implemented as a viable alternative for control.

4. Develop and implement an ongoing public education and signing plan for the Project area to educate the public about the dangers of spreading water milfoil to other waters.

5. Update the plan at least every 5 years incorporating improved technology for the control or eradication of EWM. This update shall be in consultation with and approved by the USDA Forest Service and other involved parties.

Condition No. 18 – Integrated Weed Management

Within one year of license issuance the Licensee shall prepare and implement an Integrated Weed Management Plan (IWMP) in consultation with and approved by USDA Forest Service and file the plan with the Commission. The plan shall require the Licensee to:

1. Identify and implement methods for prevention of noxious weeds on National Forest System lands directly or indirectly affected by Project-related activities and operations. Methods shall include education, minimizing transportation of weed seed, incorporation of seed prevention measures into project planning and design, minimizing ground disturbance and exposure of mineral soil, and revegetation of disturbed areas. Methods identified shall conform to the Colville National Forest Weed Prevention Guidelines and any subsequent forest, agency or regional guidelines or direction concerning the management or prevention of noxious weeds and other unwanted or alien plants.

2. Control noxious weeds in accordance with the Colville National Forest Environmental Assessment for Integrated Noxious Weed Treatment on National Forest System lands within and directly adjacent to the river, including those areas affected by Project-related dispersed recreation.

3. Ensure that all weed management activities are coordinated with other agencies responsible for noxious weed management in accordance with applicable Washington State law.

4. Conduct cooperative efforts for the prevention and control of noxious weeds on non-National Forest System lands to reduce the chances for establishment of noxious weeds on National Forest System lands.
5. Provide for annual surveys of National Forest System lands adjacent to BCR for the identification of new invader species within the Project area, and annually identify and implement control measures for these occurrences.
6. Explain how the Licensee's weed management activities, including re-vegetation and vegetation control methods and materials meet objectives for integrated noxious weed management, erosion control, wildlife habitat, sensitive plant species management and other management direction.
7. Develop a monitoring program to evaluate the effectiveness of re-vegetation, vegetation control, and noxious weed control measures.

Condition No. 19 – Borrow and Quarry Pits

The Licensee shall consult with and receive approval from the USDA Forest Service prior to conducting any activities relating to the excavation and removal of soil and rock materials from National Forest System lands. Use and development of borrow and quarry pits shall be in accordance with the *Colville National Forest Rock Resource Management Plan*. This activity shall be accomplished in accordance with Condition No. 2 – Implementation of Activities on National Forest System Lands.

APPENDIX C

U. S Department of the Interior
Fish and Wildlife Service
Modified
Prescriptions for Fishways Pursuant to Section 18
of the Federal Power Act
[Section replaced by DOI Conditions - Fishways; refer to Box Canyon Settlement Agreement Appendix C]

1.0 Prescription for Fishways[3]

Pursuant to Section 18 of the Federal Power Act (16 U.S.C. 811), the Secretary of the Interior hereby prescribes the construction, operation, and maintenance of fishways at the Box Canyon Hydroelectric Project No. 2042-013, including Box Canyon Dam and the Calispell Creek Pumping Plant, as follows:

1.1 General Prescriptions for Fishways at Box Canyon Dam

The following general conditions for the fishway apply to construction, operation, and maintenance of an upstream and downstream fishway in the Pend Oreille River at Box Canyon Dam, and are prescribed to ensure the effectiveness of the fishways pursuant to Section 1701 (b), of the 1992 National Energy Policy Act (P.L. 102-486, Title XVIII, 106 Stat. 3008):

A. The Department of the Interior (Department), through the Fish and Wildlife Service, reserves the authority to modify these conditions for the fishways at any time before license issuance, as well as any time during the term of the license, after review of new information.

B. The Department, through the U.S.A. Fish and Wildlife Service, retains the right to review and approve all final fishway plans and specifications prior to construction.

C. The Licensee shall ensure maximum effectiveness of fishway(s) at Box Canyon Dam consistent with hydropower operations as approved by the Federal Energy Regulatory Commission as needed to accommodate upstream and downstream passage for bull trout, westslope cutthroat trout, and mountain whitefish (collectively; "*target fish species*").

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[3] By letter dated May 20, 2004

D. The Licensee shall keep the fishways in proper working order and shall keep all fishway areas clear of trash, sediment, logs, debris, and other material that would hinder passage. Anticipated maintenance shall be performed in sufficient time before migratory periods such that the fishway can be tested and inspected and will operate effectively prior to and during the migratory periods.

E. Upon request, the Licensee shall provide personnel of the U.S. Fish and Wildlife Service, U.S. Forest Service, the Kalispel Indian Tribe, and the Washington Department of Fish and Wildlife access to the Box Canyon Hydroelectric Project site and to pertinent Project records for the purpose of inspecting the fishways to determine compliance with these conditions for the fishway.

1.2 Specific Prescriptions for Upstream Fishways at Box Canyon Dam (BCD)

The following conditions are prescribed for construction, operation and maintenance of upstream fishway(s) at Box Canyon Dam to provide effective (safe and timely) passage of juvenile, sub-adult and adult bull trout, westslope cutthroat trout, and mountain whitefish of or in excess of 100 mm (~ 4.0 inches) in total length.

1.2.1 Box Canyon Dam (BCD) Temporary Upstream Fishway

1.2.1.1 BCD Temporary Upstream Fishway – Plans and Specifications

Within six (6) months after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Services, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for approval by the U.S. Fish and Wildlife Service plans and specifications for installation of a temporary trap-and-haul fishway below Box Canyon Dam. The plans shall provide that the operation of the temporary trap-and-haul shall remain operational until superseded by an Interim trap-and-haul fishway.

1.2.1.2 BCD Temporary Upstream Fishway – Operation and Maintenance Plan

Within six (6) months after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan for the temporary trap-and-haul fishway, that describes anticipated operation and maintenance schedules, inspections and contingencies. The Operations and Maintenance Plan shall also provide for the following:

A. Fish safety during active and passive trapping operations.

B. A designated lead technician on site during all times when fish are being handled or loaded to assure maximum fish safety. Either cumulative experience and/or training of this technician should be presented to assure full understanding of direct and delayed mortality potential relating to stress and handling (NMFS 1995a, 1995b).

The Department expects that some loss of fish will occur during the reasonable and prudent operation of the U.S. Fish and Wildlife Service approved trap-and-haul device. If inherent defects in the system are identified, then the fishway shall be modified or replaced, as appropriate, and at the discretion of the U.S. Fish and Wildlife Service.

1.2.1.3 BCD Temporary Upstream Fishway – Monitoring and Reporting Plan

Within six (6) months after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for the review and approval of the U.S. Fish and Wildlife Service, a plan for monitoring the temporary trap-and-haul fishway at Box Canyon Dam. The monitoring plan shall provide for the submission of an annual monitoring report to resource agencies identified herein for the duration of the operation of the temporary trap-and-haul fishway, and shall include:

A. The number of fish, by species, size, age class, and date observed at the temporary trap-and-haul fishway collection point and transported upstream;

B. The number of hours and days the fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A continuous record of Total Dissolved Gas (TDG) levels, water temperature, river flow and velocity, measured at least hourly. Measurements shall be taken at a location at or near the entrance to the fishway as required to accurately monitor the effectiveness of the temporary trap-and-haul fishway; and

D. A record of the daily observations conducted by a qualified fish biologist (approved by the U.S. Fish and Wildlife Service), about the physical condition of the fish using the temporary trap-and-haul fishway. Such observations shall include, but not be limited to: delay, injury, descaling, disease and gas bubble trauma. The plans shall provide that the Licensee will report any observed delay, injury, and mortality of fish to the U.S. Fish

and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification. In addition, a random sub-sample of fish will be externally examined for evidence of gas bubble trauma (GBT) using methods based on those most currently published by the Northwest Power Planning Council. A percentage of these fish will be killed and necropsied for internal evidence of GBT using accepted methods based on current fishery science. The total percentage of fish examined will be determined by the Technical Committee and may be subject to change based on the results of examinations, or alterations in the design or placement of the trap-and-haul facility. Federally listed threatened or endangered species will not be used for these tests, i.e., bull trout.

1.2.1.4 BCD Temporary Upstream Fishway – Post-Installation Effectiveness Evaluation Plan.

Within six (6) months after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop a plan for post-installation evaluations of the temporary trap-and-haul fishway. The plan shall provide for documentation of the upstream movement of the target fish species, as determined by radio telemetry or other means of accurately tracking fish movement upstream from the forebay of Box Canyon Dam, at least as far upstream as the confluence of Cedar Creek (At Ione, Washington) with the Pend Oreille River. The plan shall include methods for documenting fish passage efficiency, passage time, mortality, injury, and fallback rates for a representative range of operating scenarios, flow releases, and spill patterns from below the Box Canyon Dam tailrace to the target fish drop-off point as established by the U.S. Fish and Wildlife Service.

1.2.1.5 BCD Temporary Upstream Fishway – Installation and Operation

With twelve (12) months after notification of the U.S. Fish and Wildlife Service's approval of the Licensee's Design Plans and Specifications for design, construction, and operation of the temporary trap-and-haul fishway (see Condition 1.2.1.1), the Licensee shall, at its own expense, install and commence the operation of the temporary trap-and-haul fishway at Box Canyon Dam in accordance with U.S. Fish and Wildlife Service approved plans, to provide effective (safe and timely) upstream passage for the target fish species or in excess of 100mm (~4 inches) in length. The Licensee shall notify the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe in writing when the temporary trap-and-haul fishway becomes operational. The Licensee shall operate, maintain and monitor the temporary trap-and-haul fishway in accordance with the U.S. Fish and Wildlife Service approved temporary trap-and-haul fishway Operation and Maintenance Plan (see Condition 1.2.1.2) and the temporary trap-and-haul fishway Monitoring and Reporting

Plan (see Condition 1.2.1.3), and shall begin at the initiation of temporary trap-and-haul fishway operations. In addition, the Licensee shall operate the temporary trap-and-haul fishway:

A. Until superseded by an interim trap-and-haul fishway; and

B When target fish species are present in Boundary Dam Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available.

1.2.1.6 BCD Temporary Upstream Fishway – Post Installation Effectiveness Evaluation

Upon completion of the installation of the temporary trap-and-haul fishway, the Licensee shall, at its own expense, commence post-installation effectiveness evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in Condition 1.2.1.4. Within twelve (12) months after installation of temporary trap-and-haul facilities, the Licensee shall submit to U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations, to the resource managers identified herein for review and comment prior to being filed with the Federal Energy Regulatory Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the temporary trap-and-haul fishway at least once every five (5) years until such time as interim trap-and-haul fishway(s) are operational at Box Canyon Dam.

1.2.1.7 BCD Temporary Upstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the temporary trap-and-haul fishway (s), and annually thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Washington Department of Fish and Wildlife Service, and the Kalispel Indian Tribe a report summarizing information obtained through monitoring (see Condition 1.2.1.3). The Monitoring Report shall include the results of observations taken by the Licensee pursuant to all U.S. Fish and Wildlife Service-approved plans.

1.2.2 Box Canyon Dam (BCD) Interim Upstream Fishway

1.2.1.1 Criteria to Implement the BCD Interim Upstream Fishway

A. The Licensee has completed installation and commenced operation of the four modified (upgraded) generating turbines, and has completed installation of a spill bypass system at Box Canyon Dam to comply with Washington Department of Ecology water quality certification (Section 401 of the Clean Water Act), or

B. Within ten (10) years after license issuance, whichever occurs first.

1.2.2.2 BCD Interim Upstream Fishway – Conceptual Design Investigation

Within ten (10) years after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for approval by the U.S. Fish and Wildlife Service plans for completing design investigations to collect site-specific biological and engineering information required to site, design, and install interim trap-and-haul fishway(s) at Box Canyon Dam. The Licensee shall apply, as appropriate, design details and information learned from operating and monitoring the temporary trap-and-haul fishway to the development of design and specifications for construction and operation of the interim trap-and-haul fishway. The Conceptual Design Plan shall require the completion of site-specific design investigations to determine, among other design details:

A. The design range for the Pend Oreille River such that the fishway(s) is/are operational during the full range of flows and water surface elevations where the Licensee maintains operational control at Box Canyon Dm. Design and operation, for periods when the Pend Oreille River exceeds water quality criteria for temperature and Total Dissolved Gas, shall be consistent with Section 401 (Clean Water Act) water quality certification issued by the Washington Department of Ecology;

B. Site-specific hydraulic conditions, under all operating scenarios, 1) in the forebay and tailrace at Box Canyon Dam, and 2) in the Pend Oreille River upstream of Box Canyon Dam to River Mile 35.5 (or one mile above Box Canyon Dam; whichever is greater). The former is to avoid or minimize the level of involuntary fallback of target fish species for a future permanent volitional fishway.

C. Testing, using a model of the Box Canyon Dam, forebay, auxiliary spillway, powerhouse, and tailrace area to insure proper siting of fishway facilities to accommodate upstream fish passage, including entrance and exit points for a future permanent volitional fishway, an d release location(s) for fish collected in an interim Trap-and-haul fishway;

D. Information on swimming performance, behavior, and migratory pattern of juvenile (100mm in length or greater), sub-adult and adult bull trout, westslope cutthroat trout, and mountain whitefish upstream (i.e., target fish species) and downstream of the dam sufficient to determine the proper siting of interim Trap-and-haul fishway, including entrance point(s) for and release location(s) for fish collected in interim Trap-and-haul fishway(s), for all operating scenarios and related environmental cues, including but not limited to temperature, total dissolved gas (TDG), water velocity and lighting;

E. Devices and measures to allow the adjustment of fishway entrance attraction flows as necessary to effectively attract the target fish species into the fishway;

F. Devices and measures t allow adjustment of fishway entrance elevation, and location to effectively attract the target fish species into the fishway;

G. Structures, devices, and measures to allow adjustment of water flow, water velocity and water surface elevations within the fishway necessary to effectively convey the target fish into the fish trapping device; and,

H. Box Canyon Hydroelectric Project operations, such as but not limited to, spill management at the dam and auxiliary spillway and/or turbine sequencing (first on, last off) to avoid masking attraction flows for fish moving upstream.

1.2.2.3 BCD Interim Upstream Fishway – Final Design Plans and Specifications

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that the Conceptual Design Investigations have been approved (see Condition 1.2.2.2), the Licensee shall submit for review and approval of the U.S. Fish and Wildlife Service results of all interim trap-and-haul design investigations and design plans and specifications for construction and operation of interim trap-and-haul fishway(s) at Box Canyon Dam.

