20081017-3024 FERC PDF (Unofficial) 10/17/2008

UNITED STATES OF AMERICA 125 FERC ¶ 62,064
FEDERAL ENERGY REGULATORY COMMISSION

Puget Sound Energy, Inc. Project Nos. P-2150-033, 027

ORDER ON OFFER OF SETTLEMENT, ISSUING NEW LICENSE, AND DISMISSING AMENDMENT APPLICATION AS MOOT

(October 17, 2008)

INTRODUCTION

1. On April 30, 2004, Puget Sound Energy, Inc. (Puget) filed an application for a new license pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),[1] to continue operation and maintenance of the Baker River Hydroelectric Project No. 2150. Puget subsequently amended the application on January 31, 2005. The project's current authorized capacity is 170.03 megawatts (MW). Puget proposes to increase the authorized capacity to 200.03 MW. The project consists of two developments, Upper Baker and Lower Baker, located on the Baker River in Skagit and Whatcom counties, Washington, and currently occupies 5,207 acres of federal lands[2] within the Mt. Baker-Snoqualmie National Forest administered by the U.S. Forest Service (Forest Service).[3]

2. Puget's license application is based on a comprehensive Settlement Agreement filed November 30, 2004, and signed by Puget, 11 government agencies, three tribes, eight non-government organizations, and one citizen representative. For the reasons discussed below, this order issues a new license for the Baker River Project and incorporates the Settlement Agreement's proposed measures. 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 protecting and enhancing environmental, recreation, and cultural resources.

3. As discussed in more detail below, this order also dismisses as moot Puget's application of June 14, 2002, to amend the previous license to include interim protective

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[1] 16 U.S.C. §§ 797(e) and 808 (2006), respectively.

[2] This order incorporates new recreation, wildlife, and fisheries measures into the license that will increase the amount of federal lands occupied by the project, as discussed below.

[3] The project is required to be licensed under section 23(b)(1) of the FPA, 16 U.S.C. § 817 (2006), because it occupies federal lands.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

measures for threatened fish pending relicensing. These measures were subsequently included in the Settlement Agreement and are now required under the new license.

BACKGROUND

4. The Federal Power Commission issued an original license for the Baker River Project on June 4, 1956.[4] The original license expired on April 30, 2006, and, since that time, Puget has operated the project under an annual license pending the disposition of its new license application.[5]

5. On July 1, 2004, the Commission issued a notice accepting Puget's license application and setting a deadline of September 30, 2004, for filing protests and motions to intervene.[6] Timely motions to intervene were filed by Washington Department of Ecology (Washington Ecology); U.S. Department of the Interior (Interior); Washington Department of Natural Resources; Washington Department of Fish and Wildlife (Washington Fish and Wildlife); Forest Service; Upper Skagit Indian Tribe; Sauk-Suiattle Indian Tribe; Swinomish Indian Tribal Community; The Nature Conservancy; National Marine Fisheries Service (NMFS); Skagit County; and Seattle City Light.[7] None of these motions to intervene were in opposition to the project.

6. On January 19, 2005, the Commission issued a notice that the project was ready for environmental analysis and solicited comments, recommendations, terms and conditions, and prescriptions.[8] In response, comments and recommendations were filed by the Forest Service, Interior, NMFS, and Washington Fish and Wildlife.

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[4] 15 FPC 1496 (1956). The original license authorized the construction of the Upper Baker development and incorporated the Lower Baker development, which had previously been issued a separate, minor part license on April 13, 1927, as Project No. 777. Id. at 1497.

[5] See Puget Sound Energy, Inc, Notice of Authorization for Continued Project Operation, May 5, 2006 (unpublished).

[6] 69 Fed. Reg. 41,468 (2004).

[7] The motions were timely and unopposed, and therefore, automatically granted pursuant to Rule 214(c)(1) of the Commission's Rules of Practice and Procedure at 18 CFR § 385.214(c)(1)(2008).

[8] 70 Fed. Reg. 4,844 (2005).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

7. On April 7, 2006, the Commission staff issued a draft environmental impact statement (EIS) that evaluated the potential effects of operating the project under several alternatives.[9] Comments on the EIS were filed by Dan O'Donnell; Swinomish Indian Tribal Community; Puget; Sauk-Suiattle Indian Tribe; NMFS; Larry Kunzler; The Nature Conservancy; Washington Ecology; Interior; Washington Fish and Wildlife; Forest Service; Upper Skagit Indian Tribe; City of Mount Vernon, Washington; Skagit County Dike Districts No. 1, 12, and 17, and the City of Burlington, Washington; Skagit Fisheries Enhancement Group; and Skagit County. Commission staff's notice of the EIS provided another opportunity for interested entities to intervene in this proceeding.[10] A timely motion to intervene was filed jointly by Skagit County Dike Districts No. 1, 12, and 17 and the cities of Burlington and Mount Vernon, Washington, on May 4, 2006.

8. Commission staff issued a final EIS on September 8, 2006.[11] We received comments on the EIS from Skagit County and the Forest Service. These comments are discussed in this order.

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

PROJECT DESCRIPTION

A. Project Facilities

10. The Upper Baker and Lower Baker developments adjoin one another with the total project boundary covering a distance of about 18 miles along the Baker River, and forming Baker Lake at the Upper Baker development and Lake Shannon at the Lower Baker development. The project has an installed capacity of 170.03 MW, which Puget proposes to increase to 200.03 MW. The two developments are described below with a more detailed description in ordering paragraph (B)(2).

11. The existing principal features of the Upper Baker development are: a 312-foot-high concrete gravity dam; a 115-foot-high earth and rock-fill dike (West Pass dike); a 9-

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[9] The U.S. Army Corps of Engineers was a cooperating agency because of its role in directing project operations for flood control.

[10] 71 Fed. Reg. 19,494 (2006).

[11] All further references in this order to the EIS are to the final EIS, unless otherwise noted.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

mile-long reservoir (Baker Lake) having a surface area of about 4,980 acres at a normal full pool elevation of 727.77 feet mean sea level (msl); a 22-foot-high earth-filled dike (Pumping Pond dike) which impounds a 0.7-mile-long pond (Depression Lake, which collects leakage from the reservoir) having a surface area of about 44 acres at a normal full pool elevation of 698.77 feet msl; a water recovery pumping station that pumps leakage flows back into Baker Lake; two steel penstocks; a powerhouse containing two turbine-generator units with a total installed capacity of 90.70 MW; downstream fish passage facilities; and appurtenant facilities.

12. The existing principal features of the Lower Baker development are: a 285-foot-high concrete arch dam; a 7-mile-long reservoir (Lake Shannon) having a surface area of about 2,278 acres at a normal full pool elevation of 442.35 feet msl; a pressure tunnel; a concrete surge chamber; a powerhouse containing a single turbine-generator unit with an installed capacity of 79.33 MW; a 750-foot-long, 115-kilovolt (kV) transmission line; upstream fish passage facilities; and appurtenant facilities.

13. To meet proposed new minimum flows and ramping rates, and to generate power, Puget proposes to construct a new auxiliary powerhouse adjacent to the existing powerhouse at the Lower Baker development, and to install two new turbine-generator units with a combined installed capacity of 30 MW. The new units would increase the total installed capacity at the Lower Baker development from 79.33 to 109.33 MW and the project's total installed capacity from 170.03 to 200.03 MW. Puget also proposes to upgrade the existing upstream and downstream fish passage facilities and the existing fish propagation facilities, and to construct a salmon hatchery at its Sulphur Creek facility near the Upper Baker development.

B. Project Boundary

14. The project boundary at the Upper Baker development generally follows contour elevation 732.77 feet (NAVD 88)[12] and encloses Baker Lake. At the northern and southern ends of Baker Lake, additional lands are included to enclose the Upper Baker dam, West Pass dike, Pumping Pond dike, and Depression Lake (at the southern end of Baker Lake) and to enclose fish propagation facilities (at the northern end of Baker Lake). At the Lower Baker development, the project boundary generally follows contour elevation 445.47 (NAVD 88) and encloses Lake Shannon. At the southern end of Lake Shannon, additional lands are included to enclose the Lower Baker dam.

[12] North American Vertical Datum of 1988 (NAVD 88).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

15. Puget proposes to modify the project boundary at the southern end of Lake Shannon to remove about 40 acres of lands which are not needed for project purposes. As discussed in the EIS, these lands contain only unimproved vacant lots or lands needed for local Highway 20.[13] None of these lands are used for any project-related purpose nor are they managed by Puget to benefit any specific resources. I therefore approve their removal from the project boundary.

16. In addition, this order incorporates certain recreation, wildlife, and fisheries measures into the new license that require lands to be added to the project boundary. In the EIS, Commission staff estimated that new protection, mitigation, and enhancement measures would add about 396 acres of federal lands to the project.[14] However, the exact amount of federal lands to be added will not be known until various plans required by the license are finalized and filed for Commission approval.

C. Project Operation

17. The Baker River Project is operated as a multi-purpose facility. The project is managed for hydropower generation, federal flood storage, recreation, and fisheries enhancement. Puget generally operates the project in coordination with its other power supply resources to meet the power needs of its customers, within the constraints of flood control restrictions at the Upper Baker development. On a weekly basis, the demand for electricity is generally higher Monday through Friday than on weekends. On a daily basis, the demand for power peaks during the morning (6 a.m. to 10 a.m.) and early evening (5 p.m. to 9 p.m.). Typically, the project generates power on weekdays between 5 a.m. and 9 p.m. Depending on lake levels, inflows, weather forecasts, and system demand, the project may not generate evenings or weekends. During periods of high inflow, however, the project may generate continuously for several days or weeks.

18. Electricity demand in the Northwest is relatively high from October through March. During this period, Puget typically drafts the project's reservoirs during the daily and weekly peaks to provide power for meeting the higher demand. This drawdown also makes room in the reservoirs for flood control and to capture spring runoff from snowmelt. Due to snowmelt and lower regional electricity demand during the warmer months, the reservoirs are typically refilled to near full pool during the April-to-June period and the reservoirs traditionally remain near full pool during the summer.

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[13] EIS at 3-415.

[14] EIS at 5-25. Annual charges for the use of federal lands would be increased by an estimated $22,300.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

19. The two developments generally follow similar operational patterns, but Puget must generate power at the Lower Baker development about 20 percent longer than at the Upper Baker development to avoid spill. This is a result of higher project inflows at Lower Baker coupled with a smaller reservoir and lower hydraulic capacity.

Flood Control Operation

20. Article 32 of the previous license required Puget to provide up to 100,000 acre-feet of storage at the Upper Baker development for flood control purposes if requested by the U.S. Army Corps of Engineers (Corps). Prior to 1977, the Corps requested that Puget provide the full 100,000 acre-feet of storage, with 16,000 acre-feet allocated from November 1 to March 1 and up to an additional 84,000 acre-feet allocated from about September 1 to April 15 each year.

21. Since 1977, however, the Corps has requested that Puget provide a total of only 74,000 acre-feet of storage per year with 16,000 acre-feet provided from November 1 to March 1 and an additional 58,000 acre-feet provided from November 15 to March 1.

22. During a flood, the Corps directs operations at the Upper Baker development in coordination with operation of Seattle City Light's Ross Dam Project No. 553 on the Skagit River to reduce flood peaks in the lower Skagit River valley. Collectively, Baker and Ross Lake reservoirs control runoff from about 39 percent of the Skagit River basin upstream of the city of Mt. Vernon, Washington. Baker Lake, alone, controls about seven percent of the flows in this basin.

23. The previous license did not require Puget to provide any storage at the Lower Baker development. However, during floods, Puget operated the development to avoid any adverse effects on the Corps' flood control efforts.

24. As discussed herein, the new license requires Puget to operate the Upper Baker development to provide 16,000 acre-feet of flood storage between October 15 and March 1 annually and an additional 58,000 acre-feet of flood storage from September 1 to April 15 annually (total 74,000 acre-feet) as directed by the Corps. Puget must also provide up to 29,000 acre-feet of flood storage annually from October 1 to March 1 at the Lower Baker development if directed by the Corps.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

SETTLEMENT AGREEMENT

A. Description of the Settlement Agreement

25. On November 30, 2004, Puget filed a Settlement Agreement[15] signed by 24 stakeholders[16] that resolved all issues among the parties related to the relicensing and ongoing operations of the Baker River Project. The Settlement Agreement was reached after three years of negotiations covering multiple issues, including flood control, upstream and downstream fish passage, fish propagation, instream flows, water quality, recreation, terrestrial resources, monitoring, and coordination among the signatories.

26. The Settlement Agreement is divided into seven sections and contains two appendices. Section 1 of the agreement identifies the individual parties. Section 2 contains the purpose and scope, definitions, and the agreement's term. Section 3 concerns implementation, including filing the agreement with the Commission, the agreement's relationship with other government entities and laws, license modifications, reopeners, and amendments. Sections 4 and 5 address coordination, decision-making, dispute resolution, enforcement, and withdrawing from the agreement. Section 6 contains general conditions and limitations. Section 7 contains the approving parties' signatures.

27. Appendix A to the Settlement Agreement contains 50 proposed license articles (referred to as "SA articles" in this order) that the parties ask the Commission to include in any new license. Appendix B contains a private agreement between Puget and Skagit County that is not intended to be included in any new license.

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[15] Puget filed errata to the Settlement Agreement on May 10, and July 5, 2005.

[16] Puget; Forest Service; U.S. Fish and Wildlife Service; National Park Service; NMFS; Upper Skagit Indian Tribe; Sauk-Suiattle Indian Tribe; Swinomish Indian Tribal Community; Washington Ecology; Washington Fish and Wildlife; Washington Department of Natural Resources; Skagit County; City of Anacortes; Town of Concrete; Public Utility District No. 1 of Skagit County; Interagency Committee for Outdoor Recreation; The Nature Conservancy; North Cascades Conservation Council; North Cascades Institute; Rocky Mountain Elk Foundation; Skagit Fisheries Enhancement Group; Washington Council of Trout Unlimited; Wildcat Steelhead Club; and Bob Helton.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

28. The Settlement Agreement resolves all major issues at the project and stipulates that Puget enhance various environmental resources. Significant issues addressed by the agreement include: the need for new and enhanced fish passage and fish propagation facilities; modifying project flows to improve fish habitat downstream of the project; the need to provide flood control storage; protecting cultural resources and developing a final historic properties management plan (HPMP); increasing recreational use and the need for new and enhanced recreation facilities; and acquiring and enhancing habitat for various wildlife species at the project.

29. SA articles 101-110 would enhance aquatic resources by requiring Puget to: construct new and modified fish propagation facilities; construct new and modified fish passage facilities; provide new minimum flows, ramping rates, and reservoir elevations; continue to provide flood storage;[17] and enhance fish habitat by augmenting gravel, supplying large woody debris, and controlling shoreline erosion.[18] SA article 201 would

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[17] In its comments on the EIS filed October 23, 2006, Skagit County recommends that the Corps provide 74,000 acre-feet of flood storage in Baker Lake each year by October 15 instead of waiting until November 15 as is currently done. Skagit County says providing flood control storage earlier is critical and asks the Commission to suggest to the Corps that it begin providing this storage earlier.

Earlier storage for flood control purposes was addressed in the EIS. The Corps says that it cannot take advantage of any earlier storage provisions in the license until it completes a study and receives Congressional authorization for taking such action. See EIS at 3-52.

[18] In its comments on the EIS filed October 23, 2006, Skagit County also recommends that the Commission modify SA article 110 to ensure that Puget implements shoreline erosion control measures at both Baker Lake and Lake Shannon in relative proportion to the amount of erosion that is occurring at each reservoir. SA article 110 would require Puget to develop a shoreline erosion control plan for Commission approval that contains site-specific plans for erosion control, prevention, and/or remediation "wherever Forest Service lands or resources may be affected." Because all of Baker Lake is on Forest Service lands and most of Lake Shannon is on non-Forest Service lands, this measure would concentrate shoreline erosion control efforts at Baker Lake. In the EIS, staff recommended that the shoreline erosion control plan address both Baker Lake and Lake Shannon to ensure both reservoirs receive erosion control treatments. EIS at 5-8. Relicensing studies show that there are 0.7 miles of "severe" and 2.8 miles of "high" eroding sites on Lake Shannon that may not be considered for treatment under SA article 110. Therefore, Article 409 in this license requires Puget to consult with Skagit

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20081017-3024 FERC PDF (Unofficial) 10/17/2008

require Puget to implement a Programmatic Agreement and develop a final HPMP for Commission approval. SA articles 301-318 would require Puget to provide funding or develop plans to: manage aesthetics, construct new and modified recreation facilities; address water safety and law enforcement; provide interpretive services; maintain roads; continue to provide recreation access; and monitor recreational use. SA article 401 addresses water quality monitoring and protection. SA articles 501- 517 would require Puget to: acquire deciduous forest, elk habitat, wetlands, and riparian habitat; install nesting structures for osprey and common loons; control noxious weeds and protect special status plants; monitor and protect bald eagles; provide funding for and implement the management of second-growth forest, mountain goats, and grizzly bears; and monitor the effectiveness of these measures. SA articles 601-603 would require Puget to: create workgroups and a coordinating committee to track implementation of the Settlement Agreement; create four funds to provide for terrestrial, recreation, aquatic, and cultural resources enhancement; and use adaptive management when implementing the above articles.

B. Discussion of Settlement Agreement Proposals

30. In this section, I discuss the pertinent terms of the Settlement Agreement with particular emphasis on Commission staff's analyses in the EIS.

31. In general, the Commission looks with favor on settlements in licensing cases. When parties are able to reach settlements, it can save time and money, avoid the need for protracted litigation, promote the development of positive relationships among entities who may be working together during the course of a license term, and give the Commission, as it acts on license and exemption applications, a clear sense as to the parties' views on the issues presented in each settled case.[19] At the same time, however, the Commission cannot automatically accept all settlements, or all provisions of settlements. Section 10(a)(1) of the FPA requires that the Commission determine that any licensed project is "best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related

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County and to incorporate into the shoreline erosion control plan required by SA article 110, a measure to ensure that eroding sites at Lake Shannon are treated under SA article 110 as well.

[19] *See* Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act, 116 FERC ¶ 61,270 at p. 2-12 (2006).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)."[20]

32. Consequently, in reviewing settlements, the Commission looks not only to the wishes of the settling parties, but also at the greater public interest, and whether settlement proposals meet the comprehensive development/equal consideration standard. However, for the Baker River Project, the SA articles contained in the Settlement Agreement are required to be included in the license pursuant to section 4(e) of the FPA.[21] In addition, some of the SA articles are required by the project's section 401

water quality certificate and by fishway prescriptions pursuant to section 18 of the FPA. Consequently, the SA articles are attached as Appendix A to this order and are incorporated into the license by ordering paragraph (F).

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[20] 16 U.S.C. § 803(a)(1) (2006).

[21] Forest Service condition No. 1 provides that the licensee "shall completely and fully comply with all provisions" of the Settlement Agreement relating to: (1) all "protection, mitigation and enhancement measures and other obligations . . . which are on or affect National Forest System (NFS) lands and resources," and (2) all "commitments in each and every plan . . . which implement activities on or affecting NFS lands and resources." Forest Service condition No. 2 states that this first condition is premised on the Commission's accepting and incorporating the Settlement Agreement, appendices, exhibits, and schedules "without material modification, as license articles." The supporting justification included with these conditions states that "[t]hese measures, implemented in their entirety and in combination with . . . measures that will be undertaken with mitigation funds," will ensure that the Baker River Project is operated in a manner that is consistent with the management plan for the Mt. Baker-Snoqualmie National Forest, and that "[t]hese conditions are necessary for the protection and utilization of the Mt. Baker Snoqualmie as provided for under Section 4(e) of the Federal Power Act." Final Forest Service section 4(e) conditions at 4-5 (filed November 7, 2006). In addition, the Forest Service has included specific section 4(e) conditions that expressly require the licensee to implement the following SA articles: 106 (in part), 110, 201, 301 through 304, 306 through 310, 312 through 314, 316 through 318, 501 through 505, 507 through 510, 515 through 517, 601, and 602. In light of these conditions and supporting statements, I conclude that the Forest Service has used its mandatory conditioning authority in this case to require compliance with the entire Settlement Agreement. These provisions are therefore included in the license without modification. *See City of Tacoma, Washington, v. FERC*, 460 F.3d 53 (D.C. Cir. 2006).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

33. Although staff supported almost all of the SA articles contained in the Settlement Agreement, there were a few articles staff did not recommend and there were other articles with staff-recommended modifications.

1. Third-Party Funding and Cost Caps

34. Many SA articles in the Settlement Agreement that Commission staff recommend, require Puget to provide funding to third parties, including the Forest Service, with specific cost caps. These SA articles include: 101, 103, 110, 302-303, 305-316, 318, 502-504, 507-508, 511-512, and 514-517. In addition, SA article 602 would require Puget to establish four funds for terrestrial, recreation, aquatic, and cultural resource protection, mitigation, and enhancement. Under SA article 602, Puget and certain settlement parties would identify various resource enhancement projects to undertake during the term of the license using these funds.

35. In the EIS, staff recommended that Puget implement specific measures, instead of just providing funding to third parties.[22] Further, staff did not recommend SA article 602 because Puget could not provide the specific measures that it would implement using its proposed funds for terrestrial, recreation, aquatic, and cultural resource enhancement.

36. I concur with staff's findings in the EIS regarding the Settlement Agreement's funding provisions. As stated in the Commission's *Policy Statement on Hydropower Licensing Settlements*, a licensee cannot satisfy the obligation to perform tasks by a simple payment to another party, nor can the obligation be limited by a particular dollar figure. Dollar figures agreed to by the parties are not absolute limitations. If the Commission requires that a facility be maintained, it can look only to the licensee to do so. Thus, a license condition must place responsibility for completion of a measure on the licensee.[23]

37. Although it is likely that the amount of funding specified in the Settlement Agreement will be sufficient to implement the Settlement Agreement's provisions, I cannot constrain the fulfillment of the Commission's statutory responsibilities by agreeing to spending caps.[24] Nevertheless, this license includes all of the above-

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[22] EIS at 5-1.

[23] *See* 116 FERC ¶ 61,270 (2006).

[24] See City of Seattle, WA, 71 FERC ¶ 61,159 at 61,535 (1995), and cases cited therein.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

mentioned SA articles in this license as mandatory conditions pursuant to section 4(e) of the FPA (Appendix B) and, in part, section 401 of the Clean Water Act (Appendix C). To clarify the Commission's position on the use of cost caps, I have included Article 402 to reserve the Commission's authority to require the licensee to fulfill the requirements of this license, notwithstanding the limitations on expenditures specified herein.

2. Flood Regulation

38. SA article 107 in the Settlement Agreement addresses flood control at the project and requires Puget, in part, to review project operations and develop procedures to address imminent flood events. Under this article, Puget would file a report containing any new procedures to address imminent flood events for Commission approval.

39. In the EIS, staff recommended Puget include in its report an analysis of how any new procedures would affect the safety and adequacy of project structures.[25] Such an analysis would be needed before the Commission could act on the report.

40. In addition, staff recommended permitting Puget to temporarily modify storage requirements if required by an emergency and if the Corps mutually agrees to the modification. Such language is typically included in the Commission's license articles to permit temporary deviations from license requirements for reasons that are beyond the licensee's control. All such incidents would be reported to the Commission as soon as possible, but no later than 10 days after each such incident.

41. Finally, staff recommended that the license include a reopener provision that would enable the Commission to modify flood control operations at the project upon its own motion or upon the recommendation of the Corps, after notice and opportunity for hearing. Such a measure would permit the Commission to make changes to the flood control provisions in the license should circumstances at the project or altered conditions in the river basin make such changes necessary.

42. I concur with staff's findings in the EIS concerning SA article 107. Any proposed changes at the project to address imminent flood events must also be assessed to determine how these changes could affect dam safety and other project purposes. Further, permitting Puget to temporarily modify storage requirements (with the Corp's consent) and adding a reopener provision to the license would enable Puget and the Commission, respectively, to alter flood control operations if such a need arises in the

[25] EIS at 5-21 through 5-22.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

future. I have added Articles 305 and 306 to the license to implement these two modifications.

3. Cultural Resources

43. SA article 201 would require Puget to implement a Programmatic Agreement and an approved HPMP for protecting historic properties. Commission staff executed a Programmatic Agreement with the Washington SHPO on September 21, 2006, that requires Puget to develop and implement a final HPMP within one year of license issuance.

44. To ensure a final HPMP is filed for Commission approval as required by the Programmatic Agreement, I have included in the license Article 404, which requires implementation of the Programmatic Agreement, including filing a final HPMP for Commission approval.

4. Aquatic Riparian Habitat Protection, Restoration, and Enhancement Plan

45. SA article 505 would require Puget to develop an aquatic riparian habitat protection, restoration, and enhancement plan to acquire, protect, and enhance low-elevation bottomland ecosystems in the Skagit River basin, focusing on habitat for anadromous salmonids, other aquatic species, and riparian-dependent birds and amphibians.

46. As discussed in the EIS, this condition does not contain enough detail to determine the plan's benefits or its nexus to project effects.[26] I therefore, have no justification for concluding that this measure would be needed to fulfill project purposes, and thus would be in the public interest. However, I have included this measure in this license as a mandatory condition pursuant to section 4(e) of the FPA (Appendix B), and section 401 of the Clean Water Act (Appendix C).

SECTION 4(e) FINDINGS AND CONDITONS

47. The project is located partially within the Mt. Baker-Snoqualmie National Forest. Section 4(e) of the FPA[27] provides that the Commission may issue a license for a project

[26] EIS at 5-37 through 5-38.

[27] 16 U.S.C. § 797(e) (2000).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

located within any reservation[28] only if it finds that the license will not interfere or be inconsistent with the purposes for which such reservation was created or acquired. I have reviewed the Organic Administration Act of 1897,[29] which established the purposes for forest reservations, and the presidential proclamations that created and expanded the Mt. Baker-Snoqualmie National Forest.[30] There is no evidence or allegation in this proceeding to indicate that relicensing the Baker River Project would interfere with the purposes of the Mt. Baker-Snoqualmie National Forest. Therefore, I find that this license will not interfere or be inconsistent with the purposes for which the Mt. Baker-Snoqualmie National Forest was created.

48. FPA section 4(e) further requires that a Commission license for projects within federal reservations must include all conditions that the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation.

49. On March 21, 2005, the Forest Service filed preliminary terms and conditions under FPA section 4(e) for the project. On June 16, 2006, the Forest Service filed modified section 4(e) conditions and on November 7, 2006, the Forest Service filed final section 4(e) conditions. The final section 4(e) conditions are set forth in Appendix B of this order and are incorporated into this license by ordering paragraph (F).

50. The Forest Service's final section 4(e) conditions require Puget to comply with all provisions in the Settlement Agreement for activities on or affecting National Forest

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[28] Defined at FPA section 3(2), 16 U.S.C. § 794(2) (2000).

[29] 16 U.S.C. § 473 (2000) *et seq*.

[30] The Mount Baker National Forest was created as the Washington Forest Reserve by presidential proclamation on February 22, 1897, effective March 1, 1898. The name was changed to the Mount Baker National Forest by executive order No. 3843 on January 21, 1924. The Snoqualmie National Forest was established from part of the Washington National Forest by executive order No. 824 on July 1, 1908. At that time, the Organic Administration Act of 1897, 16 U.S.C. § 475, stipulated that all national forest lands were established and administrated only for watershed protection and timber production. These are the only purposes that are relevant for a Commission determination under section 4(e) as to whether a project will interfere or be inconsistent with the purpose for which the reservation (National Forest) was created or acquired. *See Rainsong Company v. FERC*, 106 F.3d 269, 274-75 (9th Cir. 1997). The Mt. Baker and Snoqualmie National Forests were administratively consolidated on July 7, 1974.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

System lands. While staff agreed with most of these conditions, several of these conditions are not needed for project purposes, as discussed above. However, all of the conditions are included in this license because they are mandatory under section 4(e) (Appendix B).

WATER QUALITY CERTIFICATION

51. Under section 401(a)(1) of the Clean Water Act (CWA),[31] 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.[32]

52. On March 8, 2005, Puget applied to Washington Ecology for water quality certification for the Baker River Project. On March 7, 2006, and again on March 5, 2007, Puget withdrew and refiled its application with Washington Ecology. On May 11, 2007, Washington Ecology issued certification for the Baker River Project that includes various conditions, which are set forth in Appendix C of this order and are incorporated into this license by ordering paragraph (G). This certification includes conditions that address: instream flows and ramping rates; turbidity; total dissolved gas; temperature and dissolved oxygen; monitoring and reporting; modifications to monitoring; water quality criteria violations; aquatic riparian habitat protection, restoration, and enhancement; construction projects, miscellaneous discharges, and habitat modifications; containment spill and release prevention control; herbicide, pesticide, and fertilizer application; Lower Baker powerhouse modifications; hatchery operations; and inspections and administration.

53. The conditions in Washington Ecology's water quality certification are consistent with the Settlement Agreement. However, as discussed above, there is one condition that requires an aquatic riparian habitat protection, restoration, and enhancement plan that is not needed for project purposes. Nevertheless, this condition is included in this license because it is a mandatory condition under section 4(e) of the FPA (Appendix B), and section 401 of the Clean Water Act (Appendix C).

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[31] 33 U.S.C. § 1341(a)(1) (2000).

[32] 33 U.S.C. § 1341(d) (2000).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

SECTION 18 FISHWAY PRESCRIPTIONS

54. Section 18 of the FPA[33] provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

55. Commerce (through NMFS) and Interior (through the U.S. Fish and Wildlife Service (FWS)) filed final fishway prescriptions on August 17 and August 25, 2006, respectively. The prescriptions provide for Puget to continue the existing trap and haul method of transporting fish around the Upper and Lower Baker developments, but with substantial improvements. Both agencies' upstream prescriptions are designed to reduce handling stress, increase holding capacity, and provide safer operations. Downstream prescriptions are designed to capture fish more effectively, reduce injury and mortality, and improve overall downstream passage.

56. In addition to upstream and downstream fish passage, Interior is prescribing a fishway between the Upper and Lower Baker developments which it says will improve connectivity for native species that are isolated between the two dams. Interior's prescription requires Puget to investigate and study the feasibility of such a fishway and to prepare a fish connectivity implementation plan.

57. In the EIS, Commission staff recommended improvements to upstream and downstream fish passage facilities and improved connectivity between the two dams consistent with Interior's and FWS' fishway prescriptions.[34] Interior's section 18 prescriptions are set forth in Appendix D of this order and are incorporated into this license by ordering paragraph (H). Commerce's section 18 prescriptions are set forth in Appendix E of this order and are incorporated into this license by ordering paragraph (I).

58. Along with their fishway prescriptions, Commerce and Interior request that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 405 of this license reserves the Commission's authority to require fishways that may be prescribed by either Commerce or Interior for the Baker River Project.

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[33] 16 U.S.C. § 811 (2000).

[34] EIS at 3-132 through 3-139.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

THREATENED AND ENDANGERED SPECIES

59. Section 7(a)(2) of the Endangered Species Act (ESA) of 1973[35] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally-listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

60. Nine federally-listed species are known to occur in the project vicinity (all listed as threatened). Seven of these species are potentially affected by the proposed project: Puget Sound Chinook salmon, bull trout, Puget Sound steelhead trout, marbled murrelet, northern spotted owl, gray wolf, and grizzly bear. In addition, critical habitat is designated for Puget Sound Chinook salmon in the mainstem Skagit River and in selected tributaries; bull trout in the mainstem Baker River and in selected tributaries; and marbled murrelet and northern spotted owl in the Baker River basin. Commission staff included a biological assessment for affected species in the EIS[36] and initiated formal consultation with FWS and NMFS by letters dated April 7, 2006. In the EIS, staff found that the project is likely to adversely affect Puget Sound Chinook salmon, bull trout, Puget Sound steelhead trout, and designated critical habitat for Chinook salmon and bull trout. Staff found that the project is not likely to adversely affect marbled murrelets, northern spotted owls, gray wolves, grizzly bears, and designated critical habitat for marbled murrelets and northern spotted owls.

A. U.S. Fish and Wildlife Service

61. On June 22, 2007, FWS filed a biological opinion for the project with its determinations that the project is not likely to jeopardize the continued existence of the marbled murrelet, northern spotted owl, and bull trout; is not likely to result in the destruction or adverse modification of critical habitat for marbled murrelet and northern spotted owl; is not likely to adversely affect the grizzly bear and gray wolf; and would have no effect on bull trout critical habitat.[37]

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[35] 16 U.S.C. § 1536(a) (2000).

[36] EIS at 3-233 through 3-316.

[37] Commission staff also consulted on the project's effects to bald eagles, which at the time, were federally listed as threatened. The bald eagle was delisted effective August 8, 2007. In its biological opinion, FWS found that the project is not likely to jeopardize the continued existence of the bald eagle.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

62. In its biological opinion, FWS included 23 incidental take terms and conditions stipulating that Puget: (1) minimize riparian vegetation losses at the Sulphur Creek fish passage site to protect bull trout; (2) perform instream work between July 15 and August 20 to minimize effects to juvenile bull trout outmigrants and return spawners; (3) minimize the size of the weir on Sulphur Creek to reduce juvenile-bull trout, instream habitat losses; (4) properly dispose of any concrete-contaminated water during construction; (5) monitor sockeye and bull trout negative interactions in the upper Baker River; (6) abide by all ESA and other federal and state permits; (7) ensure that individuals conducting ESA research and monitoring are properly trained; (8-11) minimize the effects of capturing and handling bull trout during monitoring and transport activities; (12-13) ensure electrofishing does not injure or kill bull trout alevins or fry; (14-17) restrict the use of lures for bull trout sampling, get FWS approval before tagging studies, and follow procedures when preserving and reporting injured or killed bull trout; (18-19) monitor the effects of hydropower and flood control operations on bull trout spawner returns to verify incidental take estimates; (20) monitor and implement procedures to minimize any negative interactions between native char and bull trout; (21-22) conduct surveys for marbled murrelets and limit construction activities from April 1 to September 15 at the Baker Lake resort; and (23) conduct surveys for northern spotted owls at the Baker Lake resort.

63. The above conditions for monitoring, surveys, scheduling activities, and minimizing construction effects, are either consistent with work Puget must perform under the Settlement Agreement, which is required by section 4(e) of the FPA, or can be easily incorporated into plans already required by the Settlement Agreement. Because of their low cost, and consistency with other required conditions, I am adopting FWS' incidental take terms and conditions and including them in Appendix F to this order which is made part of this license by ordering paragraph (J).[38]

64. ESA section 7(a)(1)[39] directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered

[38] FWS' biological opinion also addresses the project's effects on listed species for operations directed by the Corps for flood control purposes. Term and condition BT 4.1(B) (Flood Control Operations) contained in the biological opinion requires the Corps to monitor bull trout returns to determine mortality attributable to flood control operations. I have not included this term and condition in Appendix F because this action is directed at the Corps and falls within the Corps's jurisdiction.

[39] 16 U.S.C. § 1536(a)(1).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. FWS' biological opinion includes six conservation recommendations for the Baker River Project. In summary, these recommendations are:

Bald Eagles

(1) when planning future work at recreation sites, avoid removing large overstory trees that could be used for bald eagle nesting or roosting and, time construction activities to occur outside of the bald eagle nesting season from January 1 through August 15 to avoid disturbing nesting bald eagles;

Bull Trout

(2) minimize the impacts of future trail construction and campground construction/reconstruction by minimizing or avoiding the placement of future trails near or across streams used by bull trout; maintain or restore adequate vegetative buffer strips to avoid erosion and sedimentation into lakes or streams and; integrate the management of stormwater runoff into the design of campgrounds and other recreational facilities that are likely to include impervious surfaces;

(3) include and maintain up-to-date information on angling regulations/restrictions for bull trout, and on appropriate handling of incidentally caught bull trout, at visitor information facilities, interpretive services, and information boards, and develop informational materials on bull trout and associated conservation efforts for distribution or display at these facilities;

Marbled Murrelets, Northern Spotted Owls and their Critical Habitat

(4) conduct surveys for northern spotted owls and/or marbled murrelet nest trees or nest tree structures within a quarter mile of any construction project that could cause disturbance to nesting marbled murrelets or northern spotted owls or the removal of suitable habitat;

(5) wherever thinning of timber or vegetation management occurs, take all feasible measures to retain the largest available snags, trees, and down woody debris in order to accelerate the development of northern spotted owl habitat; and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Notification

(6) notify the FWS of any actions taken to comply with the above conservation recommendations.

65. The above conservation recommendations would help minimize and avoid the effects of constructing new recreation facilities on federally-listed species (and bald eagles which are not federally listed) that are required by this license. These measures are low cost and complement other measures Puget must implement to protect listed species in accordance with the Settlement Agreement. Accordingly, I have included Article 410 in the license to require a plan with the details for implementing these recommendations.

B. National Marine Fisheries Service

66. On July 2, 2008, NMFS filed a biological opinion with its determinations that the project is not likely to jeopardize the survival and recovery of Puget Sound Chinook salmon or Puget Sound steelhead trout. NMFS also said the project is not likely to adversely modify or destroy critical habitat for Puget Sound Chinook salmon.

67. In its biological opinion, NMFS included nine incidental take terms and conditions stipulating that Puget: (1) maintain and operate a real-time streamflow gage on the Baker River; (2) modify the Lower Baker powerhouse as described in SA article 106; (3) complete and operate the floating surface collector as described in SA article 105; (4) provide upstream fish passage as described in SA article 103; (5) develop fish propagation facilities as described in SA article 101; (6) develop a gravel augmentation plan as described in SA article 108; (7) develop a large woody debris management plan as described in SA article 109; (8) conduct a monitoring and reporting program to confirm that the biological opinion's terms and conditions are effective in minimizing take from permitted activities; and (9) reinitiate ESA consultation if flood storage capacity or operations at the project are changed.

68. With one exception, NMFS' terms and conditions are consistent with the Settlement Agreement and should add little additional cost to operating the project. I am adopting these conditions and including them in Appendix G to this order, which is made part of this license by ordering paragraph (K).[40]

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[40] NMFS' biological opinion also addresses the project's effects on listed species for operations directed by the Corps for flood control purposes. Term and condition No. 9 contained in the biological opinion requires the Corps to reinitiate consultation if

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20081017-3024 FERC PDF (Unofficial) 10/17/2008

69. The one exception is NMFS' biological opinion condition no. 1, which stipulates that Puget maintain and operate a real-time streamflow monitoring gage on the Baker River. This condition is not contained in the Settlement Agreement. Real-time streamflow monitoring in the lower Baker River would provide valuable information to NMFS and FWS about project-related flow changes that could affect ESA-listed species. Operating and maintaining a streamflow monitoring gage would also provide a means for the Commission to track compliance with instream flow releases, ramping rates, and other flow-related requirements of this license.