1.2.2.4 BCD Interim Upstream Fishway – Operation and Maintenance Plan

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that the Conceptual Design Investigations have been approved (see Condition 1.2.2.2), the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan for the interim trap-and-haul fishway(s) describing anticipated operation, maintenance, schedules, inspections and contingencies. The Operations and Maintenance Plan shall also provide for the following:

A. Fish safety during active and passive trapping operations.

B. A designated lead technician on site during all times when fish are being handled or loaded to assure maximum fish safety. Either cumulative experience and/or training of this technician should be presented to assure full understanding of direct and delayed mortality potential relating to (NMFS 1995a, 1995b).

The Department expects that some loss of fish will occur during the reasonable and prudent operation of the U.S. Fish and Wildlife service approved trap-and-haul device. If inherent defects in the system are identified, then the fishway shall be modified or replaced, as appropriate, and at the discretion of the U.S. Fish and Wildlife Service.

1.2.2.5 BCD Interim Upstream Fishway – Monitoring and Reporting Plan

Within twenty-four(24) months after notification by the U.S. Fish and Wildlife Service, that the Conceptual Design Investigations have been approved (see Condition 1.2.2.2), the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval of the U.S. Fish and Wildlife Service a plan for monitoring the interim trap-and-haul fishway at Box Canyon Dam. The monitoring plan shall require the submission of an annual monitoring report to resource agencies identified herein for the duration of the of the interim trap-and-haul fishway and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at the interim trap-and-haul fishway collection point and transported upstream;

B. The number of hours and days the interim trap-and-haul fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A record of the daily observations conducted by a qualified fish biologist, approved by the U.S. Fish and Wildlife Service, about the physical condition of fish using the temporary trap-and-haul fishway. Such observations shall include, but not be limited to, delay, injury, descaling, disease and gas bubble trauma. The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification. In addition, a random sub-sample of fish will be externally examined for evidence of gas bubble trauma (GBT) using methods based on those most currently published by the Northwest Power Planning council. A percentage of these fish will be killed and necropsied for internal evidence of GBT using accepted methods based on current fishery. The total percentage of fish examined will be determined by the Technical Committee and may be subject to change based on the results of examinations, or alterations in the design or placement of the trap and haul facility. Federally listed threatened or endangered species will not be used for these tests; and

D. A continuous record of Total Dissolved Gas (TDG) levels, water temperature, river flow and velocity, measured at least hourly, both within the interim fishway and at or near the fishway entrance and exit points, as required to accurately monitor the effectiveness of the interim trap-and-haul fishway.

1.2.2.6 BCD Interim Upstream Fishway – Post-Installation Effectiveness Evaluation Plan

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service, that the Conceptual Design Investigations have been approved (see Condition 1.2.2.2), the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop a plan for post-installation evaluations of the interim trap-and-haul fishway. The plan shall provide for documentation of the upstream movement of the target fish species, as determined by radio telemetry or other means of accurately tracking fish movement from the approved fish drop off point within Box Canyon Reservoir. This plan shall include methods for documenting fish passage efficiency, passage time, mortality, injury, and fallback rates for a representative range of operating scenarios, flow releases, and spill patterns from below the Box Canyon Dam tailrace to the fish drop-off point, as approved by the U.S. Fish and Wildlife Service.

1.2.2.7 BCD Interim Upstream Fishway – Installation and Operation

Within eighteen (18) months after notification of the U.S. Fish and Wildlife Service's approval of the Licensee's Final Design Plans and Specifications (see Condition 1.2.2.3) of the interim trap-and-haul fishway, the Licensee shall, at its own expense, complete the installation, and commence the operation, of interim trap-and-haul fishway at Box Canyon Dam in accordance with the U.S. Fish and Wildlife Service approved plans to provide effective (safe and timely) upstream passage for juvenile, sub-adult, and adult target fish species, of or in excess of 100mm (~4 inches) in length. The Licensee shall notify the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, in writing when the interim trap-and-haul fishway becomes operational. The Licensee shall operate, maintain, and monitor the interim trap-and-haul fishway in accordance with U.S. Fish and Wildlife Service-approved interim trap-and-haul fishway Operation and Maintenance Plan (see Condition 1.2.2.4) and interim trap-and-haul fishway Monitoring Plan (see Condition 1.2.2.5) and shall begin at the initiation of interim trap-and-haul fishway operations. In addition, the Licensee shall operate the temporary trap-and-haul fishway:

A. Until superseded by an interim trap-and-haul fishway

B. When target fish species are present in Boundary Dam Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available.

1.2.2.8 BCD Interim Upstream Fishway – Post Installation Effectiveness Evaluation

Upon completion of the installation of the interim trap-and-haul fishway, the Licensee shall, at its own expense, commence Post-installation Effectiveness Evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in condition 1.2.2.6. Within twelve (12) months after the installation of interim trap-and-haul facilities, the Licensee shall submit to U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations. Results of the evaluations shall be submitted to resource managers identified herein for review and comment prior to being filed with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of

the effectiveness of the interim trap-and-haul fishway at least once every five (5) years until such time as a permanent Upstream Volitional fishway becomes operational or for the duration of the license, whichever comes first.

1.2.2.9 BCD Interim Upstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the temporary trap-and-haul fishway, and annually thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Washington Department of Fish and Wildlife Service, and the Kalispel Indian Tribe report summarizing information obtained through monitoring (see condition 1.2.2.5). The Monitoring Report shall include results of observations taken by the Licensee pursuant to al U.S. Fish and Wildlife service-approved plans.

1.2.3 Box Canyon Dam BCD) Permanent Upstream Volitional Fishway

1.2.3.1 Criterion to Implement BCD Permanent Upstream Volitional Fishway

The Licensee shall implement the following permanent upstream fishway measures if the criterion set forth below is achieved:

A. Ninety-seven (97) bull trout or westslope cutthroat trout are observed in the trap/collection/sorting device at Box Canyon Dam, in any given calendar year, pursuant to the methodology outlined in appendix 3. The designated number of 97 applies to <u>either</u> species to meet this criterion, but not a combination of the two.

1.2.3.2 Consultation to Implement BCD Permanent Upstream Volitional Fishway

When the criterion set forth above has been met, the U.S. Fish and Wildlife Service will seek the advice of one representative of the U.S. Fish and Wildlife Service, U.S. Forest Service, Kalispel Indian Tribe, and the Washington Department of Fish and Wildlife to evaluate the need for upstream volitional fish passage at Box Canyon Dam. [4] The selected resource representatives shall consider the effectiveness of the interim trap-and-haul facility at Box Canyon Dam, status of the implementation of various recovery tasks as defined in the Bull Trout Recovery Plan for Northeast Washington Chapter (in effect at the date of the consultation to implement the permanent fishway), and criteria for both

[4]The criteria to implement permanent Upstream Volitional fish passage at Box Canyon Dam was developed through coordination and consultation between representatives of the Federal, State, and Kalispel Tribe resource managers responsible for the management of bull trout and westslope cutthroat trout in Northeast Washington State.

abundance and increasing trend[5] in the number of migratory bull rout or westslope cutthroat trout observed in the trapping/sorting facility at Box Canyon Dam. The U.S. Fish and Wildlife service, after careful consideration of the recommendations from the selected resource representatives, shall make a final decision on the need for volitional upstream fish passage at Box Canyon Dam and notify the Licensee regarding its findings. If notified that volitional fish passage is required, the Licensee shall have twelve (12) months to provide a conceptual design plan for a permanent Upstream Volitional fishway Design to the U.S. Fish and Wildlife Service for review and approval (see condition 1.2.2.3). If, however, the U.S. Fish and Wildlife Service finds that upstream volitional fish passage is not appropriate after the evaluation described above, the issue of volitional upstream fish passage will be revisited, a year later, and on an annual basis from the date of that initial finding, for the duration of the license, or until upstream volitional fish passage is implemented at Box Canyon Dam. The Licensee will continue operation of the interim trap-and-haul fishway until superseded by an upstream volitional fishway.

1.2.3.3 BCD Permanent Volitional Upstream Fishway – Conceptual Fishway Design Investigation

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that criteria necessary to implement a permanent upstream Volitional fishway at box Canyon Dam has been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, plans for completing design investigations to collect site-specific biological and engineering information required to site, design, and install permanent, volitional pool and weir, vertical slot, or similar fishway at Box Canyon Dam. The Licensee shall apply design details and information learned from operation and

[5]Bull trout or westslope cutthroat trout abundance observed in the trap-and-haul shall be established using 12.5% of the mean of the recovered abundance of migratory bull trout in the two identified tributaries to the Pend Oreille River below Box Canyon Dam; i.e., Slate Creek (25 to 75 adults; mean = 50) and Sullivan Creek and Lake (600 to 850 adults; mean = 725) as specified in the Bull Trout Recovery Plan chapter (23) for Northeast Washington (or its replacement at the time of the evaluation). Trend criterion will be deemed established once the "rolling" average of the number of bull trout or westslope cutthroat trout observed in the trap-and-haul/sorting device at Box Canyon Dam over a period of three years or 1095 calendar days, reaches 12.5% of the mean of the total recovered abundance in the two tributaries below Box Canyon Dam, using the expected migration of adults based on alternate year spawning. The observation of target fish species shall commence when the interim trap-and-haul fishway becomes operational. See appendix 3 for an example illustrating how the criterion for implementing a Permanent Volitional Fishway at Box Canyon Dam is to be determined.

monitoring of the interim trap-and-haul fishway, as appropriate, to development of design and specifications of construction and operation of the permanent Upstream Volitional Fishway. The plan shall provide for completion of site-specific design investigations to determine, among other design details:

A. The design range for the Pend Oreille River such that the fishway is operational during the full range of flows and water surface elevations where the Licensee maintains operational control at Box Canyon Dam. Design and operation, for periods when the Pend Oreille River exceeds water quality criteria for temperature and Total Dissolved Gas, shall be consistent with Section 401 (Clean Water Act) water quality certification issued by the Washington Department of Ecology;

B. Site-specific hydraulic conditions, under all operating scenarios, 1) in the forebay and tailrace at Box Canyon Dam, and 2) in the Pend Oreille River upstream of Box Canyon Dam to River Mile 35.5 (or one mile above Box Canyon Dam, whichever is greater). The former is to avoid or minimize the level of involuntary fallback of target fish species;

C. Testing, using a model of the Box Canyon Dam, forebay, auxiliary spillway, powerhouse, and tailrace area to insure the proper siting of fishway facilities to accommodate upstream fish passage, including entrance and exit points for the permanent Upstream Volitional fishway;

D. Information on the swimming performance, behavior, and migratory pattern of juvenile (100mm in length or greater), sub-adult and adult target fish species upstream an downstream on the dam sufficient to ensure proper siting of entrance and exit points for the permanent Upstream Volitional fishway, under all operating scenarios and related environmental cues, including, but not limited to temperature, total dissolved gas (TDG), river flow and velocity and lighting;

E. Information to determine the distance the fishway exit will need to extend upstream above the spillway to prevent the fallback of upstream migrating fish under both spill and non-spill operating conditions at Box Canyon Dam, using site-specific hydraulic conditions under all operating scenarios in the forebay and in the Pend Oreille River upstream of Box Canyon Dam to River Mile 35.5 (or one mile above Box Canyon Dam, whichever is greater);

F. Devices and measures to allow adjustment of fishway entrance attraction flows as necessary to effectively attract target fish species into the fishway;

G. Devices and measures to allow adjustment of fishway entrance configuration, elevation, and location to effectively attract target fish species *into* the fishway;

H. Structures, devices, and measures to allow adjustment of water flow, water velocity and water surface elevations *within the fishway* necessary to effectively convey target fish species through the fishway upstream to the *fishway exit*; and

I. Box Canyon Hydroelectric Project operations, including but not limited to: spill management at the dam and auxiliary spillway and/or turbine sequencing (first on, last off) to avoid making attraction flows for fish moving upstream.

1.2.3.4 BCD Permanent Volitional Upstream Fishway: Final Design Plans and Specifications

Within twenty-four (24) months after meeting the criteria to implement a permanent Volitional Upstream Fishway at Box Canyon Dam, the Licensee shall submit for the review and approval of the U.S. Fish and Wildlife Service, results of all permanent Upstream Volitional fishway final design investigations and design plans and specifications for construction and operation of a permanent Upstream Volitional fishway at Box Canyon Dam. The permanent Upstream Volitional fishway shall be operational during the time frame specified by the U.S. Fish and Wildlife Service, based on anticipated presence of target fish species in the Pend Oreille River.

1.2.3.5 BCD Permanent Volitional Upstream Fishway – Operation and Maintenance Plan

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that the criteria necessary to implement a permanent upstream Volitional fishway at Box Canyon Dam has been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife Service, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan for the permanent Upstream volitional fishway, describing anticipated operation, maintenance, schedules, inspections and contingencies. A designated lead technician on site during all times when fish are being handled assures maximum fish safety. Either cumulative experience and/or training of this technician should be presented to assure full understanding of direct and delayed mortality potential relating to stress and handling (NMFS 1995a, 1995b).

1.2.3.6 BCD Permanent Volitional Upstream Fishway – Monitoring and Reporting Plan

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that the criteria necessary to implement a permanent upstream Volitional fishway at Box Canyon Dam has been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, monitoring plans for operation and maintenance of permanent Upstream Volitional fishway at Box Canyon Dam. The monitoring plan shall require the submission of an annual report to resource managers identified herein for the duration of the Box Canyon Hydroelectric Project license and any subsequent annual license, and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at an appropriate fish facility;

B. The number of hours and days the fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A record of the daily observations prepared by a qualified fish biologist, approved by the U.S. Fish and Wildlife Service, about the physical condition of fish using the volitional fishway. Such observations shall include, but not be limited to, delay, descaling, disease and gas bubble trauma. The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification; and

D. A. continuous (minimum of an hourly measurement) record of Total Dissolved Gas (TDG) levels, water temperature, river flow and velocity both within the volitional fishway, and at or near the fishway entrance and exit points, as required to accurately monitor the effectiveness of the upstream fishway structure.

1.2.3.7 BD Permanent Volitional Upstream Fishway – Post-Installation Effectiveness Evaluations Plan

With twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that the criteria necessary to implement a permanent upstream Volitional fishway at Box Canyon Dam has been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of

fish and Wildlife, and the Kalispel Indian Tribe, develop a plan for post-installation evaluations of the permanent upstream Volitional fishway(s). The plan shall provide for documentation of the upstream movement of target fish species, as determined by radio telemetry or other means of accurately tracking fish movement through the fishway and upstream from the forebay of Box Canyon Dam, at least to the confluence of Cedar Creek (at Ione, Washington) with the Pend Oreille River. This documentation shall include fish passage efficiency, passage time, mortality, injury, and fallback rates for a representative range of operating scenarios, flow releases, and spill patterns from below the Box Canyon Dam tailrace to a point upstream, as established by the U.S. Fish and Wildlife Service.

1.2.3.8 BCD Permanent Volitional Upstream Fishway – Installation and Operation

Within twenty-four (24) months after notification of the U.S. Fish and Wildlife Service's approval of the Licensee's final design plans and specifications for construction and operation of a permanent, upstream volitional fishway (see Condition 1.2.3.4), the Licensee shall, at its own expense, install and operate permanent upstream volitional pool and weir, vertical slot, or similar fishway at Box Canyon Dam in accordance with U.S. Fish and Wildlife Service approved plans (see Condition 1.2.3.4) to provide for effective (safe and timely) upstream passage of juvenile, sub-adult, and adult target fish species over the full range of river flows for which Box Canyon Hydroelectric Project maintains operational control. The Licensee shall notify the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian tribe in writing when the permanent volitional Upstream Volitional fishway becomes operational. The Licensee shall operate, maintain, and monitor the permanent, Upstream Volitional fishway in accordance with the U.S. Fish and Wildlife Service-approved permanent Upstream volitional fishway Operation and Maintenance Plan (see Condition 1.2.3.5) and permanent volitional Upstream fishway Monitoring Plan (see Condition 1.2.3.6) and shall begin at the initiation of permanent Upstream Volitional fishway operations.

In addition, the Licensee shall operate the permanent upstream fishway when target fish species are present in the Boundary Dam Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available.

1.2.3.9 BCD Permanent Volitional Upstream fishway – Post-Installation Evaluations

Upon completion of installation of the permanent Upstream Volitional fishway at Box Canyon Dam, the Licensee shall, at its own expense, commence Post-installation Effectiveness Evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in condition 1.2.3.7. Within twelve (12) months after installation of permanent Upstream Volitional fishway, the Licensee shall submit to U.S. Fish and

Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations. Results of the evaluations shall be reviewed by the resource managers identified herein, and comments provided prior to filing with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the permanent upstream volitional fishway at least once every five (5) years for the duration of the license.

1.2.3.10 BCD Permanent Volitional Upstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the permanent Upstream Volitional Fishway, and annually thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe a report summarizing the information obtained through monitoring (see Condition 1.2.3.5). The Monitoring Report shall include the results of observations taken by the Licensee pursuant to all U.S. Fish and Wildlife Service-approved plans.

1.3 Specific Prescriptions for Downstream Fishways at Box Canyon Dam (BCD)

The following conditions are prescribed for construction, operation, and maintenance of downstream fishway(s) at Box Canyon Dam to provide effective (safe and timely) passage of juvenile, sub-adult bull trout, westslope cutthroat trout, and mountain whitefish, of, or in excess of, 100 mm (~ 4.0 inches) in total length.

1.3.0 Box Canyon Dam (BCD) Interim Downstream Fishway

1.3.1.1 BCD – Fish Behavior, Survival, and Design Investigations

Within six (6) months after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife and the Kalispel Indian Tribe, develop and submit for approval by the U.S. Fish and Wildlife Service plans for completing design investigations to collect site-specific biological and engineering information required to properly site,

design, and install an interim downstream fishway at Box Canyon Dam and to determine the extent of injury/mortality to the target fish species moving through existing or upgraded generating turbines, spillway, and spillway gates. The plans shall be prepared by a qualified contractor with experience in conducting fish investigations, and selected by mutual agreement of the U.S. Fish and Wildlife Service and the Licensee. The plans shall provide for the completion of site-specific investigations to determine:

A. Biological information on swimming performance, in consideration of the best scientific information available, to determine behavior and migratory pattern of target fish species (juvenile, sub-adult and adult bull trout, westslope cutthroat trout, and mountain whitefish) in the forebay and tailrace area of Box Canyon Dam. The information shall be sufficient to ensure proper siting of interim downstream fishway structures (including entrance and exit points for fish migrating downstream through Box Canyon Dam) and appurtenant facilities, and shall be obtained for all operating scenarios and related environmental cues, including but not limited to water temperature, total dissolved gas (TDG), water velocity, and lighting;

B. Modeling of the Pend Oreille River that takes into consideration the channel configuration above the forebay. Such testing shall be used to determine the proper siting of fishway facilities to accommodate downstream fish passage, including entrance and exit points for the permanent downstream fishway in consideration of proposed modifications to the existing power house, spillway, or other bypass features;

C. Design information, as needed to accommodate the installation of devices and measures to allow the adjustment of fishway entrance attraction flows as necessary to effectively attract target fish species into the fishway;

D. Design information, as needed to allow the operation of the upgraded generating turbines at an efficiency that will provide the safest possible passage conditions for target fish species entrained in generating turbines at the Box Canyon Dam Hydroelectric Development; and

E. An injury/mortality assessment, of direct and indirect/delayed (48 hour) injury and mortality to juvenile, sub-adult and adult target fish species entrained at Box Canyon Dam. The Licensee shall assess injury and mortality to fish, using methods approved by the U.S. Fish and Wildlife Service: (1) within the existing and upgraded generating turbines, (2) when passing over the existing spillway, and (3) when passing through partially opened gates of the existing spillway. This investigation shall also include: (4) a record of the species and size of fish that are being entrained in the

turbines; and (5) observations of how, when and where fish entrained in the turbine inlet (including trash racks), turbines, and/or existing spillway (considering various gate openings) are injured or killed.

Within eighteen (18) months after the commencement of the fish behavior, survival, and design investigations as described above, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service the initial results of their investigations, and thereafter on an annual basis until the full term of investigations have been completed.

1.3.1.2 BCD Interim Downstream Fishway – Preliminary Design Plans

Within twenty-four (24) months after notification by the U.S. Fish and Wildlife Service that fish behavior and survival investigation plans (See Prescription Condition 1.3.1.1) have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, Preliminary Design Plans for completing the interim downstream fishway design. The Preliminary Design Plans for the interim downstream fishway shall include:

A. A plan for the installation and operation of an interim downstream fishway(s) to accommodate effective (safe and timely) downstream movement of target fish species by a non-turbine[6] from the forebay to the tailrace. The interim downstream fishway shall be designed to operate with sufficient flow to successfully attract target fish species when river flows are less than the hydraulic capacity of the generating turbines. The interim downstream spillway or bypass structure shall be of an open-channel or non-pressurized pipe design;

B. A provision to direct target fish species to the fish bypass structure that employs methods such as partial screening, louvers, modified trash racks,

[6]A "non-turbine route" means; a route of passage that allows fish to successfully move from the Pend Oreille River downstream from the inlet channel (forebay) of Box Canyon Dam through a fish bypass(es) and/or spillway(s). The spillway(s) and fish bypass(es) shall be designed to pass target fish species without appreciable direct and/or indirect/delayed (48 hr) injury and/or mortality. Fish moving upstream away from Box Canyon Dam, that do not pass downstream into the tailrace area have not moved through a "non-turbine route".

or other devices to direct target fish species through a non-turbine route through Box Canyon Dam;

C. Provisions to ensure that the fishway(s) is/are operational during the full range of flows and water surface elevations where the Licensee maintains operational control at Box Canyon Dam. Design and operation, during periods when the Pend Oreille River exceeds water quality criteria for temperature and Total Dissolved Gas shall be consistent with the Section 401 (Clean Water Act) water quality certification issued by the Washington Department of Ecology; and

D. Structures, devices, and measures to allow adjustment of water flow, stream velocity and water surface elevations within the fishway(s) necessary to effectively convey target fish species through the interim downstream fishway.

1.3.1.2 BCD Interim Downstream Fishway – Final Plans and Specifications

Within six (6) months after notification by the U.S. Fish and Wildlife Service that Preliminary Design Plans (see Prescription Condition 1.3.1.2) for the interim downstream fishway have been approved, the Licensee shall submit for review and approval of the U.S. Fish and Wildlife Service, final Design Plans and Specifications for the interim downstream the fishway at Box Canyon Dam. The interim downstream fishway shall be operational during the time frame specified by the U.S. Fish and Wildlife Service, based on anticipated presence of target fish species in the Pend Oreille River.

1.3.1.3 BCD Interim Downstream Fishway – Operations and Maintenance Plan

Within six (6) months after notification by the U.S. Fish and Wildlife Service that Preliminary Design Plans (see Prescription Condition 1.3.1.2) for the interim downstream fishway have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan for the interim downstream fishway describing anticipated operation, maintenance, schedules, inspections, and contingencies.

1.3.1.4 BCD Interim Downstream Fishway – Monitoring and Reporting Plan

Within six (6) months after notification by the U.S. Fish and Wildlife Service that Preliminary Design Plans (see Prescription Condition 1.3.1.2) for the interim downstream fishway have been approved, the Licensee shall, at its own expense and in consultation

with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval of the U.S. Fish and Wildlife Service a plan for monitoring the interim downstream fishway at Box Canyon Dam. The monitoring plan shall require for submission of an annual monitoring report to resource agencies identified herein for the license term and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at the interim downstream fishway(s);

B. The number of hours and days the fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A continuous record of Total Dissolved Gas (TDG) levels, water temperature, river flow, and velocity, measured at least hourly or as required to accurately monitor effectiveness of the downstream fishway(s); and

D. A record of the daily observations at Box Canyon Dam forebay and tailrace, conducted by a qualified fish biologist (approved by the U.S. Fish and Wildlife Service), about the physical condition of fish using the interim downstream fishway(s). Such observations shall include, but not be limited to delay, injury, descaling, disease, gas bubble trauma, or any indication of predation by piscivorous birds or fish resulting from the disorientation of target fish species using the interim downstream fishway(s). The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification.

1.3.1.5 BCD Interim Downstream Fishway – Post-Installation Effectiveness Evaluation Plan

Within six (6) months after notification by the U.S. Fish and Wildlife Service that Preliminary Design Plans (see Prescription Condition 1.3.1.2) for the interim downstream fishway have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Wildlife, and the Kalispel Indian Tribe, develop a plan to conduct post-installation evaluations of the interim downstream fishway. The plan shall provide for documentation of downstream movement of target fish species (or surrogate species as appropriate), as determined by radio telemetry or other means of accurately tracking fish movement. The number of fish selected for the fish movement investigation shall be determined by the U.S. Fish and Wildlife Service using accepted sampling protocol. This

documentation shall include fish passage efficiency, time, mortality, and injury for a representative range of operating scenarios and flow releases from Box Canyon Dam.

1.3.1.7 BCD Interim Downstream Fishway – Installation and Operation

With twelve (12) months of the U.S. Fish and Wildlife Service's approval of the Licensee's final Plans and Specifications (see Prescription Condition 1.3.1.3) for the interim downstream fishway and any other approvals required by law, the Licensee shall, at its own expense, install and commence operation of the interim downstream fishway at Box Canyon Dam. The installation and operation of the interim downstream fishway shall be conducted in accordance with these plans to provide effective (safe and timely) downstream passage for juvenile, sub-adult and adult target fish species through Box Canyon Dam. The Licensee shall notify the U.S. Fish and Wildlife Service and other resource agencies identified herein in writing when the interim downstream fishway becomes operational. The Operation, maintenance, and monitoring of interim downstream fishway operations shall be conducted in accordance with plans set forth in Prescription Condition Nos. 1.3.1.4 and 1.3.1.5, and shall begin commensurate with initiation of interim downstream fishway operations.

In addition, the interim downstream fishway shall be operational when target fish species are present in the Box Canyon Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available. The downstream fishway will not be required to be operational when spill gates are fully open. The Licensee may also request a 120-day extension from the U.S. Fish and Wildlife Service if justified due to seasonal construction constraints.

1.3.1.8 BCD Interim Downstream Fishway – Post Installation Effectiveness Evaluation

Upon completing the installation of the interim downstream fishway at Box Canyon Dam, the Licensee shall, at its own expense, commence Post-installation Effectiveness Evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in Prescription Condition 1.3.1.6. Within twelve (12) months after installation of the interim downstream fishway, the Licensee shall submit to U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations. Results of evaluations shall be submitted to resource managers identified herein for review and comment prior to being filed with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies, including a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process

shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize downstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the interim downstream fishway at least once every five (5) years for the duration of the interim fishway's operation.

If the Licensee can successfully demonstrate to the U.S. Fish and Wildlife Service that the interim downstream fishway meet the Fish Guidance Efficiency (FGE) goal of 95% when passing fish that are in excess of 10 inches (250 mm) in length through a non-turbine route, as described in Condition 1.3.2.3 below, then the U.S. Fish and Wildlife Service will designate the interim downstream fishway as the permanent downstream fishway.

1.3.1.9 BCD Interim Downstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the interim downstream fishway, and annually thereafter, until such time as a permanent downstream fishway is operational, the Licensee shall submit to the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe a report summarizing the information obtained through monitoring (see Prescription Condition 1.3.1.5). The Monitoring Report shall include the results of observations taken by the Licensee pursuant to all U.S. Fish and Wildlife Service-approved plans.

1.3.2 Box Canyon Dam(BCD) Permanent Downstream Fishway

1.3.2.1 Criteria for Implementing BCD Permanent Downstream Fishway

A. the Licensee has completed installation and commenced operation of the four modified (upgraded) generating turbines, and has completed installation of a spill bypass system at Box Canyon Dam to comply with Washington Department of Ecology water quality certification (section 401 of the Clean Water Act), or

B. Within ten (10) year after license issuance, whichever occurs first.

1.3.2.2 BCD Permanent Downstream Fishway – Preliminary Design Plans

Within 12 (twelve) months after being notified in writing by the U.S. Fish and Wildlife Service that the criteria needed to implement a permanent downstream fishway have been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish and

Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, preliminary plans for completing design investigations for a permanent downstream fishway(s). The preliminary plans shall include:

A. A plan for the installation and operation of a permanent downstream fishway to accommodate effective (safe and timely) downstream movement of target fish species by a non-turbine[7] route from the forebay to the tailrace. The permanent downstream fishway shall be designed to operate with sufficient flow to successfully attract target fish species when river flows are less than the hydraulic capacity of the generating turbines. The permanent downstream fishway shall be of an open-channel or non-pressurized pipe design, and the combined non-turbine routes shall have a Fish Guidance Efficiency[8] (FGE) of 95% for target fish species in excess of 10 inches (250 mm) in length;

B. A provision to direct target fish species through Box Canyon Dam via a non-turbine route, that employs methods such as partial screening, louvers, modified trash racks, or other devices;

C. A provision to operate upgraded generating turbines at an efficiency that will provide the safest possible passage conditions for target fish species entrained in generating turbines at Box Canyon Dam;

D. The design range for the Pend Oreille River such that the fishway(s) is/are operational during the full range of flows and water surface elevations during which the Licensee maintains operational control at Box Canyon Dam. Design and operation for periods when the Pend Oreille River exceeds water quality criteria for temperature and Total Dissolved Gas,

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[7] A "non-turbine route" means; a route of passage that allows fish to successfully move from the Pend Oreille River downstream from the inlet channel (forebay) of Box Canyon Dam through a fish bypass(es) and/or spillway(s). The spillway(s) and fish bypass(es) shall be designed to pass target fish species without appreciable direct and/or indirect/delayed (48 hr) injury and/or mortality. Fish moving upstream away from Box Canyon Dam, that do not pass downstream into the tailrace area have not moved through a "non-turbine route".