70. The U.S. Geological Survey (USGS) water resources data Internet website indicates that the existing streamflow gage in the lower Baker River (USGS gage no. 12193500 "Baker River at Concrete, WA") is already equipped with telemetry equipment and is capable of providing real-time monitoring data. However, I see no evidence to conclude that the existing gage and associated real-time monitoring equipment will be maintained and operated by the USGS throughout the term of a new license. Staff estimated the cost of maintaining this gage to be about $9,000 annually. I find that the benefits of affording additional protection to endangered species as well as ensuring a means to track compliance with the flow-related provisions of the license would justify the additional costs. In addition to including this condition in Appendix G, I have added Article 406 to the license to require Puget to develop a plan to implement this condition. This article requires Puget to consult with NMFS and the other resource agencies while developing the plan and to file the plan for Commission approval.

C. Interim Protection Plan

71. SA article 106 of the Settlement Agreement incorporates the provisions of an interim protection plan that Puget developed in consultation with FWS and NMFS to protect ESA-listed fish species. The plan arose out of informal consultation to address the possible effects of the project on listed species and to consider measures that Puget might undertake to improve conditions for them on an interim basis before a new license could be issued. Originally, the parties contemplated that the interim protection plan would apply pending relicensing and would be included in the existing license through an amendment application that Puget filed on June 14, 2002.[41] Puget has voluntarily

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the Corps elects to modify flood storage capacity or operations at the project. I have not included this term and condition in Appendix G, because this action is directed at the Corps and falls within the Corps's jurisdiction. See Puget Sound Energy, Inc., 95 FERC ¶ 61,015 (2001) (order dismissing petition), reh'g dismissed, 95 FERC ¶ 61,319 (2001).

[41] Puget modified its amendment application by letter dated March 16, 2004.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

operated the project in accordance with the interim protection plan, and the parties have since incorporated it into the Settlement Agreement through SA article 106.[42] Under the interim protection plan, Puget operates the project to moderate flows in the Skagit River by limiting flow reductions attributable to the project and by capturing high flows or augmenting low flows in order to improve spawning conditions for Puget Sound Chinook salmon downstream of the project. Once Puget begins operating the two new turbine-generator units in the new auxiliary powerhouse required by SA article 106, Puget will discontinue following the interim protection plan and instead, begin to operate the project in accordance with a flow implementation plan also developed under SA article 106.

72. Staff analyzed the interim protection plan in the EIS for the project and recommended its inclusion in the license.[43] I concur with staff and have included the interim protection plan in Appendix H to this order. Because this order issues a new license for the project, there is no longer any basis to consider whether to amend the previous license. I therefore dismiss the amendment application as moot and terminate the docket for the amendment proceeding (P-2150-027).

ESSENTIAL FISH HABITAT

73. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act[44] requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A)[45] of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for actions that would adversely affect EFH. Under

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[42] Staff sent its biological assessment for the license amendment to NMFS and FWS by letters dated August 14, 2002, and January 15, 2003, respectively. NMFS completed formal consultation on the license amendment with a biological opinion filed on October 25, 2004. FWS did not complete formal consultation on the license amendment, but instead addressed the interim protection plan in its ESA consultation for the relicensing proceeding.

[43] EIS at 3-39 through 3-43.

[44] 16 U.S.C. § 1855(b)(2) (2000).

[45] 16 U.S.C. § 1855(b)(4)(A) (2000).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

section 305(b)(4)(B) of the Act,[46] an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on EFH.[47]

74. The Pacific Fisheries Management Council has designated EFH for three species of Pacific salmon: Puget Sound Chinook, coho, and Puget Sound pink salmon. EFH for coho and Chinook salmon includes all those streams, ponds, lakes, wetlands, and other waterbodies currently or historically accessible to coho and Chinook salmon in Oregon, Washington, Idaho, and California, except upstream of impassable barriers. EFH for pink salmon includes all currently or historically accessible waters in the Puget Sound region.

75. Staff concluded in the EIS that relicensing the project as proposed by Puget would continue to have an adverse effect on Chinook, coho, and pink salmon EFH, but that elements of the proposed action, such as improvements to upstream and downstream fish passage, would reduce these effects compared with current conditions.[48]

76. NMFS included an analysis of EFH effects in its biological opinion for the project in response to the Commission's April 7, 2006, request to initiate formal consultation under the ESA. In its biological opinion filed July 2, 2008, NMFS concluded that the proposed action would adversely affect designated EFH for Puget Sound Chinook and coho salmon.[49] NMFS adopted the terms and conditions of its biological opinion's incidental take statement as its conservation measures to minimize effects on Chinook and coho salmon EFH. As discussed above, I have adopted all of the terms and conditions contained in NMFS' biological opinion except those that pertain to the Corps.

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[46] 16 U.S.C. § 1855(b)(4)(B) (2000).

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

[48] EIS at 3-278 through 3-291.

[49] NMFS did not find that the project would adversely affect pink salmon EFH.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

COASTAL ZONE MANAGEMENT ACT

77. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[50] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's coastal zone management program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

78. On April 5, 2005, Puget submitted its coastal zone consistency determination to Washington Ecology for concurrence. Washington Ecology had six months or until October 5, 2005, to act on Puget's request. However, Puget and Washington Ecology mutually agreed to extend this time pursuant to 15 C.F.R. § 930.60 (a)(3) until May 15, 2007.[51]

79. On May 11, 2007, Washington Ecology filed its concurrence with Puget's consistency determination for the project. This concurrence is based on Puget's compliance with all enforceable policies of Washington's coastal zone management program and the terms and conditions contained in Washington Ecology's water quality certification. Washington Ecology did not add any terms and conditions to its CZMA concurrence statement; consequently, there is no conflict between the concurrence statement and this license.

WILD AND SCENIC RIVER DESIGNATION

80. Section 7(a) of the Wild and Scenic Rivers Act,[52] bars the Commission from licensing "the construction of" any dam, water conduit, or other project works "on or directly affecting any river which is designated as a component of the national wild and scenic rivers system" or from licensing any project works below or above a wild or scenic river that would "invade" or "unreasonably diminish" the scenic, recreational, and fish and wildlife values there. Section 7(a) does not bar the issuance of a license for the

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[50] 16 U.S.C. § 1456(3)(A) (2000).

[51] See Puget letters filed October 4, 2005, February 2, 2006, June 6, 2006, September 1, 2006, November 30, 2006, March 30, 2007, and April 30, 2007.

[52] 16 U.S.C Section 1278(a) (2006).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

continued operation of the project, provided no new construction is proposed in the wild and scenic river.[53]

81. The Baker River flows into the Skagit River, which is a designated wild and scenic river from about Sedro-Woolley (RM 24.5) to Bacon Creek (RM 83).[54] The Baker River is not included within this designation, but influences the Skagit River Wild and Scenic River segment via flow fluctuations. The Forest Service manages the Skagit River Wild and Scenic River segment to protect and enhance the free-flowing condition, water quality, and outstanding remarkable values for which the river was designated, while providing for public recreation and resource uses that do not adversely impact or degrade those values.

82. In a letter attached to its final section 4(e) conditions filed November 7, 2007, the Forest Service made its determination pursuant to section 7(a) of the Wild and Scenic Rivers Act that the proposed project will not invade the Skagit River Wild and Scenic River segment, because Puget does not propose constructing any new project works in the corridor. The Forest Service also determined that the proposed project should not unreasonably diminish scenic and wildlife values in the area or have a negative effect on fisheries resources and wildlife habitat. Further, the Forest Service found that, although the project would continue to influence the designated wild and scenic river segment in the Skagit River downstream of the Baker River Project, the proposed action represents a significant improvement over riparian conditions at present and as they existed as of the date of the Skagit River's Wild and Scenic River designation. Consequently, this license is consistent with the Wild and Scenic Rivers Act.

NATIONAL HISTORIC PRESERVATION ACT

83. Under section 106 of the National Historic Preservation Act (NHPA)[55] and its implementing regulations,[56] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of

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[53] *See Northern States Power Company*, 67 FERC ¶ 61,282 (1994).

[54] On November 10, 1978, Congress designated 158.5 miles of the Skagit River and portions of the Cascade, Sauk, and Suiattle tributaries, as part of the National Wild and Scenic Rivers System. See P.L. 95-625 (1978).

[55] 16 U.S.C. § 470 (2000) *et seq*.

[56] 36 C.F.R. Part 800 (2007).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Historic Places (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

84. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the Washington SHPO on September 21, 2006, and invited Puget, Forest Service, Corps, National Park Service, Sauk Suiattle Indian Tribe, Upper Skagit Indian Tribe, and Swinomish Indian Tribal Community to concur with the stipulations of the PA.[57] The PA is consistent with the Settlement Agreement (SA article 201) because it requires Puget to prepare and implement a final HPMP for the term of any new license issued for this project. Execution and implementation of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 404 requires Puget to implement the PA and to file a final HPMP for Commission approval, within one year of license issuance.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

A. Recommendations Pursuant to Section 10(j) of the FPA

85. Section 10(j)(1) of the FPA,[58] 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,[59] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

86. In response to the Commission's January 19, 2005, notice that the project was ready for environmental analysis, NMFS, FWS, and Washington Fish and Wildlife collectively filed 34 different recommendations.[60] Thirteen of these recommendations

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[57] Puget and the National Park Service signed as concurring parties.

[58] 16 U.S.C. § 803(j)(1) (2000).

[59] 16 U.S.C. §§ 661 (2000) *et seq.*

[60] NMFS filed recommendations on March 16, 2005; FWS and Washington Fish and Wildlife filed recommendations on March 21, 2005.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

were determined to be outside the scope of section 10(j) and are discussed in the next section. This license includes conditions consistent with all of the recommendations that are within the scope of section 10(j). These recommendations include: develop a fish propagation facilities plan; develop an upstream fish passage implementation plan; develop a fish connectivity plan; develop a downstream fish passage implementation plan; develop a flow implementation plan; develop a gravel management plan; develop a large woody debris management plan; develop a shoreline erosion control plan; develop a water quality monitoring and protection plan; acquire and manage deciduous forest habitat; acquire elk foraging habitat; acquire wetland habitat; develop an aquatic riparian habitat, protection, restoration, and enhancement plan;[61] install osprey nesting structures; install nesting platforms for loons; manage noxious weeds; manage decaying and legacy wood; conduct bald eagle night roost surveys; develop a bald eagle management plan; use habitat evaluation procedures; and install a flow continuation valve.

87. With one exception, all of the above section 10(j) recommendations are for measures that are already contained in the Settlement Agreement and, as discussed above, have been included in this license as mandatory conditions pursuant to section 4(e) of the FPA (Appendix B) and, in part, section 401 of the Clean Water Act (Appendix C) and section 18 of the FPA (Appendices D and E). The one exception is NMFS' and Washington Fish and Wildlife's recommendation for a flow continuation valve, discussed below.

Flow Continuation Valve

88. NMFS and Washington Fish and Wildlife originally recommended Puget provide a flow continuation valve at the Lower Baker development to ensure Puget can provide the new minimum flows contained in the Settlement Agreement during times when the Lower Baker powerhouse is off-line due to mechanical failure or maintenance. In the draft EIS, staff noted that under the Settlement Agreement, Puget would make substantial investments ($2,423,200 annualized) in new minimum flows, ramping rates, and a new

[61] As discussed above, staff found that this condition does not contain enough detail to determine the plan's benefits or its nexus to project effects. By letter dated April 7, 2006, staff advised FWS and NMFS of its preliminary determination that FWS' and NMFS' recommendations for this condition may be inconsistent with the comprehensive planning standard of section 10(a)(1) and the equal consideration provision of section 4(e) of the FPA. A teleconference was held on June 1, 2006, to try to resolve the inconsistency, but no resolution could be reached.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

auxiliary powerhouse to improve conditions in the Lower Baker and Skagit Rivers for fish. Other improvements include new and upgraded fish propagation facilities and upstream and downstream fish passage facilities that would cost an additional $5,085,900 annually.[62] Because of these investments, staff recommended Puget develop a flow continuation study and facilities plan to evaluate whether valves or other measures should be used to provide reasonable assurance of flow continuation during project outages. In their comments on the draft EIS, NMFS and Washington Fish and Wildlife concurred with staff's recommendation. This license includes Article 407 which requires Puget to file, for Commission approval, a flow continuation study and facilities plan to implement NMFS' and Washington Fish and Wildlife's recommendations.

B. Recommendations Pursuant to Section 10(a)(1) of the FPA

89. FWS, NMFS, and Washington Fish and Wildlife made 13 recommendations pursuant to section 10(j) that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. All of these recommendations are outside the scope of section 10(j) because they are not specific measures to protect fish and wildlife. Consequently, I do not consider these recommendations under section 10(j) of the FPA. Instead, I consider these recommendations under the broad public-interest standard of FPA section 10(a)(1).[63]

90. This license includes conditions consistent with all of the section 10(a) recommendations including: developing a law enforcement plan; providing funding for late seral forest growth; providing funding for mountain goat habitat; providing funding for grizzly bear road management; establishing four funds for terrestrial, recreation, aquatic, and cultural resource protection and enhancement; providing for adaptive management; providing annual reports for aquatic measures; providing flood storage at the project; developing a Lower Baker recreation plan; providing annual reports for

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[62] Draft EIS at 5-15 through 5-16.

[63] 16 U.S.C. § 803(a)(1) (2000). Section10(a)(1) requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

terrestrial resources; managing special status plants; enhancing late seral forest growth; and providing for agency inspections, records, and notification of unusual occurrences.

91. All of the above recommendations considered under section 10(a) are for measures already contained in the Settlement Agreement except for NMFS' and Washington Fish and Wildlife's recommendations regarding inspections, records, and agency notification, discussed below.

Inspections, Reports, and Agency Notification

92. NMFS and Washington Fish and Wildlife recommend that Puget schedule annual operation inspections for agencies and tribes to ensure that fish protection measures are functioning as expected. NMFS and Washington Fish and Wildlife also recommend Puget permit the agencies and tribes to inspect the project at any reasonable time before, during, or after construction to evaluate activities that may affect fish and wildlife protection, mitigation, and enhancement measures. Both agencies recommend Puget maintain and make available a record of project operations including the daily amount of diversion, spill, and fluctuation for all flows. In addition, NMFS recommends Puget document all unusual occurrences such as load rejections; powerhouse mechanical problems; turbine, intake, and fish screen failures; and sedimentation events. NMFS says such events should be brought to the agencies' attention immediately.

93. Staff recommended these measures except for provisions that would require Puget to schedule annual operation inspections and provide a record of project operations to the agencies. Determining compliance with the terms and conditions in a license is the Commission's responsibility; therefore, I do not adopt recommendations that would require Puget to demonstrate operational compliance to entities other than the Commission. The Commission already conducts periodic safety and environmental compliance inspections as part of its administration of issued licenses. However, allowing the agencies and tribes reasonable access to the project in the performance of their official duties, making records available to the agencies and tribes during such inspections, and notifying the agencies and tribes of all unusual occurrences that affect fish and wildlife resources would help ensure that these entities remain informed about the construction and operation of fish protection measures at the project. Agencies and the tribes could then provide Puget with timely feedback, which should help Puget implement fish protection measures contained in the license. For the above reasons, and because there should be only minimal costs associated with these measures, Article 408 has been included in this license to implement these recommendations.

OTHER ISSUES

20081017-3024 FERC PDF (Unofficial) 10/17/2008

A. Large Woody Debris

94. SA article 109 would require Puget to develop a large woody debris (LWD) management plan for collecting and stockpiling LWD intercepted by the project. LWD could be stockpiled on lands anywhere within the Baker River basin and would be made available for others to use in various fishery and aquatic enhancement projects in the Baker and Skagit River basins.

95. Consistent with staff's recommendation in the EIS, Article 403 requires Puget to identify its responsibilities for managing large woody debris, identify the location of large woody debris stockpile sites, and include these stockpile sites in the project boundary.[64]

B. Administrative Provisions

1. Annual Charges

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

97. This order authorizes the construction of a new auxiliary powerhouse which will increase the project's authorized installed capacity from 170.03 to 200.03 MW. In accordance with the Commission's policy, the effective date of the revised annual charges will be the date of the start of construction of the new powerhouse.[65] Accordingly, ordering paragraph (E) requires the licensee to file with the Commission the construction start date for the new auxiliary powerhouse, which will be used to revise annual charges under Article 201.

98. This order incorporates certain recreation, wildlife, and fisheries measures into the new license that require federal lands to be added to the existing project boundary. Annual charges for the use of federal lands will be assessed based on revised Exhibit G drawings filed pursuant to Articles 203 and 304.

2. Project Exhibits

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[64] EIS at 5-22.

[65] *See* International Falls Power Company, 66 FERC ¶ 61,086 (1994).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

99. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of these drawings approved in ordering paragraph (C).

100. In its license application, Puget proposes to modify the project boundary at the southern end of the Lower Baker development to remove about 40 acres of lands that, as discussed above, are not needed for project purposes. Further, this order incorporates certain recreation, wildlife, and fisheries measures into the new license that require lands to be added to the project boundary. Pursuant to 18 C.F.R. section 4.41(h)(2), the project boundary must enclose all project works and other features that are to be licensed. Because Puget's Exhibit G drawings show only the proposed removal of lands at the Lower Baker development and do not show the addition of lands for certain recreation, wildlife, and fisheries measures incorporated into the license, ordering paragraph (C) states that the Exhibit G drawings are not approved and are not made a part of this license. Article 203 requires Puget to file, for Commission approval, revised Exhibit G drawings within 90 days[66] from the issuance date of this license. Because some recreation, wildlife, and fisheries measures required in various plans will not be filed for Commission approval until after the first 90 days,[67] Article 304 requires Puget to file future revisions of its Exhibit G drawings as these measures are approved.

101. Certain portions of Puget's Exhibits A and F do not reflect either current conditions or the project as licensed in this order. Sections A.2.3 and A.2.5 of Exhibit A, and Sheet F-3 of Exhibit F, do not describe and depict the upgraded transformer capacity

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[66] Existing lands and facilities that Puget must incorporate into the project boundary within the next 90 days include: five campgrounds (Panorama Point, Horseshoe Cove, Shannon Creek, Bayview, and Maple Grove), the Baker Lake resort, the Baker Lake trail, the approximate 1.0-mile-long segment of the Baker River trail, the Lake Shannon day-use area, and the roads that provide public access to these facilities.

[67] Future lands and facilities that Puget must incorporate into the project boundary include: a fishway developed pursuant to the fish connectivity implementation plan; large woody debris stockpile sites to be located pursuant to the large woody debris management plan; up to 6 miles of new, non-motorized trails at the Upper Baker development; a new visitor information center at Baker Lake; 3 to 6 dispersed recreation sites to be rehabilitated; up to 2 miles of new trails at the Lower Baker development; lands that provide deciduous forest, elk, wetland, and mountain goat habitat; lands occupied by certain special status plants and managed for noxious weeds; and lands acquired pursuant to the aquatic, riparian habitat protection, restoration, and enhancement plan.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

of 90,000 kilovolt-ampere (kVA) at the Lower Baker development. Section A.3.5 of Exhibit A and Sheet F-7 of Exhibit F do not describe and depict the upgraded step-up transformer bank consisting of three 40,000-kVA transformers at the Upper Baker development. Sheet F-1 of Exhibit F does not include the proposed Lower Baker auxiliary powerhouse. Sections A.2.6.3 and A.3.6.2 of Exhibit A and Sheet F-12 of Exhibit F describe and depict the Upper Baker floating surface collector fabrication and launch facility, which is no longer proposed. Sheet F-4 of Exhibit F does not include the proposed modifications to the Lower Baker upstream fish passage facilities. Sheet F-5 of Exhibit F includes the Upper Baker floating fish baffle, which was removed in 2005. Sheet F-7 of Exhibit F includes labels for Upper Baker Units No. 1 and 2 turbine capacities, which do not depict current upgrades.

102. Because section 4.51(b) of the Commission's regulations requires that the Exhibit A describe the project, including specifications of electrical and transmission equipment appurtenant to the project, and section 4.41(g)(1) of the Commission's regulations requires that the Exhibit F drawings show all major existing and proposed project structures in sufficient detail, I am not approving pages A-3, A-4, A-5, A-8, and A-9 of Exhibit A, and Sheets F-1, F-3, F-4, F-5, F-7, and F-12 of Exhibit F at this time, as stated in ordering paragraph (D). Article 204 requires Puget to refile within 90 days of license issuance these revised portions of Exhibits A and F. However, ordering paragraph (C) approves the other portions of Exhibits A and F, and Article 202 requires Puget to file the approved project drawings on microfilm and in electronic file format.

3. Amortization Reserve

103. The Commission requires that for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 205 requires the establishment of the account.

4. Headwater Benefits

104. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permitees. Article 206 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

5. Start of Construction and Review of Final Plans and Specifications

20081017-3024 FERC PDF (Unofficial) 10/17/2008

105. Article 301 requires the licensee to begin construction of the new auxiliary powerhouse within four years and to complete construction within six years.

106. At least 60 days prior to the start of any construction of the auxiliary powerhouse and upstream and downstream fish passage facilities, Article 303 requires the licensee to provide the Commission's Division of Dam Safety and Inspection, Portland Regional Office (D2SI-PRO) with final contract drawings and specifications, together with a supporting design report consistent with the Commission's engineering guidelines.

107. Article 302 requires the licensee to provide the Commission's D2SI-PRO with cofferdam and deep excavation construction drawings.

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

6. Scheduling and Reporting Requirements

109. Various conditions of this license found in Appendices B-G require the licensee to: (1) submit plans for agency approval without also filing these plans for Commission approval, (2) notify the agencies of planned and unplanned deviations from license requirements without also notifying the Commission, and (3) make certain modifications to project plans and operations required by the agencies without submitting an application to amend the license. Article 401 requires the licensee to seek the Commission's prior approval, notify the Commission of deviations, and obtain license amendments prior to implementing certain mandatory conditions contained in Appendices B-G.

7. Use and Occupancy of Project Lands and Waters

110. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 411 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of non-federal project lands for such minor activities as landscape plantings. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

STATE AND FEDERAL COMPREHENSIVE PLANS

20081017-3024 FERC PDF (Unofficial) 10/17/2008

111. Section 10(a)(2)(A) of the FPA,[68] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[69] Under section 10(a)(2)(A), federal and state agencies filed 75 comprehensive plans that address various resources in Washington. Of these, the staff identified and reviewed 24 comprehensive plans that are relevant to this project.[70] No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

112. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,[71] Commission staff evaluated Puget's record as a licensee for these areas: (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 services; (g) cost effectiveness of plans; and (h) actions affecting the public. I accept the staff's findings in each of the following areas.

A. Conservation Efforts

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

114. Puget has provided conservation services for its electricity customers since 1979. Since 1989, Puget has invested approximately $310 million in energy efficient measures. In August 2002, Puget doubled its annual conservation targets, expanding 20 existing programs and initiating 10 new programs and pilot projects, including: Personal Energy Advisors; Small Business Energy Efficiency Programs; and the Residential Duct System Pilot Program, which allows participating customers to receive duct diagnostic measurement services and sealing services from certified contractors at no cost. These

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[68] 16 U.S.C. § 803(a)(2)(A) (2000).

[69] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2007).

[70] The list of applicable plans can be found in section 5.3 of the EIS.

[71] 16 U.S.C. §§ 803(a)(2)(C) and 808(a) (2000).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

programs show that Puget is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

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

115. Based on a review of Puget's compliance with the terms and conditions of the existing license, staff finds that Puget's overall record of making timely filings and compliance with its license is satisfactory. Therefore, staff concludes that Puget can satisfy the conditions of a new license.

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

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

D. Ability to Provide Efficient and Reliable Electric Service

117. Staff has reviewed Puget's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Staff's review indicates that Puget has devices that monitor structural movement or stress, seepage, uplift, and equipment failure at the Baker River Project. In addition, Puget regularly inspects the project's turbine-generator units to ensure they continue to perform in an optimal manner, schedules maintenance to minimize effects on energy production, and since the project has been in operation, has undertaken several initiatives to ensure the project is able to operate reliably into the future. Staff concludes that Puget is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

118. Puget serves about 958,000 residential, commercial, and industrial customers in a service area that covers approximately 6,300 square miles in the state of Washington, extending from Olympia to Bellingham and including the greater Everett/Seattle/Bellevue/Tacoma area. Puget expects its electric sales to grow at an average annual rate of 1.4 percent, from 2,181 average megawatts (aMW) in 2002 to 2,891 aMW in 2022.

119. Based on forecasted load growth and on scheduled expiration of existing power purchase contracts, Puget has a shortage of 385 aMW of energy in 2004, growing to

20081017-3024 FERC PDF (Unofficial) 10/17/2008

1,551 aMW by 2013 and 2,229 aMW by 2023. With regard to peaking capacity, Puget identifies a need for additional capacity of 1,403 MW in 2004, rising to 3,385 MW in 2013 and 4,590 MW by 2023.

120. Currently, the Baker River Project accounts for about 3.7 percent of Puget's peak power resources (not including the additional 30 MW of capacity from the new auxiliary powerhouse) and about 2.6 percent of Puget's average annual generation. Staff concludes that the project's power, low cost, displacement of nonrenewable fossil-fired generation, and contribution to the region's diversified generation mix will help meet a need for power in the region.

F. Transmission Services

121. The project's transmission facilities that are required to be licensed include a single 750-foot-long, 115-kV transmission line that conveys power from the Lower Baker powerhouse to the Baker River substation. Puget proposes no changes that would affect transmission facilities.

G. Cost Effectiveness of Plans

122. Puget plans to make a number of facility, operational, and environmental enhancements at the project, including: a new auxiliary powerhouse at the Lower Baker development, modified and new fish propagation facilities, modified and new upstream and downstream fish passage facilities, new minimum flows and ramping rates, new recreation facilities, and enhancements for wildlife and other terrestrial resources. Based on Puget's record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

123. Puget provided numerous opportunities for public involvement in the development of its application for a new license for the project. During the previous license period and with the environmental enhancement measures proposed for the new license, Puget has provided facilities to enhance the public's use of project lands and features. Puget has also operated the project with consideration for the protection of downstream communities by providing flood control storage. Puget uses the project to help meet local power needs and pays taxes that contribute to the cost of public services provided by local government.

PROJECT ECONOMICS

20081017-3024 FERC PDF (Unofficial) 10/17/2008

124. 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.,[72] 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.

125. In applying this analysis to the Baker River Project, I considered two options: Puget's proposal (the Settlement Agreement) and the project as licensed herein. As proposed by Puget, the levelized annual cost of operating the Baker River Project is $20,734,900, or $28.72/megawatt-hour (MWh). The proposed project would generate an estimated average of 722,019 MWh of energy annually. When staff multiplies the estimate of average generation by the alternative power cost of $51.86/MWh,[73] staff gets a total value of the project's power of $37,443,900 in 2006 dollars.[74] To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.[75] Therefore, in the first year of operation, the project would cost $16,709,000, or $23.14/MWh, less than the likely alternative cost of power.

126. As licensed herein with additional recommended staff measures, the levelized annual cost of operating the project would be about $20,867,200, or $28.90/MWh. Based on the same alternative power cost and annual generation, project power would cost $16,576,700, or $22.96/MWh, less than the likely cost of alternative power.

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[72] 72 FERC ¶ 61,027 (1995).

[73] For the Baker River Project, Puget estimated that the cost to provide the same amount of power from a mixture of generation resources available to Puget is $51.86/MWh.

[74] The values in this analysis differ slightly from the EIS due to rounding.

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

127. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include their capability to provide an 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. The Baker River Project will continue to provide a broad range of ancillary service benefits to the region.

COMPREHENSIVE DEVELOPMENT

128. Sections 4(e) and 10(a)(1) of the FPA[76] require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflects such consideration.

129. The EIS for this 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.

130. Based on our independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EIS, I have selected the proposed project as licensed herein, and find that it is best adapted to the comprehensive development of the Baker River basin.

131. I have selected this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and an inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife, water quality, recreation, and historic properties; and (3) the 200.03-MW of electric energy generated from a renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

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[76] 16 U.S.C. §§ 797(e) and 803(a)(1) (2000).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

LICENSE TERM

132. Section 15(e) of the FPA,[77] provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.[78]

133. This license requires an extensive amount of new construction and environmental enhancement including: (1) a new auxiliary powerhouse at the Lower Baker development, (2) modified and new fish propagation facilities, (3) modified and new upstream and downstream fish passage facilities, (4) new minimum flows and ramping rates, (5) new recreation facilities and measures to enhance aesthetic resources, (6) protection for existing cultural resources, and (7) enhancements for wildlife and other terrestrial resources. Because of the amount of new construction and substantial environmental enhancement, I will issue this license for a term of 50 years.[79]

The Director orders:

(A) This license is issued to Puget Sound Energy, Inc. (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Baker River Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in these lands, described in the project description and the project boundary discussion of this order.

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[77] 16 U.S.C. § 808(e) (2000).

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

[79] In section 2.3 of the Settlement Agreement, the signatories "recommend that the term of the New License be up to 45 years." In that same section, the signatories state that they "do not object to a term of 45 years or more."

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(2) The Upper Baker development consisting of: (1) a 312-foot-high, 1,200-foot-long concrete gravity dam incorporating an ogee-type spillway containing three radial gates that are each 25 feet wide and 30 feet high, a concrete gravity-type gated intake section, and three gravity-type concrete non-overflow sections totaling approximately 1,000 feet; (2) a 115-foot-high, 1,200-foot-long earth and rock-fill dike (West Pass dike); (3) a 9-mile-long reservoir (Baker Lake) having a surface area of about 4,980 acres and a total volume of 274,221 acre-feet at a normal full pool elevation of 727.77 feet above mean sea level (msl); (4) a 22-foot-high, 3,000-foot-long earth-filed dike (Pumping Pond dike) with a 44-foot-wide overflow spillway which impounds a 0.7-mile-long pond (Depression Lake) having a surface area of about 44 acres and a total volume of about 234 acre-feet at a full pool elevation of 698.77 feet msl; (5) a water recovery pumping station adjacent to Depression Lake with two 54,000-gallon-per-minute vertical propeller recovery pumps and a discharge channel into Baker Lake; (6) two 13.5-foot-diameter, 320-foot-long steel penstocks; (7) a 122-foot-long, 59-foot-wide reinforced concrete and structural steel powerhouse at the downstream toe of the dam containing two turbine-generator units with a total installed capacity of 90.70 MW and a step-up transformer bank containing three single-phase, 35,000-kilovolt-ampere (kVA) transformers; (8) new downstream fish passage facilities including a barrier net, floating surface collector, fish trap/sampling area, and fish transport system; and (9) appurtenant facilities.

The Lower Baker development consisting of: (1) a 285-foot-high, 550-foot-long concrete thick arch dam with two non-overflow sections and a centrally located spillway section containing 23 vertical slide spill gates that are each 14 feet high and 9.5 feet wide; (2) a 7-mile-long reservoir (Lake Shannon) having a surface area of about 2,278 acres and a total volume of 146,279 acre-feet at normal full pool elevation of 442.35 feet msl; (3) a concrete intake equipped with trash racks and a gatehouse located at the dam’s left abutment; (4) a 1,410-foot-long pressure tunnel, having a 905-foot-long, 22-foot-diameter concrete-lined section transitioning to a 505-foot-long, 16-foot-diameter steel-lined section; (5) a 20-foot-diameter, 259-foot-high concrete surge chamber; (6) a 90-foot-long, 66-foot-wide reinforced concrete and structural steel powerhouse containing a single turbine-generator unit with an installed capacity of 79.33 MW and a 3-phase, 90,000-kVA transformer; (7) a new 170-foot-long by 100-foot-wide auxiliary powerhouse containing two turbine-generator units with a total installed capacity of 30.00 MW and a step-up transformer bank containing two single-phase, 17,000-kVA transformers; (8) a 750-foot-long, 115-kilovolt (kV) primary transmission line; (9) a new upstream trap-and-haul fish passage facility including a 150-foot-long, 12-foot-high, barrier dam, holding ponds, pump station, anesthetic tank, loading hopper, and a new 240-foot-long access road; (10) fish spawning and new fish hatchery facilities at Sulphur Creek; and (11) appurtenant facilities.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

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

Exhibit A: The following approved sections of Exhibit A filed January 31, 2005:

Pages A-1, A-2, A-6, A-7, and A-10.

Exhibit F: The following approved Exhibit F drawings filed January 31, 2005:

Exhibit F-	FERC Drawing No. 2150-	Description
2	1001	Plan and Details of Gravity Arch Dam – Lower Baker
6	1002	Dike Plan and Sections – Upper Baker
8 (1 of 2)	1003	Proposed Power House – Lower Baker (1 of 2)
8 (2 of 2)	1004	Proposed Power House – Lower Baker (2 of 2)
11	1005	Proposed Lower Baker Upstream Fish Passage Facility Modifications
13	1006	Proposed Upper Baker Floating Surface Collector Site Plan
14	1007	Proposed Upper Baker Floating Surface Collector Plan

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

(C) The portions of Exhibits A and F described above are approved and made part of this license. All Exhibit G drawings filed as part of the application for license do not conform to the Commission regulations as discussed in the "Other Issues" section of this license order and are not approved.

(D) Portions of the Exhibits A and F, are not approved as discussed in the "Other Issues" section of this license order, and as listed below:

Exhibit A filed on January 31, 2005: Section A.2.3 (page A-3), Section A.2.5 (page A-4), Section A.2.6.3 (page A-5), Section A.3.5 (page A-8), and Section A.3.6.2 (page A-9).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Exhibit F filed on January 31, 2005: Sheets F-1, F-3, F-4, F-5, F-7 and F-12.[80]

(E) Within 30 days of the start of construction of the auxiliary powerhouse, the licensee shall file with the Commission notification of the construction commencement date. The Commission will use the commencement of construction date to revise the project's annual charges under Article 201.

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

(G) This license is subject to the conditions submitted by the Washington Department of Ecology under section 401(a)(1) of the Clean Water Act, as those conditions are set forth in Appendix C to this order.

(H) This license is subject to the conditions submitted by the Secretary of the U.S. Department of the Interior under section 18 of the FPA, as those conditions are set forth in Appendix D to this order.

(I) This license is subject to the conditions submitted by the Secretary of the U.S. Department of Commerce under section 18 of the FPA, as those conditions are set forth in Appendix E to this order.

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

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

(L) The licensee shall comply with the terms and conditions in the interim

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[80] Exhibits F-9, F-10 (1 of 2), and F-10 (2 of 2) are single line electric diagrams that are to be filed as part of Exhibit H of the license application and therefore, are not approved in this license as part of Exhibit F.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

protection plan as those terms and conditions are set forth in Appendix H to this order.

(M) This license is also subject to the articles set forth in Form L-1 (Oct. 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States," (*see* 54 FPC 1799 *et seq*.), and the following additional articles:

Article 201. *Administrative Annual Charges*. The licensee shall pay the United States annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of:

(1) reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 170,030 kilowatts, until the date of commencement of construction of the new capacity authorized by this license, after which time the authorized installed capacity is 200,030 kilowatts;

(2) recompensing the United States for the use, occupancy, and enjoyment of federal lands to be determined pursuant to Articles 203 and 304.

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

(a) Three sets of the approved Exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Drawing Number (i.e., P-2150-1001 through P-2150-####) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1 etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards 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.

(b) The licensee shall file two separate sets of Exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections, Portland Regional Office. Exhibit F drawings must be identified as "Critical Energy Infrastructure

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Information" material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2150-####, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

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

Article 203. *Revised Exhibit G Drawings*. Within 90 days of license issuance, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project. These revised Exhibit G drawings shall also enclose: Panorama Point, Horseshoe Cove, Shannon Creek, Bayview, and Maple Grove campgrounds, the Baker Lake resort, the Baker Lake trail, the approximate 1.0-mile-long segment of the Baker River trail, the Lake Shannon day-use area, and the roads needed to provide access to these facilities. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations and must show the total number of federal lands (transmission and other than transmission line right-of-way) occupied by the project.

Article 204. *Revised Exhibits A and F*. Within 90 days of license issuance, the licensee shall file, for Commission approval, revised Exhibits A and F, as applicable, showing all principal project works necessary for operation and maintenance of the project, including current turbine and transformer capacities, the location of the proposed Lower Baker auxiliary powerhouse, and modifications to the upstream and downstream fish passage facilities.

Article 205. *Amortization Reserve*. Pursuant to section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any,

20081017-3024 FERC PDF (Unofficial) 10/17/2008

cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 206. *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. *Start of Construction.* The licensee shall commence construction of the new auxiliary powerhouse within four years of license issuance and shall complete construction within six years of license issuance.

Article 302. *Cofferdam and Deep Excavation Construction Drawings.* Before starting construction, including construction of the new auxiliary powerhouse and fish passage facilities, 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 are consistent with approved designs. At least 30 days before starting construction of cofferdams, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections, Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 303. *Contract Plans and Specifications.* At least 60 days prior to the start

20081017-3024 FERC PDF (Unofficial) 10/17/2008

of any construction, including construction of the new auxiliary powerhouse and fish passage facilities, the licensee shall submit one copy of its plans and specifications and its supporting design documents to the Commission's Division of Dam Safety and Inspections, 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 Portland Regional Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied. The submittal to the Portland Regional Engineer must also include as part of preconstruction requirements: a quality control and inspection program, temporary construction emergency action plan, and soil erosion and sediment control plan.

Article 304. *Revised Exhibits and As-built Drawings.* Within 90 days of including new project lands or completing construction of facilities authorized by this license, the licensee shall file, for Commission approval, revised Exhibits A, F, and G, as applicable, showing the new project lands or describing and showing those project facilities as-built. The revised Exhibit G drawings must show the total number of federal lands (transmission and other than transmission line right-of-way) occupied by the project. The licensee shall submit six copies of the revised exhibits to the Commission, one copy to the Commission's Division of Dam Safety and Inspections, Portland Regional Engineer, and one copy to the Director, Division of Hydropower Administration and Compliance.

Article 305. *Imminent Flood Event Report.* The licensee shall incorporate into the imminent flood event report required by Settlement Agreement article 107 in Appendix A of this license, the following measures:

(1) an analysis of how any specific procedures used to address imminent flood events would affect the safety and adequacy of project structures;

(2) a provision to allow the licensee to temporarily modify storage requirements if required by an emergency and if the U.S. Army Corps of Engineers mutually agrees to the temporary modification; and

(3) a provision to notify the Commission as soon as possible, but not later than 10 days after each such temporary modification.

Article 306. *Flood Control.* The Commission reserves the authority to order, upon its own motion or upon the recommendation of the U.S. Army Corps of Engineers, alterations of project structures and operations for flood control purposes, after notice and opportunity for a hearing.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 401. *Commission Approval, Unplanned Deviations, and Filing of Amendments Required by Mandatory Conditions*.