[8] Fish Guidance Efficiency (FGE)" will be verified by tagging fish moving downstream through Box Canyon Dam. Only fish that successfully pass through Box Canyon Dam to the tailrace area, without evidence of direct or indirect/delayed (48 hr) injury and/or mortality will be considered in meeting a 95% FGE.

shall be consistent with Section 401 (Clean Water Act) water quality certification issued by the Washington Department of Ecology; and

E. Structures, devices, and measures to allow adjustment of water flow, stream velocity and water surface elevations within the fishway(s) as necessary to effectively convey target fish species through the permanent downstream fishway.

In developing a preliminary plan for the permanent downstream fishway, the Licensee shall consider the results of the fish survival, behavior and design investigations.

1.3.2.3 BCD Permanent Downstream Fishway – Final Plans and Specifications

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that its Preliminary plans for completing the permanent downstream fishway have been approved and within twelve (12) months of any other approval required by law, the Licensee shall submit for review and approval of the U.S. Fish and Wildlife Service the results of all permanent downstream fishway design investigations and design plans and specifications for construction and operation of the permanent downstream fishway at Box Canyon Dam.

1.3.2.4 BCD Permanent Downstream Fishway – Operations and maintenance Plan

Within twelve (12 months after notification by the U.S. Fish and Wildlife Service that its Final Design Plans and Specifications (Prescription Condition 1.3.2.3) for the permanent downstream fishway have been approved and within twelve (12) months of any other approval required by law, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan describing anticipated operation, maintenance, schedules, inspections, and contingencies of the Permanent Downstream Fishway.

1.3.2.5 BCD Permanent Downstream Fishway – Monitoring and Reporting Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that Final Design Plans and Specifications (Prescription Condition 1.3.2.3) for the permanent downstream fishway have been approved and within twelve (12) months of any other approval required by law, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval of the U.S. Fish and Wildlife Service a plan for monitoring the permanent downstream fishway(s) at Box Canyon Dam. The monitoring plan shall require submission of an annual monitoring report to the resource agencies identified herein for the duration of the

operation of the permanent downstream fishway and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at the permanent downstream fishway(s);

B. The number of hours and days the permanent downstream fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A continuous record of Total Dissolved Gas (TDG) levels, water temperature, river flow, and velocity, measured at least hourly, as required to accurately monitor the effectiveness of the downstream fishway(s); and

D. A record of the daily observations at Box Canyon Dam forebay and tailrace, conducted by a qualified fish biologist (approved by the U.S. Fish and Wildlife Service), about the physical condition of the fish using the permanent downstream fishway(s). Such observation shall include, but not be limited to delay, injury, descaling, disease, gas bubble trauma, or any indication of predation by piscivorous birds or fish resulting from disorientation of target fish species using the permanent downstream fishway(s). The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification.6

1.3.2.6 BCD Permanent Downstream Fishway – Post-Installation Effectiveness Evaluation Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that its Final Design Plans and Specifications (Prescription Condition 1.3.2.3) for the permanent downstream fishway have been approved, and within twelve (12) months of any other approval required by law, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop a Post-installation Effectiveness Evaluation Plan for the permanent downstream fishway. The plan shall provide for documentation of downstream movement of target fish species as determined by radio telemetry or other means of accurately tracking fish movement through Box Canyon Dam and into the tailrace area. The number of fish selected for the fish movement investigation shall be determined by the U.S. Fish and Wildlife Service based on an accepted sampling protocol. This documentation shall include fish passage efficiency, passage time, mortality, and injury for a representative range of operating scenarios and flow releases from the Box Canyon Dam.

1.3.2.7 BCD Permanent Downstream Fishway – Installation and Operation

Within eighteen (18) months after notification by the U.S. Fish and Wildlife Service that the Licensee's Final Design Plans and Specifications for the permanent downstream fishway have been approved (see Prescription Condition 1.3.2.3), the Licensee shall, at its own expense, install and commence operation of the permanent downstream fishway at Box Canyon Dam. The installation and operation of the permanent downstream fishway shall be conducted in accordance with these plans to provide effective (safe and timely) downstream passage for juvenile, sub-adult and adult target fish species. The Licensee shall notify the U.S. Fish and Wildlife Service and the other resource agencies identified herein in writing when the permanent downstream fishway becomes operational. The operation, maintenance, and monitoring of permanent downstream fishway operations shall be conducted in accordance with plans set forth in Prescription condition No. 1.3.2.4 and 1.3.2.5, and shall begin concurrent with the initiation of permanent downstream fishway operations.

In addition, the permanent downstream fishway shall be operational when target fish species are present in the Box Canyon Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available. The permanent downstream fishway will not be required to be operational when spill gates are fully open. The Licensee may also request a 120-day extension from the U.S. Fish and Wildlife Service, if justified, due to seasonal construction constraints.

1.3.2.8 BCD Permanent Downstream Fishway – Post-Installation Effectiveness Evaluations

Upon completion of the installation of the permanent downstream fishway at Box Canyon Dam, the Licensee shall, at its own expense, commence Post-installation Effectiveness Evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in Prescription Condition No. 1.3.2.6. Within twelve (12) months after installation of the permanent downstream fishway, the Licensee shall submit to U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations. Results of the evaluations shall be submitted to resource managers identified herein for review and comment prior to being filed with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule of repeating the effectiveness evaluation within sixty(60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures

necessary and appropriate to maximize downstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the permanent downstream fishway at last once every five (5) years for the duration of the license.

1.3.2.9 BCD Permanent Downstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the permanent downstream fishway, and annually thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe a report summarizing the information obtained through monitoring (see Prescription Condition 1.3.2.5). The Monitoring Report shall include the results of observations taken by the Licensee pursuant to all U.S. Fish and Wildlife Service-approved plans.

1.4 General Prescription for Fishways at Calispell Creek Pumping Plant

The following general conditions are prescribed for the construction, operation, and maintenance of upstream and downstream fishways at the Calispell Creek Pumping Plant, and are prescribed to ensure effectiveness of the fishways pursuant to Section 1701(b), of the 1992 National Energy Policy Act)P.L. 102-486, Title XVIII, 106 Stat. 3008):

A. The Department of the Interior (Department), through the Fish and Wildlife Service, reserves the authority to modify these conditions for the fishway at any time before license issuance, as well as any time during the term of the license, after review of new information.

B. The Department, through the U.S. Fish and Wildlife Service, retains the right to review and approve all final fishway plans and specifications prior to construction.

C. The Licensee shall insure the maximum effectiveness of the fishway consistent with hydropower operations as approved by the Federal Energy Regulatory Commission (Commission), at Calispell Creek Pumping Plant as needed to accommodate upstream passage for bull trout, westslope cutthroat trout, and mountain whitefish; collectively; *"target fish species"*.

D. The Licensee shall keep the fishway in proper working order and shall keep all fishway areas clear of trash, sediment, logs, debris, and other material that would hinder passage. Anticipated maintenance shall be performed in sufficient time before a migratory period such that the fishway can be tested and inspected and will operate effectively prior to and during the migratory periods.

E. Upon request, the Licensee shall provide personnel of the U.S. Fish and Wildlife Service, U.S. Forest Service, Kalispel Indian Tribe, and Washington Department of Fish and Wildlife access to the Box Canyon Hydroelectric Project ("Project") site and to pertinent Project records for the purpose of inspecting the fishway to determine compliance with these conditions for the fishway.

1.5 Specific Prescription for Upstream Fishways at the Calispell Creek Pumping Plant (CCPP)

The following conditions are prescribed for the construction, operation and maintenance of an upstream fishway at the Calispell Creek Pumping Plant to provide effective (safe and timely) passage of juvenile, sub-adult and adult target fish species of or in excess of 100 mm (~4.0 inches) in total length.

1.5.1 Calispell Creek Pumping Plant (CCPP) Interim Upstream Fishway

1.5.1.1 CCPP Interim Upstream Fishway – Conceptual Design Investigation

Within seven and one-half (7.5) years after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wild Life, and the Kalispel Indian Tribe, develop and submit for approval by the U.S. Fish and Wildlife Service plans for completing design investigations to collect site-specific biological and engineering information required to site, design, and install interim an upstream fishway at Calispell Creek Pumping Plant. The plan shall provide for the completion of site-specific design investigations to determine, among other design details:

A. The design range for Calispell Creek shall be such that the fishway is operational at the full range of flows and water surface elevations, both upstream and downstream from the Calispell Creek Pumping Plant. Design and operation, for periods when Calispell Creek exceeds the water quality criterion for temperature, shall be consistent with Section 401 (Clean Water Act) water quality certification, issued by the Environmental Protection Agency or appropriate Tribal authority;

B. Site-specific hydraulic conditions, under all operating scenarios, of Calispell Creek upstream of the Calispell Creek Pumping Plant;

C. Testing, using a model of Calispell Creek, that takes into consideration: channel configuration above and below the Calispell Creek Pumping Plant, operation of the existing pumps; modifications to existing pumping operations (including but not limited to the installation of fish screens, fish guidance structures, trash racks, etc.); and location of existing or additional

outfall structures downstream from the Licensee. Such testing shall be used to determine proper siting of fishway facilities to accommodate upstream fish passage, including entrance and exit points for a future volitional fishway and release location(s) for fish collected in an interim upstream fishway;

D. Information on the swimming performance, in consideration of the best scientific information available, to determine the behavior and migratory pattern of juvenile (100 mm in length or greater), sub-adult and adult target fish species upstream and downstream from the Calispell Creek Pumping Plant sufficient to ensure proper siting of interim upstream fishway a structure(s0, including entrance and exit point(s) for fish migrating upstream through Calispell Creek Pumping Plant and appurtenant facilities, and transported to streams tributary to Calispell Creek, for all operating scenarios and related environmental cues, including but not limited to water temperature, water velocity and lighting.

E. Devices and measures to allow adjustment of fishway entrance attraction flows as necessary to effectively attract target fish species into the fishway;

F. Devices and measures to allow adjustment of fishway entrance configuration, elevation, and location to effectively attract target fish species into the fishway; and

Box Canyon Hydroelectric Project operations, including but not limited to, operational pool elevation in the Box Canyon Reservoir and the operation of a pump or pumps located upstream from Calispell Creek Pumping Plant.

1.5.1.2 CCPP Interim Upstream Fishway – Final Design Plans and Specifications

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that its conceptual Design Investigation Plan (see Condition 1.5.1.1) has been approved, the Licensee shall submit for the review and approval of the U.S. Fish and Wildlife Service the results of all interim upstream fishway design investigations and design plans and specifications for construction and operation of the interim upstream fishway at Calispell Creek Pumping Plant.

1.5.1.3 CCPP Interim Upstream Fishway – Operations and Maintenance Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service, that their Conceptual Design Investigation Plans and Specifications (see Condition 1.5.1.1) gave been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by

the U.S. Fish and Wildlife Service an operation and maintenance plan describing anticipated operation, maintenance, schedules, inspections and contingencies.

1.5.1.4 CCPP Interim Upstream Fishway – Monitoring and Reporting Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that their Conceptual Design Plans and Specifications (see Condition 1.5.1.1) have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for the review and approval of the U.S. Fish and Wildlife Service a plan for monitoring interim upstream the fishway at Calispell Creek Pumping Plant. The monitoring plan shall require submission of an annual monitoring report to the resource entities identified herein for the duration of the operation of the interim upstream the fishway and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at the interim upstream fishway collection point and transported upstream;

B. The number of hours and days the interim trap-and-haul fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A record of the daily observations conducted by a qualified fish biologist (approved by the U.S. Fish and Wildlife Service) about the physical condition of fish using the interim upstream fishway. Such observations shall include, but not be limited to, delay, injury, descaling and disease. The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification; and

D. A continuous record of Dissolved Oxygen (DO) levels, water temperature, stream flow and velocity, measured at least hourly, or as required to accurately monitor effectiveness of the upstream fishway structure. Water quality data that has been collected to meet other Federal, State, and/or Tribal requirements may be utilized if applicable.

1.5.1.5 CCPP Interim Upstream Fishway – Post-Installation Effectiveness Evaluation Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service, that their conceptual Design Plans and Specifications (see Condition 1.5.1.1) have been approved, the Licensee shall, at its own expense and in consultation the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop a plan for post-installation evaluations of the interim upstream fishway. The plan shall require documentation of the upstream movement of target fish species as determined by radio telemetry or other means of accurately tracking fish movement. The number of fish selected for this fish movement study shall be approved by the U.S. Fish and Wildlife Service, and will be based on accepted sampling protocol. This documentation shall include fish passage efficiency, passage time, mortality, injury, and fallback rates for a representative range of operating scenarios, and flow releases form the Calispell Creek Pumping Plant.

1.5.1.6 CCPP Interim Upstream Fishway – Installation and Operation

Within twelve (12) months of the Fish and Wildlife Service's approval of the Licensee's final Design Plans and Specifications (see Condition 1.5.1.2) for construction and operation of the interim upstream fishway, the Licensee shall, at its own expense, install and commence operation of the interim upstream the fishway at Calispell Creek Pumping Plant. The installation and operation of the interim upstream fishway shall be conducted in accordance with these plans to provide effective (safe and timely) upstream passage for juvenile, sub-adult, and adult target fish species. The Licensee shall notify the U.S. Fish and Wildlife Service and other resource entities identified herein in writing when the interim upstream fishway becomes operations. Operation, maintenance, and monitoring of interim upstream fishway operations, in accordance with U.S. Fish and Wildlife Service-approved Interim Upstream Fishway Operation and Maintenance Plan (see Condition 1.5.1.4) shall commence with initiation of interim upstream, fish operations. The initial operation of the upstream fishway shall be operational as directed using the best scientific information available. Subsequently, timing of the operation of the structure shall be adjusted, as necessary, based on observed presence of target fish species in the Box Canyon Reservoir and/or Calispell Creek, and as approved by the U.S. Fish and Wildlife Service.