(a) Requirement to file plans for Commission approval.

Various conditions of this license required by Appendices B-G require the licensee to prepare plans for approval by some or all of the signatories of the Baker River Settlement Agreement (SA). Each such plan shall also be submitted to the Commission for approval and shall include an implementation schedule. These plans are listed below.

Forest Service condition (SA article)	Ecology water quality certification condition	Section 18 condition (FWS or NMFS)	Plan name	Due date
	5.3(2)		Background turbidity plan (report)	Within three years of license issuance
	5.4(5)		Total dissolved gas abatement plan	Within one year of license issuance
	5.5(6)		Water quality attainment plan	Within three years of evaluation of potential measures to improve temperature and dissolved oxygen in project reservoirs and tailraces, or within eight years of license issuance, whichever comes first
1 (401)	5.6(1)		Water quality monitoring plan	Within six months of license issuance
1 (505)	5.9		Aquatic riparian habitat protection, restoration, and enhancement plan	Within two years of license issuance
1 (401)	5.10		Water quality protection plan	Three months prior to any in- or near-water construction, maintenance, or repair work

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Forest Service condition (SA article)	Ecology water quality certification condition	Section 18 condition (FWS or NMFS)	Plan name	Due date
	5.11		Spill prevention, containment, and countermeasure plan	Within one year of license issuance
		2.21 (FWS); post-construction evaluation (NMFS)	Upstream fish passage post-construction evaluation plan	Prior to completion of the upstream fish passage facility
		3.19 (FWS); post-construction evaluation (NMFS)	Downstream fish passage post-construction evaluation plan	Prior to completion of the downstream fish passage facility

The licensee shall prepare the above plans after consultation with those entities identified in the above conditions. The licensee shall include with each plan, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the above entities, and specific descriptions of how any comments are accommodated by each plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing each 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 each plan. The licensee shall not implement any plans until notified by the Commission that each plan has been approved. Upon Commission approval, the licensee shall implement each plan, including any changes required by the Commission.

(b) Requirement to notify the Commission of planned and unplanned deviations from license requirements.

Certain conditions in the appendices would allow the licensee to temporarily modify project operations under certain circumstances. The licensee shall notify the Commission prior to implementing such modifications, if possible, or in the event of an emergency, as soon as possible, but no later than 10 days after each such incident. Each such condition is listed below.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Condition	Description
Water quality certification no. 5.2(8)	Temporary modifications to flows and ramping rates because of natural flow events
Water quality certification no. 5.8(a)	Cessation of operations at the location of the water quality criteria violation to the extent such operations may be causing or contributing to the problem

(c) Requirement to file amendment applications.

Certain conditions in the appendices contemplate unspecified long-term changes to project operations, requirements, or facilities for the purpose of protecting and enhancing environmental resources. The licensee may not implement these changes without prior Commission authorization granted after the filing of an application to amend the license (18 CFR 4.200). These conditions are listed below.

Condition (SA article or FWS/NMFS)	Description
Forest Service condition 1(101)	Changes to fish propagation program schedule
Forest Service condition 1 (312)	Future expansion of recreation site capacity
Biological opinion condition BT 2.1 (FWS)	Modifications to sockeye salmon hatchery releases, or unspecified future mitigation measures
Water quality certification condition 5.4(6)	Future potential total dissolved gas compliance actions
Water quality certification condition 5.5(6)	Future potential operational and structural changes to improve water quality in the reservoirs and tailraces
Water quality certification condition 5.7	Modifications to approved water quality monitoring program
Section 18 nos. 2.21.3 and 2.22 (FWS); Section 18 post-construction evaluation, and future modifications (NMFS)	Modifications to upstream fish passage facilities or operations as a result of performance evaluation or reporting
Section 18 no. 3.21 (FWS); section 18 post-construction evaluation plan (NMFS)	Modifications to downstream fish passage facilities or operations as a result of performance evaluation or reporting
Section 18 barrier dam (NMFS)	Future modifications to existing barrier dam
Forest Service condition 1 (603)	Future adjustments to project facilities

20081017-3024 FERC PDF (Unofficial) 10/17/2008

	and/or operations through a plan amendment process

Article 402. *Funding*. Notwithstanding the limitation on expenditures as expressed in the mandatory conditions and included in this license, the Commission reserves the right to require the licensee to undertake such measures as may be appropriate and reasonable to implement approved plans and other requirements in this license.

Article 403. *Large Woody Debris.* The licensee shall incorporate into the large woody debris management plan required by Settlement Agreement article 109 in Appendix A of this license, the following measures: (1) the licensee shall identify its responsibilities for managing large woody debris and, (2) the licensee shall identify the location of all large woody debris stockpile sites. The licensee shall include all large woody debris stockpile sites in the project boundary.

Article 404. *Programmatic Agreement and Historic Properties Management Plan.* The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer (SHPO) for Managing Historic Properties that May be Affected by a License Issuing to Puget Sound Energy for the Continued Operation of the Baker River Hydroelectric Project in Skagit and Whatcom Counties, Washington (FERC No. P-2150-033)" (Programmatic Agreement), executed on September 21, 2006, 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 shall file, for Commission approval, a final HPMP within one year of license issuance. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the HPMP, the licensee shall obtain approval from the Commission and the SHPO 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 effect.

Article 405. *Reservation of Authority to Prescribe Fishways*. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretaries of the Interior or Commerce pursuant to section 18 of the Federal Power Act.

Article 406. *Streamflow Gaging Plan*. Within one year of license issuance, the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

licensee shall file, for Commission approval, a streamflow gaging plan. In addition to an implementation schedule, the plan shall include provisions for operating and maintaining a real-time streamflow monitoring gage in the lower Baker River.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, and U.S. Geological Survey. 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 consulted entities, and specific descriptions of how all comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 407. *Flow Continuation Study and Facilities Plan.* Within one year of license issuance, the licensee shall file, for Commission approval, a flow continuation study and facilities plan that: (1) evaluates whether valves or other measures (flow continuation facilities) should be used to provide reasonable assurance of flow continuation during project outages, and (2) recommends installing flow continuation facilities if warranted. This plan shall include at a minimum:

(1) an evaluation of the project's ability to meet required minimum flows with and without flow continuation facilities;

(2) an evaluation of river stages in the Baker and Skagit Rivers downstream with and without flow continuation facilities;

(3) the anticipated environmental benefits of installing flow continuation facilities; and

(4) the estimated costs of installing flow continuation facilities and of making any operational changes.

The licensee shall include in the above plan, for Commission approval, a recommendation and schedule to install flow continuation facilities at the Lower Baker

20081017-3024 FERC PDF (Unofficial) 10/17/2008

development or the licensee's reasons why such facilities are not warranted.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and 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 above entities, and specific descriptions of how any comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The licensee shall not begin any land-disturbing activities or make any operational changes until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The Commission reserves the right to require flow continuation facilities at the project to maintain minimum flows during project outages.

Article 408. *Inspections, Records, and Agency Notification.* The licensee shall provide the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, and Swinomish Indian Tribal Community with reasonable access to the project to inspect fish protection measures and shall make appropriate records available to these agencies and tribes during such inspections. The licensee shall also notify these agencies and tribes of all unusual occurrences such as load rejections; powerhouse mechanical problems; turbine, intake, and fish screen failures; and sedimentation events where fish and wildlife or their habitats are being harmed as soon as possible, but not later than 24 hours after becoming aware of such harm.

Article 409. *Shoreline Erosion Control Plan.* The licensee shall incorporate into the shoreline erosion control plan required by Settlement Agreement (SA) article 110 in Appendix A of this license, the following additional measures: site specific plans to prevent and control erosion on Lake Shannon shorelines in accordance with the specifications contained in SA article 110 except that erosion control, prevention, and/or remediation shall not be limited to "wherever Forest Service lands or resources may be affected." The licensee shall control erosion along Lake Shannon shorelines relative to project-related impacts and needs. In addition to consulting with the U.S. Forest Service,

20081017-3024 FERC PDF (Unofficial) 10/17/2008

the licensee shall consult with Skagit County while developing the shoreline erosion control plan pursuant to SA article 110.

Article 410. *Threatened, Endangered, and Sensitive Species Plan*. Within one year of license issuance, the licensee shall file, for Commission approval, a plan to protect threatened, endangered, and sensitive species. The plan shall include, at a minimum, provisions to implement the following conservation measures:

Bald Eagles

(1) when planning future work at recreation sites, avoid removing large overstory trees that could be used for bald eagle nesting or roosting and, time construction activities to occur outside of the bald eagle nesting season from January 1 through August 15 to avoid disturbing nesting bald eagles;

Bull Trout

(2) minimize the impacts of trail and campground construction/reconstruction by minimizing or avoiding the placement of trails near or across streams used by bull trout; maintain or restore adequate vegetative buffer strips to avoid erosion and sedimentation into lakes or streams and; integrate the management of stormwater runoff into the design of campgrounds and other recreational facilities that are likely to include impervious surfaces;

(3) include and maintain up-to-date information on angling regulations/restrictions for bull trout, and on appropriate handling of incidentally caught bull trout, at visitor information facilities, interpretive services, and information boards, and develop informational materials on bull trout and associated conservation efforts for distribution or display at these facilities;

Marbled Murrelets, Northern Spotted Owls, and their Critical Habitat

(4) conduct surveys for northern spotted owls and/or marbled murrelet nest trees or nest tree structures within a quarter mile of any construction project that could cause disturbance to nesting marbled murrelets or northern spotted owls or the removal of suitable habitat;

(5) wherever thinning of timber or vegetation management occurs, take all feasible measures to retain the largest available snags, trees, and down woody debris in order to accelerate the development of northern spotted owl habitat; and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Notification

(6) notify the U.S. Fish and Wildlife Service of all actions taken under this plan to comply with the above species conservation measures.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service. 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 agency, and specific descriptions of how any comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the U.S. Fish and Wildlife Service to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The licensee shall not begin any land-disturbing activities or make any operational changes until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 411. *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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must 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 licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (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.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(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.

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

(O) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) 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.

J. Mark Robinson
Director
Office of Energy Projects

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Form L-1
(October,
1975)

FEDERAL ENERGY REGULATORY COMMISSION
TERMS AND CONDITIONS OF LICENSE
FOR CONSTRUCTED MAJOR PROJECT AFFECTING
LANDS OF THE UNITED STATES

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

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

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

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

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

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

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

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

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

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

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

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

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

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice

20081017-3024 FERC PDF (Unofficial) 10/17/2008

and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

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

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

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence

20081017-3024 FERC PDF (Unofficial) 10/17/2008

and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

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

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

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to

20081017-3024 FERC PDF (Unofficial) 10/17/2008

meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

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

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

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

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 3l, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice ad opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

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

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

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDICES

Appendix A – Settlement Agreement Articles and Attachments from the Settlement Agreement filed on November 30, 2004, for the Baker River Project

Appendix B – U.S. Department of Agriculture, U.S. Forest Service, Section 4(e) Conditions, filed November 7, 2006

Appendix C – Washington Department of Ecology, Section 401 Water Quality Certification Conditions, filed May 11, 2007

Appendix D – U.S. Department of Interior, U.S. Fish and Wildlife Service, Section 18 Fishway Prescriptions, filed August 17, 2006

Appendix E – U.S. Department of Commerce, National Marine Fisheries Service, Section 18 Fishway Prescriptions, filed August 25, 2006

Appendix F – U.S. Department of Interior, U.S. Fish and Wildlife Service, Biological Opinion Terms and Conditions, filed June 22, 2007

Appendix G – U.S. Department of Commerce, National Marine Fisheries Service, Biological Opinion Terms and Conditions, filed July 2, 2008

Appendix H – Interim Protection Plan

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX A

Settlement Agreement Articles and Attachments
from the Settlement Agreement filed on
November 30, 2004, for the Baker River Project.[81]

Article 101
Fish Propagation

The licensee shall be responsible for fish propagation and enhancement programs and facilities at the Baker River Project during the term of the license, as described in this article.

Plan and Requirements. Within six months following license issuance, licensee shall, following consultation with USFWS, NOAA Fisheries, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community ("Fish Resource Parties"), and USDA-FS, develop a fish propagation Facilities Plan ("FPFP") that contains detailed requirements for licensee's implementation of the facilities and programs required by this article, including the following:

(a) Licensee shall construct ancillary facilities and/or modify Sockeye Spawning Beach 4 for improved functionality and productivity, by doing the following: 1) isolating the water supply to each of the existing segments, 2) installing concrete walls between segments, 3) improving alarm systems, and 4) reviewing conditions of Sulphur Springs water supply intake site and developing a plan to control sediment infusion that may include capping the intake area to prevent sliding material from moving into the water supply;

(b) Licensee shall construct additional fish culture facilities at the Sulphur Springs site, to provide for a total of 20,000 pounds of instantaneous cultured fish capacity (exclusive of eggs and anadromous adults) and 7,000 pounds of egg incubation capacity (including egg incubation capacity that may be provided in Beach 4), which shall include some or all of the following structures, facilities, and equipment necessary for adult holding, spawning, and egg incubation: water chiller(s), fry starter(s), troughs or ponds, rearing ponds, and loading facilities;

(c) Licensee shall provide for fishery facility operations in a manner that will enable the sequential development of population enhancement for sockeye, based upon: 1) a study completed no later than two years following license issuance evaluating and, if possible, determining the capacity of Baker Lake and Lake Shannon for the production of

[81] As amended by errata to the Settlement Agreement filed May 10, 2005, and July 5, 2005.

sockeye smolts from fry, 2) a phased approach for increasing sockeye fry capacity from production limits derived empirically from monitoring and analyses of returning broodstock and subsequent smolt production, and 3) operational tests of the limits of Sockeye Spawning Beach 4 productivity to optimize output toward the goal of producing approximately four (4) million fry;

(d) Licensee shall decommission the site of Sockeye Spawning Beaches 1, 2 and 3, in accordance with the following: 1) to the extent feasible, retain Beaches 2 and/or 3 until replacement production from new facilities required by this article are developed, which retention may require modifications, such as leak reduction, to keep them functional and improve their performance prior to decommissioning, 2) decommissioning shall not occur until approval from the USDA-FS is obtained, and 3) decommissioning may include: configuring the ponds into a channel with a natural meander to optimize fish usage, removing existing structures and restoring landscaping, and initiating adult salmon returns to the site with a temporary supplementation program;

(e) Licensee shall continue the existing programs described in the schedule below, unless modified or terminated at the direction of the Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, and Washington Department of Fish and Wildlife ("Fish Co-managers"). Licensee shall fund and implement fish propagation and enhancement programs, when and if directed by the Fish Co-managers according to the following: 1) fisheries management objectives provided to licensee by the Fish Co-managers, 2) weight and production targets established by the Fish Co-managers, within the capacity and production limits (maximum of 20,000 pounds for no more than three months annually) of the facilities required by this article, 3) species mix, life stages, and quantities, based on Fish Co-managers' direction, within the capacity and production limits of the facilities required by this article, and 4) facility production is limited to the space available at the Sulphur Springs site;

(f) Licensee shall, beginning no later than five years following license issuance, make funding available to the Fish Co-managers for the purpose of evaluation, planning, permitting and implementation of a reservoir nutrient enhancement program in an amount not to exceed $60,000 annually during the term of the license. Any funds not expended in one year may be carried over into succeeding years, or, at the direction of the Fish Co-managers, due to program assessment potential or other relevant biological factors, may be transferred to the Habitat, Enhancement Restoration and Conservation (HERC) Fund;

(g) Within six months following license issuance for the existing facilities, and within six months following completion of construction of facilities required by this article, licensee shall prepare, and update periodically as needed, a fish facility operations manual that includes the following elements, as appropriate: facility layout, flow distribution schematic and plan, emergency response plan, emergency personnel call-out procedures, security plan, any current management protocols provided by the Fish Resource Parties, reporting procedures, any operations plan approved by the Fish Co-managers, an equipment and suppliers' list, any fish distribution plan approved by the Fish Co-managers, any spill containment plan approved by the Fish Co-managers, and any hygiene plan for disease control approved by the Fish Co-managers;

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(h) Licensee shall develop and implement a set of operational protocols for the fisheries enhancement program to be approved by the Fish Co-managers that contains at least the following elements: 1) the method for selecting and engaging an annual contractor, who is required to be accountable to the Fish Co-managers and qualified to implement the program required by this article, 2) the form of annual contract and budget, to be issued for 5-year periods, with each 5-year contract commitment to be secured 12 months prior to the expiration of the current 5-year contract, 3) the process by which the Fish Co-managers will consider and approve studies to be performed by licensee or other entities to optimize fish program success, 4) the method for preparing an annual audit, to be provided to the Aquatics Resource Group ("ARG") December 31 of each year, of the operation of the facilities based on a June 1 to May 31 operating year, and 5) a method for developing a report format to include in the contract for facility operation by June 1 of each year, containing information regarding operations, problems, facility status, future need, and results of the program; and

(i) Licensee shall make funds available to the Fish Co-managers to hire an on-site manager for the fisheries enhancement program required by this article, following notification of selection of an on-site manager by the Fish Co-managers and based upon any agreement between the Fish Co-managers and the licensee. The manager will be selected by the Fish Co-managers.

After required consultation in the development of the FPFP, licensee shall provide a minimum of 30 days for the consulted parties and other members of the ARG to comment and to make recommendations before filing the FPFP with the Commission. The licensee shall include with the FPFP, documentation of consultation and copies of comments and recommendations on the FPFP after it has been prepared and provided to the consulted parties and other members of the ARG, and specific descriptions of how the comments are accommodated by the plan. If licensee does not accept a recommendation, the filing shall include the licensee’s reasons, based on Project-specific information.

Schedule. Licensee shall comply with the requirements of this article according to the following initial schedule, which may be revised following consultation with the Fish Resource Parties:

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Schedule for implementation of Fish propagation/enhancement programs for the Baker River Project.

Estimated Start Year	**Year of License**	**Actions**
2005	-1	Initiate design and permitting for Phase 1 hatchery construction with a capacity for 7 million fry (egg capacity ~ 7.8 million) (Phase 1 Hatchery). Initiate design and permitting rearing facilities for up to 20,000 lbs. instantaneous capacity (Phase 1 Hatchery). Initiate design and permitting for holding and handling facilities for 6,000 adult sockeye hatchery broodstock (Phase 1 Hatchery). Initiate design and permitting for improvements to Spawning Beach 4 (SB4). Continue the following existing programs: • Operation of Sockeye Spawning Beaches 2 or 3, and 4. • Artificial incubation of 1,000,000 + sockeye eggs. • Rearing of 130,000 sockeye for releases in June (~60,000), fall (~60,000), and the following spring (5,000 – 10,000). • Spawning, incubation and rearing of coho. The egg take is the result of sampling for tag recovery from adults and stocking needs of Lake Shannon. Fifteen thousand are reared for a year and release for fish passage testing. • 20,000 rainbow trout for release into Depression Lake.
2006	0	Construct Phase 1 Hatchery and SB4 improvements. Resume basin Sockeye fry productivity study.
2007-2012	~ 1- 6	Initiate Baker system capacity test by sequential increases in production currently estimated at ~1 million fry per year until the sockeye fry capacity of SB4 plus Phase 1 hatchery or the Baker system carrying capacity is reached (1st hatchery fry expected spring 2008).
2009-2011	~ 3- 5	Initiate and implement decommissioning of site of Sockeye Spawning Beaches 1, 2, and 3.
2012-2016	~ 6-10	Hold production stable for Baker system capacity testing at Phase 1 Hatchery and SB4 capacity (total anticipated fry production ~10.5 million).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Estimated Start Year	Year of License	Actions
2015	~ 9	Based on previous capacity study results initiate design and permitting for: Hatchery expansion to a capacity of 11 million fry (total facility fry capacity ~14.5 million) Phase 2 Hatchery. Additional holding and handling facilities for and additional 2,500 adult sockeye hatchery broodstock (total 8,500 adults) Phase 2 Hatchery.
~ 2016	~ 10	Construct Phase 2 Hatchery improvements (as appropriate).
~ 2017-license term	~ 11	Resume sequential increases in production currently estimated at ~1 million fry per year until the sockeye fry capacity of SB4 plus Phase 2 Hatchery or the Baker system carrying capacity is reached.

Reporting. After consultation with the ARG, the WDFW, the Swinomish Indian Tribal Community, the Upper Skagit Indian Tribe and Sauk-Suiattle Indian Tribe, licensee shall submit a final annual report that includes an annual audit on fish propagation facilities and programs required by this article, based on a June 1 to May 31 operating year, which shall be submitted to the Commission in accordance with Article 102. For the purposes of this article, the audit shall involve a periodic review and report on operational indices that includes financial accounting, fish handling and disease management operations, hazardous materials handling, Spill Prevention and Control Countermeasures compliance, and other parameters that may be designated from time to time. The licensee shall allow a minimum of 30 days for the Parties to comment and to make recommendations before filing the report of operations with the Commission, and comments will be provided on or before November 30. The licensee shall include with the audit or report, documentation of comments and recommendations on the annual report, and specific descriptions of how any comments are accommodated in the report. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

Article 102
Aquatics Reporting

Within one year of license issuance the licensee shall prepare and file with the Commission a report regarding plans and other measures for the restoration, management and enhancement of fish species in the Baker River basin. Licensee shall submit the report annually, and provide updates and revisions as required by the schedule below. The licensee shall allow a minimum of thirty (30) days for the ARG to comment before filing the report with the Commission, in accordance with the schedule below. The

20081017-3024 FERC PDF (Unofficial) 10/17/2008

licensee shall include with the report, documentation of comments, and specific descriptions of how comments are accommodated in the report. If the licensee does not adopt a comment, the filing shall include the licensee's reasons, based on Project-specific information.

The report, at a minimum, shall: summarize existing plans or other measures of agencies and tribes, including Endangered Species Act recovery plans and the Aquatic Conservation Strategy of the Northwest Forest Plan; and describe how the licensee, agencies, and tribes coordinate in the implementation of their respective plans and measures. The licensee shall consider this report in the course of implementing Article 101 (Fish Propagation), Article 103 (Upstream Fish Passage), Article 104 (Connectivity), Article 105 (Downstream Fish Passage), Article 106 (Flow Implementation), Article 109 (LWD), Article 505 (Riparian/Aquatic Habitat), and Article 602 (HERC Fund). The report shall also include the status of development or implementation of plans or other measures and annual reporting required by Articles 101, 103, 104, 105, 106, 108, 109, 110, 401, 505, and 602 according to the Aquatics Reporting Schedule, as follows;

Aquatics Reporting Schedule

Article Number	Annual Report due?	Update Report from Article 102	Reporting period	Draft report due date
101	x		Previous 12 months, June 1 to May 31	October 31
102	x		Varies - 12 Months	January 31
103	x	x	Previous 12 months, June 1 to May 31	August 31
104	x	x	Previous 12 months, June 1 to May 31	August 31
105	x		Previous 12 months, September 1 - August 31	November 30
106	x		Previous 12 months, October 1 - September 30	November 30
108			Previous 12 months, January 1 - December 31	March 31
109		x	Previous 12 months, January 1 - December 31	March 31
110	x		Previous 12 months, January 1 - December 31	March 31
401	x		Previous 12 months,	June 30

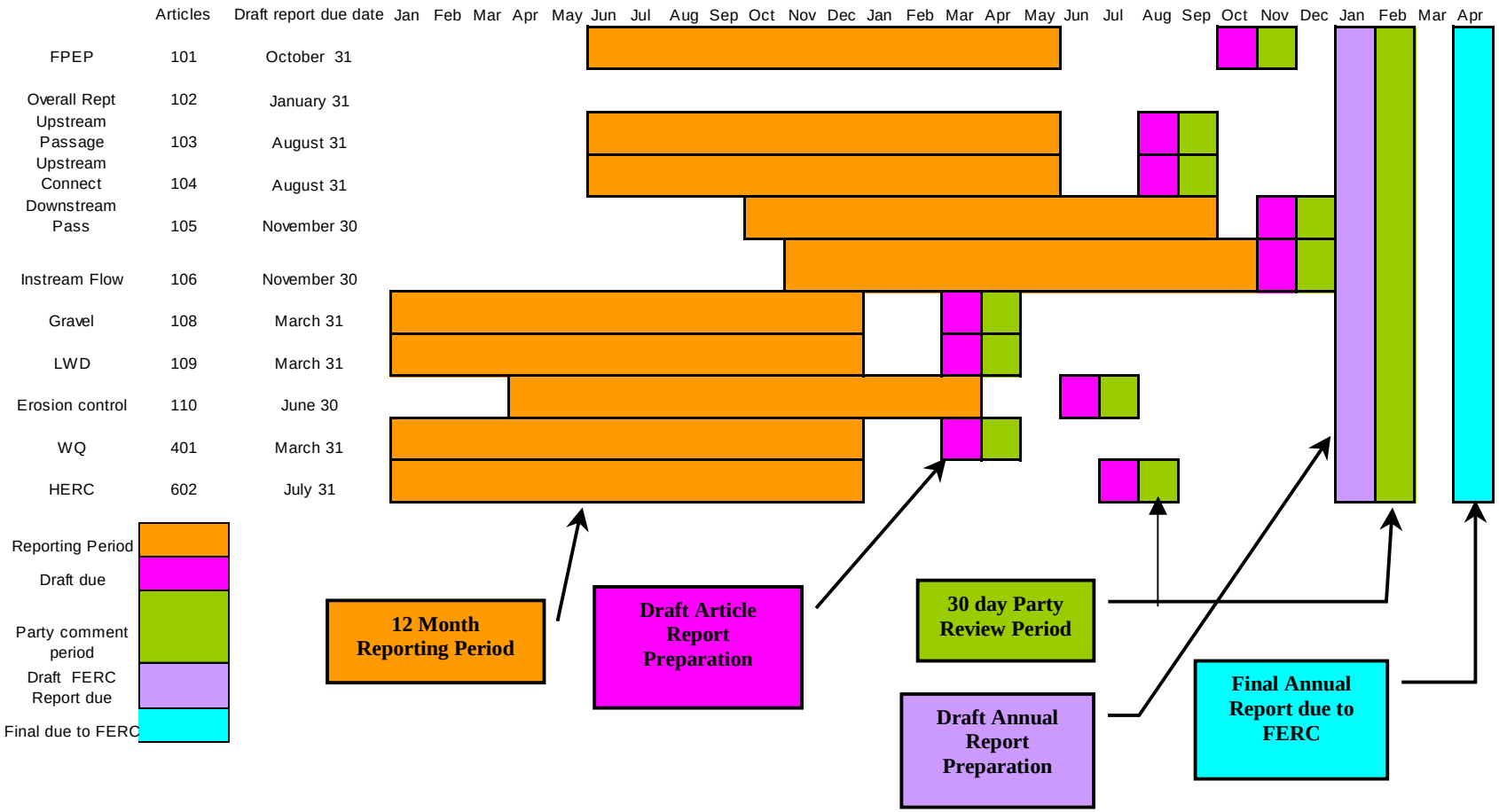
20081017-3024 FERC PDF (Unofficial) 10/17/2008

			April 1 - March 31	
505		x	Previous 12 months, January 1 - December 31	July 31
602	x	x	Previous 12 months, January 1 - December 31	July 31

20081017-3024 FERC PDF (Unofficial) 10/17/2008

In complying with the reporting schedule, licensee shall be governed by the following illustration of plan drafting, commenting, and reporting:

Reporting Schedule for Aquatics Articles 101-110, 401, and 602



20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 103
Upstream Fish Passage Implementation Plan

Licensee shall provide safe and effective upstream passage at the Baker River Project by using trapping, sorting, holding and hauling facilities located on the Baker River and other operations and facilities as appropriate for the Baker River Project, in accordance with the plan described in this article. Facilities include new facilities and renovations to existing facilities.

Licensee shall develop, submit to NOAA Fisheries and USFWS for approval, and file with the Commission for approval, an Upstream Fish Passage Implementation Plan (UFPIP). The licensee shall develop the UFPIP in consultation with the ARG and specifically with NOAA Fisheries, USFWS, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community.

Licensee shall develop and submit the UFPIP in phases, according to the schedule that follows, or on an alternative schedule specified in the UFPIP within six months of license issuance:

- UFPIP – Upstream Passage Construction & Design. No less than 60 days before initiation of construction and no later than 2 years after license issuance, the licensee shall file with the Commission its complete plans and specifications and schedule for construction of facilities for attraction, capture, and transport of upstream migrating fish at the Lower Baker Development.

- UFPIP – Upstream Passage Operation & Maintenance (O&M). No less than 60 days before initiation of operation, the licensee shall file with the Commission its complete plans and specifications for O&M of upstream passage facilities. The O&M plan shall include at least the following elements: a) fish handling, b) hauling frequencies, c) frequency and magnitude of attraction flows, d) species protocol, e) trap operational flows, f) a schedule, g) the method for providing annual updates, and h) trap reporting requirements.

- UFPIP – Upstream Passage Quality Assurance/Quality Control. No less than 60 days before initiation of operation, licensee shall file with the Commission for approval a quality assurance/quality control plan for the upstream passage facilities to confirm that the approved plans will be constructed as approved.

- UFPIP – Upstream Passage Emergency Response Plan. No less than 120 days prior to the initiation of operation of any of the fish passage facilities required by this article, licensee shall file with the Commission a preliminary response plan addressing operational contingencies and emergencies, and shall file a final plan with the Commission within 120 days from startup testing.

- UFPIP – Fish Passage Annual Reporting. The licensee shall file with the Commission an annual report describing the operation of the upstream fish passage facilities for the past year at the Lower Baker Dam, pursuant to Article 102. The report shall include the numbers and species of fish captured in the trap and the associated disposition of those fish. The report shall include a description of problems and associated remedies for such problems, describe any modifications of the facilities implemented in the prior year, and audit and report operational compliance.

The licensee shall allow a minimum of 30 days for the consulted parties to comment and to make recommendations before filing each of the above plan components with the Commission. The licensee shall include with each of the plan components and reports required by this article, documentation of consultation and copies of comments and recommendations on the completed plan component, documentation of the approval of USFWS and NOAA Fisheries or documentation of the status of the review by USFWS and NOAA Fisheries, and specific descriptions of how the other consulted parties' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

Licensee shall make funding available in an amount not to exceed $20,000 annually during the term of the license for beneficial modifications beyond the scope of any modifications required to meet performance standards. The licensee may, in consultation with the ARG, modify facilities or operations as a result of performance reporting, changing needs and new technologies, provided that such modifications shall not proceed without the approval of the NOAA Fisheries and USFWS. Modifications shall be submitted to the Commission for approval.

Article 104
Connectivity between Lake Shannon and Baker Lake

Licensee shall provide a fishway between Lake Shannon and Baker Lake for native char and other native fish species that become isolated by the Project. No later than three years after license issuance, the licensee shall conduct an investigation, in consultation with the ARG, and specifically with NOAA Fisheries, USFWS, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community, to develop and initiate studies with regard to the type of fishway, its location and timing, and the species and numbers of fish to be collected and transported upstream of Upper Baker Dam, following approval from NOAA Fisheries and USFWS. The investigation may include tagging, radio-tagging or other methods.

Fishways provided according to this article may range from, but may not necessarily be limited to, collect and haul operations, a temporary weir and trap on Sulphur Creek or a similar facility installed below Upper Baker Dam, up to a more permanent trap and haul facility below Upper Baker Dam. The facility shall include design accommodations for other

20081017-3024 FERC PDF (Unofficial) 10/17/2008

aquatic species that do not compromise the primary design focus on native char and may be significantly lesser in scope and complexity than the adult fish trap downstream of Lower Baker Dam. Investigation is necessary to narrow the range of prospective fishway alternatives within this range.

If testing demonstrates that the approved prototype fishway does not appropriately achieve fish species connectivity, licensee shall propose an alternative plan to the ARG for approval by USFWS and NOAA Fisheries.

Licensee shall develop, submit to NOAA Fisheries and USFWS for approval, and file with the Commission for approval, a Fish Connectivity Implementation Plan (FCIP). The licensee shall develop the FCIP in consultation with the ARG and specifically with NOAA Fisheries, USFWS, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community.

The licensee shall develop and submit the FCIP in phases, according to the schedule that follows, or on an alternative schedule submitted to the Commission for approval by licensee within six months of license issuance:

- FCIP – Fish Connectivity Construction & Design. No less than 60 days before initiation of construction and no later than 3 years after license issuance, the licensee shall file with the Commission its complete plans, specifications, and schedule for construction of facilities and/or operations for attraction, capture, and transport of upstream migrating fish from Lake Shannon to Baker Lake.

- FCIP – Fish Connectivity Operation & Maintenance (O&M). No less than 60 days before initiation of operation, the licensee shall file with the Commission its complete plans and specifications for O&M of upstream passage facilities. The O&M plan shall include at least the following elements: a) fish handling, b) hauling frequencies, c) frequency and magnitude of attraction flows, d) species protocol, e) trap operational flows, f) a schedule, g) the method for providing annual updates, and h) trap reporting requirements.

- FCIP – Fish Connectivity Quality Assurance/Quality Control. No less than 60 days before initiation of operation, licensee shall file with the Commission for approval a quality assurance/quality control plan for the upstream passage connectivity facilities and/or operations to confirm the approved plans will be constructed and/or operated as approved.

- FCIP – Fish Connectivity Emergency Response Plan. No less than 120 days prior to the initiation of operation of any of the fish passage facilities required by this article, licensee shall file with the Commission a preliminary response plan addressing operational contingencies and emergencies, and shall file a final plan with the Commission within 120 days from startup testing.

- FCIP – Fish Connectivity Annual Reporting. Licensee shall file with the Commission an annual report describing the operation of the upstream fish passage connectivity facilities for the past year at the Upper Baker and Lower Baker Developments, pursuant to Article 102. The report shall include the numbers and species of fish captured in the trap and the associated disposition of those fish. The report shall include a description of problems and associated remedies for such problems, any modifications of the facilities implemented in the prior year, and audit and report operational compliance.

The licensee shall provide a minimum of 30 days for the consulted parties to comment and to make recommendations before filing each of the above plan components with the Commission. The licensee shall include with each of the plan components and reports required by this article, documentation of consultation and copies of comments and recommendations on the completed plan component after it has been prepared and provided to the consulted parties, documentation of the approval of USFWS and NOAA Fisheries or documentation of the status of the review by the USFWS and NOAA Fisheries, and specific descriptions of how the other consulted parties' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

Article 105
Downstream Fish Passage Implementation Plan

Licensee shall provide safe and effective downstream passage at the Baker River Project by using attraction, guidance, trapping, sorting, holding and hauling facilities located on the Project reservoirs and other operations and facilities as appropriate for the Baker River Project, in accordance with the plan described in this article. Required facilities include new facilities and may include renovation of some existing facilities.

Licensee shall develop, submit to NOAA Fisheries and USFWS for approval, and file with the Commission for approval, a Downstream Fish Passage Implementation Plan (DFPIP). The licensee shall develop the DFPIP in consultation with the ARG and specifically with NOAA Fisheries, USFWS, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community.

The plan shall be implemented in phases, according to the schedule that follows, or on an alternative schedule to be submitted to the Commission for approval by licensee within six months of license issuance:

- DFPIP – Downstream Passage Construction & Design. No less than 60 days before initiation of construction and no later than 2 years after license issuance, the licensee shall file with the Commission its complete plans and specifications for construction of facilities for attraction, capture, and transport of downstream migrating fish at the Upper Baker and Lower Baker Developments.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

The downstream passage construction and design actions shall include licensee's provision of safe and effective downstream passage at the Upper Baker and Lower Baker Developments, which may include the following features: a) a guide net; b) a floating surface collector (FSC); c) a transition structure between the guide net and FSC; d) a transportation conduit; e) a floating fish trap; f) transfer facilities; g) hauling vehicles, and h) stress-relief ponds, in accordance with the plan described in this article. The downstream passage facilities shall be developed and installed according to the following sequence:

1) Upper Baker phase one shall include a 500 cfs capacity floating surface collector (with 1,000 cfs pumping capacity) and ancillary facilities, to be scheduled to be operational by March 2008;

2) Lower Baker phase one shall include a 500 cfs capacity floating surface collector (with 1,000 cfs pumping capacity) and ancillary facilities, to be operational by March 2012;

3) Upper Baker phase two shall be provided if Upper Baker phase one fails to meet performance criteria described in the DFPIP and the Services' section 18 prescription, and shall include a 1,000 cfs capacity floating surface collector to be installed no later than five (5) years after completion of phase one, if needed; and

4) Lower Baker phase two shall be provided if Lower Baker phase one fails to meet performance criteria described in the DFPIP and the Services' section 18 prescription, and shall include expansion of the existing 500 cfs floating surface collector to 1,000 cfs capacity, if needed.

5) If at any time before a phase two expansion segment is constructed for either the Upper Baker or Lower Baker FSC, NOAA Fisheries and the USFWS determine that phase two is not required as a prescriptive measure due to the success of phase one downstream passage, and both NOAA Fisheries and USFWS provide documentation to the licensee and to FERC that no further prescriptive measures are required, $800,000 will be made available to fund projects identified pursuant to Article 505 for each unnecessary expansion.

- <u>DFPIP – Downstream Passage Operation & Maintenance (O&M)</u>. No less than 60 days before initiation of operation, the licensee shall file with the Commission its complete plan and specifications for O&M of downstream passage facilities. The O&M plan shall include at least the following elements: a) the seasonal period of operation, b) special floating surface collector operations, c) fish sampling, d) fish handling protocols, e) holding and release protocols, f) transport loading rates, g) trap counts reported weekly, h) a schedule, and i) the method for providing annual updates.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

- DFPIP – Downstream Passage Quality Assurance/Quality Control. No less than 60 days before initiation of operation, licensee shall file with the Commission for approval a quality assurance/quality control plan for the downstream passage facilities to confirm the approved plans will be constructed as approved.

- DFPIP – Downstream Passage Emergency Response Plan. No less than 120 days prior to the initiation of operation of any of the fish passage facilities required by this article, licensee shall file with the Commission a preliminary response plan addressing operational contingencies and emergencies, and shall file a final plan with the Commission within 120 days from startup testing.

- DFPIP – Fish Passage Annual Reporting. Licensee shall file with the Commission an annual report describing the operation of the downstream fish passage facilities for the past year at the Upper Baker and Lower Baker Developments, pursuant to Article 102. The report shall include the number and species of fish captured in the trap and the associated disposition of those fish. The report shall include a description of problems and associated remedies for such problems, any modifications of the facilities implemented in the prior year, and audit and report operational compliance.

If there are any unexpected delays for the schedules set forth in this article, licensee shall convene a meeting of the ARG to identify an acceptable alternative to properly protect, mitigate and enhance downstream fish passage in the context of the schedule for all downstream passage facilities, which may include, without limitation, an accelerated schedule for fish passage at one reservoir if the schedule is delayed for fish passage at the other reservoir.

The licensee shall allow a minimum of 30 days for the consulted parties to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the consulted parties, documentation of the approval of USFWS and NOAA Fisheries or documentation of the status of the review by the USFWS and NOAA Fisheries, and specific descriptions of how the consulted parties' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the ARG. Licensee shall provide a copy of the proposed alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Licensee shall make funding available in an amount not to exceed $20,000 annually during the term of the license for beneficial modifications beyond the scope of any modifications required to meet performance standards. The licensee may, in consultation with the ARG, modify facilities or operations as a result of performance reporting, changing needs and new technologies, provided that such modifications shall not proceed without the approval of the NOAA Fisheries and USFWS. Modifications shall be submitted to the Commission for approval.

Article 106
Flow Implementation

Licensee shall release flows and manage reservoirs at the Baker River Project for the protection, restoration and/or enhancement of fish and wildlife resources, riparian vegetation, aesthetic resources, water quality, recreation resources, flood control and health and safety, as described in this article and Article 107.

(A) Interim Operations. Until the new units described in this article are constructed, licensee shall conduct operations in accordance with the Interim Protection Plan (IPP) analyzed in the Biological Opinion for Endangered Species Act Section 7 Consultation for the Baker River Hydroelectric Project (FERC No. 2150), NOAA Fisheries Consultation No. 2002/01040, or as approved by the Commission. During this interim period, licensee shall use best efforts to protect other species of salmonids not addressed in the IPP by reducing the maximum flow from generation of 4,100 cfs to 3,200 cfs from the Lower Baker Development, or less if possible, during the spawning season, from September 1 to December 31. The licensee shall investigate methods and make best efforts to reduce ramping rates toward the standards established in Aquatics Table 1 below. In making its best efforts, licensee shall consider the best interests of the fish resources by limiting the rate of change of incrementally decreasing flows, limiting the amount of daily amplitude change, and minimizing the difference between spawning and incubation flows. These flows may not necessarily be preferred for energy generation, but will be within the operational limitations of the existing Lower Baker dam and powerhouse.

(B) Flow Implementation Plan. Within four years of license issuance, the licensee shall prepare and submit for the Commission's approval a Flow Implementation Plan (FIP). The FIP shall: 1) specify the schedule for construction of two new generating units each with 750 cfs capacity, as provided in subsection (E); 2) require the implementation of Aquatics Table 1 or 2 as provided in sub-section (C), following construction; 3) provide the process and criteria for proposing modifications to Aquatics Table 1 or 2; and 4) provide the process and criteria for amending the FIP. The licensee shall develop the plan in consultation with the ARG, including specifically Ecology, USFWS, NOAA Fisheries, USDA-FS, WDFW, the Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, and Sauk-Suiattle Indian Tribe. The licensee shall allow a minimum of 60 days for the consulted entities to comment and to make recommendations before filing the plan with the Commission. The plan shall

20081017-3024 FERC PDF (Unofficial) 10/17/2008

include documentation of consultation, copies of comments and recommendations, and the licensee's responses. If the licensee does not accept a recommendation, the plan shall include the licensee's reasons based on Project-specific information.

(C) Plan Implementation. Following construction of the facilities required by this article, the licensee shall release flows as provided in Aquatics Table 1. In the event that the Army Corps' of Engineers' (ACOE) District Engineer directs the licensee to operate the Lower Baker reservoir to provide up to 29,000 acre-feet of storage in accordance with Article 107, licensee shall implement Aquatics Table 2, following the construction of any necessary facilities modifications, and the FIP shall be revised to incorporate Aquatics Table 2.

(D) Aquatics Table 1 or 2 Modifications. Aquatics Table 1 or 2 may be modified, as appropriate to protect, mitigate, and enhance aquatic resources. If licensee obtains or receives new information that suggests different flows may better protect, mitigate, and enhance aquatic resources, then licensee will provide the new information to the ARG to allow consideration of a modification to Aquatics Table 1 or 2. The ARG may propose a modification provided that the modification shall not require licensee to make additional funds available or to increase the total expected cost or other impact on Project generation or capacity, subject to the reserved authority of the Commission or Ecology. Modifications may be proposed at any time prior to completion of the FIP or through the plan amendment process thereafter. Following approval by the Commission, the licensee shall implement the modifications as required by the FIP.

Aquatics Table 1. Flows and reservoir elevations proposed for the Baker River Project, FERC No. 2150.

Lower Baker Development

Engineering Module: Three turbines (one 4,100 cfs turbine, two 750-cfs turbines)

Period	Min. Instream Flow (cfs)	Max. Instream Flow (cfs) [1]	Downramping Rates [2]	Flood Control Storage (AF)	Max Pool Level (ft) (NAVD 88)	Min Pool Level (ft) (NAVD 88)
Aug 1-31	1,000	3,600	1-inch per hour day and night	No flood control requirement	442.35	404.75
Sep 1-3	1,000	3,600			442.35	404.75
4-9	1,000	3,600			442.35	404.75
10-30	1,000	3,200			442.35	404.75
Oct 1-7	1,000	3,200 [1]			442.35	389
8-15	1,000	3,200 [1]			442.35	389
16-20	1,000	3,200 [1]			442.35	389
21-31	1,200	3,600 [1]			442.35	389
Nov 1-15	1,200	3,600 [1]	2-inches per hour day and night		442.35	389
16-30	1,200	3,600 [1]			442.35	389
Dec 1-31	1,200	3,600 [1]			442.35	389
Jan 1-31	1,200	5,600			442.35	389
Feb 1-15	1,200	5,600			442.35	389
16-28	1,200	5,600	0 inches per hour day and 2 inches per hour night		442.35	389
Mar 1-31	1,200	5,600			442.35	389
Apr 1-30	1,200	3,600			442.35	389
May 1-8	1,200	3,600			442.35	389
9-14	1,200	3,600			442.35	389
15-22	1,200	3,600			442.35	389
23-31	1,200	3,600			442.35	389
Jun 1-15	1,200	5,600			442.35	404.75
16-30	1,200	5,600	1-inch /hour day and night		442.35	404.75
Jul 1-31	1,200	5,600			442.35	404.75

[1] Maximum release constraints eliminated when Baker Lake inflow > 10 % monthly exceedance flow OR Skagit River above the Baker River confluence > 24,000 cfs October through December.

[2] Downramping rates measured at the Baker River at Concrete, but based on stage changes observed at Transect 1 on the mainstem Skagit River below the Baker River confluence (RM 56.5).

[3] Maximum elevation unless otherwise directed by the District Engineer (Corps) during Flood Season.

Upper Baker Development

No changes to turbine configuration

Period	Flood Control Storage (AF)	Max Pool [3] Level (ft) (NAVD 88)	Min Pool Level (ft) (NAVD 88)	Max Daily Pool Level Change
Aug 1-31	No flood control requirement prior to 10/01	727.77	724.8	Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Sep 3		727.77	724.8	
Sep 9		727.77	720.8	
Sep 30		727.77	718.8	No constraints on max daily pool level changes
Oct 7	Gradual drawdown to 74,000 AF by 11/15	727.11[4]	713.8	
Oct 15		726.23[4]	685	
Oct 20		725.68[4]	685	
Oct 31		724.47[4]	685	
Nov 14		712.42[4]	685	
Nov 15-30	74,000 AF 11/15 to 03/01	711.56	685	
Dec 1-31		711.56	685	
Jan 1-31		711.56	685	
Feb 1-15		711.56	685	
16-28		711.56	685	
Mar 1-31	Gradual refill	718	685	
Apr 1-30	No flood control requirement after 04/01	718	685	
May 1-8		727.77	685	
9-14		727.77	713.8	
15-22		727.77	718.8	
23-31		727.77	724.8	Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Jun 1-15		727.77	724.8	
16-30		727.77	724.8	
Jul 1-31		727.77	724.8	

No minimum flow requirements.
No maximum instream flow constraint.
No downramping limitations for environmental interests.

[4] Daily reservoir elevations between October 1, November 1, and November 15 shall be at or below straight lines drawn between 727.77 and 724.47 and between 724.47 and 711.56 for those respective dates with a gradual refill after March 1.

NOTE: All elevations are referenced to NAVD 88. Operations in effect for all years (no special dry year conditions)

20081017-3024 FERC PDF (Unofficial) 10/17/2008

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Aquatics Table 2. Flows and reservoir elevations proposed for the Baker River Project, FERC No. 2150 if Proposed Article 107 is adopted.

Lower Baker Development

Engineering Module: Three turbines (one 4,100 cfs turbine, two 750-cfs turbines

Period	Min. Instream Flow (cfs)	Max. Instream Flow (cfs) [1]	Downramping Rates [2]	Flood Control Storage (AF)	Max Pool [3] Level (ft) (NAVD 88)	Min Pool Level (ft) (NAVD 88)
Aug 1-31	1,000	3,600	1-inch per hour day and night	No flood control requirement prior to 10/1	442.35	404.75
Sep 1-3	1,000	3,600			442.35	404.75
4-9	1,000	3,600			442.35	404.75
10-30	1,000	3,200			442.35	404.75
Oct 1-7	1,000	3,200 [1]		29,000 AF 10/01 to 03/01	428.55	389
8-15	1,000	3,200 [1]			428.55	389
16-20	1,000	3,200 [1]			428.55	389
21-31	1,200	3,600 [1]			428.55	389
Nov 1-15	1,200	3,600 [1]	2-inches per hour day and night		428.55	389
16-30	1,200	3,600 [1]			428.55	389
Dec 1-31	1,200	3,600 [1]			428.55	389
Jan 1-31	1,200	5,600			428.55	389
Feb 1-15	1,200	5,600			428.55	389
16-28	1,200	5,600	0 inches per hour day and 2 inches per hour night		428.55	389
Mar 1-31	1,200	5,600		No flood control requirement after 03/01	442.35	389
Apr 1-30	1,200	3,600			442.35	389
May 1-8	1,200	3,600			442.35	389
9-14	1,200	3,600			442.35	389
15-22	1,200	3,600			442.35	389
23-31	1,200	3,600			442.35	389
Jun 1-15	1,200	5,600			442.35	404.75
16-30	1,200	5,600	1-inch /hour day and night		442.35	404.75
Jul 1-31	1,200	5,600			442.35	404.75

[1] Maximum release constraints eliminated when Baker Lake inflow > 10 % monthly exceedance flow OR Skagit River above the Baker River confluence > 24,000 cfs October through December.

[2] Downramping rates measured at the Baker River at Concrete, but based on stage changes observed at Transect 1 on the mainstem Skagit River below the Baker River confluence (RM 56.5).

[3] Maximum elevation unless otherwise directed by the District Engineer (Corps) during Flood Season.

Upper Baker Development

No changes to turbine configuration

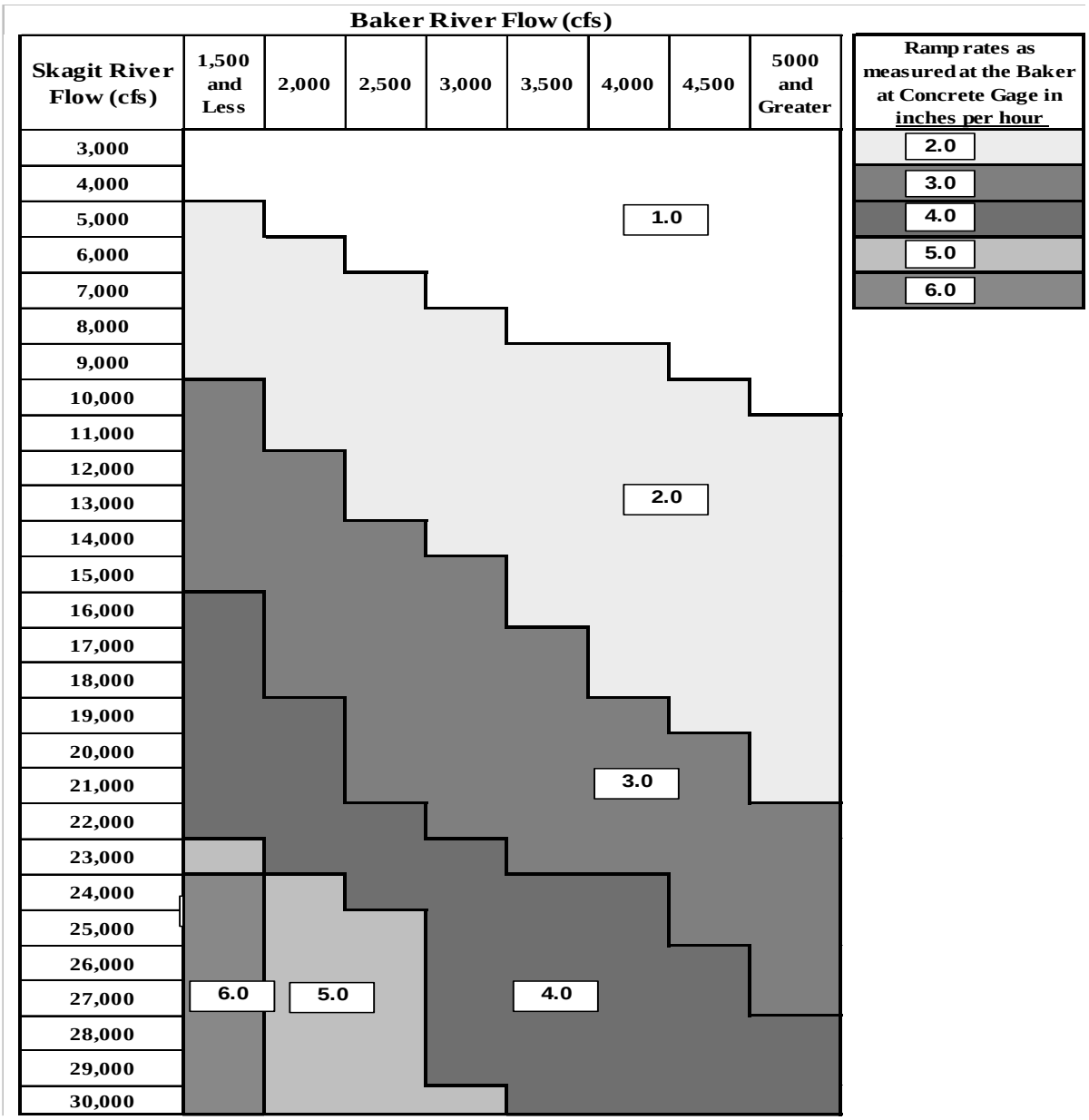
Period	Flood Control Storage (AF)	Max Pool [3] Level (ft) (NAVD 88)	Min Pool Level (ft) (NAVD 88)	Max Daily Pool Level Change
Aug 1-31	No flood control requirement prior to 10/1	727.77	724.8	Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Sept 3		727.03 [4]	724.8	
Sept 9		724.82 [4]	720.8	
Sept 30		717.09 [4]	718.8	No constraints on max daily pool level changes
Oct 7	Gradual drawdown to 74000 AF by 10/15 [4]	714.51 [4]	713.8	
Oct 15		711.56 [4]	685	
16-20		711.56	685	
21-31		711.56	685	
Nov 1-15		711.56	685	
16-30	74,000 AF 10/15 to 03/01	711.56	685	
Dec 1-31		711.56	685	
Jan 1-31		711.56	685	
Feb 1-15		711.56	685	
16-28		711.56	685	
Mar 1-31	Gradual refill	718	685	
Apr 1-30	No flood control requirement after 04/01	718	685	
May 1-8		727.77	685	
9-14		727.77	713.8	
15-22		727.77	718.8	
23-31		727.77	724.8	Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Jun 1-15		727.77	724.8	
16-30		727.77	724.8	
Jul 1-31		727.77	724.8	

No minimum flow requirements.
No maximum instream flow constraint.
No downramping limitations for environmental interests.

[4] Daily reservoir elevations between October 1 and October 15, shall be at or below straight lines drawn between 727.77 and 711.56 for those respective dates with a gradual refill after March 1.

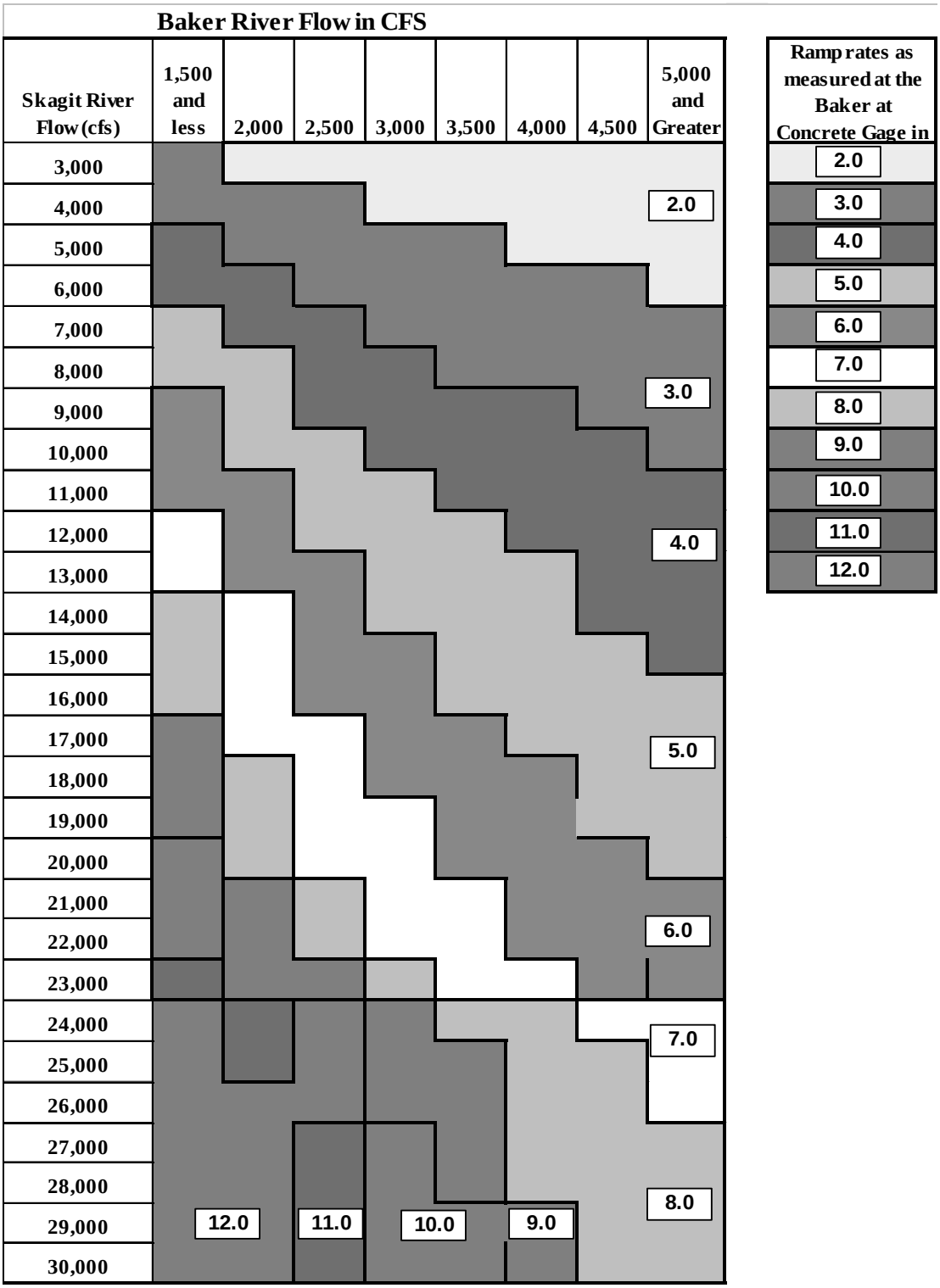
20081017-3024 FERC PDF (Unofficial) 10/17/2008

Aquatics Ramping Rate Figure A: Relationship between flows in the Baker River and Skagit River (Transect 1/Dallas Gage) and resulting in ramping schedule for the Baker River Project as measured at the Baker River at Concrete Gage to effect the Skagit river for seasons requiring 1 inch per hour



20081017-3024 FERC PDF (Unofficial) 10/17/2008

Aquatics Ramping Rate Figure B. Relationship between flows in the Baker River and Skagit River (Transect 1/Dallas Gage) and resulting in ramping schedule for the Baker River Project as measured at the Baker River at Concrete Gage to effect the Skagit river for seasons requiring 2 inch per hour



(E) Construction of New Units. To achieve this flow regime and meet these ramping rates, the licensee shall, upon Commission approval of a construction plan and schedule: 1) install two new generating units with approximately 750 cfs capacity each at the Lower Baker Development, to come on line within six years after license issuance; and, if needed, 2) alter the existing facilities.

(F) Ramping Rates. The licensee shall, beginning as early as reasonably practicable following license issuance and installation of the two new generating units at the Lower Baker Development, change the ramping rates for all licensee-controlled streamflow releases per Aquatics Table 1 or 2. The ramping rates shall apply on the Skagit River at transect 1, but will be measured on the Baker River based upon an established relationship shown on a table or curve to be developed by licensee by seeking input from the ARG, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, the Swinomish Indian Tribal, the USFWS, NOAA Fisheries, and USDA-FS, and in consultation with Ecology, and in accordance with any approval received from Ecology.

These ramping restrictions are to be in effect whenever the flow, as calculated at the Skagit River above the Baker River confluence, is less than or equal to 26,000 cfs. The relationship between flows and ramping is depicted on Aquatics Ramping Rate Figures A and B above.

(G) Monitoring Flows and Ramping Rates. Instream flows and ramping rates shall be monitored at the USGS gage (Station 12193500) Baker River at Concrete or via other approved means. Results of monitoring shall be made available to the Commission as part of the report required by this article. In the event that the gaging site USGS #12193500 Baker River at Concrete is no longer operable and another gage is used which is influenced by extraneous conditions (gages of the Skagit River, or tributaries, wind action, fluctuations in flow from upstream projects, for example), these ramping compliance conditions will be revisited.

(H) Temporary Modification to Flows and Ramping Rates – Natural Events. The flow regime required by this article may be temporarily suspended and modified in the event that drought conditions, or some other natural event outside of the control of licensee, limit licensee's ability to comply with the requirements of this article. Prior to operating outside of the conditions of this article, licensee shall: 1) notify the ARG and, at least, NOAA Fisheries, USFWS, Ecology, WDFW, the Sauk-Suiattle Indian Tribe, the Swinomish Indian Tribal Community, the Upper Skagit Indian Tribe, and Skagit County; 2) hold a meeting to identify potential options and solutions, which may include, but not be limited to, controlled generation and specified release patterns to protect fish to the extent practicable; and 3) obtain approval from Ecology. Controlled generation and specified release pattern solutions include, but are not limited to, the following:

If the total Project live storage (Baker Lake and Lake Shannon combined) drops below 160,000 acre-feet, licensee shall notify the ARG and reduce generation at the Lower Baker Development to the minimum instream flow in effect at that time until Project storage has been restored above 160,000 acre-feet.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(I) Temporary Modification to Flows and Ramping Rates – Emergencies. In the event that a condition affecting the safety of the Project or Project works, as defined by 18 C.F.R. § 12.3(b)(4), occurs and does not allow for consultation to occur before responding, then flows and ramping rates may be temporarily modified following any consultation with Ecology that is possible given the exigencies of the event. If the flow is so modified, the licensee shall notify Ecology, the Commission and the ARG as soon as practicable after the condition is discovered, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency action procedure. Licensee shall provide all members of the ARG with a copy of any written report required by 18 C.F.R. § 12.10(a)(2) within ten (10) days of filing with the Commission.

(J) Reporting Violations. In the event of a violation of the flow release or ramping schedule, the licensee shall report such violations as soon as discovered, but no later than 24 hours. Email notification, or other reporting mechanisms, agreeable to the parties, shall be made to the Commission, Ecology, and the ARG. The licensee shall provide a follow-up report to the Commission, Ecology, and the ARG within two weeks of the incident stating what occurred, licensee's response, and any measures licensee proposes to reduce future similar occurrences.

(K) Annual Reporting. Within two years of license issuance and annually thereafter according to the schedule set forth in Article 102, the licensee shall prepare and submit a Flow Implementation Report (FIR) regarding implementation of this article's requirements. The licensee shall develop the report in consultation with the ARG, including specifically Ecology, USFWS, NOAA Fisheries, USDA-FS, WDFW, the Swinomish Indian Tribal Community, Upper Skagit Indian Tribe and Sauk-Suiattle Indian Tribe. The licensee shall provide a minimum of 60 days for the consulted entities to comment before filing the FIR with the Commission. The FIR shall include documentation of consultation, copies of comments, and licensee's responses based on Project-specific information.

(L) Conflicts. If a conflict arises between the ramping rates or flow regimes in Article 106 and the additional flood control measures implemented as a part of Article 107(b) or (c), then the licensee shall modify its operations to the minimum extent necessary to avoid the conflict in a manner to protect aquatic resources.

Article 107
Flood Storage

(a) The licensee shall so operate the Upper Baker River reservoir as to provide each year 16,000 acre-feet of space for flood regulation between October 15 and March 1 as replacement for the valley storage eliminated by the development. Utilization of this storage space shall be as directed by the District Engineer, Corps of Engineers. In addition to the above-specified 16,000 acre-feet, the licensee shall provide in the Upper Baker River reservoir space for flood control during the storage drawdown season (about September 1 to April 15) up to a maximum of 58,000 acre-feet as may be requested by the District Engineer, provided that suitable arrangements shall have been made to

20081017-3024 FERC PDF (Unofficial) 10/17/2008

compensate the licensee for the reservation of flood control space other than the 16,000 acre-feet specified herein.

(b) Additionally, from October 1 to March 1, licensee shall operate the Lower Baker storage reservoir to provide up to 29,000 acre-feet of storage for flood regulation, at the direction of the District Engineer, Corps of Engineers, acting on behalf of the Secretary of the Department of the Army, subject to the following: (i) such storage shall be provided only in accordance with arrangements that are acceptable to the Corps of Engineers; and (ii) such storage shall be provided only after suitable arrangements have been made to compensate the licensee for the 29,000 acre-feet of storage for flood regulation specified herein.

(c) Licensee shall consult with the ARG, and specifically Skagit County and the Corps of Engineers, to develop means and operational methods to operate the Project reservoirs in a manner addressing imminent flood events and consistent with the requirements of the license. Appropriate means and methods may include, without limitation, additional reservoir drawdown below the maximum established flood pool. Licensee shall submit a report to the Commission within three years following license issuance describing any operational changes developed as a result of this consultation.

Article 108
Gravel

Within two years of license issuance, or on an alternative schedule submitted to the Commission for approval, the licensee shall develop and file with the Commission for approval a Baker River Gravel Management Plan (BRGMP) for the purposes of evaluating sediment interruption by the Baker Project and identifying any gravel augmentation measures to be implemented by the licensee. Gravel augmentation identified in the plan shall not exceed 12,500 tons annually. Licensee shall develop the plan in a manner that considers cost-effective evaluation measures and does not require a comprehensive assessment of sediment dynamics in the Skagit River Basin. The BRGMP, at a minimum, shall describe the existing and proposed:

1. Gravel augmentation measures intended to improve the geomorphic function of the Lower Baker River alluvial fan and affected downstream reach of the Skagit River to the extent of Project impediment to sediment transport, which includes the mainstem river channel and associated depositional features located within the Skagit River floodplain and may address the following: 1) location and contribution of gravel/cobble-sized material in the affected reach, 2) condition and substrate attrition rates in the reach immediately upstream, 3) substrate attrition rates within the affected reach, and 4) substrate sizes in relation to biological needs of salmonids and other aquatic organisms;

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2. Procedures for evaluating and monitoring the conditions in the Skagit River to determine when and if gravel augmentation is or becomes warranted and to track long-term trends in substrate profile degradation; and

3. Implementation guidelines and triggers for gravel/cobble augmentation. Triggers may be based on various factors, which may include, without limitation, the condition of the middle Skagit River absent Project influence, fluvial geomorphic changes throughout the term of the license, and/or habitat suitability for salmonids or other aquatic organisms using the middle Skagit River.

The licensee shall develop the BRGMP following consultation with the ARG. The licensee shall allow a minimum of 60 days for the consulted entities to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the ARG, and specific descriptions of how ARG comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the ARG. Licensee shall provide a copy of the proposed alternative schedule to the ARG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

Licensee shall perform the evaluation and monitoring, and gravel augmentation measures as required by the plan.

Article 109
Large Woody Debris

Within two years of license issuance, or on an alternative schedule submitted to the Commission for approval, the licensee shall develop and file with the Commission for approval a Large Woody Debris Management Plan (LWDMP). The LWDMP shall provide for the reasonable transport of large woody debris (wood over 12 inches (30 cm) in diameter and over 8 feet (244 cm) long) from Project reservoirs to mutually agreeable stockpile areas in the Baker basin to be identified in the plan. The plan shall identify the following 20-year targets for transport: 1) 2,960 pieces 30-60 cm diameter, 2) 540 pieces 60-90 cm diameter, and 3) 160 pieces greater than 90 cm diameter. The plan shall set forth specific annual transport requirements that will allow licensee to achieve the 20-year targets if LWD is available. Licensee's obligation shall not extend to security of the stockpiled LWD, unless located on Project lands. The plan shall establish (i) wood transfer quantities for the first twenty years of the license term and (ii) a formula for

20081017-3024 FERC PDF (Unofficial) 10/17/2008

reconfiguring the quantities relating to size and piece number allocation within the period after the first twenty years that is based on actual LWD accumulation over the first twenty years of the license. The plan shall include an implementation schedule.

The licensee shall develop the LWDMP after consultation with the ARG and Terrestrial Resources Implementation Group (TRIG). The licensee shall allow a minimum of 60 days for the consulted entities to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the ARG and TRIG, and specific descriptions of how the ARG and TRIG comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the ARG. Licensee shall provide a copy of the proposed alternative schedule to the ARG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

Article 110
Shoreline Erosion

Within one year of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall develop and file with the Commission for approval a Reservoir Shoreline Erosion Control Management Plan (RSECMP) and Implementation Schedule, defining the measures the licensee shall undertake to control shoreline erosion in a manner consistent with Article 201. The plan shall incorporate the results of prefiling relicensing Study A14a, Reservoir Shoreline Erosion and Deposition, and shall define the measures that licensee will undertake to control shoreline erosion.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the ARG. Licensee shall provide a copy of the proposed alternative schedule to the ARG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The RSECMP, and any subsequent updates, shall require the licensee to develop site-specific plans for erosion control, erosion prevention, and/or remediation activities wherever National Forest Service lands or resources may be affected. Prioritization for

20081017-3024 FERC PDF (Unofficial) 10/17/2008

treatment of identified sites that are at risk of harm shall be in accordance with plans developed in consultation with the USDA-FS, and shall include the first priority for the following: recreation sites, heritage resources, and aesthetic/cultural sites and the second priority for Severe and High Erosion Categories and any sites affecting facilities or resources that emerge during the term of the license. The RSECMP shall include:

- survey protocols, fieldwork schedules, and reporting requirements for site-specific evaluation (to be used in the design of the treatments), including measurements of geology, vegetation, erosion rates and mechanisms, documented with photographs, maps and GPS locations;
- selection criteria and prioritization of sites for treatment;
- descriptions of appropriate treatment techniques including treatment standards and goals, methods, materials, costs and timing;
- evaluation of the probability of success for treatments and consideration of alternatives;
- schedules for treatment implementation, including all necessary NEPA/SEPA and permitting;
- schedules for maintenance of treatments as needed;
- development and implementation of a monitoring plan to assess the effectiveness of erosion control treatments and to monitor erosion trends at untreated sites;
- evaluation and treatment of erosion at newly emergent sites that are affecting resources;
- annual reporting requirements; and
- provisions for updating the Plan at five year intervals utilizing adaptive management and monitoring to assess future treatment and maintenance actions.

Appropriate erosion treatment techniques will be determined based on potential effectiveness and safety. Erosion control measures may include, but are not limited to: a) vegetation and/or bioengineering; b) anchored logs; c) riprap vestment; d) rock wall; e) crib wall; f) perched beach; and g) drift sills.

The licensee shall develop the RSECMP in consultation with the USDA-FS. The licensee shall allow a minimum of 30 days for the USDA FS to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the RSECMP, documentation of consultation and copies of comments and recommendations on the RSECMP after it has been prepared and provided to the agency,

20081017-3024 FERC PDF (Unofficial) 10/17/2008

and specific descriptions of how the agency's comments are accommodated by the RSECMP. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

Licensee shall make funding available in an amount not to exceed $600,000, in accordance with the following schedule: $100,000 in each of Years 2, 3, and 4 following license issuance and $100,000 every ten years thereafter during the term of the license.

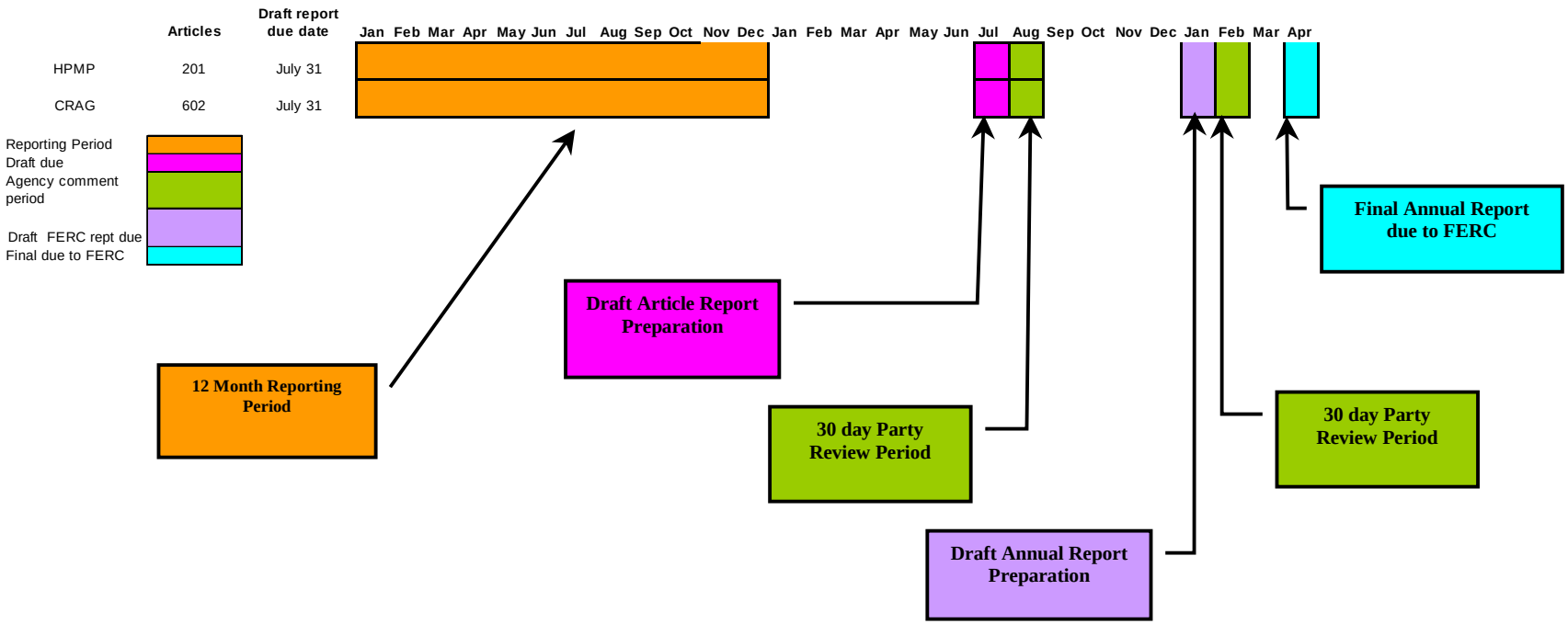
Article 201
Programmatic Agreement

The licensee shall implement the "Programmatic Agreement Between the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer for Managing Historic Properties that May be Affected by a License Issuing to Puget Sound Energy for the Continued Operation of the Baker River Hydroelectric Project in Skagit and Whatcom Counties, Washington - FERC Project No. P-2150" (Programmatic Agreement)[Note: Title to be Determined], executed on ***[to be filled in by FERC], including, without limitation, but not limited to the Historic Properties Management Plan (HPMP) attached to the Programmatic Agreement. The HPMP is approved and the licensee shall implement its provisions.

For license Article 201, licensee shall provide an annual summary of expenditures made during the preceding year in conformance with the requirements of the license, as well as an accounting of funding expenditures, interest earned, disbursements made as required by any article, and a report indicating adjustments made for inflation in accordance with Article 602. The figure below depicts the annual reporting schedule.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Reporting Schedule for Cultural Articles 201and 602



20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 301
Recreation Management Report

Within three years following license issuance, and annually thereafter, the licensee shall prepare and file with the Commission a Recreation Management Report ("RMR") regarding plans and other measures for protection, mitigation, and enhancement of recreation resources in the Project area.

The RMR, at a minimum, shall: (1) report on the status of development or implementation of plans or other measures required by: (a) Article 302 (Aesthetic Management), (b) Article 303 (Baker Lake Resort), (c) Article 304 (Water Recreation Safety), (d) Article 305 (Lake Shannon Access), (e) Article 311 (New Facilities) , and (f) Article 315 (Law Enforcement Planning); (2) report on the status and development of plans and other measures being undertaken by the USDA-FS with funding provided by licensee, based on any information provided to licensee by the USDA-FS, pursuant to (a) Article 306 (Visitor Information), (b) Article 307 (Visitor Interpretation), (c) Article 308 (Dispersed Recreation), (d) Article 309 (USDA-FS Bayview Campground), (e) Article 310 (USDA-FS New Trails and Trailheads), (f) Article 311 (USDA-FS New Campgrounds), (g) Article 312 (USDA-FS Campground Maintenance), (h) Article 313 (USDA-FS Trail and Trailhead Maintenance), and (i) Article 314 (USDA-FS Forest Roads, Road Maintenance); and (3) contain a list, or compilation of previously approved plans required by (a) Article 302 (Aesthetic Management Plan for Project Facilities), (b) Article 303 (Baker Lake Resort Plan), (c) Article 304 (Water Recreation Water Safety Plan), (c) Article 305 (Lake Shannon Recreation Plan), (d) Article 311 (Developed Recreation Monitoring Plan), and (e) Article 315 (Law Enforcement Plan).