1.5.1.7 CCPP Interim Upstream Fishway - Post-Installation Effectiveness

Upon completion of installation and commencement of operation of the interim upstream fishway, the Licensee shall, at its own expense, commence post-installation effectiveness evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in condition 1.5.1.5. Within twelve (12) months of installation of the interim upstream fishway, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe the results of initial effectiveness evaluations. Results of the evaluations shall be submitted to resource managers identified herein for review and comment prior to being filed with

the commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the interim trap-and-haul fishway at least once every five (5) years until such time as a permanent Upstream Volitional fishway becomes operational or for the duration of the license, whichever comes first.

1.5.1.8 CCPP Interim Upstream Fishway – Monitoring Report

Within twelve (12) months after the installation and commencement of operation of the interim upstream fishway, and on an annual basis thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe a report (see condition 1.5.1.4) summarizing information obtained through monitoring. The monitoring report shall include results of observations taken by the Licensee pursuant to the stipulations as described in Prescription Condition Nos. 1.5.1.4 and 1.5.1.5.

1.5.2 Calispell Creek Pumping Plant (CCPP) Permanent volitional Upstream Fishway

1.5.2.1 CCPP Permanent Volitional Upstream Fishway – Criteria for Implementation

The Licensee shall implement the construction, operation, and maintenance of a permanent volitional upstream fishway at the Calispell Creek Pumping Plant if notified by the U.S. Fish and Wildlife Service that at least two streams, tributary to Calispell Creek and located upstream from the Calispell Creek Pumping Plant, provide adequate habitat, and will allow the unrestricted movement of the target fish species between the designated tributaries and the Calispell Creek Pumping Plant.

1.5.2.2 CCPP Permanent Volitional Upstream Fishway – Conceptual Design Investigation

Within six (6) months after being notified in writing by the U.S. Fish and Wildlife Service that the criteria for implementing a Permanent Upstream Volitional fishway has been met, the Licensee shall, at its own expense and in consultation with the U.S. Fish

and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, plans for completing design investigations to collect site-specific biological and engineering information required to site, design, and install permanent, volitional pool and weir, vertical slot, or similar the fishway at Calispell Creek Pumping Plant. The plan shall provide for the completion of site-specific design investigations to determine, among other design details:

A. The design range for Calispell Creek shall be such that the fishway(s) is/are operational at the full range of flows and water surface elevations, both upstream and downstream from the Calispell Creek Pumping Plant. Design and operation, for periods when Calispell Creek exceeds water quality criterion for temperature, shall be consistent with Section 401 (Clean Water Act) water quality certification issued by the Environmental Protection Agency or appropriate Tribal authority;

B. Site-specific hydraulic conditions, under all operating scenarios, of Calispell Creek upstream of Calispell Creek Pumping Plant;

C. Testing, using a model of Calispell Creek, that takes into consideration: channel configuration above and below the Calispell Creek Pumping Plant, operation of existing pumps; modifications to the existing pumping operations (including but not limited to the installation of fish screens, fish guidance structures, trash racks, etc.); and location of existing or additional outfall structures downstream from the Calispell Creek Pumping Plant that are associated with pumps operated by the Licensee. Such testing shall ensure proper siting of fishway facilities to accommodate upstream fish passage, including entrance and exit points for the permanent upstream volitional fishway;

D. Information on swimming performance, in consideration of the best scientific information available, to determine behavior and migratory pattern of juvenile (100 mm in length or greater), sub-adult and adult target fish species upstream and downstream from Calispell Creek Pumping Plant sufficient to determine proper siting of the permanent upstream fishway structure(s), including entrance and exit point(s) for fish migrating upstream through Calispell Creek Pumping Plant and appurtenant facilities for all operating scenarios and related environmental cues, including but not limited to water temperature, water velocity and lighting;

E. Devices and measures to allow adjustment of the fishway entrance attraction flows as necessary to effectively attract target fish species into the fishway;

F. Devices and measures to allow adjustment of the fishway entrance configuration, elevation, and location to effectively attract target fish species into the fishway; and

G. Box Canyon Hydroelectric Project operations, including but not limited to, the operational pool elevation in Box Canyon reservoir and operation of a pump or pumps located upstream from Calispell Creek Pumping Plant.

Moreover, the Licensee shall apply design details and information learned from operation and monitoring of the interim upstream fishway, as appropriate, to development of the design and specifications for construction and operation of the permanent volitional the fishway.

1.5.2. 3 CCPP Permanent Volitional Upstream Fishway – Final Design Plans and Specifications

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service that its conceptual Design Investigation Plan (see condition 1.5.2.2) for a Permanent Volitional Fishway Design has been approved, the Licensee shall submit for review and approval of the U.S. Fish and Wildlife Service the results of the Conceptual Upstream Fishway design investigations and for construction and operation of a permanent upstream volitional fishway at Calispell Creek Pumping Plant.

1.5.2.4 CCPP Permanent volitional Upstream Fishway – Operations and Maintenance Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service, that their Final Design Plans and Specifications (see Condition 1.5.2.2) have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operation and maintenance plan describing anticipated operation, maintenance, schedules, inspections and contingencies.

1.5.2.5 CCPP Permanent volitional Upstream Fishway – Monitoring and Reporting Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service, that their Final Design Plans and Specifications (see Condition 1.5.2.2) have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval of the U.S. Fish and Wildlife Service a plan for monitoring the permanent upstream volitional fishway at

Calispell Creek Pumping Plant. The monitoring plan shall require the submission of an annual report to the resource entities identified herein for the duration of the Box Canyon Hydroelectric Project's license and any subsequent annual license, and shall include, at a minimum, the following information:

A. The number of fish, by species, size, age class, and date observed at a fish counting facility at the permanent upstream volitional fishway;

B. The number of hours and days the permanent upstream fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A record of the daily observations conducted by a qualified fish biologist, approved by the U.S. Fish and Wildlife Service, about the physical condition of fish using the permanent upstream volitional fishway. Such observations shall include, but not be limited to, delay, injury, descaling and disease. The Licensee shall report any observed delay, injury, and mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within sixty (60) days after notification; and

D. A continuous record of Dissolved Oxygen (DO) levels, water temperature, stream flow and velocity, measured at least hourly, as required to accurately monitor the effectiveness of the upstream fishway structure. Water quality data collected to meet other Federal, State, and/or Tribal requirements, may be utilized if applicable.

1.5.2.6 CCPP Permanent Volitional Upstream Fishway – Post-installation Effectiveness Evaluation Plan

Within twelve (12) months after notification by the U.S. Fish and Wildlife Service, that their Final Design Plans and Specifications (see condition 1.5.2.2) have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for review and approval of the U.S. Fish and Wildlife Service, a plan for post-installation evaluations of the permanent upstream volitional fishway. The plan shall provide for documentation of upstream movement of target fish species, as determined by radio telemetry or other means of accurately tracking fish movement. The number of fish selected for this fish movement study shall be approved by the U.S. Fish and Wildlife Service, and will be based on accepted sampling protocol. This documentation shall include fish passage efficiency, passage time,

mortality, injury, and fallback rates for a representative range of operating scenarios, and flow releases from the Calispell Creek Pumping Plant.

1.5.2.7 CCPP Permanent volitional Upstream Fishway – Installation and Operation

Within twelve (12) months of the Fish and Wildlife Service's approval of the Licensee's Final Design Plans and Specifications (see Condition 1.5.2.3) for construction and operation of the permanent upstream volitional fishway, the Licensee shall, at its own expense, install and commence operation of permanent upstream volitional pool and weir, vertical slot, or similar fishway at Calispell Creek Pumping Plant. The installation and operation of permanent upstream volitional fishway shall be conducted in accordance with these plans to provide effective (safe and timely) upstream passage for juvenile, sub-adult, and adult target fish species over the full range of river flows for which the Box Canyon Hydroelectric Project maintains operational control. The Licensee shall notify the U.S. Fish and Wildlife Service and other resource entities identified herein in writing when the permanent upstream fishway becomes operational. Operation, maintenance, and monitoring of permanent upstream fishway operations, in accordance with U.S. Fish and Wildlife Service-approved Permanent Upstream Fishway Operating and Reporting Plan (see Condition 1.5.2.4) and Permanent Upstream Fishway Monitoring and Reporting Plan (see Condition1.5.2.5) shall commence with initiation of permanent upstream fishway operations. In addition, the Licensee shall operate the permanent upstream volitional fishway when target fish species are present in the Box Canyon Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available. Subsequently, timing of the operation of the structure shall be adjusted, as necessary, based on observed presence of target fish species in the Box Canyon Reservoir and/or Calispell Creek, and as approved by the U.S. Fish and Wildlife Service.

1.5.2.8 CCPP Permanent Volitional Upstream Fishway – Post-Installation Effectiveness Evaluations

Upon completion of the installation and commencement of operation of the permanent upstream fishway, the Licensee shall, at its own expense, commence post-installation effectiveness evaluations in accordance with the U.S. Fish and Wildlife Service-approved plan set forth in Condition 1.5.2.6 above. Within twelve (12) months of the installation of the permanent upstream fishway, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe results of initial effectiveness evaluations. Results of the evaluations shall be submitted to the resource managers identified herein for review and comment prior to being filed with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies are observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule of repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and

Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife Service. The Licensee shall conduct post-construction evaluations of the effectiveness of the permanent upstream volitional fishway at least once every five (5) years for the duration of the license.

1.5.2.9 CCPP Permanent Volitional Upstream Fishway – Monitoring Report

Within twelve (12) months after installation and commencement of operation of the permanent upstream volitional fishway, and on an annual basis thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe a report (see Condition 1.5.2.5) summarizing information obtained through monitoring. The monitoring report shall include results of observations taken by the Licensee pursuant to the stipulations as described in Condition Nos. 1.5.2.5 and 1.5.2.6.

1.6 Specific Prescriptions for Downstream Fishways at the Calispell Creek Pumping Plant (CCPP)

The following conditions are prescribed for construction, operation and maintenance of downstream fishways at the Calispell Creek Pumping Plant to provide effective (safe and timely) passage of juvenile, sub-adult and adult target fish species of or in excess of 100 mm (~4.0 inches) in total length.

1.6.1 CCPP Downstream Fishway – Preliminary Design Investigations and Construction Plan

Within five (5) years after license issuance, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and the Kalispel Indian Tribe, develop and submit for approval by the U.S. Fish and Wildlife Service plans for completing design investigations to collect site-specific biological and engineering information required to properly situate, design, and install a permanent downstream fishway in Calispell Creek at the Calispell Creek Pumping Plant. The plans shall be prepared by a qualified contractor with experience in conducting fish investigations, and selected by mutual agreement of the U.S. Fish and Wildlife Service and the Licensee. The plans shall provide for the completion of site-specific design investigations to determine, among other design details:

A. Biological information on swimming performance, in consideration of the best scientific information available, to determine the behavior and migratory pattern of target fish species in Calispell Creek, upstream and

downstream from the Calispell Creek Pumping Plant. The information shall be sufficient to ensure the proper siting of downstream fishway structures (including entrance and exit points for fish migrating downstream through the Calispell Creek Pumping Plant) and appurtenant facilities, and shall be obtained for all operating scenarios and related environmental cues, including but not limited to water temperature, dissolved oxygen, stream velocity, and lighting;

B. Design investigations, using a model of Calispell Creek, that takes into consideration the channel configuration above the Calispell Creek Pumping Plant. Such testing shall be used to determine the proper siting of fishway facilities to accommodate downstream fish passage, including entrance and exit points for the permanent downstream fishway;

C. Design investigations, as needed to accommodate the installation of devices and include measures to allow adjustment of fishway entrance attraction flows as necessary to effectively attract target fish species into the fishway;

D. The design range for Calispell Creek shall be such that the fishway is operational at the full range of flows and water surface elevations and/or during the time frame specified by the U.S. Fish and Wildlife Service, based on the likely presence of target fish species in Calispell Creek. Design and operation during periods when Calispell Creek exceeds the water quality criterion for temperature shall be consistent with Section 401 (Clean Water Act) water quality certification issued by the Environmental Protection Agency or appropriate Tribal authority;

E. The design plan shall include a provision for the installation of at least one Hidrostal ® or Archimedes type pump(s), as determined to be most effective for the downstream movement of target fish species, by the U.S. Fish and Wildlife Service. The pump shall have a variable speed drive, have a pumping capacity of no less than 80 cubic feet per second (cfs), and shall have a head capacity equal to the maximum difference in surface water elevation between Calispell Creek upstream and downstream from the Calispell Creek Pumping Plant, for those periods in which the pump is operating;

F. The design plan shall include a provision for the installation of a fish exclusion barrier (i.e., full screening) to prevent entrainment and impingement of target fish species (equal to or greater than 100 mm in length), at a point upstream from Calispell Creek Pumping Plant, as needed to guide target fish species past existing pumps to the Hidrostal ® or

Archimedes type pump(s). This fish exclusion barrier shall be comprised of fish exclusion screens;

G. Fish exclusion screens will be designed to accommodate an approach velocity of 0.80 ft/s, over the gross screen surface area , as measured perpendicular and 3 inches from the screen (NMFS 1995a). The narrowest dimension in the screen openings shall not exceed ¼ or 0.25 inches (6.35 mm) in narrow direction, as needed to prevent entrainment or impingement of target fish species equal to or greater than 100 mm in length (NMFS 1995a). The design shall include a cleaning device necessary to maintain the fish exclusion screen free of debris and/or detritus; and

H. When the stage of Calispell Creek downstream from the Calispell Creek Pumping Plant is lower than the stage of Calispell Creek upstream of the Calispell Creek Pumping Plant, *and* Calispell Creek is free flowing through existing culverts, the pump(s) may be shut down, provided that target fish species (at any life stage) are free to move through the culverts.

1.6.2 CCPP Downstream Fishway – Final Plans and Specifications

Within twelve (12) months after notified by the U.S. Fish and Wildlife Service, that conceptual plans for downstream fishway required by Condition 1.6.1 above, have been approved, the Licensee shall at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, the Final Design Plans and Specifications for the permanent Downstream fishway at the Calispell Creek Pumping Plant.