The RMR shall also include an implementation schedule, substantially in the form attached as Appendix A-5 entitled "Recreation Implementation Schedule." The licensee shall review the Recreation Implementation Schedule annually in consultation with the Recreation Resources Group ("RRG"), and shall update it if there are: a) any changes in priorities for use of funding, b) acknowledgement of satisfaction of licensee's funding obligation related to completion of any action required by a specific article, c) any new or modified USDA-FS management objectives that may change uses of funding, d) any change in USDA-FS priorities due to funding sources from third parties and the effect, if any, on the Recreation Implementation Schedule, and e) any reports accounting for funds expended by all parties under this article. Any Recreation Implementation Schedule update shall be submitted to the Commission for approval.

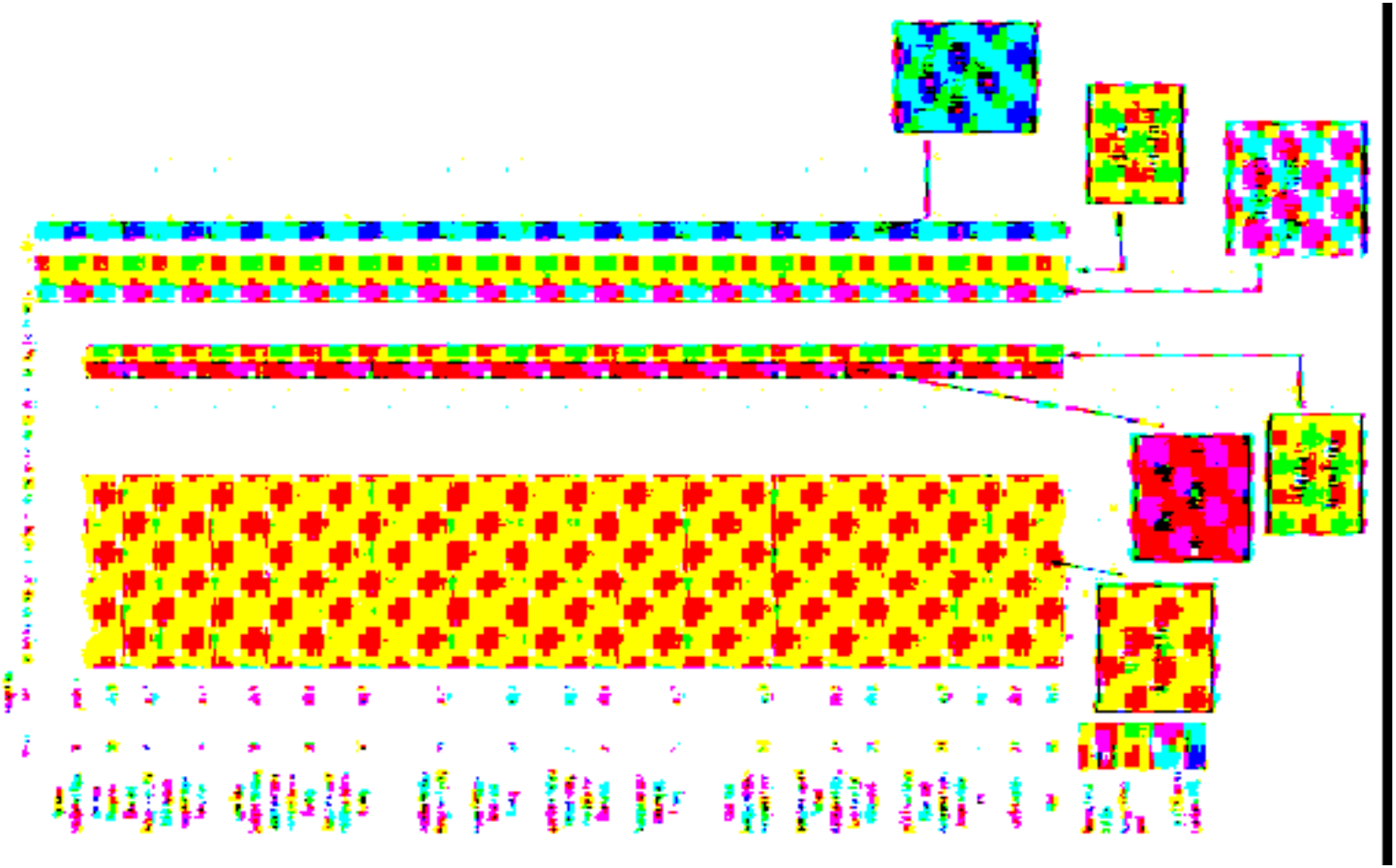
The licensee shall include documentation of consultation on the Recreation Implementation Schedule, copies of review comments by the USDA-FS and RRG on the completed RMR and updates to the RMR, and specific descriptions of how the comments of the USDA-FS and the RRG are accommodated in the RMR or update. The licensee shall allow a minimum of 60 days for the USDA-FS and RRG to comment before filing the RMR or update with the Commission.

For license Articles 301-318 and 602, licensee shall provide an annual summary of expenditures made during the preceding year in conformance with the requirements of

20081017-3024 FERC PDF (Unofficial) 10/17/2008

the license, as well as an accounting of funding expenditures, interest earned, disbursements made as required by any article, and a report indicating adjustments made for inflation in accordance with Article 602. The figure below depicts the annual reporting schedule.

Reporting Schedule for Recreation Articles 301-318, and 602



20081017-3024 FERC PDF (Unofficial) 10/17/2008

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 302
Aesthetics Management

Within two years of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file the Aesthetics Management Plan (AMP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. Licensee shall provide a copy of the proposed alternative schedule to the RRG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee shall develop the AMP in consultation with the RRG and specifically the USDA-FS. Within eighteen months of license issuance, the licensee shall submit a draft of the AMP to the RRG for review and comment. The licensee shall include, with the AMP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule 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 AMP shall contain an implementation schedule, a list of local native plants species that may be used for landscaping, and a list of approved exterior colors and materials for selected Project facilities. The AMP shall include provisions for the licensee to implement the following actions to reduce visual effects: 1) paint the pump station (off peak pump discharge facility) in neutral earth-tone colors and plant native vegetation to screen the facility from the West Pass Dike boat launch area, 2) plant native vegetation to screen the yards, buildings, and fence of the Upper Baker Operations and Maintenance Yards from the Kulshan Campground and Forest Service Road 1106, 3) paint the existing crane at the Lower Baker Dam a neutral earth-tone color during the next normal painting cycle, and 4) plant landscaping in the area near the visitor's center and associated parking area at the Lower Baker River Operations Complex Center. The AMP shall not require the licensee to implement any action in a manner that would prevent the safe operation of the Project and associated facilities or interfere with dike and road maintenance.

The licensee shall make funds available to the USDA-FS in an amount not to exceed that shown in the Recreation Implementation Schedule required by Article 301. The funds will be used to implement the following actions for non-Project facilities in the vicinity of Baker Lake: 1) vegetation management at Panorama Point, Horseshoe Cove, Shannon Creek, Bayview Campground, and Maple Grove Campground, and 2) vegetation

20081017-3024 FERC PDF (Unofficial) 10/17/2008

management between USDA-FS developed sites and/or viewpoints, and Baker Lake in two to four locations averaging less than ¼ acre in size.

Article 303
Baker Lake Resort Redevelopment Plan

Within two years of license issuance or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file the Baker Lake Resort Redevelopment Plan (BLRP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. Licensee shall provide a copy of the proposed alternative schedule to the RRG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee shall develop the BLRP in consultation with the RRG and TRIG and specifically the USDA-FS. Within eighteen months of license issuance, the licensee shall submit a draft of the BLRP to the RRG and USDA-FS for review and comment. The licensee shall include, with the BLRP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule 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 plan shall provide for redevelopment of the resort to a USDA-FS "Development Level 3" campground, as defined in the USDA-FS "Recreation Management Systems Meaningful Measures for Quality Recreation Management," dated January 2002, as amended, and the "Built Environment Image Guide for National Forests and Grasslands," dated December 2001 and shall, at a minimum, provide for the necessary decommissioning of the existing site in addition to what would be required under the termination of the Special Use Authorization, including building removal and the development of between 30-50 campsites.

The licensee shall, for the purpose of contributing to the redevelopment of Baker Lake Resort, make funding available to the USDA-FS in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5. In the event licensee has taken any action to redevelop or decommission the site pursuant to the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Special Use Authorization, any expenditures related to the actions taken will be credited against the required funding for this article.

Article 304
Baker Reservoir Recreation Water Safety Plan

Within one year of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file Baker Reservoir Recreation Water Safety Plan (BRRWSP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. Licensee shall provide a copy of the proposed alternative schedule to the RRG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee shall develop the BRRWSP in consultation with the RRG. Within six months following license issuance, the licensee shall submit a draft of the BRRWSP to the RRG for review and comment. The licensee shall include, with the BRRWSP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule 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 BRRWSP shall require the licensee to:

1) Within one year of license issuance, make funds available to the USDA-FS for the purpose of constructing and installing eight to twelve (8-12) bulletin boards at locations listed in the Recreation Water Safety Plan, in accordance with the Recreation Implementation Schedule attached as Appendix A-5.

2) Within two years of license issuance, prepare, in consultation with the RRG, information about the Baker Lake area including reservoir safety and provide displays and tear-sheet maps for visitors at the following specific sites: the USDA-FS/National Park Service office in Sedro-Woolley, all developed lake shore campgrounds at Baker Lake, the West Pass Dike public boat launch, PSE's Concrete Visitor Information Center if the facility is being operated, and two to four selected boat-in access points. Licensee shall review the maps and displays every sixth year of the license

20081017-3024 FERC PDF (Unofficial) 10/17/2008

term and revise them to include any additional boat launches, developed sites, or other recreation facilities and pertinent information.

3) Within three years of license issuance, construct floating log booms, buoys, or functionally equivalent structures to separate existing designated swimming areas from boat traffic at Horseshoe Cove and Baker Lake Resort. If there are remaining funds available during the construction of any new designated swimming areas, or if selected as a proper use of RAM funds, in accordance with Article 602, similar floating log booms, buoys, or functionally equivalent structures may be constructed to separate swimming areas from boat traffic. For the term of the license, licensee shall maintain such structures and provide adequate safety signage demarking swimming areas at Horseshoe Cove and Baker Lake Resort, and annually monitor reservoir hazards to recreation.

The licensee shall make funding available to the USDA-FS to contribute to its efforts in carrying out the purposes of this article in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 305
Lower Baker Developed Recreation

Licensee shall file Lower Baker Developed Recreation Plan (LBDRP) with the Commission for approval in accordance with this article.

Within one year of license issuance, licensee shall, in cooperation with Skagit County, initiate efforts to acquire a public access site on Lake Shannon for the purpose of providing additional recreational Project access. Site acquisition and selection criteria shall be developed in consultation with the RRG. This action shall include, and may be limited to, identifying an access area suitable for the construction of a concrete boat launch, parking area, and day use area, that has an existing access road, commensurate with the States Organization for Boating Access ("SOBA") Design Handbook for Recreational Boating and Fishing Facilities standards for "small access sites." The development of the small access site shall not conflict with the implementation of the floating surface collector required by Article 103, if the staging and launch is in the same location as the identified small access site.

Licensee shall acquire land for a Lake Shannon access site within ten years of license issuance. If licensee is unable to acquire a suitable and cost-effective access site on Lake Shannon, licensee shall, in consultation with the RRG and specifically Skagit County, identify and acquire a suitable and cost-effective access site at an alternative location that provides equivalent public opportunities for water access in the general vicinity of the Project as could be provided on Lake Shannon. If licensee identifies a location that is not along the shoreline of Lake Shannon, licensee shall submit the alternate location to the Commission for approval. Within five years of site acquisition, licensee shall develop the site acquired according to SOBA standards for small access sites, and in accordance with the LBDRP.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

The licensee shall develop the LBDRP in consultation with the RRG and ARG and specifically Skagit County. Within one year of site and access acquisition, the licensee shall submit a draft of the LBDRP to the RRG, ARG, and specifically Skagit County for review and comment. The licensee shall include, with the LBDRP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

If the licensee needs to vary any of the timing requirements of this article, licensee shall submit an alternative schedule to the Commission for approval. If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG, ARG, and specifically Skagit County. In the event the licensee elects to submit an alternative schedule, the licensee shall forward a copy of the proposed alternative schedule to the RRG, ARG, and Skagit County at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments to the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

Following site development, licensee shall operate and maintain this access area for the term of the license also in accordance with the approved plan. If property is acquired in a manner that allows development to exceed small boat access site standard, or in the event a party other than licensee develops recreational facilities in addition to those required by this article, following proper approval of any related use or conveyance of Project lands under Article 44(d)(6) of the previous license, or current Article ___ [FERC to fill in], licensee shall not be required to fund maintenance above what would be required for a small boat access site.

The licensee shall make funding available in an amount not to exceed that shown in the Recreation Implementation Schedule required by Article 301 for the planning, acquisition, and development of the new access area required by this article. Any funding not required for planning, acquisition, and development shall be made available to supplement the operation and maintenance of the access area. In addition to any funds remaining after completion of planning, acquisition, and development of the new access area, funding for operation and maintenance of the new Project access area required by this article shall not exceed the annual amounts set forth on the Recreation Implementation Schedule attached as Appendix A-5 for the term of the license.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 306
Upper Baker Visitor Information Services Funding

Within one year of license issuance, the licensee shall make funds available to the USDA-FS for the purpose of contributing to visitor information services provided by the USDA-FS in the Baker River basin. The funds will contribute to the following: 1) planning, design, and construction of a small Upper Baker Visitor Information Station (VIS), with a small parking area, information kiosks, and sanitation facilities commensurate with available funding; 2) support with staffing and operations from Memorial Day through Labor Day for visitor information services at Baker Lake during peak use periods; and 3) summer recreation season support from Memorial Day through Labor Day for the Mt. Baker Ranger District VIS in Sedro-Woolley during peak use periods, commensurate with available funds. The licensee shall make funding available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 307
Upper Baker Visitor Interpretive Services Funding

Within one year following license issuance, the licensee shall make funds available to the USDA-FS for the purpose of contributing to the planning, staffing, and production of materials to provide interpretive services in the Project area, with an emphasis on Baker Lake. The funds will be used for the preparation of a comprehensive Interpretation and Education Plan ("IEP") by the USDA-FS to facilitate the performance of interpretive services, including production of support materials. Themes of the IEP may include: 1) local culture and history; 2) aquatic, terrestrial and other natural resources; and 3) stewardship and Project features. The licensee shall make funding available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 308
Dispersed Recreation Management Funding

Within one year of license issuance, licensee shall make funds available to the USDA-FS for the purposes of contributing to the preparation and implementation of a Dispersed Recreation Management Plan (DRMP). The DRMP may describe management actions, routine O&M, monitoring objectives, and design plans to carry out hardening actions at three to six high priority sites identified on Exhibit R-2 of the Dispersed Site Inventory Study, Study R-12, attached as Appendix A-6. The DRMP may also include descriptions of initial management actions which are intended to limit the adverse impacts of dispersed recreation use through increased monitoring, routine maintenance, information, and site hardening. The licensee shall make funding available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 309
Bayview Campground Rehabilitation Funding

Within one year of license issuance, license shall make funds available to the USDA-FS for the purpose of contributing to the rehabilitation and reconstruction of the 28-unit Bayview Campground. Funds may be used to contribute to rehabilitation and reconstruction of the existing campground to a similar level of development as other USDA-FS sites developed according to USDA-FS "Development Level 4," as defined in "Recreation Management Systems, Meaningful Measures for Quality Recreation Management, dated January 2002, as amended, and "Built Environment Image Guide for National Forests and Grasslands," dated December 2001. The licensee shall make funds available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 310
Upper Baker Trail and Trailhead Construction Funding

Within four years following license issuance, licensee shall make funds available to the USDA-FS for the purpose of contributing to trail-based recreation in the Project vicinity. The funds are intended to contribute to USDA-FS efforts to provide up to six miles of new multi-season, multi-use, non-motorized trails. Funds made available may be used for trail planning and construction consistent with the USDA-FS trail development standards, as set forth in the Trails Management Handbook, FSH 2309.18. The licensee shall make funding available, for the purpose of contributing to trail based recreation at Upper Baker, in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 311
Lower Baker Trail Construction

Within twelve years of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file Lower Baker Trail Construction Plan (LBTCP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. In the event the licensee elects to submit an alternative schedule, the licensee shall forward a copy of the proposed alternative schedule to the RRG and Skagit County at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

The licensee shall develop the LBTCP in consultation with the RRG. Within six years of license issuance, the licensee shall submit a draft of the LBTCP to the RRG for review and comment. At least 30 days prior to submitting the LBTCP to the Commission for approval, the licensee shall provide a revised draft of the LBTCP to the RRG for review and comment. The licensee shall include, with the LBTCP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule 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 LBTCP shall include provisions for site selection, development criteria and construction of up to two miles of trail in the vicinity of the Town of Concrete, in a manner consistent with the requirements of Articles 201, 508 and 509. The licensee shall make funding available in an amount not to exceed that shown in the Recreation implementation Schedule attached as Appendix A-5.

Article 312
Developed Recreation Monitoring and Funding

Within five years of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file the Upper Baker Developed Recreation Monitoring and Funding Plan (DRMFP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. In the event the licensee elects to submit an alternative schedule, the licensee shall forward a copy of the proposed alternative schedule to the RRG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee shall develop the DRMFP in consultation with the RRG and specifically the USDA-FS. Within four years of license issuance, the licensee shall submit a draft of the DRMFP to the RRG and USDA-FS for review and comment. The licensee shall include, with the DRMFP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule 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 plan shall provide for monitoring of site use and occupancy levels at the following fee campgrounds: Horseshoe Cove, Panorama Point, Bayview, Shannon Creek, and Baker Lake Resort. Data from this monitoring shall be provided annually to USDA-FS. Licensee shall not be required to provide data readily available to the USDA-FS or duplicative of information collected routinely by the USDA-FS in conjunction with its monitoring and maintenance of the listed campgrounds.

The plan shall require the licensee to evaluate monitoring results no later than eight (8) years following license issuance, and annually thereafter until additional recreational development is implemented, in order to determine, in consultation with the USDA-FS and based on monitoring results, whether the licensee shall contribute to expansion of recreation site capacity in a manner compatible with the existing levels of development on National Forest System lands adjacent to Baker Lake. The determination of whether additional recreation site development at Baker Lake is necessary shall be based upon monitoring reports that document site use levels reaching or exceeding 60% of combined site occupancy for Horseshoe Cove, Panorama Point, Bayview, Shannon Creek, and Baker Lake Resort campgrounds during the months of July and August for two consecutive years.

The licensee shall make funds available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5 following consultation with the USDA-FS indicating that additional recreation sites are needed.

Article 313
Upper Baker Developed Recreation Maintenance Funding

Within one year of license issuance, and annually thereafter, in order to continue to provide recreation opportunities on National Forest System lands at Baker Lake, licensee shall make funds available to the USDA-FS for the purpose of contributing to the USDA-FS efforts in the operation and maintenance in a manner commensurate with maintenance routinely provided by the USDA-FS in the Mt. Baker-Snoqualmie National Forest at the following developed facilities: Shannon Creek (development level 3); Panorama Point (development level 3); Bayview (development level 4); Horseshoe Cove (development level 4); Maple Grove (development level 2); and Baker Lake Resort (development level 3) (if under USDA-FS management) and future developed facilities constructed in accordance with Articles 303, 309, and 312.

For any license term exceeding 30 years, licensee shall consult with the USDA-Forest Service to establish the actual level of funding required to accomplish rehabilitation or replacement of developed recreation facilities estimated in the Recreation Implementation Schedule attached as Appendix A-5. The licensee shall provide such funding for the purpose of maintaining these sites to the standard of development

20081017-3024 FERC PDF (Unofficial) 10/17/2008

identified above in accordance with "Recreation Management Systems, Meaningful Measures for Quality Recreation Management," dated January 2002, as amended, and "Built Environment Image Guide for National Forests and Grasslands," dated December 2001 or the equivalent standards and legal requirements in place at the time replacement is required.

Funding provided by this article is intended to contribute to the USDA-FS efforts to attain National Quality Standards as generally described in Appendices A and B of the USDA-FS, Recreation Management Systems Meaningful Measures, January 2002 Publication, and the "Built Environmental Image Guide for National Forests and Grasslands," dated December 2001, as they may be amended from time to time, to the extent possible with available funding, and also for the purpose of allowing the USDA-FS to conduct deferred maintenance of these existing facilities.

Licensee's obligation for funding is estimated in an amount shown in the Recreation Implementation Schedule required by Article 301. Maintenance and operations funds shall be provided in fixed amounts for the first 10 years of the license in accordance with the RMR Implementation Schedule attached as Appendix A-5. At the end of license year 10, licensee shall consult with the USDA-FS to adjust the required maintenance and operations funds to be provided to the USDA-FS for years 11-15 following license issuance, based upon an assessment of licensee's average obligations for the preceding 5 years. Following the establishment of the adjusted amount, operations and maintenance funds shall be fixed consistent with the preceding analysis and shall remain in effect until the end of license year 15. At the end of license year 15, licensee shall consult with the USDA-FS to adjust the required operations and maintenance funds to be provided to the USDA-FS for years 16-20 using the same procedures as in year 11. Following the establishment of the adjusted amount, operations and maintenance funds shall be fixed consistent with the preceding analysis and shall remain in effect until year 20. At the end of license year 20, licensee shall consult with the USDA-FS to adjust the required operations and maintenance funds to establish a fixed annual payment for the remaining period of the license based upon the analysis of the prior 20 years.

The licensee shall enter into and file with the Commission a reimbursable maintenance agreement with the USDA-FS, on terms and conditions satisfactory to both the USDA-FS and licensee and consistent with the requirements of this article, that sets forth how the licensee funds and receives credit for maintenance expenditures at USDA-FS developed campgrounds. If the USDA-FS collects fees directly or from services provided by a third party concessionaire, and has the Congressional approval to retain the fees, then the collected fees will be directly spent on either maintenance or capital improvements at the facility at which they were collected unless directed otherwise by Congress. Funds collected less overhead retained and expended at the site by USDA-FS shall commensurately reduce the licensee's annual obligation at the site, in accordance with the mutually acceptable agreement between licensee and the USDA-FS.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 314
Upper Baker Trail and Trailhead Maintenance Funding

Within one year of license issuance and annually thereafter, the licensee shall make funds available to the USDA-FS for the purpose of contributing to the USDA-FS efforts to provide for recreation use on trails and trailheads on National Forest System lands in the vicinity of Baker Lake. The funds will be used for routine operation, maintenance, and facility replacement of the following USDA-FS trails and trailheads: Baker River Trail (#606); Baker Lake Trail (#610); and Baker Lake North and South trailheads. The licensee shall make funding available to the USDA-FS in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 315
Lower Baker Trail Maintenance

Following the development of the trail required by Article 311, licensee shall maintain the trail with available funds, in an amount not to exceed $620 annually during the remaining term of the license, in accordance with the Recreation implementation Schedule attached as Appendix A-5.

Article 316
USDA-FS Forest Road Maintenance Funding

Within six months of license issuance, and annually thereafter, licensee shall make funding available to the USDA-FS for the purpose of contributing to the routine maintenance of portions of up to 25 miles of the following existing Forest Roads directly providing access to the Project and Project-related facilities: FR 11 (Baker Lake Highway); FR 1106 (Depression Lake); FR 1107 (Anderson Road); FR 1118 (Horseshoe Cove and Bayview); FR 1122 (Lower Sandy Creek); FR 1136 (Lower Boulder Creek); FR 1137 (Panorama Point); FR 1142 (Baker Lake Resort); FR 1150 (Shannon Creek Campground); and FR 1168 (Baker River Trailhead North). Funding is intended to be used, in part, for contributing to the USDA-FS to pave FR 1106 during the sixth year following license issuance and for periodic resurfacing. Licensee shall make funds available in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5.

Article 317
Access to Baker Lake

During the term of the license, licensee shall provide public road access to the east side of Baker Lake on existing FR 1106, except as may be restricted by short-term public safety or Project security requirements.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 318
Law Enforcement

Within one year of license issuance, licensee shall invite federal, state, and local enforcement agency personnel identified by USDA-FS, NPS, Skagit and Whatcom Counties and Town of Concrete law enforcement departments, and WDFW to a meeting or meetings convened for the purpose of developing a Law Enforcement Plan (LEP) to provide for the coordination of the activities of law enforcement personnel with jurisdiction in the Project area and the Baker Basin. The LEP is intended to increase the effectiveness and efficiency of law enforcement. The LEP may include provisions for law enforcement presence, other types of public contact personnel presence, enhanced emergency communication and response procedures, public safety and security, protection measures for facilities, natural resources, recreation resources, and heritage resources within the Project area and Baker Basin generally. The actual elements of the LEP will be determined by the designated participating agency and law enforcement personnel.

Within two years of license issuance, licensee shall file a report on the LEP (LEP Report) with the Commission. At least 30 days prior to submitting the LEP Report to the Commission, the licensee shall provide a draft of the LEP Report to the RRG for review and comment. The licensee shall include, with the LEP Report filed with the Commission, copies of comments on the LEP Report and specific descriptions of how the entities' comments are accommodated by the LEP Report. If the licensee does not adopt a comment, the filing shall include the licensee's reasons, based on Project-specific information.

Licensee shall make funding available for the development and implementation of the original LEP and subsequent revisions as provided for in the LEP in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5. In the event an LEP is not developed by participating agencies and law enforcement personnel within three years following license issuance, licensee shall retain the accumulated specified funding until the LEP is completed. Expenditures in preparation of the LEP and any subsequent monitoring and updates shall not exceed $55,000, in accordance with the Recreation Implementation Schedule Costs attached as Appendix A-5 for participation in the development of the plan, subsequent revisions, and generally in the planning process shall not be considered an authorized use of the funding.

Article 401
Water Quality

Licensee shall comply with the terms and conditions of the 401 Certification issued by Ecology. Prior to the issuance of the 401 Certification, numeric water quality parameters of concern were identified to include but not be limited to: temperature, dissolved oxygen, total dissolved gas, and turbidity. With respect to these parameters, licensee

shall also comply with the terms and conditions of the 401 Certification and to the extent the 401 Certification modifies the following, the following generally stated requirements shall be modified:

1) Temperature

The natural condition for temperature will be determined using studies and analyses performed within the first five years (or such other period determined by Ecology) following license issuance with the objective of meeting the water quality standards. Designated and existing uses include but are not limited to: salmon and trout spawning, core rearing, and migration; primary contact recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values for Lake Shannon and Baker Lake, and specifically, native char for Baker Lake and all tributaries, and extraordinary primary contact recreation for Baker Lake.

Compliance is anticipated to be measured at the following compliance points: for Baker Lake, upstream of the Baker River dam forebay and Upper Baker tailrace; and for Lake Shannon, at Lower Baker dam forebay, Lower Baker tailrace, and Lower Baker fish weir. Additional or alternative compliance points may be deemed necessary by Ecology in the 401 certification.

2) Dissolved Oxygen

The natural condition for dissolved oxygen will be determined using studies and analyses performed within the first five years (or such other period determined by Ecology) following license issuance with the objective of meeting the water quality standards.

Compliance is anticipated to be measured at the following compliance points: for Baker Lake, the forebay and Upper Baker tailrace, and for Lake Shannon, the forebay and Lower Baker fish weir. Additional or alternative compliance points may be deemed necessary by Ecology in the 401 certification.

3) Total Dissolved Gas (TDG)

Licensee shall comply with water quality standards for TDG, except when flows in the Baker River exceed the rate equivalent to the seven-day, ten-year flood frequency, as defined in WAC 173-201A-060(4)(a), and no further action beyond all known and available prevention, control, and treatment (AKART) shall be required unless monitoring detects non-exempt TDG exceedances, at which time licensee shall be required to propose appropriate action as authorized by Ecology. This action may involve a site-specific standard to achieve compliance with applicable water quality standards. Further studies may be required during the term of the license regarding the appropriate methods to reduce overall TDG production. Licensee shall minimize TDG production through the use of AKART, including at least the installation of two new generating units as required by Proposed Article 106(E), and the utilization of the new generating units in a manner consistent with reducing overall TDG production.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

4) Turbidity

Licensee shall operate the Project reservoirs to maintain a minimum surface elevation of 389 feet at Lake Shannon and 685 feet at Baker Lake to minimize the resuspension of sediments as a result of Project operations, and discharges from the Project shall not exceed background levels of turbidity occurring within tributaries that discharge into the Project reservoirs as provided in applicable regulations.

Compliance shall be measured at the following compliance points: Upper and Lower Baker tailraces, except as otherwise exempted under WAC 173-201A-110. Additional or alternative compliance points may be deemed necessary by Ecology in the 401 Certification.

Required Plans

The licensee shall develop in consultation with Ecology, a Water Quality Monitoring Plan, and shall, following approval by Ecology, submit the plan to the Commission for approval. The Water Quality Monitoring Plan shall assess compliance with water quality standards, and summarize the monitoring schedule that will be employed to monitor compliance with the standards. The plan shall include monitoring throughout the life of the license, and require summary reports to be submitted annually to the Commission and Ecology. The plan may allow that requests for reduction in sampling frequencies and/or parameters be made to Ecology for consideration.

The licensee shall develop in consultation with Ecology, a Water Quality Protection Plan, and shall, following approval by Ecology, submit the plan to the Commission for approval. The Water Quality Protection Plan shall address the control of potential sources of pollutant releases from Project construction, operations or emergencies. The plan shall include all Project-related facilities, including, but not limited to, access roads, boat ramps, transmission corridors, structures, portable toilets, hatcheries and fish collection, handling and transportation facilities, and staging areas for all activities related to Project operation, maintenance and repair. The format and content of the Water Quality Protection Plan shall be prepared at the direction of Ecology, but it shall include, and may not be limited to, the following individual plan elements:

1. Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall specify the Best Management Practices (BMPs) and other control measures to prevent contaminants entering the Project's surface water and groundwaters. The SWPPP shall address the pollution control measures for licensee's activities that could lead to the discharge of stormwater or other contaminated water from upland areas. The SWPPP should also specify the management of chemicals, hazardous materials and petroleum (spill prevention and containment procedures), including refueling procedures, the measures to take in the event of a spill, and reporting and training requirements. The SWPPP shall include appropriate water quality monitoring protocols and notification requirements.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2. In-Water Work Protection Plan. The In-Water Work Plan shall be consistent with the SWPPP and shall specifically address the BMPs and other control measures for licensee activities that require work within surface waters. In addition to construction projects, this work includes, but is not limited to, the application of herbicides, pesticides, fungicides, disinfectants, and lake fertilization. An appropriate water quality monitoring plan shall be developed and implemented for all in-water work.

Article 501
Terrestrial Resource Management Plan

Within one year from license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file the Terrestrial Resource Management Plan (TRMP) with the Commission for approval.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the Terrestrial Resources Implementation Group (TRIG). In the event the licensee elects to submit an alternative schedule, the licensee shall forward a copy of the proposed alternative schedule to the TRIG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee shall develop the TRMP in consultation with the TRIG, and shall review the TRMP annually thereafter during the first ten years of the license, and every fifth year for the remaining term of the license. Within six months from license issuance, the licensee shall submit a draft of the TRMP to the TRIG for review and comment. At least 30 days prior to submitting the TRMP (or any revisions to the TRMP) to the Commission for approval, the licensee shall provide a revised draft of the TRMP (or any revisions to the TRMP) to the TRIG for review and comment. The licensee shall include, with the TRMP (or any revisions to the TRMP) filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

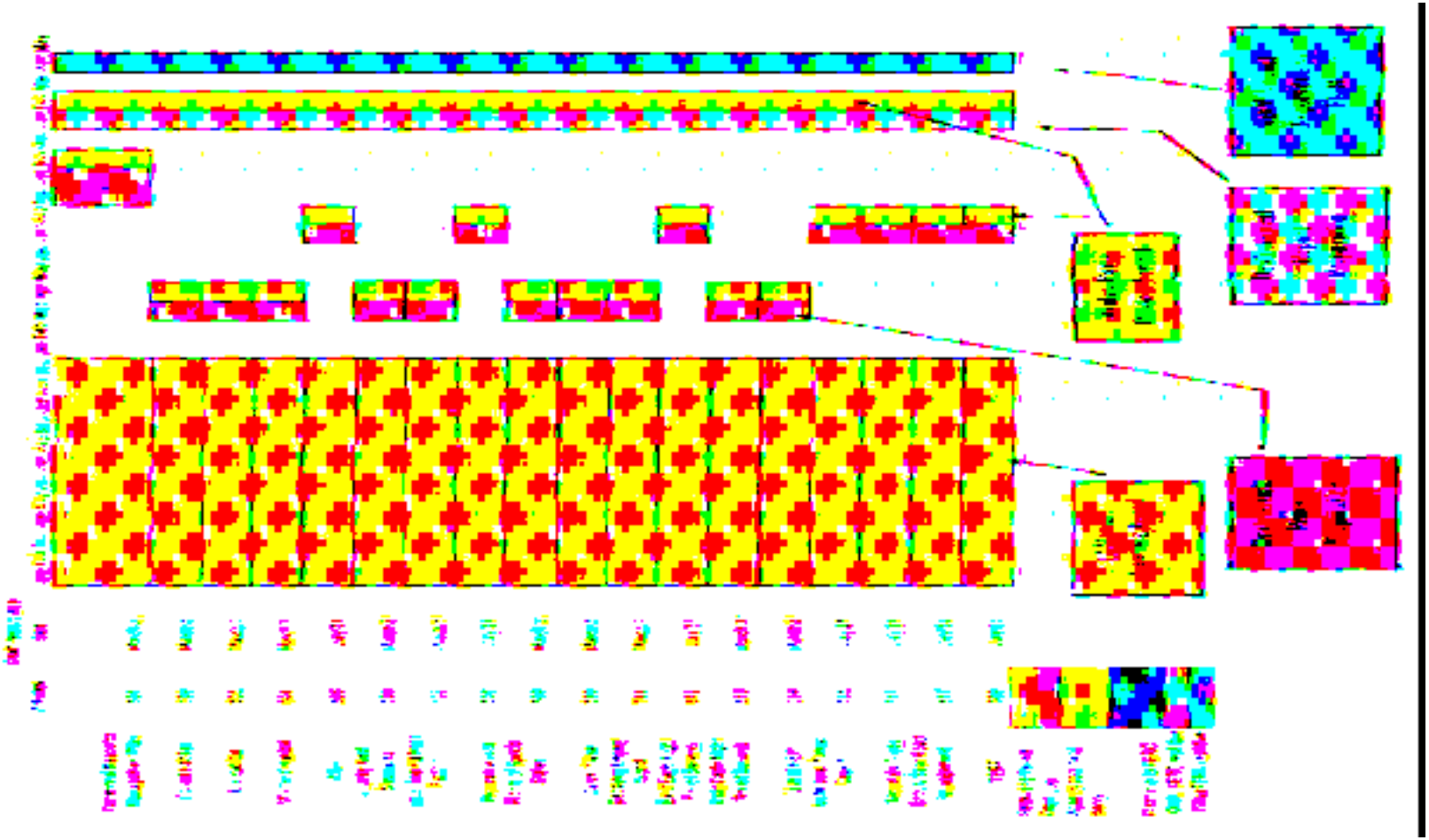
The TRMP shall include the planning and implementation requirements identified in the following Articles: Article 502 (Forest Habitat); Article 503 (Elk Habitat); Article 504 (Wetland Habitat); Article 506 (Osprey Nest Structures); Article 507 (Loon Floating Nest Platforms); Article 508 (Noxious Weeds); Article 509 (Plants of Special Status); Article 510 (*Carex flava*); Article 511 (Decaying and Legacy Wood); Article 512 (Bald Eagle Winter Roost Surveys); Article 513 (Bald Eagle Management Plans); and Article 514

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(Use of Habitat Evaluation Procedures). The TRMP shall be consistent with Articles 502-517. Planning shall not be required for Articles 505, 515, 516, and 517. The TRMP shall include a schedule for monitoring only as required by Articles 506, 507, 508, 509, 510, and 514.

For license Articles 501-517, licensee shall provide an annual summary of expenditures made during the preceding year in conformance with the requirements of the license, as well as an accounting of funding expenditures, interest earned, disbursements made as required by any article, and a report indicating adjustments made for inflation in accordance with Article 602. The figure below depicts the annual reporting schedule.

Reporting Schedule for Terrestrial Articles 501-517, and 602



20081017-3024 FERC PDF (Unofficial) 10/17/2008

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 502
Forest Habitat

The licensee shall acquire and manage deciduous forest bird habitat, such as: deciduous forest land, mixed forest land, and riparian forest land, for the purpose of increasing, protecting, and/or enhancing habitat for deciduous forest dwelling species, including, without limitation, populations of neotropical migratory bird species that are in decline in the Puget Sound region. Qualifying deciduous forest habitat land shall be comprised of land with 40% or greater deciduous tree composition. In the plan required by Article 501, the licensee shall include criteria and procedures for site selection, acquisition, and management, developed in consultation with the TRIG. Such criteria and procedures shall: (A) consider any potential to impair, diminish, or abrogate tribal treaty or cultural rights, by providing that the licensee shall identify suitable alternative sites or management activities if the designated representative of any affected tribe notifies the TRIG of its conclusion that a particular site or management activity will impair, diminish, or abrogate specific tribal treaty or cultural rights and describes the basis for its conclusion; (B) consider the potential for integration of the site acquisition and management required by this article and other articles to optimize the resulting ecosystem benefits; (C) consider appropriate land acquisition costs; (D) consider the potential to secure grant funds to supplement the funds otherwise for implementation of this article; (E) consider whether any sites so acquired are appropriately included in the Project boundary, and if so, provide for the filing of an appropriate request to the Commission; and (F) provide for continuing consultation with the TRIG in the implementation of the approved plan. Licensee shall undertake habitat planning, acquisition, and enhancement activities consistent with the purposes of this article in consultation with the TRIG. Licensee shall, when considering land acquisition or management activities, evaluate the extent of required noxious weed management in accordance with criteria developed in Article 508.

Funding for the acquisition, planning, and habitat enhancement and management (including noxious weed management) required by this article is not to exceed $450,000 (2006$), and shall be made available according to the following schedule: 1) $430,000 shall be made available within three years of license issuance, and 2) $5,000 shall be made available in each of years 4-7 from license issuance.

If funds are available twenty-five years following license issuance, and licensee, in consultation with the TRIG, determines lands are not available and/or habitat enhancement or management actions are not feasible for any of the intended purposes of this article, the remaining funds required by this article may be made available to the Terrestrial Enhancement and Research Fund (TERF) established pursuant to Article 602. Unless otherwise approved by the Commission in accordance with the requirements of Article 601, acquired lands shall remain in licensee's ownership during the term of the license.

For license Articles 501-517, licensee shall provide an annual summary of expenditures made during the preceding year in conformance with the requirements of the license, as well as an accounting of funding expenditures, interest earned, disbursements made as required by

20081017-3024 FERC PDF (Unofficial) 10/17/2008

any article, and a report indicating adjustments made for inflation in accordance with Article 602.

For the purposes of this article, acquisition costs may include: transaction costs, such as completion of appropriate site assessments for hazardous materials and noxious weeds; land surveys, including timber cruise if needed; appraisals; habitat surveys; filing fees; excise taxes; title searches, reports, fees and insurance; closing costs; preparation of land acquisition agreements and any required governmental approvals. Acquisition costs may exclude: internal personnel and administrative costs of the parties associated with land acquisitions, such as staff salaries and benefits; attorney fees and other legal expenses incurred by the licensee or any other party not related to the preparation of land acquisition agreement and any required government approvals; and fees paid by the licensee to third parties for administrative costs associated with a third parties' acquisition of interests in land on behalf of the licensee. Prior to completing any transaction, the licensee will notify the TRIG and ARG, as appropriate, if it appears that transaction costs will be significantly higher than expected at the time of license issuance, and shall, in consultation with the TRIG and ARG, determine whether to proceed with a transaction with significant transaction costs.

Article 503
Elk Habitat

Within one year of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall begin efforts to acquire elk foraging habitat land for the purpose of providing significant and reliable foraging resources for the Nooksack Elk Herd during the term of the license, to improve habitat conditions for its recently declining population.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the TRIG. In the event the licensee elects to submit an alternative schedule, the licensee shall forward a copy of the proposed alternative schedule to the TRIG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The licensee, in consultation with the TRIG, shall develop site acquisition and selection criteria, in order to obtain lands suitable for long-term management as elk habitat. Such criteria and procedures shall: (A) consider any potential to impair, diminish, or abrogate tribal treaty or cultural rights, by providing that the licensee shall identify suitable alternative sites or management activities if the designated representative of any affected tribe notifies the TRIG of its conclusion that a particular site or management activity will impair, diminish, or abrogate specific tribal treaty or cultural rights and describes the basis for its conclusion; (B) consider the potential for integration of the site acquisition and management required by

20081017-3024 FERC PDF (Unofficial) 10/17/2008

this article and other articles to optimize the resulting ecosystem benefits; (C) consider appropriate land acquisition costs; (D) consider the potential to secure grant funds to supplement the funds otherwise for implementation of this article; (E) consider whether any sites so acquired are appropriately included in the Project boundary, and if so, provide for the filing of an appropriate request to the Commission; and (F) provide for continuing consultation with the TRIG in the implementation of the approved plan.

Initially site selection criteria should be based on the following geographic criteria in order of priority: a) within the core area of the Nooksack Elk Herd, b) within the peripheral area of the Nooksack Elk Herd if consultation with WDFW determines that animal damage complaints are unlikely to occur, and c) in the Sauk Game Management Unit if consultation with WDFW determines that animal damage complaints are unlikely to occur. Based on consensus within the TRIG, these geographic priorities should be revisited in response to changes in scientific information, landownership patterns, game management agreements or WDFW's elk management plan. Licensee shall, when considering land acquisition or management activities, evaluate the extent of required noxious weed management in accordance with criteria developed in Article 508.

Phase I. Initial acquisition. The licensee shall make good faith efforts to acquire, if possible, tract(s) having a total area of approximately 300 acres, and a combined elk forage equivalency value of at least 1,437, calculated as described in the Elk Habitat Table below. If the licensee is unable to acquire initial tract(s) with the required elk forage equivalency value, funding made available for the initial tract(s) shall be carried over for general acquisition purposes consistent with this article.

General. Funding for the total costs associated with acquisition is not to exceed $3,700,000 (2006$), with the first phase of acquisitions not to exceed $1,200,000. Funding shall be made available for the following acquisition periods: $1,200,000 within three months of license for the initial tract(s), another $1,250,000 within one year following license issuance, and the remaining $1,250,000 within five years following license issuance. Any funding not required for acquisition purposes may be made available to supplement the enhancement, management, and maintenance of acquired elk forage lands. If funds are available twenty-five years following license issuance, and licensee, in consultation with the TRIG, determines lands are not available and/or habitat enhancement or management actions are not feasible for any of the intended purposes of this article, the remaining funds required by this article may be made available for the TERF, as described in Article 602.

Within one year of each acquisition, the licensee shall prepare, or update, the elk forage habitat enhancement and management element of the Terrestrial Resources Management Plan, in accordance with Article 501. Acquired lands shall be managed and maintained in accordance with the plan developed in accordance with Article 501.

The licensee's annual obligation for total costs associated with planning, habitat enhancement, management (for elk forage purposes and noxious weed management purposes), and maintenance of acquired lands is not to exceed $50,000 per year during the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

term of the license. In the event of a shortfall in acquisition funds, the funds to be made available for planning, habitat enhancement, management (for elk forage purposes and noxious weed management purposes), and maintenance of acquired lands may be converted for use for acquisition purposes following the licensee's consultation with the TRIG in accordance with Article 501.

The licensee shall use the following Elk Habitat Table below to calculate the elk forage equivalency value for the initial tract(s) by multiplying the acres of each habitat type by the corresponding elk forage equivalency score, and summing the products for all habitat types in the tract(s).

Elk Habitat Table

Elk forage equivalency rankings of habitat types in the Baker River basin.

Habitat Type; Successional Stage	Elk Forage Equivalency Rank	Elk Forage Equivalency Score per acre
Upland Conifer Forest; Shrub/Seedling Stage	Good	3
Riparian Conifer Forest; Shrub/Seedling Stage	Good	3
Upland Mixed Forest; Shrub/Seedling Stage	Good	3
Riparian Mixed Forest; Shrub/Seedling Stage	Good	3
Upland Deciduous Forest; Shrub/Seedling Stage	Good	3
Upland Deciduous Forest; Sapling/Pole and Small Tree Stages	Moderate	1
Riparian Deciduous Forest; Shrub/Seedling Stage	Good	3
Riparian Deciduous Forest; Sapling/Pole and Small Tree Stages	Moderate	1
Forested Wetland; Shrub/Seedling Stage	Good	3
Shrub Wetland; Grass/Forb and Shrub/Seedling Stages	Good	3
Wet Meadow; Herbaceous Wetland Stage	Good	3
Cultivated Pasture (under management to provide elk forage)	Excellent	9
All Other Habitats	To be determined by TRIG	

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Unless otherwise approved by the Commission in accordance with the requirements of Article 601, all lands acquired in accordance with this article shall remain in licensee's ownership during the term of the license.

For the purposes of this article, acquisition costs may include: transaction costs, such as completion of appropriate site assessments for hazardous materials and noxious weeds; land surveys, including timber cruise if needed; appraisals; habitat surveys; filing fees; excise taxes; title searches, reports, fees and insurance; closing costs; preparation of land acquisition agreements and any required governmental approvals. Acquisition costs may exclude: internal personnel and administrative costs of the parties associated with land acquisitions, such as staff salaries and benefits; attorney fees and other legal expenses incurred by the licensee or any other party not related to the preparation of land acquisition agreement and any required government approvals; and fees paid by the licensee to third parties for administrative costs associated with a third parties' acquisition of interests in land on behalf of the licensee. Prior to completing any transaction, the licensee will notify the TRIG or ARG, as appropriate, if it appears that transaction costs will be significantly higher than expected, and shall, in consultation with the TRIG or ARG, determine whether to proceed with a transaction with significant transaction costs.

Article 504
Wetland Habitat

The licensee shall acquire wetland habitat lands for conservation of wetlands and wetland-dependent species, placing a priority on acquiring high quality, functioning wetland breeding habitat for native amphibian and other native species, for the purpose of conserving wetlands and providing long-term protection for species using the wetland habitat. The licensee shall, in consultation with the TRIG, develop site acquisition and selection criteria in accordance with the general geographic preferences set forth in Article 505(b). Such criteria and procedures shall: (A) consider any potential to impair, diminish, or abrogate tribal treaty or cultural rights, by providing that the licensee shall identify suitable alternative sites or management activities if the designated representative of any affected tribe notifies the TRIG of its conclusion that a particular site or management activity will impair, diminish, or abrogate specific tribal treaty or cultural rights and describes the basis for its conclusion; (B) consider the potential for integration of the site acquisition and management required by this article and other articles to optimize the resulting ecosystem benefits; (C) consider appropriate land acquisition costs; (D) consider the potential to secure grant funds to supplement the funds otherwise for implementation of this article; (E) consider whether any sites so acquired are appropriately included in the Project boundary, and if so, provide for the filing of an appropriate request to the Commission; and (F) provide for continuing consultation with the TRIG in the implementation of the approved plan. Licensee shall, when considering land acquisition or management activities, evaluate the extent of required noxious weed management in accordance with criteria developed in Article 508. Following acquisition, the licensee shall undertake habitat enhancement and management (including

20081017-3024 FERC PDF (Unofficial) 10/17/2008

noxious weed control) activities in accordance with a plan prepared after consultation with the TRIG and in accordance with Article 501.

Funding for acquisition is not to exceed $340,000 (2006$), and shall be made available within four years of license issuance. Funding for planning and for habitat enhancement, habitat management, and noxious weed management of existing or acquired parcels is not to exceed $190,000 and shall be made available according to the following schedule: $10,000 shall be made available within four years of license issuance, $140,000 shall be made available in the fifth year following license issuance, and $20,000 shall be made available in each of the sixth and seventh years following license issuance. If funds are available twenty-five years following license issuance, and licensee, in consultation with the TRIG, determines lands are not available and/or habitat enhancement or management actions are not feasible for any of the intended purposes of this article, the remaining funds required by this article may be made available to the TERF established pursuant to Article 602. Unless otherwise approved by the Commission in accordance with the requirements of Article 601, acquired lands shall remain in licensee's ownership during the term of the license.

For the purposes of this article, acquisition costs may include: transaction costs, such as completion of appropriate site assessments for hazardous materials and noxious weeds; land surveys, including timber cruise if needed; appraisals; habitat surveys; filing fees; excise taxes; title searches, reports, fees and insurance; closing costs; preparation of land acquisition agreements and any required governmental approvals. Acquisition costs may exclude: internal personnel and administrative costs of the parties associated with land acquisitions, such as staff salaries and benefits; attorney fees and other legal expenses incurred by the licensee or any other party not related to the preparation of land acquisition agreement and any required government approvals; and fees paid by the licensee to third parties for administrative costs associated with a third parties' acquisition of interests in land on behalf of the licensee. Prior to completing any transaction, the licensee will notify the TRIG, as appropriate, if it appears that transaction costs will be significantly higher than expected at the time of license issuance, and shall, in consultation with the TRIG, determine whether to proceed with a transaction with significant transaction costs.

Article 505
Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan

Within two years of license issuance, licensee shall submit an Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan ("ARP") to the Commission for approval for the purpose of identifying actions to protect and enhance low-elevation bottomland ecosystems in the Skagit River basin, which includes the Baker River sub-basin, focusing on habitat for protection, acquisition, restoration and maintenance for anadromous salmonids, other aquatic species and riparian-dependent birds and amphibians.

Licensee shall develop the ARP in consultation with the TRIG and ARG, specifically including the USDA FS, WDFW, WDNR, The Nature Conservancy, the Upper Skagit Indian

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community. Within one year of license issuance, licensee shall submit a draft of the ARP to the TRIG and the ARG for review and comment. At least 30 days prior to submitting the ARP to the Commission for approval, licensee shall provide the ARP to the TRIG and the ARG for review and comment. Licensee shall include, with the ARP, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. If licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

The ARP shall be prepared based on the following criteria:

(a) candidate sites shall be examined for their potential to provide long-term benefits. Implementation proposals shall be based on a comparison of the predicted benefits arising at a specific site in relation to the costs of the action or actions proposed for the site, with the same factors for other sites with similar potential, based on a reasonable range of options for alternative sites;

(b) the location of sites for the purposes of implementation shall be used to aid in prioritizing locations in the following order: i) within the Baker River basin, ii) within the middle Skagit River and tributaries immediately downstream of the Baker River (from the confluence with the Baker River to the Pipeline Crossing at RM 24.3), iii) within the lower Skagit River and estuary, and iv) elsewhere in the Skagit River basin, or as may otherwise be established in the ARP;

(c) i) consideration of any potential to impair, diminish, or abrogate tribal treaty or cultural rights, by providing that the licensee shall identify suitable alternative sites or management activities if the designated representative of any affected tribe notifies the TRIG and ARG of its conclusion that a particular site or management activity will impair, diminish, or abrogate specific tribal treaty or cultural rights and describes the basis for its conclusion; ii) consideration of the potential for integration of the site acquisition and management required by this article and other articles to optimize the resulting ecosystem benefits; iii) consideration of appropriate land acquisition costs; iv) consideration the potential to secure grant funds to supplement the funds otherwise for implementation of this article; v) consideration of whether any sites so acquired are appropriately included in the Project boundary, and if so, provide for the filing of an appropriate request to the Commission; and vi) providing for continuing consultation with the TRIG and ARG in the implementation of the approved plan;

(d) the plan shall be structured to allow for flexibility in revising site selection criteria and reprioritizing types of habitat lands to be protected, acquired, restored and/or managed in response to changing needs and conditions over the term of the license;

20081017-3024 FERC PDF (Unofficial) 10/17/2008

(e) when considering land acquisition or management activities, evaluate the extent of required noxious weed management in accordance with criteria developed in Article 508;

(f) to aid in the evaluation of a specific resource project and site selection proposed under the ARP, licensee shall provide information to the TRIG and ARG regarding any other resource projects being considered pursuant to other license article requirements similar to the project being considered, or that provide similar potential biological benefits and have the potential for integration with related enhancement actions; and

(g) monitoring needs.

In addition to these general guidelines, the ARP shall require that up to $1,000,000 of the funds available for implementation of the ARP be expended within the Baker River watershed, as established in the ARP. For funds expended outside the Baker Basin, a minimum of 50% shall be spent on riverine/riparian habitat acquisition with anadromous fish benefits. A minimum of 50% of the funds so spent on riverine/riparian habitat shall be spent on habitat that benefits both anadromous species and deciduous forest/wetland species, unless otherwise agreed by the TRIG and ARG.

Licensee shall provide funding for implementation of the ARP in a total amount not to exceed $10,200,000, according to the following schedule for funding: $50,000 available annually starting the first year following license issuance and concluding in the sixth year following license issuance for planning and site evaluation activities; $300,000 available within two years following license issuance for initial protection, restoration, enhancement, and management activities; and $2,000,000 available in each of years 3, 8, 13, and 18 following license issuance, and up to $1,600,000 if phase two of Article 105 is not implemented.

For the purposes of this article, acquisition costs may include: transaction costs, such as completion of appropriate site assessments for hazardous materials and noxious weeds; land surveys, including timber cruise if needed; appraisals; habitat surveys; filing fees; excise taxes; title searches, reports, fees and insurance; closing costs; preparation of land acquisition agreements and any required governmental approvals. Acquisition costs may exclude: internal personnel and administrative costs of the parties associated with land acquisitions, such as staff salaries and benefits; attorney fees and other legal expenses incurred by the licensee or any other party not related to the preparation of land acquisition agreement and any required government approvals; and fees paid by the licensee to third parties for administrative costs associated with a third parties' acquisition of interests in land on behalf of the licensee. Prior to completing any transaction, the licensee will notify the TRIG and ARG, as appropriate, if it appears that transaction costs will be significantly higher than expected, and shall, in consultation with the TRIG and ARG, determine whether to proceed with a transaction with significant transaction costs.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

If funds are available twenty-five years following license issuance, and licensee, in consultation with the TRIG and ARG, determines lands are not available and/or habitat enhancement or management actions are not feasible for any of the intended purposes of this article, the remaining funds required by this article may be made available to the HERC and/or TERF funds.

Article 506
Osprey Nest Structures

Within one year following license issuance, the licensee shall provide and maintain a minimum of ten artificial osprey nest structures at Lake Shannon. The ten nest structures shall consist of up to nine of the artificial structures currently maintained by licensee, and one or more new artificial structures to be installed at the site of a former natural snag nest or artificial nest structure. The licensee shall place the structures in a manner that is designed to provide a sufficient number of suitable osprey nest sites at Lake Shannon to support an estimated seven breeding pairs.

Within two years following license issuance, the licensee, in consultation with the TRIG, shall select and modify ten existing trees near Lake Shannon to promote their eventual use as osprey nest sites. The licensee shall select ten mature trees on lands suitable for osprey nesting owned and/or controlled by the licensee. Modification of the trees may involve topping, killing, or other appropriate techniques, based on site-specific evaluations, to promote the development of tree and snag nest sites available for osprey nesting at Lake Shannon.

During the term of the license, the licensee shall monitor osprey nesting and productivity annually between April 1 and August 31 at both Lake Shannon and Baker Lake, in accordance with the TRMP required by Article 501. At two-year intervals during the term of the license, the licensee shall inspect the ten artificial nest structures at Lake Shannon and maintain the structures in conditions suitable for use by nesting osprey. By December 31 in the second year of each two-year inspection and maintenance cycle, the licensee shall submit a draft nest inspection and monitoring report to the TRIG for a 30-day review and comment period. The report shall describe inspection results, maintenance activity, and nesting activity at both natural and artificial nests on Lake Shannon and Baker Lake during the preceding two years. During each report review period, the licensee, in consultation with the TRIG, shall determine whether additional artificial nest sites or modifications to the placement and design of new structures are needed to achieve the goal of seven breeding pairs on Lake Shannon to increase nesting success to meet the goal. This evaluation will include consideration of results of site evaluation, site monitoring, and best available science. The licensee shall file final nest inspection and monitoring reports with the Commission by June 1 of the year following each two-year inspection and maintenance cycle, allowing for a minimum of thirty days review and comment by the TRIG prior to filing.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 507
Loon Floating Nest Platforms

Within one year after license issuance, licensee shall, in consultation with the TRIG, install and maintain three common loon floating nest platforms in suitable locations, consistent with the requirements of Article 304, on one or both of the Project reservoirs, in accordance with the Terrestrial Resources Management Plan required by Article 501, for the purpose of establishing nesting use on the Project reservoirs to increase nesting loon populations in Western Washington.

Licensee, in consultation with the TRIG, may substitute the placement of one floating nest platform on Project reservoirs with making funding available to a third party for the purpose of placing and maintaining a floating nest platform on non-Project lands. Funding made available for this purpose is not to exceed $2,500 for construction and placement of the nest platform, and $1,000 annually for maintenance.

Following installation of any floating nest platforms on Project reservoirs, licensee shall place log booms, boundary buoys, or other appropriate devices to establish use restriction zones around each nesting platform to restrict public access. The nest platforms and public access restriction devices on Project reservoirs shall be in place between April 1 and July 31 of each year. Licensee may remove and store the nest platforms required by this article when they are not required to be in place. Following review and comment by the TRIG, licensee shall install three additional floating nest platforms in the Project reservoirs if nesting success is determined at any time during the term of the floating nest platform program.

During the first fifteen years following platform installation, licensee shall monitor all floating nest platforms installed in the Project reservoirs twice per month between April 1 through July 31 to determine nesting activity, and the effectiveness of access restriction devices. By December 31 of each year, licensee shall file draft monitoring reports with the TRIG for a 30-day review and comment period. Annual monitoring reports shall summarize loon observations, nesting attempts, nesting activity, nest productivity, and platform maintenance activity within the Project reservoirs during the previous breeding season. Final reports shall be filed with the Commission by June 1 of the following year.

During the sixteenth year following platform installation, licensee shall submit a draft effectiveness report summarizing the results of the 15-year monitoring period to assess loon breeding success on the installed nesting platforms. The report shall make recommendations as to the continuation of the floating nest platform program based on the presence or absence of nesting activity, according to the following general criteria: observed loon nest-building activity or use of nests suggests loon nesting success, and a lack of breeding attempts on one or more of the platforms by the end of the 15-year period suggests lack of platform success. If the floating nest platform program is continued past year 15, annual monitoring and reporting shall continue.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

If the report determines the program is unsuccessful, licensee shall, following consultation with the TRIG, either remove the loon nesting platforms and make the remaining funds available from the program to the TERF, or make the remaining funds available for a similar program by a third party at another location on non-Project lands. Any funds made available to third parties for nesting platforms installations, monitoring, and management for a similar program on non-Project lands shall terminate licensee's obligations under this article. For purposes of this article, "remaining funds" shall be calculated by multiplying the number of years remaining in the license term by the actual average annual cost of maintenance and monitoring during years 6 through 15 following nest platform installation.

Article 508
Noxious Weeds

During the term of the license, the licensee shall manage noxious weeds on Project lands pursuant to the most restrictive applicable federal and state regulations, including, but not limited to: 1) Washington's State Noxious Weed Control regulations found at WAC 16-750, 2) Best Management Practices published by the USDA-FS (for weed control on USDA-FS lands) for the Mt. Baker-Snoqualmie National Forest, and 3) noxious weed control regulations adopted by Skagit or Whatcom Counties, in accordance with a plan developed in consultation with the TRIG as required by Article 501. The licensee shall file the plan with the Commission for approval, following consultation in accordance with Article 501. The plan shall address site-specific and species-specific management and monitoring programs, based on the guidelines and treatment options identified in the tables attached as Appendix A-1, which are based upon the results of pre-licensing Terrestrial Study T-6 and the Forest-Wide Environmental Assessment for Noxious Weed Management on the Mt. Baker-Snoqualmie National Forest, published by the USDA-FS in May 1999. The initial plan shall adjust treatment of all lands within the Project boundary, and those lands outside the Project boundary that were surveyed for noxious weeds during pre-licensing studies, as documented in the T-6 Final Study Report, December 23, 2003. The plan shall address how noxious weed management considerations will be addressed when evaluating land acquisition proposals or other activities pursuant to Articles 502, 503, 504, and 505.

The portion of the plan addressing the seven high quality wetland areas located on National Forest System (USDA-FS) lands, as identified in pre-licensing Terrestrial Study T-2/T-5 as WB 17, 20, 21, 25, 28, 29, and 30, shall place priority on the control of reed canarygrass (*Phalaris arundinacea*) for the protection and enhancement of these wetlands. Licensee shall provide funding for the portion of the plan addressing these seven identified wetlands in an amount not to exceed $25,000 in each of years 1-5 following license issuance, and shall provide $15,000 annually thereafter during the term of the license.

Funding for noxious weed surveys and management for lands acquired following license issuance pursuant to Articles 502, 503, 504, and 505 shall be drawn from the funds of these articles.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 509
Plants of Special Status

Within six months following license issuance, the licensee shall file with the Commission a plan for the management of plants of special status on existing Project lands and the following non-Project lands, to be more precisely identified during the development of the plan: 1) areas with potential to have impact from Project activities, based on USDA-FS pre-field review process, and 2) areas surveyed during pre-licensing rare plant surveys, as indicated by Baker River Project Relicense Study, T-16, as amended.

The licensee shall prepare the plan in consultation with the TRIG, and specifically, the USFWS, USDA-FS, and the Washington Natural Heritage Program of the Washington Department of Natural Resources, as required by Article 501, and in accordance with the guidelines in Appendix A-3. The plan shall be consistent with the noxious weed management plan described in Article 508. Amendments to the plan associated with the acquisition of new lands that result in a revision to the Project boundary are not mandatory, but will be determined on a case-by-case basis, in consultation with the TRIG, in conformance with Article 501.

For the purposes of this article, "Plants of Special Status" shall include: 1) plant species listed as Endangered, Threatened or Proposed for Listing under the federal Endangered Species Act; 2) plant species listed as Endangered, Threatened or Sensitive by the State of Washington; and 3) on federal lands administered by the USDA-FS, plant species on the Pacific Northwest Regional Forester's Sensitive Species List. The plant species that were known to occur at the time of license application that required site-specific management plans are listed in Appendix A-2, and shall provide the initial basis for planning actions. A site-specific management plan shall be included in the overall plan for *Carex flava*, in accordance with Article 510.

Article 510
Carex flava

During the term of the license, licensee shall manage yellow sedge (*Carex flava*) at Baker Lake for its protection, especially in areas where it is located in close proximity to reed canarygrass, according to a plan developed in accordance with Article 501 and filed with the Commission for approval within six months of license issuance, following consultation with the TRIG, including specifically the USFWS, USDA-FS and the Washington Natural Heritage Program of the Washington Department of Natural Resources. The plan shall require inventorying and mapping of known *Carex flava* populations, the development of control strategies for reed canarygrass around *Carex flava* populations, a method for monitoring and evaluating success of the plan, a planting plan if 20% or more of the *Carex flava* population decreases from the time of license issuance, and additional measures that are identified as a result of plan monitoring, as described in more detail in Appendix A-4. Plan updates shall be completed at least every ten years, or more regularly if needed to address

20081017-3024 FERC PDF (Unofficial) 10/17/2008

monitoring and evaluation results, or when the species is no longer a State or federal sensitive species.

Article 511
Decaying and Legacy Wood

Within three years following license issuance, and annually thereafter, the licensee shall manage snags, logs and residual live trees ("Decaying and Legacy Wood") located on existing or acquired Project lands for the purpose of enhancing Decaying and Legacy Wood structure to increase its value to snag and log dependent species. The management will be conducted in accordance with a plan filed with the Commission for approval in accordance with Article 501 within one year from license issuance. The licensee shall develop the plan in consultation with the TRIG, and will provide a 90-day review and comment period on a draft prior to filing with the Commission as required by Article 501.

In preparing the plan, licensee shall refer to Johnson, D.H. and O'Neil, T.A., "DecAID Model, Wildlife-habitat relationships in Oregon and Washington," Oregon State University Press, 2001.

The Decaying and Legacy Wood Plan shall address the snag, log and residual live tree habitats of vertebrate species likely to inhabit the lands on a seasonal or year-round basis. The plan shall include measures to retain snags, logs and residual live trees where they already exist, and to promote the development of these features where they do not exist. The plan may also include measures to provide artificial structures to meet short-term habitat needs where natural snags, logs and residual live trees are not present and are not expected to develop over the term of the license. All measures in the plan shall be appropriate to the habitat types present on the lands. Existing snags, logs and residual live trees shall be retained in appropriate numbers as determined by land management objectives for each site in conformance with the plan. If existing snags and logs are insufficient to support the land management objectives in the plan to support population densities of primary cavity excavators, and live trees of appropriate size are present, the licensee shall create additional snags or downed logs from live trees, or alternative methods. The licensee shall file any amendments to the Decaying and Legacy Wood element of the plan, as required by Article 501, that result from the acquisition of any new Project lands.

Funding for preparing the plan and managing Decaying and Legacy Wood according to the plan is not to exceed $35,000 each year in the first two years following license issuance, to allow for planning and initial site work, and is not to exceed $10,000 each year throughout the remaining term of the license. If funds are available twenty-five years following license issuance, and licensee, in consultation with the TRIG, determines habitat enhancement or management actions are not feasible for any of the intended purposes of this article, any remaining funds required by this article may be made available to the TERF established pursuant to Article 602.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 512
Bald Eagle Night Roost Surveys

During the first three years after license issuance, and again between years 15-17 from license issuance, licensee, in consultation with TRIG, shall design and conduct surveys to identify bald eagle (*Haliaeetus leucocephalus*) communal winter night roosts in the vicinity of the Baker River Project. The purpose of the surveys will be to systematically determine the location of bald eagle night roosts in the Baker River basin in the Project vicinity, and to assist WDFW, USFWS, and USDA-FS with the identification of areas in need of bald eagle protection. Licensee shall provide the results of the surveys to affected landowners, WDFW, USFWS and the USDA-FS within three months of completion of each round of surveys, and shall file survey results with the Commission annually.

Licensee's funding for the surveys is not to exceed $25,000 for each 2-3 year survey period. To the extent the first $25,000 is not expended for the first survey period, any remaining funds shall be carried over to the succeeding survey period. Any funds remaining following completion of the second survey period shall be made available to the TERF, as described in Article 602.

Article 513
Bald Eagle Management Plans

Within one year following license issuance, licensee shall develop a management plan for each bald eagle (*Haliaeetus leucocephalus*) nest site and communal winter night roost known to exist on lands within the Project boundary at the time of license issuance, to provide for the long-term protection of and management for bald eagles, as required by Article 501. The plan shall identify measures to protect and manage known nesting or winter roost sites on licensee owned lands within the Project boundary and methods to survey for and protect these sites on lands acquired during the license term.

Within one year after acquiring new Project lands, licensee shall develop a management plan for each bald eagle nest site and communal winter night roost known to occur on the land acquired. During the term of the license, the planning requirement shall apply to the discovery of new bald eagle nest sites or communal winter night roosts, and shall be in conformance with the plan developed in accordance with Article 501.

All plans, and any amendments to plans, shall be consistent with recommendations contained in the Pacific Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service, 1986), Washington State Bald Eagle Protection Rules (WAC 232-12-292), and Watson, J.W., and E.A. Rodrick, Bald Eagle (Haliaeetus leucocephalus), Management Recommendations for Washington's Priority Species, Volume IV: Birds, Washington Department of Fish and Wildlife, Olympia (2002) (editors Larsen, E.M., J.M. Azerrad, and N. Nordstrom, 2004), or similar guidance or rules in effect at the time any plan is developed. Final plans, and any plan amendments, shall

be filed with the Commission. Within one year of any change in the state or federal status of the bald eagle, licensee, in consultation with the WDFW and USFWS, shall review all plans prepared under this action and determine whether the plans need to be continued or modified.

Article 514
Use of Habitat Evaluation Procedures

Within one year of license issuance, the licensee shall, in consultation with the TRIG, develop and prepare in accordance with Article 501 a monitoring plan to determine the effectiveness of the implementation of Articles 502, 503, 504, 506, 507 and 513. The plan shall require licensee to monitor the effectiveness of the implementation of Articles 502, 503, 504, 506, 507 and 513 through periodic assessments of habitat quantity and quality, using the U. S. Fish and Wildlife Service, Department of Interior, Ecological Service Manuals ESM 101, 102, 103 (Division of Ecological Services, Washington D.C. 1980), Habitat Evaluation Procedures ("HEP"), or another appropriate methodology selected in consultation with the TRIG. Monitoring is intended to assist resource managers in determining the current conditions of the lands acquired and assess management activities over the term of the license. Licensee shall consider the monitoring results in implementing Articles 502, 503, 504, 506, 507 and 513, in consultation with the TRIG.

Within five years of license issuance, licensee shall develop, in consultation with the TRIG, the schedule for specific monitoring actions, the timing of each monitoring period, monitoring criteria, the scope of monitoring given available funding, and the format for monitoring reports in accordance with the consultation requirements of Article 501.

Funding for all aspects of monitoring is not to exceed $200,000 (if license is 30 years or shorter) or $300,000 (if license is 40 years or longer)(2006$). The licensee shall make the funding available in $100,000 increments according to the following schedule: the first $100,000 available during the first 10 years of the license term, the second $100,000 available between years 20 and 30 of the license term (and the third $100,000 available after year 30 if the license is issued for a term of 40 years or longer). If funds are available forty years following license issuance, and licensee, in consultation with the TRIG, determines further use of the HEP is not feasible for any of the intended purposes of this article, any remaining funds required by this article may be made available to the TERF established pursuant to Article 602.

Article 515
Late Seral Forest Growth

Within two years of license issuance, or December 31, 2008, whichever is earlier, the licensee shall make funds available to the USDA-FS for its actual costs incurred in thinning trees on up to 321 acres of second-growth forest on National Forest System lands in the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Baker River watershed. The funds may be used for the purpose of reducing edge effects by enhancing the acceleration of late-seral forest growth, which may increase the nesting success and/or survival of federally listed spotted owls and marbled murrelets. Funds made available to the USDA-FS shall not exceed $80,250. If the USDA-FS does not incur these costs within two years following license issuance, funds shall be held until requested by the USDA-FS, or converted to use for the TERF described in Article 602, when and if directed by the USDA-FS.

Article 516
Mountain Goats

Within three years following license issuance, licensee shall make funds available to the USDA-FS for its actual costs incurred in making habitat improvements in mountain hemlock forest in occupied mountain goat (*Oreamnos americanus*) summer range on National Forest System lands in or adjacent to the Baker River Watershed. Funding for licensee's contribution to the cost of planning, environmental review and implementation, for up to 194 acres of mountain hemlock forest land is not to exceed $70,000. The improvements funded with this measure may provide additional summer forage habitat by prescribed burns or other means in high elevation forest areas away from established recreation areas in the Project vicinity.

If the USDA-FS does not incur these costs within one year following license issuance, funds shall be held until requested by the USDA-FS, or converted to use for the TERF described in Article 602, when and if directed by the USDA-FS.

Article 517
Grizzly Bear Road Management

Within six months of license issuance, or within sixty days of request by the USDA-FS, whichever is earlier, licensee shall make funds available to the USDA-FS for its actual costs incurred in planning, environmental review and implementation of a road closure program in the North Cascades Grizzly Bear Recovery Area of the Mt. Baker-Snoqualmie National Forest, to reduce human use disturbance in the area and increase the effectiveness of spring and early summer grizzly bear foraging habitat. Funding for licensee's contribution to the cost of planning, environmental review and implementation for this purpose is not to exceed $120,000. If the USDA-FS does not incur these costs within the first six months of license issuance, funds shall be held until requested by the USDA-FS, or converted to use for the TERF described in Article 602, when and if directed by the USDA-FS.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 601
Baker River Coordinating Committee

Creation of Baker River Coordinating Committee

Within six months of license issuance, licensee shall convene an initial meeting of the licensing implementation entity to be referred to as the "Baker River Coordinating Committee" (BRCC). Licensee shall provide each signatory to the "Baker River Hydroelectric Project Relicensing Comprehensive Settlement Agreement" (Settlement) a minimum of 30 days notice and invite each signatory to designate a representative, and an alternate representative. The purpose of the BRCC and Resource Groups is to implement the terms of the Settlement and participate on license implementation committees. In the event that an agency, tribe, non-governmental organization, or individual who was not a party to the Settlement seeks membership on the BRCC, licensee shall allow participation by a non-party only upon the unanimous approval of the BRCC, as defined in this article.

Meeting Procedures of the BRCC and Resource Groups

During the term of the license, licensee shall convene meetings of the BRCC, as necessary, to comply with the consultation requirements of the license. Licensee shall convene a meeting of the BRCC at least once annually. Licensee shall provide each representative on the BRCC with at least ten days notice of any meeting of the BRCC, and shall include a proposed agenda for each meeting.

At the first meeting of the BRCC, licensee shall establish individual resource technical groups that are anticipated to be involved in addressing ongoing license implementation issues as licensee carries out the terms and conditions of the license, including, without limitation: the Terrestrial Resources Implementation Group (TRIG); the Recreation Resources Group (RRG); the Aquatics Resources Group (ARG); and the Cultural Resources Advisory Group (CRAG) (Resource Group(s)). Other sub-groups may be established by the BRCC as needed to address license issues that arise during the term of the license. Each party to the Settlement can be a member in a Resource Group or Group(s) and the BRCC, upon notifying the licensee in writing of its designated representative(s). A party may designate its primary representative, and any alternate representatives. Licensee shall establish meeting notice requirements and protocols for meetings of the TRIG, RRG, ARG, and CRAG at the first annual meeting of the BRCC, following consultation with all members of the BRCC. In the event of any conflict between license articles and any meeting protocols established, the terms of the license shall control.

Licensee shall arrange for the services of a neutral, non-BRCC member to record and distribute minutes of BRCC and Resource Group meetings, if agreed to by the BRCC at any time.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

License Implementation Framework

For the term of the license, licensee shall consult with and schedule regular meetings of all Resource Groups, who will be invited to participate in all licensing implementation decisions pertaining to the resource area assigned to the Resource Group. The focus of license implementation decision-making will be within the Resource Groups. Meetings of the BRCC will be established to address issues affecting overall license implementation issues, annual updating, and other issues identified in this article or by the Resource Groups. The Resource Groups are intended to function as technical groups convened on an ongoing basis to address ongoing implementation issues throughout the term of the license. The BRCC is intended to function as a policy level group for decision-making issues that are not resolved in Resource Groups, as described in this article, and otherwise as a way of communicating with all signatories.

Licensee Implementation and Decision-Making

In carrying out licensee's obligations under the license, licensee shall work collaboratively with all members of the BRCC to comply with license articles and make informed decisions related to the operation of the Baker River Hydroelectric Project. Specifically, licensee shall:

a) document the initial members of the BRCC and Resource Group representatives by compiling a list of all parties who have provided licensee of notice of their BRCC representatives and Resource Group representative(s);

b) record any votes taken by the BRCC or Resource Groups by giving each BRCC member one vote on all matters to be decided by the BRCC, and each Resource Group member with one vote on all matters to be decided by the Resource Group;

c) establish, and keep updated, a membership list of the BRCC as a whole and each of the Resource Groups established for the term of the license, including, without limitation, the TRIG, RRG, ARG, and CRAG. Each list shall contain the name of the party to the Settlement , the party's designated representative and alternates, and relevant contact information;

d) chair the meetings of the BRCC, TRIG, RRG, ARG, and CRAG;

e) submit decisions to the BRCC as follows:

Licensee shall only offer a vote to be taken on any license implementation issue at a regularly convened meeting of the BRCC, after the licensee has provided a minimum of two weeks written notice including an agenda and any issues on which a decision will be requested, made in accordance with the following decision-making protocol:

Decisions shall be made by consensus, defined as lack of objection. If consensus is not achieved at the Resource Group level, the BRCC may take a vote after

20081017-3024 FERC PDF (Unofficial) 10/17/2008

licensee has complied with subsection (f) of this article and, for Articles 108, 109, 305, 502-505, 602, and 603 only, after affected resource agencies and tribes take an advisory vote.

For decisions related to implementation of plans for Articles 108, 109, 305, 502-505, 602, and 603 only, the BRCC may approve a proposal on a majority vote of the BRCC. If an advisory vote is not adopted by a majority vote at the BRCC, the meeting notes shall contain an explanation for not adopting the advisory vote.

For any decision related to a plan required by any article, consensus shall be required prior to filing the plan with the Commission, but licensee may timely file the proposed plan if consensus has not been achieved and licensee would risk noncompliance with a timing requirement. Licensee shall include in any plan submitted to FERC for which consensus was not achieved an explanation of any dispute relating to the proposed plan, along with the review and comments received in accordance with individual articles. If, following discussion at a BRCC meeting convened in accordance with the notice requirements of this article, a proposal does not achieve consensus, the proponent may request a vote. Each member of the BRCC will have one vote and only designated representatives will vote. Licensee shall record all votes, and any consensus achieved, in the minutes of the meeting during which a vote is taken.

After one vote, if consensus is not achieved, the proponent(s) may request a second vote. Any member voting against the proposal will explain the basis for the vote that specifically addresses the reason for the opposition and other relevant requirements of the license article(s) prompting the vote.