1.6.3 CCPP Downstream Fishway – Operations and Maintenance Plan

Within twelve (12) months after notified by the U.S. Fish and Wildlife Service, that the conceptual plans for downstream fishway required by Condition 1.6.1 above, have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service an operations and maintenance plan for the permanent Downstream Fishway describing anticipated operations, maintenance, schedules, inspections, and contingencies.

1.6.4 CCPP Downstream Fishway – Monitoring and Reporting Plan

Within twelve (12) months after notified by the U.S. Fish and Wildlife Service, that the conceptual plans for downstream fishway required by Condition 1.6.1 above, have been

approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, a plan for monitoring the downstream fishway at the Calispell Creek Pumping Plant. The monitoring plan shall require that the Licensee submit an annual monitoring report to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe, for the duration of operation of the permanent Downstream Fishway. The annual monitoring report shall include:

A. The number of fish, by species, size, age class, and date observed at the downstream fishway;

B. The number of hours and days the fishway was in operation, including a maintenance summary and explanation of any out-of-service events in excess of two hours;

C. A continuous (minimum of an hourly measurement) record of water temperature, stream flow and velocity. Measurements shall be taken at a location at or near the entrance to the fishway as required to accurately monitor the effectiveness of the Hidrostal ® or Archimedes type pump(s); and

D. A record of daily observations by a qualified fish biologist (approved by the U.S. Fish and Wildlife Service), about the physical condition of target fish using the downstream fishway. Such observations shall include, but not be limited to: delay, injury, descaling, disease, and/or any indication of predation by piscivorous birds or fish resulting from disorientation of the target fish species using the downstream fishway. The Licensee shall report any observed delay, injury, descaling, disease, and/or mortality of fish to the U.S. Fish and Wildlife Service within 24 hours and shall take appropriate corrective measures within 60 days after notification by the U.S. Fish and Wildlife Service.

1.6.5 CCPP Downstream Fishway – Post-Installation Effectiveness Evaluation Plan

Within twelve (12) months after notified by the U.S. Fish and Wildlife Service, that the conceptual plans for downstream fishway required by Condition 1.6.1 above, have been approved, the Licensee shall, at its own expense and in consultation with the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe, develop and submit for review and approval by the U.S. Fish and Wildlife Service, a plan for post-installation evaluations of the permanent

Downstream Fishway. The plan shall provide for documentation of the downstream movement of target fish species, as determined by radio-telemetry or other means of accurately tracking fish movement. The plan shall include methods for documenting fish passage efficiency, passage time, mortality, and injury for a representative range of operating scenarios and flow releases form the Calispell Creek Pumping Plant.

1.6.6 CCPP Downstream Fishway – Installation and Operation

Within twenty-four (24) months after U.S. Fish and Wildlife Service approval of the Licensee's Final Plans and Specifications for design, construction, and operation of the permanent downstream Fishway, as required by Condition 1.6.2 above, the Licensee shall, at its own expense, install and commence operation of the permanent Downstream Fishway at Calispell Creek Pumping Plant. The installation and operation of the Downstream Fishway shall be conducted in accordance with approved plans to provide effective (safe and timely) downstream passage for juvenile, sub-adult, and adult fish species of, or in excess of 100 mm (~ 4 inches) in length. The Licensee shall notify the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe in writing when the permanent downstream fishway becomes operational. The Licensee shall operate, maintain and monitor the permanent downstream fishway in accordance with the approved Downstream Fishway Operation and Maintenance Plan (see Condition 1.6.4). In addition, the Licensee shall operate the downstream fishway when target fish species are present in the Box Canyon Reservoir, as determined by the U.S. Fish and Wildlife Service using the best scientific information available.

1.6.7 CCPP Downstream Fishway—Post-Installation Effectiveness Evaluations

Upon completion of the installation and commencement of operation of the permanent Downstream Fishway, the Licensee shall, at its own expense, commence a Post-Installation Effectiveness Evaluation in accordance with the plan set forth in Condition 10.6.5 Within twelve (12) months of the installation of the downstream fishway, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife Service, and Kalispel Indian Tribe, the results of the initial Post-Installation Effectiveness Evaluation. Results of the evaluation shall be submitted to the resource managers identified herein with sufficient time for review and comment prior to being filed with the Commission. If notified by the U.S. Fish and Wildlife Service that deficiencies have been observed in the fishway, the Licensee shall provide the U.S. Fish and Wildlife Service a remediation plan to rectify such deficiencies that includes a schedule for repeating the effectiveness evaluation within sixty (60) days after notification. Subsequent to approval of the remediation plan by the U.S. Fish and Wildlife Service, the Licensee shall file the remediation plan with the Commission and shall implement the plan in accordance with its approved schedule. This effectiveness evaluation process shall continue until it is demonstrated that all

reasonable measures necessary and appropriate to maximize upstream fish passage effectiveness have been performed to the satisfaction of the U.S. Fish and Wildlife. The Licensee shall repeat post-construction evaluations of effectiveness of the permanent Downstream Fishway at least once every five (5) years for the duration of the license.

1.6.8 CCP Downstream Fishway—Monitoring Report

Within twelve (12) months after installation and commence of operation of the permanent Downstream Fishway, and annual thereafter, the Licensee shall submit to the U.S. Fish and Wildlife Service, U.S. Forest Service, Washington Department of Fish and Wildlife, and Kalispel Indian Tribe a report summarizing the information obtained through monitoring as required by Condition 10.6.4 above.

APPENDIX D

Water Quality Certificate (401)

Washington Department of Ecology
AMENDED ORDER NO. 02WQER-5121A-01
CERTIFICATION CONDITIONS FOR THE BOX CANYON HYDROELECTRIC PROJECT
February 21, 2003

I. General Requirements

A. All water quality criteria as specified in WAC 173-201A-030 for Class A waters plus specific conditions for the Pend Oreille River [WAC 173-201A-130 (79)] apply to this project and the applicant shall comply with those criteria. Nothing in this order shall be construed to allow the applicant to violate Washington's water quality standards (Chapter 173-201A WAC) unless otherwise authorized by Ecology.

B. In the event of changes in or amendments to the state water quality standards (WAC 173-201A), or changes in or amendments to the state Water Pollution Control Act (RCW 90.48), or changes in or amendments to the Federal Clean Water Act, such provisions, standards, criteria or requirements shall also apply to this project and any attendant agreements, orders, or permits.

C. Discharge of any solid or liquid waste to the waters of the state of Washington without approval from Ecology is prohibited.

D. The District shall allow Ecology access during business hours to inspect the project and its operations to monitor compliance with the conditions of this order.

E. Copies of this order and associated permits, licenses, approvals and other documents shall be kept on site and made readily available for reference by the District, its contractors and consultants, and by Ecology.

II. Specific Water Quality Provisions

A. Findings [omitted – the section contains no requirements as to the licensee]
B. Total Maximum Daily Loads (TMDLs)-

1. By 2004 Ecology will begin developing TMDLs and associated implementation plans for bringing the Pend Oreille River into compliance with Washington State's standards for temperature, pH and total dissolved gas pressure. Where they are more protective, the provisions of the TMDL implementation plans relevant to Box Canyon dam and its operations, including specified time frames for implementing improvement measures, shall supercede the conditions of this order.

C. Total Dissolved Gas Pressure (Total Dissolved Gas)-

1. Within thirty days of the date FERC issues a new license for the project, the District shall submit a Total Dissolved Gas Abatement Plan to Ecology for review and approval. To date, the District has identified a combination of turbine upgrades, an auxiliary spillway bypass, and alternate gate settings as a possible approach for achieving compliance. The plan must describe these measures in detail, including a modeled prediction of how effective they will be at reducing gas generated by the project. Alternate measures may be proposed if they are equally effective at abating gas. The plan must also include a compliance schedule that may not exceed ten years, as well as sufficient benchmarks and reporting to permit Ecology to track the District's progress toward implementing the plan. Implementation of the plan shall begin as soon as Ecology has provided the District with written approval.

2. As operational, structural and other changes are implemented, the District shall monitor the effectiveness of these abatement measures at reducing Total Dissolved Gas levels. If the Total Dissolved Gas standard is met prior to or at the end of the ten year compliance period, no further improvements will be needed. However, Ecology will require continued monitoring to ensure that the Total Dissolved Gas standard continues to be met during the spill season over the range of flows expected in the Pend Oreille River.

3. If the Total Dissolved Gas standard is not met by the end of the ten year compliance period, and after the Total Dissolved Gas Abatement Plan has been implemented, the District shall evaluate and incorporate any new reasonable and feasible technologies that have been developed since the original abatement plan was prepared. If no new reasonable and feasible improvements are identified through this evaluation, the District shall either prepare a Use

Attainability Analysis (UAA), or provide scientific justification for a site-specific Total Dissolved Gas criterion.

D. Non-native Aquatic Biota-

1. Within thirty days of the date FERC issues a new license for the project, the District shall complete the Aquatic Plant Management Plan, currently in draft form, for the Box Canyon reservoir. The Aquatic Plant Management Plan shall be submitted to Ecology for review and approval. The plan needs to include containment methods for Eurasian water milfoil (Myriophyllum spicatum) and any other non-native nuisance aquatic plants in the reservoir, plus an implementation schedule and provisions for periodic monitoring to track progress toward meeting the goals of the plan. Implementation of the plan shall begin as soon as Ecology has provided the District with written approval.

2. The District shall prepare annual reports detailing progress toward meeting the goals of the Aquatic Plant Management Plan, including recommendations for modifying the plan as needed. These reports shall be submitted to Ecology.

E. Temperature-

1. Within thirty days of the date FERC issues a new license for the project, the District shall submit an Interim Temperature Management Plan for review and approval by Ecology. The plan needs to cover those times of the year when water temperatures both exceed 20^{o} C and modelling indicates that impounded conditions are warmer than unimpounded conditions in the Box Canyon reach of the Pend Oreille River. The plan shall identify all reasonable and feasible mitigation measures that could be used in the short-term to decrease any warming effects of the dam's operation on temperatures in the river. If no such mitigation measures are identified, the District shall provide Ecology with their analysis supporting that decision. Implementation of the plan shall begin as soon as Ecology has given the District written approval.

2. The Interim Temperature Management Plan shall remain in effect only until Ecology completes a temperature TMDL and its associated implementation plan for the Pend Oreille River.

III. Water Quality Monitoring and Reporting

A. Within thirty days of the date FERC issues a new license for the project, the District shall prepare a water quality monitoring and quality assurance project plan (QAPP) and submit the plan to Ecology for review and written approval. Initially, the plan shall include provisions for monitoring pH, temperature, dissolved oxygen, and total dissolved gas pressure (Total Dissolved Gas). Revisions to the QAPP may be required by Ecology in the future based on monitoring results, regulatory changes, changes in project operations and/or the requirements of TMDLs. Implementation of the plan shall begin as soon as Ecology has provided the District with written approval.

B. The QAPP shall include, at a minimum, a list of parameters to be monitored, a map of sampling locations, and descriptions of the purpose of the monitoring, sampling frequency, sampling procedures and equipment, analytical methods, quality control procedures, data handling and data assessment procedures, and reporting protocols. The District shall re-evaluate and propose any needed revisions to the QAPP at least every five years and at other times to respond to the monitoring requirements in Part II of this order. Changes to the QAPP need written approval by Ecology before taking effect.

C. Water quality monitoring results, along with a summary report, shall be submitted annually to the Department of Ecology, Eastern Region Office. Ecology will use the monitoring results to track the project's progress toward meeting and remaining in compliance with state water quality standards.

IV. Construction Activities

A. While the existing project is not a construction site, all development or mitigation projects proposed under relicensing must meet the following conditions. Ecology may require a separate section 401 water quality certification if another Federal permit is needed for construction of any development or mitigation project.

1. All water quality criteria as specified in WAC 173-201A-030 for Class A waters and specific conditions for the Pend Oreille River [WAC 173-201A-130 (79)] apply to any construction work needed to implement development or mitigation projects required under the new FERC license.

2. The turbidity criterion for Class A waters (WAC 173-201A-030(2)) may be modified to allow a temporary mixing zone during and immediately after in-water or shoreline construction activities that disturb in-place sediments.

   A temporary turbidity mixing zone is subject to the constraints of WAC 173-201A-100(4) and (6)and is authorized only after the activity has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices (BMPs) to avoid or minimize disturbance of in-place sediments and exceedences of the turbidity criterion. The temporary turbidity mixing zone for waters with flows greater than 100 cubic feet per second (cfs) at the time of construction, is 300 feet downstream of the activity causing the turbidity exceedences.

V. Spill Prevention and Control

A. Any work that is out of compliance with this order, conditions causing distressed or dying fish, or any discharge of oil, fuel or chemicals into state waters or onto land with a potential for entry into state waters, is prohibited.

B. In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.

C. Spills into state waters, spills onto land with a potential for entry into state waters, fish kills, and any other significant water quality impacts, shall be reported immediately to the Department of Ecology Eastern Region Office at (509) 329-3400. Notification shall include a description of the nature and extent of the problem, any actions taken to correct the problem, plus any proposed changes in operations to prevent further problems.

VI. Amendment of this Order

A. Ecology reserves the right to amend this order if Ecology determines that the provisions hereof no longer provide reasonable assurance that the project and its operations will comply with state water quality standards. Any such amendment shall be done through an order which can be appealed to the Pollution Control Hearings Board under RCW 43.221B. Ecology shall transmit any such orders to FERC for inclusion in the existing license.

APPENDIX E

Environmental Protection Agency (EPA)
§401 Certification Conditions for Calispell Creek Pump Works
Under FERC Project No. 2042-013 (Box Canyon Dam)

Date: January 2, 2003

General Conditions

1 The District shall provide access to the Project sites and all mitigation sites upon request by representatives of EPA or the Kalispel Tribe of Indians for site inspections, monitoring, and data collection, in order to verify that conditions of this certification are being met.

2 This certification is provisional upon, and does not exempt the applicant from, compliance with all applicable statutes, permits, requirements and codes administered by other federal, state, tribal, and local agencies.

3 This certification is valid for the duration of the proposed license.

3.1 This certification will cease to be valid if the Project is constructed and/or operated in a manner not consistent with the Project description contained in the Project's FERC application and all subsequent formal revisions and conditions contained in the FERC license issued to the Project. This certification does not preclude the Project from operating in accordance with more stringent water quality standards that may be imposed upon it.