Licensee shall only offer a vote to be taken on any matter assigned for consultation with the BRCC, at a regularly convened meeting with a quorum present at the meeting. A quorum for a meeting of the BRCC, shall include at least one representative, or proxy, of each of the following to be present: licensee, the federal agencies (USDA-FS, USFWS, NPS, NOAA Fisheries), the state agencies (Ecology, WDFW, DNR), and the tribes (SSIT, SITC, USIT).

f) submit matters to the BRCC if the Resource Groups are unable to reach consensus decisions on a resource issue, or a quorum cannot be established as described in subsection (e) of this article, after complying with the following procedures:

1. Licensee shall provide at least two weeks notice of Resource Group meetings and the notice shall include a draft agenda and any issues on which a decision will be requested;

2. Only a member of the Resource Group may make a proposal for a decision, although this is not intended to preclude the source of the proposal coming from a person or entity other than a member as long as a Resource Group member sponsors the proposal;

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3. Resource Group decisions shall be made by consensus, defined as the lack of objection by members present at the meeting;

4. If consensus for a particular decision does not exist, the proponent of the proposal may request a vote, with each member having one vote per designated representative;

5. Licensee shall cause meeting minutes for each meeting where a vote is taken to contain a record of the votes and any consensus achieved;

6. After one vote, if consensus is not achieved, any member of the Resource Group may request a second vote; and

7. If consensus is not achieved after the second recorded vote, licensee, at the request of the proponent, shall refer the disputed proposal to the BRCC in accordance with subsection (e) of this article. The proponent may provide notice of the intent to refer at the time of second vote, or subsequently. Licensee shall not be required to include the decision on the agenda for a meeting of the BRCC to consider the proposal until the proponent(s); a) provides actual notice of the dispute at least three weeks prior to the date of the requested BRCC meeting at which the referred proposal is to be heard, and b) provides a written explanation of its vote at least two weeks prior to the requested meeting of the BRCC. Any member voting against the proposal will explain the basis for the vote that specifically addresses the reason for the opposition and other relevant requirements of the license article(s) prompting the vote.

g) for any articles requiring consultation with Resource Groups and/or specific parties, and for the purposes of the implementation of the license and Settlement only, licensee shall be deemed to have complied with the requirement to consult if licensee has communicated in writing with the party the licensee is required to consult with and provided information required by any specific article; and

h) only offer a vote to be taken on any matter assigned for consultation with the Resource Groups, at a regularly convened meeting with a quorum present at the meeting. A quorum for a meeting of the Resource Groups, or any of its resource groups, shall include at least one representative, or proxy, of each of the following to be present: licensee, the federal agencies (USDA-FS, USFWS, NPS, NOAA Fisheries), the state agencies (Ecology, WDFW, DNR), and the tribes (SSIT, SITC, USIT), or as otherwise defined by consensus of the BRCC.

Licensee may not rely on any decisions made by the BRCC, or Resource Groups, for any other purpose than complying with the requirements of the license. Licensee shall obtain any approvals required under applicable law related to any decision made by the BRCC for purposes of enabling licensee to comply with the requirements of the license.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Subject Matters for BRCC, Resource Group Communications and Meetings

Licensee may convene meetings of the BRCC, TRIG, RRG, ARG, and CRAG, respectively, for the following purposes, or for any other purpose consistent with the license, or at the request of two or more members of the BRCC:

a) TRIG meetings may be convened to address one or more of the following issues or other issues identified by the TRIG: 1) licensee's implementation of Articles 501-517 (the Terrestrial Articles), 2) planning required by the Terrestrial Articles, 3) the scope, design, and conduct of any studies required to implement the Terrestrial Articles, 4) the discussion of study results pertaining to the implementation of the Terrestrial Articles, 5) land acquisition and selection criteria, required by any articles, 6) resource Project funding decisions, as described in Article 602 related to the Terrestrial Articles, 7) any issues identified during any required monitoring related to the Terrestrial Articles, and 8) any required annual reporting for the Terrestrial Articles;

b) RRG meetings may be convened to address one or more of the following issues or other issues identified by the RRG: 1) licensee's implementation of Articles 301-318 (the Recreation Articles), 2) planning required by the Recreation Articles, 3) the scope, design, and conduct of any studies required to implement the Recreation Articles, 4) the discussion of study results pertaining to the implementation of the Recreation Articles, 5) resource Project funding decisions, as described in Article 602 related to the Recreation Articles, 6) any issues identified during any required monitoring related to the Recreation Articles, and 7) any required annual reporting for the Recreation Articles;

c) ARG meetings may be convened to address one or more of the following issues or other issues identified by the ARG: 1) licensee's implementation of Articles 101-111, 401 and 505 (the Aquatics Articles), 2) planning and design review required by the Aquatics Articles, 3) the scope, design, and conduct of any studies required to implement the Aquatics Articles, 4) the discussion of study results pertaining to the implementation of the Aquatics Articles, 5) land acquisition and selection criteria, as described in any article, 6) resource Project funding decisions, as described in Article 602 related to the Aquatics Articles, 7) any issues identified during any required monitoring related to the Aquatics Articles, and 8) any required annual reporting for the Aquatics Articles;

d) CRAG meetings may be convened to address one or more of the following issues or other issues identified by the CRAG: 1) licensee's implementation of Article 201 (the Cultural Article), 2) planning required by the Cultural Article, 3) the scope, design, and conduct of any studies required to implement the Cultural Article or implement the HPMP, 4) the discussion of study results pertaining to the implementation of the Cultural Article, 5) the development of any needed information or reports for the completion of the Section 106 process, 6) any meetings required for pre-construction or land disturbance activities; 7) any issues identified during any required monitoring related to the Cultural Article, and 8) any required annual reporting for the Cultural Article; and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

e) BRCC meetings may be convened to address one or more of the following issues or other issues identified by the BRCC or Resource Groups: 1) any matter requiring a vote of the BRCC, as submitted by any of the Resource Groups in accordance with the requirements of this article, 2) overall Project implementation status and reporting, and 3) disputes arising from meetings of the Resource Groups not resolved by the Resource Group.

Dispute Resolution

In the event licensee is unable to document the consensus of a Resource Group related to the subject matter addressed by a Resource Group and required by a license article, licensee shall notify the BRCC of the nature of the issue, the efforts taken to resolve the issue, and any recommendation or agreed written statement of the issue developed by the Resource Group, as described in this article. In the event the BRCC resolves the issue, licensee shall communicate the results to the Resource Group members. In the event the BRCC does not resolve the issue, licensee shall notify all signatories of the Settlement of the failure of the BRCC to resolve the issue. Licensee shall stay the implementation of any decision reached by majority vote concerning Articles 108, 109, 305, 502-505, 602, and 603 at the request of any member of the minority who provides notice they are invoking the dispute resolution procedures authorized in Section 4 of the Settlement, unless licensee is required to proceed with implementation by the license or other applicable law.

Disputes submitted to the Commission for consideration shall be limited to alleging an inconsistency: 1) between a proposed plan and an article; 2) between a proposed implementation action and an approved plan; or 3) between proposed implementation action and the intent of an article, even if consistent with the approved plan.

Reporting and Auditing

Licensee shall provide an annual report generally summarizing the activities of the BRCC, TRIG, RRG, ARG, and CRAG during the preceding year as required by Articles 102, 201, 301, 501, 601, and 602 to each of the members of the BRCC, any of the Resource Group members who request a copy, and to the Commission.

Licensee shall allow a minimum of 30 days for BRCC members to comment and make recommendations before filing the annual report with the Commission no later than 90 days following the anniversary of the effective date of the license. Licensee shall include with the final report documentation of submission to all BRCC members for review and comment and descriptions of how any comments were addressed in the final report, or reasons for not addressing any comments, based on Project-specific information.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Article 602
Required Funding

Within one year of license issuance, licensee shall establish the Baker River Project Funds (the Baker Funds) to support resource protection, mitigation, and enhancement measures identified during the term of the license, consisting of four separate funds: the Terrestrial Enhancement and Research Fund (TERF), the Recreation Adaptive Management Fund (RAM), the Habitat Enhancement, Restoration and Conservation Fund (HERC), and the Cultural Resources Enhancement Fund (CREF). Each of the Baker Funds shall be a tracking account maintained by licensee. The total amount, excluding interest, to be credited to the Baker Funds, shall be the amounts set forth in Table 1, based on the term of the license, stated in 2006 dollars, which amount licensee shall credit to the individual funds as follows during the term of the license:

Table 1.

FUND NAME	**YEAR OF FIRST DEPOSIT**	**ANNUAL DEPOSIT AMOUNT (2006$)**
TERF	2016	$25,000
RAM	2006	$50,000
HERC	2015	$50,000
CREF	2016	$20,000 through 2020 $25,000 2021 through 2024 $30,000 2025 through 2030

For years 30 to 50 of a new license term greater than 30 years, the schedule of payments to the funds listed in Table 1 shall be based on a calculation of the number of years for the new license divided by 30 + a 10% risk uncertainty factor multiplied by the 30th year payment value in the fund. For example, for a 50-year license, the calculation for the 50th year payment in the TERF fund would be (50/30) +.1 x $25,000 = (1.67+.1) x $25,000 = $44,167 (2006$). For the CREF fund which does not have a payment in the 30th year, the calculation for years 31 and following shall be based on the average of the payments years 10 through 25 ($25,000).

License shall make additional funds available according to the schedule set forth on Table 2 for each year of the term of the license in excess of 30 years, stated in 2006$, and the same formula shall apply for any annual licenses. If the license is not issued in 2006, the years shown in Table 2 shall be adjusted for funding to begin in the first year of license issuance and carry forward through the term of the license.

Table 2.

Year of license		TERF	RAM	HERC	CREF	
30	2035	$ 25,000	$ 50,000	$ 50,000	$ 25,000	
31	2036	$ 28,333	$ 56,667	$ 56,667	$ 28,333	
32	2037	$ 29,167	$ 58,333	$ 58,333	$ 29,167	
33	2038	$ 30,000	$ 60,000	$ 60,000	$ 30,000	
34	2039	$ 30,833	$ 61,667	$ 61,667	$ 30,833	
35	2040	$ 31,667	$ 63,333	$ 63,333	$ 31,667	
36	2041	$ 32,500	$ 65,000	$ 65,000	$ 32,500	
37	2042	$ 33,333	$ 66,667	$ 66,667	$ 33,333	
38	2043	$ 34,167	$ 68,333	$ 68,333	$ 34,167	
39	2044	$ 35,000	$ 70,000	$ 70,000	$ 35,000	
40	2045	$ 35,833	$ 71,667	$ 71,667	$ 35,833	
41	2046	$ 36,667	$ 73,333	$ 73,333	$ 36,667	
42	2047	$ 37,500	$ 75,000	$ 75,000	$ 37,500	
43	2048	$ 38,333	$ 76,667	$ 76,667	$ 38,333	
44	2049	$ 39,167	$ 78,333	$ 78,333	$ 39,167	
45	2050	$ 40,000	$ 80,000	$ 80,000	$ 40,000	
46	2051	$ 40,833	$ 81,667	$ 81,667	$ 40,833	
47	2052	$ 41,667	$ 83,333	$ 83,333	$ 41,667	
48	2053	$ 42,500	$ 85,000	$ 85,000	$ 42,500	
49	2054	$ 43,333	$ 86,667	$ 86,667	$ 43,333	
50	2055	$ 44,167	$ 88,333	$ 88,333	$ 44,167	
30 year total		$ 500,000	$ 1,500,000	$ 1,100,000	$ 375,000	
50 year total		$ 1,225,000	$ 2,950,000	$ 2,550,000	$ 1,100,000	Total
30-50 year incremental increase		$ 725,000	$ 1,450,000	$ 1,450,000	$ 725,000	$ 4,350,000

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Unless otherwise indicated, all costs or payment amounts specified in dollars in any article shall be deemed to be stated as of the year 2006, and the licensee shall escalate such sums as of January 1 of each following year (starting in January 2006) according to the following formula:

$$AD = D \times \underline{(NGDP \div IGDP)}$$

WHERE:

AD = Adjusted dollar amount as of January 1 of the year in which the adjustment is made

D = Dollar amount prior to adjustment

IGDP = GDP-IPD for the third quarter of the year before the previous adjustment date (or, in the case of the first adjustment, the third quarter of the year before the effective date of the license)

NGDP = GDP-IPD for the third quarter of the year before the adjustment date

"GPD-IPD" is the value published for the Gross Domestic Product Price Deflator by the U.S. Department of Commerce, Bureau of Economic Analysis in the publication Survey of Current Business, Table 7.1 (being on the basis of 2000 = 100), in the third month following the end of the applicable quarter. If that index ceases to be published, any reasonably equivalent index published by the Bureau of Economic Analysis may be substituted by the agreement of the parties. If the base year for GPD-IPD is changed or if publication of the index is discontinued, the licensee shall promptly make adjustments or, if necessary, select an appropriate alternative index acceptable to the parties to achieve the same economic effect.

Each deposit shall be credited to the tracking account on the anniversary of the effective date of the license.

Funds credited to the tracking account but not spent on specific projects shall accrue interest, which shall be credited to the appropriate fund to be used for the purposes described in this article for the fund. Any funds intended to be applied for the purposes of a specific article that remain at the end of any year shall be carried over into succeeding years during the term of the license.

The accrued interest rate on all funds required by the license shall be the 90-day T-Bill rate. An accounting of interest accrued using this rate shall be provided by licensee when the annual report required by this article is provided to the BRCC. If the 90-day T-Bill rate ceases to be published in the Wall Street Journal, the Parties shall meet and agree upon an alternate source for the interest rate. If at the end of the license term, including any annual licenses, contributions and accrued interest remain unallocated or uncommitted to a specific project, they shall be retained by the licensee and licensee's funding obligation shall cease.

Funds may be used for resource projects as described in this article on an annual basis or may accumulate for future use. If a resource project is identified that cannot be accomplished with the balance available in the related fund, licensee shall deposit an advance payment of up to 50% of the amount required for the succeeding year, except that advance funding will be required in no more than three consecutive years and shall not increase the overall total funding required for any article, unless otherwise agreed by licensee for additional years.

Funds may not be used to enforce licensee's compliance with any article, and licensee shall not be required to compensate BRCC members' routine participation expenses through any of the Baker Funds except as otherwise required by a specific license article or as agreed by consensus of BRCC. Licensee shall bear its own costs for all administrative, legal and overhead costs associated with management of the funds, including, without limitation, calculation of interest and reports to the BRCC and the Commission, and shall not assess any costs against the funds required to be made available. In making funds available as required by any license article, licensee may provide funds through grants or other means that are consistent with the purpose of the funds in order to carry out the stated purpose(s) of the article.

TERF FUND – Terrestrial Enhancement Resource Fund

The TERF Fund may be used for actions to enhance, conserve, acquire and/or restore habitat for terrestrial species. Actions funded by the TERF will be reviewed and approved by the TRIG subject to the decision making and dispute resolution procedures described in Article 601. Projects may be considered based upon any written requests to the TRIG sponsored by any member of the BRCC and following review and comment by all members of the TRIG. Projects funded will be located in the Skagit River basin, including, and with emphasis on, the Baker River basin. TERF Funds may be used for necessary studies designed to evaluate and monitor the potential benefits or environmental effects of any requested project.

RAM FUND – Recreation Adaptive Management Fund

The RAM fund may be used for actions to address recreation management resource needs in the Baker Basin and immediately within the hydraulic influence of the Baker Basin that are not otherwise identified and addressed at the time of license issuance. Actions funded by the RAM Fund will be reviewed and approved by the RRG subject to the decision making and dispute resolution procedures described in Article 601. Projects may be considered based upon any written requests to the RRG sponsored by any member of the BRCC and following review and comment by all members of the RRG. Some possible uses of RAM funds may include, without limitation, reservoir hazard management needs in excess of the funding limitation of Article 304, additional measures to limit the impacts of dispersed recreation at Upper Baker not addressed by the funding limitation of Article 308, aesthetic enhancements to non-Project facilities not addressed by the funding limitation of Article 302, unusual trail and trailhead maintenance costs associated with natural events not under the control of licensee and not addressed under the routine maintenance requirements of Articles 314, and increased development of the Bayview Campground, the redeveloped Baker Lake Resort,

20081017-3024 FERC PDF (Unofficial) 10/17/2008

other USDA-FS developed campgrounds, and to monitor dispersed recreation use adjacent to Lake Shannon for desired improvements in excess of improvements that can be made within funding limitations of Articles 303, 305, 308, and 309. RAM Funds may be used for necessary studies designed to evaluate and monitor the potential benefits or environmental effects of any requested project.

HERC FUND – Habitat Enhancement, Restoration, and Conservation Fund

The HERC fund may be used for actions to enhance, conserve and/or restore aquatic species. Actions funded by the HERC Fund will be reviewed and approved by the ARG subject to the decision making and dispute resolution procedures described in Article 601. Projects may be considered based upon any written requests to the ARG sponsored by any member of the BRCC and following review and comment by all members of the ARG. Eight years after license issuance the licensee, in consultation with the ARG, will develop: 1) a protocol for proposing projects to be considered for the use of these funds, including a timetable for presenting the proposal to the ARG and final selection of projects on an annual basis; 2) criteria for selecting projects; 3) a process for evaluating implemented project benefits to aquatic species; and 4) reporting and audit requirements. The following geographic priority will be considered in this selection process in addition to other criteria developed by the ARG for the HERC Fund: a) within the Baker River basin; b) within the Middle Skagit River immediately downstream of the Baker River; c) in the lower Skagit River/estuary; and d) elsewhere in the Skagit River basin. Possible uses of the HERC funds may include, without limitation, resident salmonid programs, native species initiative, recreational fishing opportunities, non-native or invasive aquatic animal species, water quality enhancement, riparian enhancement, channel modification, noxious weed control, modifications to fish passage facilities and supplementation programs in the basin not required by other articles, LWD placement projects independent of Article 109, and aquatic habitat restoration and conservation measures.

In license year ten, $50,000 shall be made available from the HERC Fund for a study or protection, mitigation and enhancement measures to benefit native, non-salmonid species that may be isolated between Lake Shannon and Baker Lake. If the ARG does not approve a study or measures for year 2016 HERC funding in year 2015, the allocation of $50,000 will be available in subsequent years and 2016 funding can be applied to other approved projects. The determination of HERC Fund use for this purpose in a given funding year shall be made prior to the year in which the fund would be expended.

CREF – Cultural Resources Enhancement Fund

The CREF Fund may be used for actions for the enhancement, conservation, and/or restoration of cultural resources. Actions funded by the CREF Fund will be reviewed and approved by the CRAG subject to the decision making and dispute resolution procedures described in Article 601. Projects may be considered based upon any written requests to the CRAG sponsored by any member of the BRCC and following review and comment by all

20081017-3024 FERC PDF (Unofficial) 10/17/2008

members of the CRAG. CREF Funds may not be used for purposes of funding costs required by the HPMP.

Evaluation Process for Use of Baker Funds

Proposed projects must be consistent with applicable laws and, to the extent feasible, will be consistent with policies and comprehensive plans in effect at the time the project is proposed. Within two years following license issuance, licensee shall, in consultation with the BRCC, develop a system to evaluate potential resource projects that is to be approved by each of the ARG, TRIG, RRG, and CRAG (Project Evaluation System). The Project Evaluation System shall include criteria and procedures for fund expenditures required by this article**.**

For each project proposed, licensee shall apply the factors and criteria established in the Project Evaluation System and submit a written recommendation to the Resource Group(s) charged with funding review, and request a meeting of the Resource Group(s) to discuss the proposed project. Decisions and/or disputes of each Resource Group related to a proposed project shall be documented. The development of criteria for evaluating projects in the Project Evaluation System may include, without limitation, the following considerations:

a) timeframe for project implementation and permitting requirements and cost;

b) horizon and scope for benefits (long-term multiple benefits best);

c) whether the project could be cost shared with other funding sources;

d) probability of success based on prior implementation; and

e) cost-effectiveness.

Fund Commitment

Once a project is approved, licensee shall authorize and commit the expenditure of funds for the approved project.

Fund Disbursement

Funds shall be disbursed by licensee for approved resource projects at the time of receipt of invoices for actual expenditures incurred in conformance with the approved project and implementation schedule, unless otherwise provided by licensee.

Land Ownership and Transfer

All lands within the Project boundary shall be owned by licensee, or licensee shall have sufficient interests in any such land to carry out the License, unless otherwise approved by the Commission. Lands within the project boundary may not be transferred to a third party without the Commission’s approval. At the time of submitting a proposed transfer to the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Commission, licensee shall include: all comments received from BRCC representatives; a description of all proposed interests in lands; proposed assurances that the land will be managed consistent with the requirements of the license; and all other information considered by the BRCC or appropriate Resource Group(s) in evaluating the proposed transfer.

Lands Outside of Project Boundary Related to License

The licensee may purchase land outside of the Project boundary, and it may provide for transfer of such land to a third party, pursuant to this or other articles. Any purchase or transfer pursuant to another article shall be consistent with the requirements of that article, including any approved plan. Any purchase or transfer through a Fund in this article shall be consistent with the selection criteria and other requirements of this article.

Assurances by Third Party

Regardless of whether land related to the license is located within or outside of the Project boundary, licensee may transfer land to a third party only if the third party provides appropriate assurances, developed by licensee in consultation with, and following approval by, the BRCC or appropriate Resource Groups, that the land will be owned and maintained consistent with the requirements of the applicable article, at least for the term of the license. Appropriate constraints may include, without limitation, restrictive covenants, conservation easements, or conveyances that provide for licensee's continuing right of use or right to recapture the land if not maintained as required by the relevant article.

Article 603
Adaptive Management

In the development of land management objectives, land acquisition selection criteria, and utilization of funds available for the enhancement of various resources, licensee shall consider alternative strategies for meeting measurable goals and objectives. If changed environmental or regulatory conditions require different means and methods for adequate resource enhancement and management, then acquisition, enhancement, and management actions developed in various plans shall be adjusted according to the changed conditions through a plan amendment process for each article requiring planning, provided that licensee shall not be required to make additional funds available for these purposes unless specifically required in an article. Alternative strategies that require additional funding may occur only if funding is available and approved for use from one of the research and enhancement funds identified in Article 602.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Appendix A-1 to Articles.

Noxious Weed Management Guidelines and Treatment Options

Specific guidelines for actions in the Noxious Weed Management Plan

	Management Action Within The Plan Area	
Species Or Class	**Federal Lands**	**Non-federal Lands**
Class A	Eradicate	Eradicate
Class B Designate	Eradicate	Control
Class B	Contain (unless county raises priority, or as noted below for English ivy and reed canarygrass)	Contain (unless county lists species for control, or as noted below for English ivy and reed canarygrass)
Class C	Contain (unless county raises priority, or as noted below for English ivy and reed canarygrass)	Contain (unless county lists species for control, or as noted below for English ivy and reed canarygrass)
English ivy	Eradicate	Eradicate
Reed canarygrass	• Contain, except as specified below for the seven wetlands. • *Carex flava* site: manage and fund as per Article 510	Contain

Treatment methods available under the Noxious Weed Management Plan.

Species	Common Name	Potential Treatment Methods[a]
Cirsium arvense[b]	Canada thistle	Manual control: hand pulling, mowing Biological control Herbicide application: Aquatic formulation of Glyphosate Shade planting

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Species	Common Name	Potential Treatment Methods[a]
Cirsium vulgare[b]	Bull thistle	Manual control: hand pulling, mowing Biological control Herbicide application: Aquatic formulation of Glyphosate Shade planting
Cytisus scoparius[b]	Scotch broom	Manual control: hand pulling, cutting, mowing Biological control Herbicide application: Aquatic formulation of Glyphosate Shade plantings in conjunction with other treatments
Geranium robertianum[b]	Herb Robert	Manual control: hand pulling, mowing Herbicide application: Aquatic formulation of Glyphosate
Hedera helix[b]	English Ivy	Manual control: cutting, hand pulling and grubbing Herbicide application with surfactants
Phalaris arundinacea[b]	Reed canarygrass	Manual control: hand pulling, mowing, mulch Herbicide application: Aquatic formulation of Glyphosate Steam treatment Shade Plantings
Senecio jacobaea[b]	Tansy ragwort	Manual control: hand pulling Biological control Herbicide application: Aquatic formulation of Glyphosate Shade plantings and healthy plant communities
Polygonum cuspidatum[c]	Japanese knotweed	Manual control: cutting/bending stems, mowing Herbicide application: Aquatic formulation of Glyphosate Shading

[a] If new, high priority (e.g., Class A or B designate) noxious weeds are discovered within the Project area, they will be treated in the most effective manner possible, within the guidelines and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Species	Common Name	Potential Treatment Methods[a]

recommendations of the Region 6 EIS for Preventing and Managing Invasive Plants.

[b] Species identified in the T-6 Noxious Weed Study.

[c] Species not identified in the T-6 Noxious Weed Study.

In addition, the TRIG shall evaluate other invasive species management in the plan area periodically to determine if changes are warranted due to factors such as additions to the noxious weed lists; changes in federal, state or county regulations; or the discovery of new treatment methods. Licensee shall monitor changes to the Skagit County and Whatcom County noxious weed lists through annual acquisition of the updated noxious weed lists, typically available during the first quarter of the year from each county's Noxious Weed Control Board.

The Noxious Weed Management Plan shall be designed to manage specified invasive non-native plants and noxious weeds within the plan area on a 5-year cycle of treatment and monitoring, and reduce the potential for new introductions or reintroductions for the remainder of the license term. During these periods, designated portions of the plan area shall be resurveyed, and treatment methods re-evaluated. Options for management of existing weeds shall be evaluated and implemented during each 5-year cycle. Current county, state and federal weed control regulations and policies, as well as noxious weed lists, shall be used as guidelines for weed management, and shall be updated for each 5-year cycle.

Prevention on National Forest System lands in the plan area shall be accomplished by implementing the specific measures listed in the USDA-FS Forest Plan Amendment #14: Best Management Practices for Prevention of Noxious Weeds (Appendix C in: Potash, L. 1999. Forest-Wide Environmental Assessment for Noxious Weed Management on the Mt. Baker-Snoqualmie National Forest. USDA-FS, Mountlake Terrace, WA). Any updates to BMPs on National Forest System lands shall be implemented by licensee within six months of receipt from the USDA-FS.

Active restoration measures shall be implemented to decrease "weed-friendly" habitat associated with licensee ground-disturbing activities. All revegetation on USDA-FS lands shall follow USDA-FS Pacific Northwest regional policy regarding native plant movement guidelines. Use of desirable non-native species shall follow the recommendations in the Mt. Baker-Snoqualmie National Forest Native Plant Notebook, Second Edition (Potash and Aubry, 1997), or as superseded by Region 6 guidance.

Appendix A-2 to Articles.

Species and locations requiring site-specific management plans in the Baker River Project Plan for the Management of Plants of Special Status.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Species	Location	Identification Number
Carex flava	North end of Baker Lake, near mouth of Baker River	WNHP Element Occurrence # 37
Schistostega pennata	Wetland WB-22, near mouth of Little Sandy Creek	ISMS Location ID # 1704960
Tetraphis geniculata	Wetland WB-22, near mouth of Little Sandy Creek	ISMS Location ID # 1704910
Schistostega pennata	Wetland WB-24, near mouth of Little Sandy Creek	ISMS Location ID # 1704970
Schistostega pennata	Sites BN17-1 and BN17-2, along Swift Creek	ISMS Location ID # 1704990
Schistostega pennata	Wetland WB-18, ~ ½ mile south of the mouth of Boulder Creek	ISMS Location ID # 1705010
Schistostega pennata	Wetland WB-2, along West Pass Dike	ISMS Location ID # 1704980
Schistostega pennata	Wetland WB-11	ISMS Location ID # not yet assigned
Platanthera sparsiflora	Baker Lake Trail near Noisy Creek	WNHP Element Occurrence # 3
Schistostega pennata	Panorama Point	ISMS Location ID # 1563670

Appendix A-3 to Articles.

Additional Guidelines for Plan for Plants of Special Status.

The plan shall require the licensee to:

(a) Survey all areas of proposed new Project activity or existing and future disturbance where there is the potential to impact plant species of special status. Determinations of the potential to impact plant species on federal lands shall be made by the USDA-FS using their pre-field review process. Determinations of the potential to impact plant species on non-federal lands shall be made by licensee, in consultation with the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

TRIG. Surveys shall be conducted and documented according to the methods used for pre-licensing rare plant surveys and described in the final rare plant survey report.

(b) Implement individual site-specific management plans and associated actions for the species and locations identified in table below. For *Carex flava*, specifications are addressed in Article 510.

(c) Describe the steps that will be taken if additional populations of plants of special status are discovered during the term of the license and the USDA-FS (for federal lands) or licensee and the TRIG (for non-federal lands) determine there is the potential for Project-related activities to impact the plants. The area covered by this item shall not exceed the area within the Project boundary plus areas outside the Project boundary surveyed during pre-licensing rare plant surveys or surveys conducted in accordance with subsection (a) of this Article.

(d) Implement a monitoring and evaluation program for plant species of special status within the area affected by the Project, which shall be defined as the area encompassed by surveys conducted to satisfy the other requirements of this action. The plan shall identify the frequency of monitoring and specify measures that will be taken if monitoring indicates the population of a plant of special status is declining within the area affected by the Project.

(e) Update the plan within one year of the addition of a species to any of the categories of special status listed above, if that species is known to occur or has the potential to occur within the area affected by the Project. Changes to the plan made to satisfy this item shall be limited to measures needed to address the newly added species. If a species is de-listed, the TRIG will determine what measures will continue for this species.

Appendix A-4 to articles.

Carex flava Guidelines.

The plan shall require licensee to:

1. Inventory and map all areas of known *Carex flava* populations and the distribution of reed canarygrass within 200 feet of those populations around Upper Baker Lake. Inventories shall be conducted and documented in sufficient detail, as determined through consultation with botanists with expertise on the species, to assess the baseline population status of *Carex flava* over time and to determine the effectiveness of management actions.

2. Develop and implement control strategies for reed canarygrass in and around the *Carex flava* populations. These control strategies shall be developed in consultation with

20081017-3024 FERC PDF (Unofficial) 10/17/2008

botanists with expertise on *Carex flava* and reed canarygrass, and shall be designed to eliminate all direct competition between the two species, at a minimum.

3. Develop and implement a monitoring and evaluation program for the entire license term that answers the following questions:

a. Is the *Carex flava* population increasing, decreasing, or remaining stable?

b. How effective are the control measures for reed canarygrass?

c. Do the control measures for reed canarygrass result in beneficial or adverse effects to *Carex flava*?

d. What are "suitable sites" for the establishment of *Carex flava* (microsite characteristics, etc.)?

e. Is treatment effectiveness influenced by hydroperiod (frequency, duration, timing, depth of flooding/saturation) associated with fluctuations in reservoir levels?

f. Are the reed canarygrass control measures necessary for the protection of *Carex flava*? If the answer to this is no, the control measures may be discontinued.

g. Are there other factors affecting the health of the *Carex flava* population?

h. What should replace reed canarygrass in areas where it has been eliminated?

4. If there is greater than a 20 percent reduction in the *Carex flava* population from the original baseline, licensee shall implement a seed and/or plant collection program to raise plants off-site, and establish and/or re-establish *Carex flava* populations at suitable "planting sites" around upper Baker Lake. Since it is unclear how to distinguish an "individual" of this species, guidance on how to determine what constitutes 20 percent shall be in the management plan.

5. If the reed canarygrass control is not effective, or is determined through monitoring not to be needed, and the planting program described in Item 4 is not successful in maintaining or expanding the *Carex flava* population, licensee shall develop and implement additional management measures for the species. Additional management measures shall be funded from the Terrestrial Enhancement and Research Fund (TERF).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Appendix A-5. Recreation Implementation of Schedule.

Fifty-year Recreation Implementation Schedule for articles 302 through 308 specifying cost allocation for the Baker River Project License with funds designated to action agent.

		302			303*		304			305		306*		307		308	
Year of License	Year	Aesthetics management Action Total	PSE Actions	*U.S. Forest Service Actions*	Baker Lake Resort Re-development Action Total	*U.S. Forest Service Actions*	Baker Reservoir Recreation Water Safety Plan Action Total	*PSE Actions*	*U.S. Forest Service Actions*	Lower Baker Developed Recreation Action Total	*PSE Actions*	Upper Baker Visitor Information Services Funding Action Total	*U.S. Forest Service Actions*	Upper Baker Visitor Interpretive Services Funding Action Total	*U.S. Forest Service Actions*	Dispersed Recreation Management Funding Action Total	*U.S. Forest Service Actions*
1	2006	64357	*34357*	*30000*			50453	*41000*	*9453*			2500	*2500*	52138	*52138*	47621	*47621*
2	2007	24000	*4000*	*20000*			128000	*39000*	*89000*	250000	*250000*	2500	*2500*	27200	*27200*	81000	*81000*
3	2008	30500	*4000*	*26500*	91526	*91526*	4000	*4000*				2500	*2500*	27200	*27200*	81400	*81400*
4	2009	24000	*4000*	*20000*	680000	*680000*	4000	*4000*				2500	*2500*	27200	*27200*	27400	*27400*
5	2010	24000	*4000*	*20000*			4000	*4000*				2500	*2500*	27200	*27200*	27400	*27400*
6	2011	106000	*106000*				4000	*4000*				323190	*323190*	27200	*27200*	27400	*27400*
7	2012	4000	*4000*				8000	*8000*				11680	*11680*	27200	*27200*	27400	*27400*
8	2013	4000	*4000*				4000	*4000*		851084	*851084*	11680	*11680*	27200	*27200*	27400	*27400*
9	2014	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
10	2015	10500	*4000*	*6500*			4000	*4000*		20500	*20500*	11680	*11680*	33200	*33200*	27400	*27400*
11	2016	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
12	2017	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	59400	*59400*
13	2018	4000	*4000*				55000	*8000*	*47000*	20500	*20500*	24680	*24680*	27200	*27200*	59400	*59400*
14	2019	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
15	2020	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
16	2021	4000	*4000*				4000	*4000*		40500	*40500*	11680	*11680*	27200	*27200*	27400	*27400*
17	2022	10500	*4000*	*6500*			4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
18	2023	4000	*4000*				4000	*4000*		25000	*25000*	11680	*11680*	27200	*27200*	27400	*27400*
19	2024	4000	*4000*				8000	*8000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
20	2025	4000	*4000*				46000	*4000*	*42000*	20000	*20000*	11680	*11680*	33200	*33200*	27400	*27400*
21	2026	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
22	2027	4000	*4000*				4000	*4000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
23	2028	4000	*4000*				51000	*4000*	*47000*	20000	*20000*	124680	*124680*	27200	*27200*	59400	*59400*
24	2029	10500	*4000*	*6500*			4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	59400	*59400*
25	2030	4000	*4000*				8000	*8000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
26	2031	4000	*4000*				4000	*4000*		45000	*45000*	11680	*11680*	27200	*27200*	27400	*27400*
27	2032	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
28	2033	4000	*4000*				4000	*4000*		20500	*20500*	12549	*12549*	27200	*27200*	27400	*27400*
29	2034	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*

20081017-3024 FERC PDF (Unofficial) 10/17/2008

		302			303*		304			305		306*		307		308	
Year of License	Year	Aesthetics management Action Total	PSE Actions	*U.S. Forest Service Actions*	Baker Lake Resort Re-development Action Total	*U.S. Forest Service Actions*	Baker Reservoir Recreation Water Safety Plan Action Total	*PSE Actions*	*U.S. Forest Service Actions*	Lower Baker Developed Recreation Action Total	*PSE Actions*	Upper Baker Visitor Information Services Funding Action Total	*U.S. Forest Service Actions*	Upper Baker Visitor Interpretive Services Funding Action Total	*U.S. Forest Service Actions*	Dispersed Recreation Management Funding Action Total	*U.S. Forest Service Actions*
30	2035	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	33200	*33200*	27400	*27400*
31	2036	10500	*4000*	*6500*			4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
32	2037	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	59400	*59400*
33	2038	4000	*4000*				55000	*8000*	*47000*	20500	*20500*	24680	*24680*	27200	*27200*	59400	*59400*
34	2039	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
35	2040	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
36	2041	4000	*4000*				4000	*4000*		40500	*40500*	11680	*11680*	27200	*27200*	27400	*27400*
37	2042	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
38	2043	10500	*4000*	*6500*			4000	*4000*		25000	*25000*	11680	*11680*	27200	*27200*	27400	*27400*
39	2044	4000	*4000*				8000	*8000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
40	2045	4000	*4000*				46000	*4000*	*42000*	20000	*20000*	11680	*11680*	33200	*33200*	27400	*27400*
41	2046	24000	*4000*	*20000*			4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
42	2047	24000	*4000*	*20000*			4000	*4000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
43	2048	4000	*4000*				51000	*4000*	*47000*	20000	*20000*	124680	*124680*	27200	*27200*	59400	*59400*
44	2049	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	59400	*59400*
45	2050	10500	*4000*	*6500*			8000	*8000*		20500	*20500*	11680	*11680*	27200	*27200*	27400	*27400*
46	2051	4000	*4000*				4000	*4000*		45000	*45000*	11680	*11680*	27200	*27200*	27400	*27400*
47	2052	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
48	2053	4000	*4000*				4000	*4000*		20500	*20500*	12549	*12549*	27200	*27200*	27400	*27400*
49	2054	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	27200	*27200*	27400	*27400*
50	2055	4000	*4000*				4000	*4000*		20000	*20000*	11680	*11680*	33200	*33200*	27400	*27400*
Total		527,857			771,526		670,453			2,047,584		1,103,348		1,414,938		1,753,821	

*After Year 30 of the new license PSE and the USFS will review specified campground and visitor information sites for appropriate refurbishment as necessary to restore to agreed standards identified in Articles 303, 306, 309 and 313. In years 30-36 the additional costs for such purposes are estimated at $2,464,600, and in years 36-50 $2,143,009.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

		309		310		311		312		313*		314		315		316		318		
Year of License	Year	Bayview Campground Rehabilitation Funding Action Total	U.S. Forest Service Actions	Upper Baker Trail and Trailhead Construction Funding Action Total	U.S. Forest Service Actions	Lower Baker Trail Construction Funding Action Total	PSE Actions	Developed Recreation Monitoring and Funding Action Total	U.S. Forest Service Actions	Upper Baker Developed Recreation Maintenance Funding Action Total	U.S. Forest Service Actions	Upper Baker Trail and Trailhead Maintenance Funding Action Total	U.S. Forest Service Actions	Lower Baker Trail Maintenance Action Total	PSE Actions	Forest Road Maintenance Action Total	U.S. Forest Service Actions	Law enforcement Action Total	PSE Actions	U.S. Forest Service Actions
1	2006									30000	30000	70808	81420			17500	17500	135000	62000	73000
2	2007	114710	114710							51874	51874	70808	81420			17500	17500	95000	22000	73000
3	2008	940000	940000							146000	146000	70808	81420			17500	17500	124383	51383	73000
4	2009			47134	47134					82000	82000	70808	81420			17500	17500	95000	22000	73000
5	2010			347140	347140					148000	148000	70808	81420			17500	17500	95000	22000	73000
6	2011			300000	300000					120300	120300	70808	81420			284417	284417	95000	22000	73000
7	2012									35000	35000	81420	80800			17500	17500	98000	25000	73000
8	2013							29000	29000	35000	35000	81420	80800			17500	17500	95000	22000	73000
9	2014							200000	200000	35000	35000	81420	80800			17500	17500	95000	22000	73000
10	2015									35000	35000	81420	80800			17500	17500	95000	22000	73000
11	2016									35000	35000	81420	80800			17500	17500	95000	22000	73000
12	2017					200000	200000			35000	35000	81420	80800			17500	17500	98000	25000	73000
13	2018									35000	35000	80800	80800	620	620	167500	167500	95000	22000	73000
14	2019	30000	30000							35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
15	2020									35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
16	2021									35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
17	2022							44488	44488	35000	35000	80800	80800	620	620	17500	17500	98000	25000	73000
18	2023							400000	400000	35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
19	2024	130000	130000							35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
20	2025									40000	40000	80800	80800	620	620	17500	17500	95000	22000	73000
21	2026									40000	40000	80800	80800	620	620	167500	167500	95000	22000	73000
22	2027									40000	40000	80800	80800	620	620	17500	17500	98000	25000	73000
23	2028									43000	43000	80800	80800	620	620	17500	17500	95000	22000	73000
24	2029									50000	50000	80800	80800	620	620	17500	17500	95000	22000	73000
25	2030									55000	55000	80800	80800	620	620	17500	17500	95000	22000	73000
26	2031									40000	40000	80800	80800	620	620	17500	17500	95000	22000	73000
27	2032	130000	130000							40000	40000	80800	80800	620	620	17500	17500	98000	25000	73000
28	2033									40000	40000	80800	80800	620	620	17500	17500	95000	22000	73000
29	2034									40000	40000	80800	80800	620	620	167500	167500	95000	22000	73000
30	2035									40000	40000	80800	80800	620	620	17500	17500	95000	22000	73000
31	2036									35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000
32	2037									35000	35000	80800	80800	620	620	17500	17500	98000	25000	73000
33	2038									35000	35000	80800	80800	620	620	17500	17500	95000	22000	73000

20081017-3024 FERC PDF (Unofficial) 10/17/2008

		309		310		311	312		313*		314		315		316		318		
Year of License	Year	Bayview Campground Rehabilitation Funding	*U.S. Forest Service Actions*	Upper Baker Trail and Trailhead Construction Funding	*U.S. Forest Service Actions*	Lower Baker Trail Construction Funding PSE Actions	Developed Recreation Monitoring and Funding	*U.S. Forest Service Actions*	Upper Baker Developed Recreation Maintenance Funding	*U.S. Forest Service Actions*	Upper Baker Trail and Trailhead Maintenance Funding	*U.S. Forest Service Actions*	Lower Baker Trail Maintenance PSE Actions		Forest Road Maintenance	*U.S. Forest Service Actions*	Law enforcement	PSE Actions	*U.S. Forest Service Actions*
		Action Total		Action Total		Action Total	Action Total		Action Total		Action Total		Action Total		Action Total		Action Total		
34	2039								35000	*35000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
35	2040	130000	*130000*						35000	*35000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
36	2041								35000	*35000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
37	2042								35000	*35000*	80800	*80800*	620	*620*	167500	167500	98000	*25000*	*73000*
38	2043								35000	*35000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
39	2044								35000	*35000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
40	2045								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
41	2046								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
42	2047								40000	*40000*	80800	*80800*	620	*620*	17500	17500	98000	*25000*	*73000*
43	2048	130000	*130000*						43000	*43000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
44	2049								50000	*50000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
45	2050								55000	*55000*	80800	*80800*	620	*620*	167500	167500	95000	*22000*	*73000*
46	2051								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
47	2052								40000	*40000*	80800	*80800*	620	*620*	17500	17500	98000	*25000*	*73000*
48	2053								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
49	2054								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
50	2055								40000	*40000*	80800	*80800*	620	*620*	17500	17500	95000	*22000*	*73000*
Total		1,604,710		694,274		200,000	673,488		2,284,174		3,983,768		23,560		1,891,917		4,846,383		

*After Year 30 of the new license PSE and the Forest Service will review specified campground and visitor information sites for appropriate refurbishment as necessary to restore to agreed standards identified in Articles 303, 306, 309 and 313. In years 30-36 the additional costs for such purposes are estimated at $2,464,600, and in years 36-50 $2,143,009.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Appendix A-6.