3.2 This certification will cease to be valid and the applicant must reapply with an updated application if the information contained in the Project application or FERC license is voided by subsequent submissions by any federal or state agency or Tribe.

4 Any future actions by (or at) the Project locations, emergency or otherwise, that are not defined or provided for in the FERC license are not covered by this certification.

5 All future action(s) undertaken by the Project to satisfy the conditions of this certification shall be coordinated with EPA and the Kalispel Tribe and notice shall be provided to EPA and the Kalispel Tribe prior to implementation of such action(s). If the Kalispel Tribe is approved to administer section 401 of the CWA on the Reservation, all such coordination will be direct to the Kalispel Tribe.

6 EPA reserves the right to exercise its authority to add and alter terms and conditions of this Certification as authorized by the CWA, in order to carry out its responsibilities with respect to water quality during the life of the FERC license for the Project in order to reasonably assure compliance in light of changed circumstances.

7 A copy of this certification, any state or Tribal permit conditions or requirements, and the currently effective FERC license with all conditions shall be kept at the Project offices and shall be readily available for review and/or reference by Project personnel, operators, contractors, construction supervisors, managers, and foremen, and federal, state, and/or Tribal personnel.

8 To avoid violations of, and/or non-compliance with, this certification, the Project shall ensure that Project managers and any other parties responsible for, or delegated or contracted duties essential to, compliance with this certification have read and understand the relevant provisions of this certification, applicable permits, other requirements, and any subsequent revisions or approvals which are related or interrelated to conditions of this certification. Such individuals shall verify that this condition has been met by contemporaneously signing a log which identifies the individual, the date, and the document(s) reviewed. This log will be developed and maintained by the Project and will be made available for review by federal and Tribal inspectors. A copy of the log will be provided by the Project to such inspectors if requested.

9 Any violations of, or non-compliance with, this certification or the conditions of this certification which are discovered by the Project shall be documented and reported to EPA and the Kalispel Tribe in writing by the Project within 24 hours of Project personnel becoming aware that such violation or non-compliance has occurred. Such written report(s) shall be signed by authorized Project personnel and submitted to the appropriate EPA or Tribal office (whichever is the then current certifying authority) and may be submitted by facsimile or other electronic transmittal. A copy of such report(s) shall be maintained by the Project. Failure to report as required by this paragraph is a violation of this certification.

Water Quality Standards, General and Specific Conditions

10 Water Quality Standards (WQS) – General

10.1 The Kalispel Tribe of Indians (“KTI” or “Tribe”) has completed its public participation process as to its proposed Water quality Standards (WQS). However, the Tribal council must still determine whether these standards will be adopted with or without modifications and EPA has not formally

approved the Kalipsel Tribe's Water Quality Standards. Therefore, EPA is using the Washington State Water Quality Standards as guidance [WAC 173-201A].

10.1.1 Nothing in this certification shall absolve the Project from liability for violations of WQS or contamination and subsequent cleanup of surface waters occurring as a result of the Project's Calispell Creek Pump works.

10.1.2 Nothing in this certification shall be construed as to allow the Project to violate WQS.

10.1.3 Nothing in this certification shall be deemed to authorize the Project to affect water quality so as to adversely impact reserved hunting, fishing, water and other rights of the Kalispel Tribe of Indians under federal law, including cultural and ceremonial resource uses and the rights of individual Indians on the Kalispel Indian Reservation.

10.2 At the point of discharge, within the Project's Calispell Creek Pump Works area within the boundary of the Kalispel Reservation, those Works shall not contribute to exceedances of the water quality criteria as specified in WAC 173-201A-030 for Class A waters.

10.3 In the event of EPA approval of the Kalispel Tribe's water quality standards under the CWA, or there are changes in or amendments to the Clean Water Act, such provisions, standards, criteria, regulations, or requirements shall also apply to this Project and any attendant agreements, orders, or permits, as authorized by the Clean Water Act. This requirement also applies to changes in or amendments to the state WQS as to waters subject to the State water quality management and protection jurisdiction, and as to Reservation waters prior to EPA approval of the Tribe's water quality standards.

11 **Water Quality Standards (WQS) – Specific**

11.1 Calispell Creek, below the outlet of Calispell Lake and upstream of the reservation boundary, exceeds the WQS for dissolved oxygen (DO), and for temperature (T) during a portion of the year. These waters then flow into the reservation. Calispell Creek, inside the reservation boundary, also exceeds the WQS for these criteria during a portion of the year. In addition, data indicates that the criterion for fecal coliform also may be exceeded. There is no cooling, aerating, or filtering of water through the Calispell Creek Pump Works and the discharge also exceeds, or is expected to exceed, these WQS,

11.1.1 Temperatures near 30 degrees Centigrade have been recorded near the pump station inside the reservation boundary. The documentation submitted by the District as part of the license application also provides temperature data showing that Calispell Creek exceeds the temperature standard seasonally. Temperature data collected by the Tribe similarly shows that WQS is exceeded.

11.1.2 Dissolved oxygen is reported by the District in license application documentation to exceed the WQS seasonally, falling below the standard of 8.0 mg/L and reported in the range of 5 mg/L to 7.5 mg/L.

11.1.3 Fecal coliform has been measured in Calispell Creek, above the pump stations and within the reservation boundary, at levels of as high as 158 cfu/100mL which indicates that the WQS of 100 colonies/100 mL (as a geometric mean) may be exceeded both inside and above the reservation boundary.

11.1.4 The criteria for Characteristic Uses and Aesthetic Values likewise appear to not be met.

11.2 WAC Water Quality Standards: Calispell Creek, outside the Reservation boundary, is designated by the state of Washington Department of Ecology as a Class A surface water and certain criteria apply including, but not limited to, the following:

11.2.1 General characteristic. Water quality of this class shall met or exceed the requirements for all or substantially all uses. [WAC 173-201A-030 (2)(a)]

11.2.2 Characteristic Uses [WAC 173-201A-030 (2)(b): Characteristic uses shall include but not be limited to, the following: (i) Water supply (domestic, industrial, agricultural). (ii) Stock watering. (iii) Fish and shellfish: Salmonid migration, rearing, spawning, and harvesting. Other fish migration, rearing, spawning, and harvesting. Clam, oyster, and mussel rearing, spawning, and harvesting. Crustaceans and other shellfish (crabs, shrimp crayfish, scallops, etc.) rearing, spawning, and harvesting. (iv) Wildlife habitat. (v) recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment). (vi) commerce and navigation.

11.2.3 Fecal Coliform Organisms for Freshwater [WAC 173-201A-030 (2)(c)(i)(A)]: Freshwater – fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100mL.

11.2.4 Dissolved Oxygen [WAC 173-201A-030 (2)(c)(ii)(A)]: Freshwater – dissolved oxygen shall exceed 8.0 mg/L.

11.2.5 Temperature [WAC 173-201A-030 (2)(c)(iv)]: Temperature shall not exceed 18.0° C (freshwater) or 16.0 ° C (marine water) due to human activities. When natural conditions exceed 18.0° C (freshwater) and 16.0° C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3 ° C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed t=28/(T+7) (freshwater) or t=12/(T-2) (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8 ° C

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

11.2.6 Turbidity [WAC 173-201A-030 (2)(c)(vi)]: Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU. (NTU means nephelometric turbidity units).

11.2.7 Aesthetic values [WAC 173-201A-030 (2)(c)(vi)]: Aesthetic Values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

11.2.8 "Natural conditions" or "natural background levels" means surface water quality that was present before any human-caused pollution. When estimating natural conditions in the headwaters of a disturbed watershed it may be necessary to use the less disturbed conditions of a neighboring or similar watershed as a reference condition. [WAC 173-201A-020]

12 Total Maximum Daily Load (TMDL)

12.1 The state of Washington may adopt a Total Maximum Daily Load (TMDL) pursuant to section 303(d) of the Clean Water Act (CWA) for that portion of Calispell creek above the pump stations and outside the reservation

boundary. After final approval by the EPA of such a TMDL for temperature (or other parameters specified by the state), EPA expects that the District shall implement those measures in the associated implementation plan(s) specific to the Project and its operations to ensure that waters entering the reservation above the Calispell Creek Pump Works meet the WQS or are not impaired as a result of the Project and its operations.

12.2 The same condition as in 12.1 also applies to any CWA section 303(d) listing by EPA or the Kalispel Tribe and any TMDL approved by EPA for waters of Calispell Creek inside the Tribal reservation boundary.

13 **Temperature [WAC 173-201A-030(2)(c)(iv)]**

13.1 Inside the Tribal reservation boundary and near the confluence of Calispell Creek with the Pend Oreille River (aka Box Canyon reservoir), a dike and associated works (e.g., gates, pumps) have been constructed which are a part of the Project. These Calispell Creek Pump works physically control the water surface elevation and the flow regime of water between the creek and the river. The pumps are used periodically to move water from the creek through the dike and into the river. Non-continuous operation of these pumps could potentially result in water being impounded behind and upstream of the dike during periods when the pumps are not running. Impoundment of the water would likely alter the temperature regime of the creek in the impounded reach.

13.2 Temperature data shows that groundwater inflow to the creek (or other processes) likely exerts a cooling influence on the creek during those periods when Calispell Creek exceeds the WQS for temperature.

13.3 In order to minimize effects on the temperature regime of the creek due to the pump operations, when the discharge temperature form the pump(s) within the reservation boundary exceeds the WQS, the pump(s) shall be operated such that a near natural elevation of the water surface is maintained and all inflow is passed through the pumps.

13.4 In the alternative, during those periods when the temperature exceeds the WQS, the gates through the dike shall be opened in order that the elevation of the water surface of the creek is not influenced by the reservoir, dike and/or operation of the pump(s). This alternative is subject to flood control considerations.

13.5 The District may seek approval from EPA and the Kalispel Tribe for a different alternative to mitigate temperature exceedances. If the District seeks approval of a different alternative, it shall submit a detailed proposal prior to, along with, or subsequent to, the plan required under section 14. EPA and the Kalispel Tribe shall review, comment on, and approve or disapprove such plan. Such alternative plan may replace or supercede the plan required under section 14 only upon specific written notice from EPA and the Kalispel Tribe.

14 Plan for Pump Operations (PPO)

14.1 The District shall prepare an approvable Plan for Pump Operations (PPO) and submit this plan to EPA within 90 calendar days after issuance of the license by FERC. EPA shall review, comment on, and approve or disapprove such plan. The PPO shall be submitted to the address specified in paragraph 18. Written disapproval of the PPO by EPA shall constitute non-compliance with this certification by the District.

14.1.1 The objectives of the PPO are: (1) to minimize water impoundment behind the dike and pump stations and (2) to maintain, to the extent practicable, the natural elevation of the water surface and ensure that all inflow is passed through the pumps or through the gates during periods when the creek/discharge is at or above the WQS for temperature. The plan, when approved by EPA, shall be implemented by the District within 30 calendar days of approval by EPA, unless additional time is approved by EPA.

14.1.2 The PPO shall provide an estimate of the Natural Condition for the seasonal elevation and flow regime of Calispell Creek for those periods when the temperature WQS is not met and include the method(s) and data used to develop the estimate.

14.1.3 The PPO shall also include recommendations and a schedule for alteration of one or more pumps and/or for the installation of new pumping equipment (e.g., to provide for variable speed pumping) in order to achieve the objectives of paragraph 14.1.1. Such alteration or installation shall be implemented according to the schedule provided in the PPO approved by EPA.

14.1.4 The PPO shall include a proposal for modeling the temperature regime. If additional data is necessary for the modeling effort, it shall be collected in accordance with section 17.

14.1.5 As necessary, the plan shall take into account other requirements for flow in Calispell Creek, or pumping regimes or equipment, or fish passage measures, or structures to be constructed, or other measures, which are included as final conditions to the license issued by FERC. The PPO shall specifically identify where, and describe how, such other requirements interfere with the objectives of paragraph 14.1.1.

14.1.6 The District may request modification of the PPO as data and circumstances warrant. Such requests shall provide detailed supporting information for the request. Until such time as EPA acts on such request(s), the previously approved PPO shall be implemented.

14.1.7 The terms and conditions of EPA approved PPOs are enforceable as requirements of this certification.

15 **Equipment Operation/Maintenance/Repair – Calispell Creek Pump Works**

15.1 Petroleum and fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into surface water or ground water.

15.2 Lubricants, fuels, cleaning agents, or any other chemicals used by the Project during normal operation or maintenance or repair (or stored by the Project) shall not be allowed to enter surface water or ground water. Any drains, sumps, or other conveyances shall be protected against inadvertent or accidental releases of such materials. Such materials which are wasted or waste generated from the use of such materials shall be disposed of in accordance with applicable federal, Tribal, state, and/or local requirements.

15.3 Equipment shall be cleaned so as to be free of petroleum products and well maintained to ensure petroleum products do not leak.

15.4 Materials such as sorbent pads or booms shall be available on-site to contain and clean up any spills as a result of equipment maintenance or failure.

15.5 In the event of discharge of oil, fuel, or chemicals into state or Reservation waters or onto land with potential for entry into such waters; containment and cleanup shall begin immediately, be completed as soon as possible, and take precedence over normal work.

15.6 Spills into state or Reservation waters, or spills onto land with potential for entry into state or Reservation waters shall be immediately reported to the appropriate agencies. No refueling of equipment shall occur over, or within 100 feet of, creeks or wetlands.

16 **Construction – Calispell Creek and Calispell Creek Pump Works**

16.1 To the extent that the Project's Calispell Creek Pump Works is a construction site, all development or mitigation projects initiated under this relicensing must meet the following conditions. A separate section 401 certification may be required if another Federal permit is required for construction of any development or mitigation project.

16.2 All water quality criteria as specified in WAC 173-201A-030 apply to any construction work needed to implement development or mitigation projects conducted by the District within the reservation boundary which either are required under the new FERC license or impact Calispell Creek.

16.3 Cement: West concrete shall be prevented from entering surface water or ground water. Forms for any concrete structure shall be constructed to prevent leaching of wet concrete. Impervious materials shall be placed over any exposed concrete not lined with the forms that will come in contact with surface water or ground water. Forms and impervious materials shall remain in place until the concrete is cured.

16.4 Construction debris: All construction debris and excess excavated material shall be disposed of at a suitable (i.e., permitted) upland location and in a manner that prevents entrance to a waterway or causes degradation of waters of the United States.

16.5 No construction equipment shall be operated in buffers or adjacent wetlands or open waters outside of an established project footprint. Any such footprint shall be as small as practicable and be protected by a physical barrier against contact with adjacent surface water until completion of that portion of the construction project requiring such footprint.

16.6 The turbidity criterion of WAC 173-201A-030 may be modified to allow a temporary mixing zone during and immediately after necessary in-water or shoreline construction activities. A temporary turbidity mixing zone is subject to the constraints of WAC 173-201A-100 and is authorized only after the activity has received all other necessary local permits and approvals and after the implementation of appropriate best management practices (BMPs) to avoid or minimize exceedances of the turbidity

criterion. Suggested BMPs are described in Ecology Publication No. 99-06, *Working in the Water*.

16.7 The conditions of section 15 (above) shall also apply to all construction activities within the Tribal reservation boundary.

17 Monitoring and Reporting

17.1 A complete and approvable Water Quality Monitoring Plan (WQMP), which includes a Quality assurance Project Plan (QAPP), for Calispell Creek shall be prepared and submitted to EPA and to the Kalispel Tribe. EPA and/or the Kalispel Tribe shall review, comment on, and approve or disapprove such plan. The WQMP shall be submitted to the address specified in paragraph 18. Written disapproval of the WQMP by EPA or the Kalispel Tribe shall constitute non-compliance with this certification by the District. The WQMP shall be submitted within 90 calendar days after issuance of the license by FERC and shall be implemented within 30 calendar days of approval by EPA or the Kalispel Tribe, unless additional time is provided by EPA or the Tribe.

17.2 The WQMP shall provide for the recording of pumping rates and for monitoring of Calispell Creek, within the reservation boundary, for temperature, fecal coliform, E. coli, turbidity, dissolved oxygen (DO), water elevation, and flow. Monitoring locations shall include (at a minimum) a site at or near the pump station on the upstream side of the railroad dike and a site just below the discharge point on the pump station(s). In addition, the WQMP may include a provision for monitoring at or near the outlet of Calispell lake (just below the Duck Club dam). Specific locations shall be identified in the WQMP.

17.2.1 Monitoring for additional parameters may be required by EPA or the Kalispel Tribe based on monitoring results, new information on violations of different WQS, regulatory changes, or changes in Project operations at the Calispell Creek Pump Works. Within 60 days of written notice from EPA or the Kalispel Tribe that additional monitoring for additional parameters is necessary, the District shall develop and submit a revised WQMP in accordance with paragraph 17.1.

17.2.2 In addition, the WQMP shall include that monitoring necessary to support the modeling proposal required under Section 14.

17.3 At a minimum, parameters for each monitoring site are to be as follows:

17.3.1 At Calispell Lake outlet below the Duck Club dam (if this monitoring location is included): Temperature, Turbidity, DO, fecal coliform, E. coli, and flow.

17.3.2 In Calispell Creek adjacent to, and upstream of, the pump station(s): Temperature, Turbidity, DO fecal coliform, E. coli, water elevation, and flow.

17.3.3 In the discharge canal downstream of the pump station(s): Temperature, Turbidity, DO, fecal coliform, and E. coli.

17.4 The objectives of the WQMP are to measure the water quality parameters of temperature, turbidity, DO, fecal coliform, and E. coli in order to determine and document compliance with the applicable WQS and to measure trends over time. In addition, flow and water elevation are to be measured, and pumping rates recorded, in order to provide a basis for changes in the Calispell Creek Pump Works and their operation (if necessary) to achieve, as near as possible, a natural flow and temperature regime. This data is also to be used to evaluate the effect of pump operations on temperature and DO as well as to demonstrate compliance with this certification.

17.5 Monitoring shall begin as provided in paragraph 17.1 and shall continue for a minimum of 5 years. Interim reports shall be prepared annually by the District, after each year of monitoring, which includes all the data collected and summarizes and evaluates the data using the then applicable WQS (Annual Water Quality Monitoring Summary Report for the Calispell Creek Pump Works). The District shall collect all data consistent with the requirements for STORET entry. All collected data shall be entered into STORET at least annually. At the end of the 5th year of monitoring, the District shall prepare and submit a Fifth Year Water Quality Monitoring Report for the Calispell Creek Pump Works which supplies and summarizes all data collected over the term of the WQMP and identifies and analyzes trends in the data and evaluates factors contributing to those trends. This 5th year report shall also include conclusions regarding the collected data and compliance with WQS as well as recommendations regarding continued monitoring or for its cessation.

17.5.1 All plans and reports shall be submitted to the addresses provided in paragraph 18. All annual reports shall be due 90 calendar days following completion of the sampling year during which the data was collected. The 5th year report shall be due 150 calendar days following completion of the 5th sampling year of data collection. The report(s) shall be submitted in

hard copy (two copies) and electronic format. The software to be used by the District for submission of the electronic format version of the report(s) is to be specified in the WQMP (the software identified in the approved WQMP for report submission may be changed by mutual agreement and after written confirmation from EPA).

17.5.2 EPA and the Kalispel Tribe shall review the 5th year report and notify the District of modification(s) and/or approval of the District recommendations for continued monitoring or its cessation. If continued monitoring is approved, the District shall submit a new WQMP, including a QAPP, which comports to the EPA and/or Tribal approval and shall implement the approved WQMP within 30 calendar day after approval, unless additional time is provided by EPA and/or the Tribe.

17.5.2.1 During the time period when the 5th year report and its recommendations are being prepared, submitted, reviewed, and approved by EPA or the Kalispel Tribe, and during the time required to develop and approve a new WQMP, the District shall continue to implement the monitoring program of the existing WQMP originally approved under this certification.

17.6 The terms and conditions of EPA and the Tribe's approved WQMPs are enforceable as requirements of this certification.

18 **Mailing Address:** All plans, reports, or other submissions required by this Certification are to be sent to the mailing addresses as follows: 1) U.S. EPA Region 10, Office of Water, OW-135, 1200 Sixth Ave., Seattle, WA 98101-1128. 2) the Kalispel Tribe of Indians, Natural Resource Department, P.O. Box 39, Usk, WA 99180. These addresses are to be verified prior to submission of documents and, if necessary, corrected to the then current address.

APPENDIX F

PLAN E
For Operation of Calispell Creek Pumps

This Agreement is entered into by and between Public Utility District No. 1 of Pend Oreille County (PUD) of Newport, WA and Diking District No. 2 (District) of Usk, WA, (the Parties), both municipal organizations organized under the laws of the State of Washington, and shall be effective on the date written below.

This is the entire Agreement between the Parties, and this Agreement supercedes any and all previous agreements, written or verbal, between the Parties concerning the operation of the Calispell Creek Pumping Plant.

All elevations referred to in this plan refer to the elevation of the USGS Cusick gauge at Cusick at river mile 70.1 The PUD agrees to operate the Calispell Creek Pumping Plant in coordination with the Box Canyon Hydroelectric Project as follows:

(1) While the dike gates are closed, and river flows are below 70,000 cfs, Box Canyon Dam may maintain 2.0 foot backwater (above normal) at Albeni Falls Dam. At 70,000 cfs, an elevation of 2041 is reached at Cusick. This elevation (2041.0) results from a flow of about 70,000 cfs with 2.0 foot of backwater at Albeni Falls, and is also the natural elevation for mean high water of approximately 90,000 cfs at Cusick. As flows further increase, this elevation shall not be exceeded if operation of gates at Box Canyon can prevent it, and it will be maintained as long as possible by opening the Box Canyon gates. After the flow exceeds 90,000 cfs, the Box Canyon plan will be out of production due to loss of head, and after it is out of production, the Box Canyon gates will be entirely removed, allowing the Pend Oreille to raise in its completely natural manner.

(2) After the flood peak of the Pend Oreille has passed, and the river has receded in a natural manner to elevation 2041 at Cusick, this elevation will be held until 2.0 foot backwater is again reached at Albeni Falls at a flow of 70,000 cfs and then 2.0 foot of backwater will be maintained.

(3) This plan provides two pumps, each of 65 cfs capacity, and four pumps, each of 100 cfs capacity, at the dike at Cusick, which will be set to operate automatically to maintain an approximate elevation of between 2027.0 and 2028.0 from November 1 to May 31, in the Calispell inside the Diking District at Cusick. To achieve this, pumps will normally be set to start automatically at an elevation of 2028.0 and shut down automatically at elevation 2027.0, keeping the Calispell within this range. This pump capacity is approximately

15 times the normal winter runoff, but there still may be very high flow times when the elevation of the Calispell water will be higher that 2028.0, even with all 6 pumps running. If that occurs, operation will be according to (4) below. From June 1 to October 31, the pumps will be set to operate automatically to maintain an approximate elevation of between 2027.0 and 2027.5.

(4) Whenever the elevation of the Pend Oreille River reaches 2032.25, the natural elevation of the quantity of water flowing in the Pend Oreille shall be computed, (the natural elevation of 43,000 cfs being 2032.25), and pumping of Calispell water will be continued at the capacity of the pumps until the Calispell reaches either 2032.25, if the Pend Oreille is flowing less than 43,000 cfs, or the natural elevation of the Pend Oreille is flowing 43,000 cfs, or more. The gates at Box Canyon will be opened sufficiently in advance of that time so that 2032.25 elevation or natural elevation above 2032.25 will be reached at, or before, the Calispell reaches the same elevation. The dike gates shall then be opened and the Calispell allowed to flow out in its natural manner for such periods as it will continue to flow out. If the natural elevation of the Pend Oreille becomes such that the flow is reversed in the Calispell, the dike gates shall again be closed and shall remain closed with the pumps operating while the natural elevation of the Pend Oreille is higher than that of the Calispell. "Natural elevation" is defined to mean the level at Cusick that the Pend Oreille River would reach if there were no gates installed at Box Canyon Dam at any particular flow.

(5) After a flood condition, when the flow of the Pend Oreille River drops back down to approximately 43,000 cfs, which is equivalent to a natural elevation of 2032.5 at Cusick, or if the flow in the Calispell is such that the pumps are able to pump enough to lower the Calispell level, the dike gates will be closed, and the Calispell River water level will be pumped down to elevation 2027.0 and maintained at this elevation as described in #3 above.

(6) The Parties agree that the elevations, dates and other operating criteria contained in Plan E are essential conditions of this Agreement. The PUD assumes responsibility for all the maintenance and operation of the six pumps at the Calispell Pumping Station and the maintenance of the culverts in the railroad dike at the mouth of the Calispell River that prevent flooding behind the dike during high water. The Parties further agree that if Public Utility District No. 1 of Pend Oreille County (PUD) does not operate the Calispell Pumps in accordance with Plan E, the Diking District will suffer loss and damages. As it is very difficult to establish the exact amount of damages in the event of noncompliance with Plan E, the Parties agree that the following amounts are fair and equitable liquidated damages for noncompliance with Plan E.

- From March 15 to June 1 -- $10,000 per day of noncompliance.
- From June 2 to March 14 -- $1,000 per day of noncompliance.

Should any noncompliance continue for more that 5 consecutive days, an additional amount of $50,000 of liquidated damages shall be paid. For each 5 consecutive days of noncompliance, an additional $50,000 of liquidated damages shall accrue. The PUD agrees to pay to the Diking District the above liquidated damages within 90 days of the beginning of any noncompliance event.

The Diking District agrees that the liquidated damages specified above will satisfy any and all damages incurred by the Diking District and that no additional claims of damages shall be made by the Diking District, except as is mentioned in the following paragraph. The Parties agree that the amount of these liquidated damages may be re-negotiated five years after the date of this Agreement, and once every five years after that, and that any new amounts of liquidated damages must be agreed upon by both Parties at that time, in writing, and shall be amended to this Agreement.

The Parties further agree that the liquidated damages specified above may not completely protect the Diking District from third party liabilities. Therefore, in the event of a non-compliance with Plan E, the PUD agrees to reimburse the Diking District for any final judgement amount, awarded to a third party by an authorized Court, that is in excess of the liquidated damages specified above, as long as such judgement is based upon such non-compliance event. The PUD is not obligated to pay any judgement amounts that are less than the liquidated damages paid to the Diking District for the non-compliance event, or for any judgements against the Diking District that are not related to a Plan E non-compliance event.

The Parties agree that the PUD will make its best effort to operate the Calispell Pumps in accordance with Plan E. "Best efforts" is defined to include, but not be limited to, taking prompt action when it is necessary to start or stop pumps, opening gates at Box Canyon at maximum allowable rates, and performing any required maintenance work on the pumps promptly and expeditiously. The PUD is not responsible for noncompliance with Plan E if such noncompliance is due to acts of God or other force majeure events that are not under the control of the PUD, such as floods, droughts, civil unrest, or war.

(7) From time to time, the PUD may apply in advance in writing for permission and approval from the Diking District to modify or not fully comply with Plan E for short periods of time due to maintenance of the pumps and dike or other operating needs or emergencies, and if approved in advance by the Diking District, no

liquidated damages shall accrue or become payable during any such period if approved and accepted in advance by the Diking District.

(8) Furthermore, from time to time, the Diking District may request to the PUD in writing short term modifications to the pump operations or Calispell Creek levels to facilitate dike maintenance activities, Calispell Lake operations, or specific agricultural needs of its members. The PUD shall use its best efforts to comply with all such written requests. It is agreed that no liquidated damages would apply due to any such operational changes requested in writing by the Diking District. The Diking District agrees that all individual requests for short term modification of operating methods or levels made by its individual members will be made first to the Diking District by the members, and then by the Diking District to the PUD, so that both Parties are aware of all changes that might be in effect at any one time. To facilitate coordination of this Agreement and to provide for potential short term modifications to Plan E, the Parties agree to meet annually during the first week of March to plan, discuss and possibly agree upon any modifications to Plan E operations desired by either Party for the upcoming season.

(9) For the first three years of this Agreement, in the month of September each year, the Parties shall meet and discuss operating procedures, communications, and the overall functioning of this Agreement, and propose any changes or modifications to the Agreement deemed desirable by either of the Parties. Any such proposed changes shall be negotiated in good faith by both Parties, and when consensus is reached, any changes shall be reduced to writing, signed by both Parties and amended to this Agreement. After three years, meetings will be held at five-year intervals, unless agreed upon by both parties that such five-year meetings are unnecessary.

(10) This Agreement shall remain in force until such time as it is terminated by mutual agreement of the Parties in writing. Any changes or amendments to this Agreement shall be reduced to writing and signed by both Parties before any such changes are considered to be in effect.

Accepted By: Diking District No. 2	Accepted By: Public Utility District No. 1 of Pend Oreille County
/s/ Commissioners	/s/ General Manager
(Dated 10/9/00)	(Dated 9/26/00)