Baker River Relicense Recreation Studies
Study R12 Dispersed Site Inventory
Location Terminology

Location Code	Old Name/Location Description	Revised Name
BN1	Baker River Trailhead	Baker River Trailhead North
BN2	Right side of parking lot	Baker River Trailhead South
BN3	Spur road	Baker River Trailhead West
BN4	Berms	Rd 11/1168 Barrier
BN5	Road to lake bed	Channel Creek
BN6	Drain Pipe	Elbow Ck. Culvert
BN7	Aerial marker	Rd 11 Mile 23.7
BN8	Mossy -boat/ land	Shannon Creek Fan
BN9	#1152 - gravel pit	Rd 1152 Rock Pit
BN10	Bump out straight down	Rd 11 Mile 22.5
BN11	North of Blue tarp	Blue Tarp NE
BN12	Fish planting road - blue tarp	Blue Tarp
BN13	Bump out - motorcycle	Section 34 SW
BN14	Lakeside	Lakeside
BN15	Scott Camp	Scott Camp
BN16	#1146	Rd 1146
BN17	Swift Creek	Swift Creek
BW1	Park Creek	Park Creek Dispersed
BW2	Nowhere Circle	Nowhere Circle
BW3	Fish Ladder	Fish Ladder
BW4	#1136	Boulder North
BW5	#1136 at barrier	Rd 1136 Barrier
BW6	#0112 at # 1136	1136 Spur 012 End
BW7	entrance to # 0112	1136 Spur 012 Junction
BW8	Across from # 1130 - Mossy	Rd 1130 Junction
BW9	Boulder Creek Bridge	Boulder Creek Bridge
BW10	Rd. before boulder c.g. spur	Boulder Creek CG South (Rd 1128)
BW11	Upper Sandy	Upper Sandy
BW12	Lower Sandy	Lower Sandy
BW13	Spur off # 1122	Rd 1122 Spur
BW14	Road #1120	Rd 1120 Junction
BW15	off #1118 - Dopers Road	Rd 1118 Spur 014
BW16.5 - OMIT	#1118. 011 - Bayview	Bayview Dispersed - OMIT
BW16	Depression	Depression Lake
BW17 - OMIT	Chris and Andy site	Sno Park West - OMIT
BW18	Trailhead Parking	Baker Lake Trailhead South
BW19.5	So of Trailhead Parking	BL Trailhead Annex
BW19	East side of Dam along #1107	Forebay Peninsula
BW20	East of Dam-parking lot	UB Left Abutment
BE1	Noisy Creek	Noisy Creek
BE2	So. Noisy Creek	Noisy Creek West

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Appendix A-6.

Baker River Relicense Recreation Studies
Study R12 Dispersed Site Inventory
Location Terminology

Location Code	Old Name/Location Description	Revised Name
BE3	Silver Creek (bridge)	Silver Creek
BE4	Ermine Creek	Ermine Creek
BE5	Across from old Resort	Underwater Bridge
BE6.5	Triangle Marker	White Rocks East
BE6 - OMIT	Maple Grove	Maple Grove - OMIT
BE7	Anderson Cove	Anderson Cove
BE8	Anderson Point	Anderson Point
BE9	North of Welker Creek	Welker North
BE10	Welker Creek	Welker Creek
BE11	South of Boulder Creek	Boulder South Boat-in
BE12	Lone Pine Island	Lone Pine Island
BE13	Gilligan Island	Baker River Delta
BE14	On lake next to Baker River	Hollow Trunk
BE15	North of Noisy	Noisy East
SR1 - OMIT	Shot Gun	Point 691 - OMIT
SR2 - OMIT	Everett Lake	Everett Lake - OMIT
SR3	Lake Shannon Bank Fishing	LB Bank Fishing
SB1	Thunder Creek	Thunder Creek
SB2	Nice Spot	West Bank Mile 7.25
SB3	Slide	Miner's Creek Slide

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX B

U.S. Department of Agriculture, U.S. Forest Service,
Section 4(e) Terms and Conditions, filed November 7, 2006

LICENSE CONDITIONS NECESSARY FOR PROTECTION AND UTILIZATION OF THE MT. BAKER-SNOQUALMIE NATIONAL FOREST IN CONNECTION WITH THE APPLICATION FOR LICENSE AND SETTLEMENT AGREEMENT FOR PROJECT NO. 2150, BAKER RIVER HYDROELECTRIC 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 Mt. Baker-Snoqualmie 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 National Forest System lands shall also be included in any license issued for the Baker River Hydroelectric Project (Project).

II. USDA FOREST SERVICE CONDITIONS

Condition No. 1 - Compliance with the Settlement Agreement

The Licensee shall completely and fully comply with all provisions of the November 30, 2004 Settlement Agreement Concerning the Relicensing of the Baker River Hydroelectric Project – FERC Project No. 2150 Whatcom and Skagit Counties, Washington (Settlement Agreement) relating to:

1. All protection, mitigation and enhancement measures and other obligations of the Licensee identified in the Settlement Agreement, Appendices, Exhibits and Schedules which are on or affect National Forest System (NFS) lands and resources.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2. All commitments in each and every plan referenced in the Settlement Agreement, Appendices, Exhibits and Schedules which implement activities on or affecting NFS lands and resources.

Condition No. 2 - Acceptance and Implementation of the Settlement Agreement

The above Condition is premised on two requirements:

1. The Commission's acceptance and incorporation of the Settlement Agreement, Appendices, Exhibits and Schedules, without material modification, as license articles; and
2. The Licensee's immediate and complete implementation of the obligations in accordance with the November 30, 2004 Settlement Agreement.

In the event either of these requirements are not met, the USDA-FS reserves its authority to supplement or modify its terms and conditions at a later time.

Condition No. 3 - Reservation for Change in the Event of a Party Withdrawal

The USDA-FS reserves the authority to add to, delete from, or modify the preliminary terms and conditions contained herein in the event that the Licensee, the USDA-FS or other Parties withdraw from the Settlement Agreement under the procedures identified in Section 5.5 of the Settlement Agreement prior to the Commission's issuance of a new license for the Project.

Condition No. 4 - Implementation of Activities on NFS Lands

The Licensee is required to obtain authorization from the Forest Supervisor prior to commencing implementation of habitat or ground disturbing activities on National Forest System lands in accordance with the USDA-FS policy for project implementation 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-FS 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-FS 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-FS special-use authorization are enforceable by the USDA-FS under the laws, rules, and regulations applicable to the National Forest System.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

The special-use authorization also shall be subject to applicable sanctions and enforcement procedures of the Commission at the request of the USDA-FS. 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-FS 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-FS, 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-FS for such changes. The Licensee shall file an exact copy of the report with the USDA-FS 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-FS and before starting any activity on National Forest System land that the USDA-FS determines may affect another authorized activity, the Licensee shall resolve potential conflicts with representatives of those permittees.

Site Specific Plans

Site-specific plans shall be prepared by the Licensee and approved by USDA-FS 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 shall be prepared one year 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 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.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Environmental Analysis

For any ground- or habitat-disturbing activities on National Forest System lands the Licensee shall, when determined necessary by the Forest Supervisor, prepare an environmental analysis that shall be submitted along with site specific plans and implementation requirements determined necessary by the Forest Service to FERC for review and approval including additional NEPA documentation as required by FERC.

Condition No. 5 - Self Insurance

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

Condition No. 6 - Surveys, Land Corners

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

Further, the Licensee shall ensure that any such official survey records affected are amended as provided for by law.

Condition No. 7 - Fire Prevention

Within one year of license issuance, the Licensee shall prepare a Fire Suppression Plan in consultation with and approved by USDA Forest Service, and file the plan with the Commission. The plan shall require the Licensee to:

20081017-3024 FERC PDF (Unofficial) 10/17/2008

1. Describe the fire hazard associated with Licensee facilities.
2. Identify hazard abatement procedures.
3. Identify a notification process in the event of a fire involving Licensee facilities.
4. Cooperate with the USDA-FS for suppression of fire involving the Licensee facilities.
5. Identify a process for amending the plan over the license term as necessary based on implementation by the licensee of ground disturbing activities on National Forest System lands.

Condition No. 8 - Heritage Resource Protection

The licenses shall implement Article 201 of the Settlement Agreement.

The Licensee shall, within one year of license issuance, develop and implement a final Historic Properties Management Plan (HPMP) in consultation with USDA Forest Service, the State Historical Preservation Officer (SHPO) and other interested parties. The final HPMP shall be based on the draft HPMP prepared by the Licensee (April, 2004). The HPMP shall guide the Licensee's treatment of known and yet to be discovered cultural and historic resources over the term of the new license and shall identify the consultation procedures the Licensee shall undertake on behalf of the FERC with USDA Forest Service, affected Indian Tribes, the US Army Corps of Engineers, the SHPO, the Advisory Council for Historic Preservation and the USDI National Park Service.

Condition No. 9 - Shoreline Erosion

The licensee shall implement Article 110 of the Settlement Agreement.

Condition No. 10 - Recreation Management Report (RMR)

The licensee shall implement Article 301 of the Settlement Agreement and Appendix A-5 to Articles.

Condition No. 11 - Aesthetics Management

The licensee shall implement Article 302 of the Settlement Agreement.

Condition No. 12 - Baker Lake Resort Development Plan

The licensee shall implement Article 303 of the Settlement Agreement.

Condition No. 13 - Reservoir Recreation Water Safety Plan

The licensee shall implement Article 304 of the Settlement Agreement.

Condition No. 14 - Upper Baker Visitor Information Services Funding

The licensee shall implement Article 306 of the Settlement Agreement.

Condition No. 15 - Upper Baker Visitor Interpretive Services Funding

The licensee shall implement Article 307 of the Settlement Agreement.

Condition No. 16 - Dispersed Recreation Management Funding

The licensee shall implement Article 308 of the Settlement Agreement.

Condition No. 17 - Upper Baker Trail and Trailhead Construction Funding

The licensee shall implement Article 310 of the Settlement Agreement.

Condition No. 18 - Upper Baker Trail and Trailhead Maintenance Funding

The licensee shall implement Article 314 of the Settlement Agreement.

Condition No. 19 - Bayview Campground Rehabilitation Funding

The licensee shall implement Article 309 of the Settlement Agreement.

Condition No. 20 - Developed Recreation Monitoring and Funding

The licensee shall implement Article 312 of the Settlement Agreement.

Condition No. 21 - Upper Baker Developed Recreation Maintenance Funding

The licensee shall implement Article 313 of the Settlement Agreement.

Condition No. 22 - USDA-FS Forest Road Maintenance Funding

The licensee shall implement Article 316 of the Settlement Agreement.

Condition No. 23 - Access to Baker Lake

The licensee shall implement Article 317 of the Settlement Agreement.

Condition No. 24 - Law Enforcement

The licensee shall implement Article 318 of the Settlement Agreement.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Condition No. 25 - Terrestrial Management Plan

The licensee shall implement Article 501 of the Settlement Agreement.

Condition No. 26 - Forest Habitat

The licensee shall implement Article 502 of the Settlement Agreement.

Condition No. 27 - Elk Habitat

The licensee shall implement Article 503 of the Settlement Agreement.

Condition No. 28 - Wetland Habitat

The Licensee shall implement Article 504 of the Settlement Agreement.

Condition No. 29 - Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan

The licensee shall implement Article 505 of the Settlement Agreement.

Condition No. 30 - Loon Floating Nest Platforms

The licensee shall implement Article 507 of the Settlement Agreement.

Condition No. 31 - Noxious Weeds

The licensee shall implement Article 508 of the Settlement Agreement including Appendix A-1 to Articles.

Condition No. 32 - Plants of Special Status and Carex flava

The licensee shall implement Articles 509 and 510 of the Settlement Agreement including Appendices A-2, 3, and 4 to Articles.

Condition No. 33 - Late Seral Forest Growth

The licensee shall implement Article 515 of the Settlement Agreement.

Condition No. 34 - Mountain Goats

The licensee shall implement Article 516 of the Settlement Agreement.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Condition No. 35 - Grizzly Bear Road Management

The licensee shall implement Article 517 of the Settlement Agreement.

Condition No. 36 - Flow Implementation

The licensee shall use best efforts to manage lake elevations at Upper Baker Reservoir during the interim operating period (see paragraph A of Article 106) consistent with Aquatics Table 1, Article 106. Upon Commission approval of the Flow Implementation Plan (see paragraph B of Article 106), the licensee shall manage lake elevations at Upper Baker Reservoir consistent with Aquatics Table 1, or Aquatics Table 2 if directed by the Army Corps of Engineers.

Condition No. 37 - Baker River Coordinating Committee

The licensee shall implement Article 601 of the Settlement Agreement.

Condition No. 38 - Required Funding

The licensee shall implement Article 602 of the Settlement Agreement.

Condition No. 39 - Reservation of Authority

The Licensee shall implement, upon order of the Commission, such additional measures as may be identified by the Secretary of Agriculture, pursuant to the authority provided in Section 4(e) of the Federal Power Act, as necessary to ensure the adequate protection and utilization of the public land reservations under the authority of the USDA Forest Service.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX C

Washington Department of Ecology, Section 401 Water Quality Certification Conditions, Filed May 11, 2007

5.0 CONDITIONS

In view of the foregoing and in accordance with Section 401 of the Clean Water Act (33 USC 1341), RCW 90.48.260 and WAC Chapter 173-201A, Ecology finds reasonable assurance that implementation of the compliance schedule and adaptive management strategy contained in the proposed license will result in the attainment and compliance with state and federal water quality standards and other appropriate requirements of state law provided the following conditions are met. Accordingly, through this order issued and enforceable under RCW 90.48, Ecology grants Section 401 water quality certification to PSE for the Baker River Hydroelectric Project (FERC No. 2150) subject to the following conditions. This order will hereafter be referred to as the "certification".

5.1 GENERAL REQUIREMENTS

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

2) In the event of changes in or amendments to the state water quality, ground water, or sediment standards or changes in or amendments to the state Water Pollution Control Act (RCW 90.48) or changes in or amendments to the Federal Clean Water Act, such provisions, standards, criteria or requirements shall apply to the Project and any attendant agreements, orders, or permits, to the fullest extent permitted by law.

3) Discharge of any solid or liquid waste to the waters of the state of Washington without approval from Ecology is prohibited.

4) PSE shall obtain Ecology review and approval before undertaking any change to the Project or Project operations that might significantly and adversely affect the water quality (including impairment of designated uses) or compliance with any applicable water quality standard (including designated uses) or other appropriate requirements of state law.

5) Operations of the Floating Surface Collector (FSC) projects at Upper Baker Dam and Lower Baker Dam shall, to the extent reasonable and feasible, not cause any downstream water quality criteria exceedances. The downstream temperature and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

DO regimes shall, to the extent reasonable and feasible, not be negatively impacted by the operations of the FSCs.

6) This certification does not exempt, and is provisional upon, compliance with other statutes and codes administered by federal, state, and local agencies, including the state's Coastal Zone Management Act.

7) The Washington State Department of Fish and Wildlife (WDFW) requires a Hydraulic Project Approval (HPA) (under 75.20 RCW) for work in waters of the State. PSE will obtain an HPA from WDFW for any activity within the Baker Project waterbodies that may affect water quality or designated uses, prior to the beginning of those activities, and must comply with all conditions of the applicable WDFW HPA. To ensure compliance with HPA requirements contact WDFW, currently available at: Washington Department of Fish and Wildlife, 600 Capitol Way North, Olympia, WA 98501-1091, (360) 902-2200. For further information on HPA requirements and WDFW contacts, visit the following respective web pages: http://www.wa.gov/wdfw/hab/hpapage.htm, http://www.wa.gov/wdfw/depinfo.htm.

8) Ecology retains the right by order to require additional monitoring, studies, or measures, in consultation with PSE, if it determines there is likelihood or probability that violations of water quality standards or other appropriate requirements of state law have or may occur, or insufficient information exists to make such a determination.

9) Ecology reserves the right to issue administrative orders, assess or seek penalties, and to initiate legal actions in any court or forum of competent jurisdiction for the purposes of enforcing the requirements of this certification.

10) Ecology retains the right by order to modify schedules and deadlines, in consultation with PSE, provided under this certification or provisions it incorporates.

11) If a conflict or inconsistency arises between this certification and the Settlement Agreement or any part thereof, the terms of this certification shall govern.

12) If five or more years elapse between the date this certification is issued and issuance of the new FERC license for the Project, this certification shall be deemed to be expired and denied at such time and PSE shall send Ecology an updated 401 application that reflects the current conditions, regulations and technologies. This provision shall not be construed to otherwise limit the reserved authority of Ecology to withdraw, amend, or correct the certification before or after the issuance of a FERC license.

13) This certification may be modified or withdrawn by Ecology prior to the issuance of the license based upon significant new information or changes to the Settlement Agreement or water quality standards or appropriate requirements of state law that are related to compliance with such standards.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

14) Ecology reserves the right to amend this certification if it determines that the provisions hereof are no longer adequate to provide reasonable assurance of compliance with applicable water quality standards or other appropriate requirements of state law that are related to compliance with such standards. Such determination shall be based upon new information or changes in (i) the construction or operation of the Project, (ii) characteristics of the water, (iii) water quality criteria or standards, (iv) Total Maximum Daily Load (TMDL) requirements, or (v) effluent limitations or such other applicable requirements of state law. Amendments of this certification shall take effect immediately upon issuance, unless otherwise provided in the order of amendment, and shall be appealable to the Pollution Control Hearings Board pursuant to RCW 43.21B. Ecology shall transmit such amending orders to FERC to update FERC's records as to the current certification conditions.

15) Copies of this certification and associated permits, licenses, and approvals shall be kept on site and made readily available for reference by PSE, its contractors and consultants, and Ecology.

16) PSE shall allow Ecology access to inspect the Project and Project records required by this certification for the purpose of monitoring compliance with the conditions of this certification. Access will occur after reasonable notice, except in emergency circumstances.

17) PSE shall, upon request by Ecology, fully respond to all reasonable requests for materials to assist Ecology in making determinations under this certification and any resulting rulemaking or other process.

18) The conditions of this certification should not be construed to prevent or prohibit PSE from either voluntarily or in response to legal requirements imposed by a court, the FERC, or any other body with competent jurisdiction, taking actions which will provide a greater level of protection, mitigation, or enhancement of water quality or of existing or designated uses.

19) If an action required under or pursuant to this certification requires as a matter of federal law that the FERC (or another federal agency) approve the action before it may be undertaken, PSE shall not be considered in violation of these requirements to the extent that FERC (or such other federal agency) refuses to provide such approval, provided that PSE diligently seeks such approval and so notifies Ecology.

20) Submittals required by this certification are summarized in Appendix D. Unless indicated otherwise, submittals shall be sent to the permit manager at the Department of Ecology, Northwest Regional Office, Water Quality Section, 3190 160th Avenue SE, Bellevue, Washington 98008.

21) This certification addresses work associated with the Project including Project operation and related construction, including turbine installation at Lower Baker and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

the floating surface collectors at each dam. Any additional work not specified in this certification that may impact water quality will require attainment of any and all applicable permits and/or certifications at the appropriate time. PSE shall consult with Ecology to determine whether any such additional work triggers the need of additional permits or a separate Section 401 Certification. If a project would result in a new discharge or alteration to an existing discharge that is not specifically addressed in this certification, it will in most cases require modification of this certification or a new Section 401 Certification, depending on the circumstance.

22) PSE shall submit a Water Quality Protection Plan (WQPP) for the operation of the Project. The plan shall be developed using the guidelines in Section 5.10 of this certification. The WQPP shall be submitted to Ecology for approval within a year of license issuance. An annual report describing implementation of the WQPP shall be submitted with the annual Water Quality Report required in Section 5.6 of this certification.

5.2 INSTREAM FLOWS AND RAMPING RATES

The Project shall protect the designated uses listed in WAC 173-201A-200 by complying with the primary instream flow requirements as set forth by the Settlement Agreement and as approved by the WDFW. These requirements are as follows:

1) Interim Operations. Until the new turbine units are installed at Lower Baker Development, PSE shall conduct operations in accordance with the Interim Protection Plan (IPP) analyzed in the Biological Opinion for Endangered Species Act Section 7 Consultation for the Baker River Hydroelectric Project, NOAA Fisheries Consultation No. 2002/01040, or as approved by FERC. During this interim period, and effective upon license issuance, PSE shall use best efforts to protect other species of salmonids not addressed in the IPP by reducing the maximum flow from generation of 4,100 cfs to 3,200 cfs from the Lower Baker Development, or less if possible, during the spawning season, from September 1 to December 31. PSE shall investigate methods and make best efforts to reduce ramping rates towards the standards established in Table 1. In making its best efforts, PSE shall consider the best interests of the fish resources by limiting the rate of change of incrementally decreasing flows, limiting the amount of daily amplitude change, and minimizing the difference between spawning and incubation flows. These flows may not necessarily be preferred for energy generation, but will be within the operational limitations of the existing Lower Baker dam and powerhouse. PSE shall document their efforts to reduce ramping rates and the affect the various approaches have on water quality; this information shall be provided in the annual Flow Implementation Report (see *Annual Reporting*).

2) Instream Flows and Ramping Rates. PSE shall, beginning within 90 days following installation of the new generating units at the Lower Baker Development, operate the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Project such that the minimum and maximum instream flows and ramping rates are consistent with those detailed in the Flow Implementation Plan (FIP), as required in Article 106 of the Settlement Agreement. Those flow, ramping rate, and pool elevation requirements are summarized in Table 1. In the event that the Army Corps' District Engineer (ACOE) directs PSE to operate the Lower Baker reservoir to provide up to 29,000 acre-feet of storage in accordance with Article 107, PSE shall implement the storage accordingly, following the construction of any necessary facilities modifications, and the FIP shall be revised to incorporate such changes.

3) The ramping rates shall apply on the Skagit River at transect 1, but will be measured on the Baker River based upon an established relationship shown on a table or curve to be developed by PSE by seeking input from the ARG, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, the Swinomish Indian Tribal, the United States Fish and Wildlife Service (USFWS), National Oceanic & Atmospheric Administration (NOAA) Fisheries, and Forest Service of the United States Department of Agriculture (USDA-FS), and in consultation with Ecology, and in accordance with any approval received from Ecology.

These ramping restrictions are to be in effect whenever the flow, as calculated at the Skagit River above the Baker River confluence, is less than or equal to 26,000 cfs.

4) Construction of New Units. To achieve this flow regime and meet these ramping rates, PSE shall, upon FERC approval of a construction plan and schedule: 1) install two or more new generating units with a total capacity of approximately 1500 cfs at the Lower Baker Development; and, if needed, 2) alter the existing facilities.

Table 1. Instream Flows and Ramping Rates

Lower Baker Development Engineering Module: 3 turbines (one 4,100 cfs turbine, two 750-cfs turbines)				**Upper Baker Development**
Period	**Min. Instream Flow (cfs)**	**Max. Instream Flow (cfs) (1)**	**Downramping Rates (2)**	**Max Daily Pool Level Change**
Aug 1-31	1,000	3,600	1-inch per hour day and night	Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Sep 1-3	1,000	3,600		
4-9	1,000	3,600		
10-30	1,000	3,200		No constraints on max daily pool level changes
Oct 1-7	1,000	3,200 (1)		
8-15	1,000	3,200 (1)		
16-20	1,000	3,200 (1)		
21-31	1,200	3,600 (1)		
Nov 1-15	1,200	3,600 (1)	2-inches per hour day and night	
16-30	1,200	3,600 (1)		
Dec 1-31	1,200	3,600 (1)		

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Jan 1-31	1,200	5,600		
Feb 1-15	1,200	5,600		
16-28	1,200	5,600	0 inches per hour day and 2 inches per hour night	
Mar 1-31	1,200	5,600		
Apr 1-30	1,200	3,600		
May 1-8	1,200	3,600		
9-14	1,200	3,600		
15-22	1,200	3,600		
23-31	1,200	3,600		Max pool fluctuation ≤ 0.5 ft per rolling 24-hr period
Jun 1-15	1,200	5,600		
16-30	1,200	5,600	1-inch /hour day and night	
Jul 1-31	1,200	5,600		
(1) Maximum release constraints eliminated when Baker Lake inflow > 10% monthly exceedance flow OR Skagit River above the Baker River confluence > 24,000 cfs October through December. (2) Downramping rates measured at the Baker River at Concrete, but based on stage changes observed at Transect 1 on the mainstem Skagit River below the Baker River confluence (RM 56.5).				No minimum flow requirements. No maximum instream flow constraint. No downramping limitations for environmental interests.

5) Monitoring Flow and Ramping Rates. Instream flows and ramping rates shall be monitored at the USGS gauge (Station 12193500) Baker River at Concrete or via other approved means. In assessing compliance with the requirements summarized in Table 1, ramping rates shall be calculated on a minimum of a 15-minute basis, not averaged over an hour. In the event that the gaging site USGS #12193500 Baker River at Concrete is no longer operable and another gauge is used which is influenced by extraneous conditions (gauges of the Skagit River, or tributaries, wind action, fluctuations in flow from upstream projects, for example), ramping compliance conditions should be modified to reflect site-specific conditions for that new gauge.

6) Annual Reporting. Within two (2) years of license issuance and annually thereafter according to the schedule set forth in Article 102 of the Settlement Agreement, PSE shall prepare and submit a Flow Implementation Report (FIR) regarding implementation of the requirements stated in Article 102 of the Settlement Agreement. PSE shall develop the report in consultation with the ARG, including specifically Ecology, USFWS, NOAA Fisheries, USDA-FS, WDFW, the Swinomish Indian Tribal Community, Upper Skagit Indian Tribe and Sauk-Suiattle Indian Tribe. PSE shall provide a minimum of 60 days for the consulted entities to comment before filing the FIR with FERC. The FIR shall include documentation of consultation, copies of comments, and PSE's responses based on Project-specific information.

7) Reporting Violations. In the event of a violation of the flow release or ramping schedule, PSE shall report such violations as soon as discovered, but no later than 24

20081017-3024 FERC PDF (Unofficial) 10/17/2008

hours. Email notification, or other reporting mechanisms, agreeable to the parties, shall be made to FERC, Ecology, and the ARG. PSE shall provide a follow-up report to FERC, Ecology, and the ARG within two (2) weeks of the incident stating what occurred, PSE's response, and any measures PSE proposes to reduce future similar occurrences.

8) Temporary Modification to Flows and Ramping Rates – Natural Events. The flow regime required by this certification may be temporarily suspended and modified in the event that drought conditions, or some other natural event outside of the control of PSE, limit PSE's ability to comply with the requirements of this article. Prior to operating outside of the conditions of this article, PSE shall: 1) notify the ARG and, at least, NOAA Fisheries, USFWS, Ecology, WDFW, the Sauk-Suiattle Indian Tribe, the Swinomish Indian Tribal Community, the Upper Skagit Indian Tribe, and Skagit County; 2) hold a meeting to identify potential options and solutions, which may include, but not be limited to, controlled generation and specified release patterns to protect fish to the extent practicable; and 3) obtain approval from Ecology. An example of controlled generation and specified release pattern solutions is as follows:

   If the total Project live storage (Baker Lake and Lake Shannon combined) drops below 160,000 acre-feet, PSE shall notify the ARG and reduce generation at the Lower Baker Development to the minimum instream flow in effect at that time until Project storage has been restored above 160,000 acre-feet.

9) Temporary Modification to Flows and Ramping Rates – Emergencies. In the event that a condition affecting the safety of the Project or Project works, as defined by 18 C.F.R. § 12.3(b)(4), occurs and does not allow for consultation to occur before responding, then flows and ramping rates may be temporarily modified following any consultation with Ecology that is possible given the exigencies of the event. If the flow is so modified, PSE shall notify Ecology, FERC and the ARG as soon as practicable after the condition is discovered, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency action procedure. PSE shall provide all members of the ARG with a copy of any written report required by 18 C.F.R. § 12.10(a)(2) within ten (10) days of filing with FERC.

10) Flow modifications. Flows in Table 1 may be modified, as appropriate to protect, mitigate, and enhance aquatic resources. If PSE obtains or receives new information that suggests different flows may better protect, mitigate, and enhance aquatic resources, then PSE will provide the new information to the ARG to allow consideration of a modification to Table 1. The ARG may propose a modification provided that the modification shall not require PSE to make additional funds available or to increase the total expected cost or other impact on Project generation or capacity, subject to the reserved authority of FERC or Ecology. Modifications

20081017-3024 FERC PDF (Unofficial) 10/17/2008

may be proposed at any time prior to completion of the FIP or through the plan amendment process thereafter. Following approval by FERC, PSE shall implement the modifications as required by the FIP.

5.3 TURBIDITY

1) The Project shall not cause any exceedance of the turbidity water quality standards set forth in Chapter 173-201A-200(1)(e) WAC in any waters of the state, including without limitation the Baker Project waterbodies.

2) *Background Turbidity Report*: The "background turbidity" referenced in the standards has yet to be determined for the Baker Project. Seasonal background levels (spring, summer, fall, and winter) shall be established as the average turbidity range measured at the adult fish trap under normal operating conditions. These seasonal ranges shall be determined by PSE within the first three (3) years of this certification. Within three (3) years of license issuance, PSE shall submit to Ecology a Background Turbidity Report that proposes fixed, seasonal, background turbidity ranges to be used for compliance. This report shall be submitted to Ecology's permit manager at the Department of Ecology, Northwest Regional Office, Water Quality Section, 3190 160th Avenue SE, Bellevue, Washington 98008.

3) *Turbidity Standard Exceedances*: Any exceedance shall be explained in the annual monitoring report required by *Section 5.6, Monitoring and Reporting.* PSE shall not be held responsible for turbidity standard exceedances if the elevated turbidity is caused by a significant storm or situation not Project related. In such an incident Ecology may request an assessment of the potential causes of the turbidity increase. This assessment may consider the impacts of recent flows through the dams, precipitation, recent construction, and reservoir elevations.

4) *Best Management Practices- Reservoir Elevations*: Re-suspension of fine sediments on the bottom of the Project's reservoirs may occur when the reservoirs' water levels are drawn down to very low elevations. PSE shall operate the Project's reservoirs to maintain a minimum NAVD88 surface elevation of 389 feet at Lake Shannon and 685 feet at Baker Lake to minimize the re-suspension of bottom sediments. Weekly turbidity monitoring shall be conducted by PSE when surface elevations are less than five (5) feet above the established minimum reservoir surface elevations. If turbidity increases due to low reservoir elevations at the fish trap or in the upper Baker tailrace by more than 5 NTU above seasonal background turbidity when background turbidity is 50 NTU or less, or increases more than a 10 percent when seasonal background turbidity is more than 50 NTU, PSE shall raise the corresponding reservoir level until such exceedance ceases unless Ecology otherwise approves.

   Requests to drop below the minimum reservoir water surface elevation for repair, maintenance, construction upgrades, or to provide fish flows shall be made to

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Ecology for approval. PSE must apply for a short-term modification in writing to Ecology and WDFW at least three months prior to project initiation.

PSE shall submit turbidity and pool elevation data to Ecology in the annual monitoring report (see *Section 5.6, Monitoring and Reporting)* for use in determining the need to revise the turbidity BMPs established herein. Either PSE or Ecology may initiate future studies to reassess and modify the established minimum pool elevations or turbidity requirements. PSE shall, in consultation with Ecology and the Baker River Coordinating Committee (BRCC), develop a study plan to identify a new minimum water surface elevation. This study shall be implemented following approval by Ecology. Ecology retains its authority to revise the turbidity BMPs, by subsequent order, in the event that such BMPs are found to be inadequate to meet state water quality standards.

5) *Prolonged Elevated Turbidity Levels in Reservoirs*: In October 2003, a significant storm created elevated turbidity levels in the Baker reservoirs and tailraces that lasted until February 2004 (PSE, 2004). In this situation, the reservoirs stored the turbid water and released it at a rate slower than what would occur naturally without the dams. However, it is believed that a smaller amount of suspended solids were released as a result of the dams since significant settling likely occurred during this time. At the writing of this certification it is not known if this prolonged release of turbidity has a detrimental impact on the biota; therefore, Ecology is not requiring further action for these circumstances at this time. However, if new information indicates that turbidity stored and released over time is harmful to the biota, Ecology may require, by subsequent order, studies to evaluate options to reduce or eliminate the potential problem.

5.4 TOTAL DISSOLVED GAS (TDG)

1) The Project shall not cause any exceedance of the TDG water quality standards as set forth in Chapter 173-201A-200(1)(f) WAC in any waters of the state, including without limitation the Baker Project waterbodies.

2) *TDG Standard Exceedances:* Any exceedance shall be explained in the annual monitoring report required by *Section 5.6, Monitoring and Reporting.* All spill releases shall also be detailed in the monitoring report. The TDG criteria shall not apply when flows in the Baker River exceed the rate equivalent to the seven-day, ten-year (7Q10) flood frequency, as defined in WAC 173-201A-200(1)(f)(i). It should be noted that elevated TDG levels formed during qualifying 7Q10 flow events at Upper Baker Dam are often observed several days later at the fish trap in the Lower Baker tailrace. This observed spike of TDG at the fish trap shall not be considered a TDG criteria exceedance if it was formed during a qualifying 7Q10 flow event at Upper Baker Dam.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3) *7Q10 Determination:* The 7Q10 flood flow value is based on a flow controlled by the Project. This value changes over time and will be impacted by the new flow regime and potential flood storage requirements in the Settlement Agreement. At the writing of this certificate, the controlled 7Q10 flood flow for the Baker River is 13,300 cfs. PSE or Ecology may request to reassess and modify the established 7Q10 flood flow; the modified flow shall be implemented following approval by Ecology.

   For a controlled 7Q10 flood flow to qualify for the TDG exemption, it must be accompanied by a large run-off event (e.g., flood or snowmelt) that provides an equivalent amount of water to the drainage basin. PSE shall determine and report to Ecology within six months of the license issuance how much precipitation, in inches per 24-hour period, and other contributions to run-off produce a 7Q10 flood flow. It is recognized that spills are often required in anticipation of or after a National Weather Service forecasted 7Q10 flow event. For this Project, the TDG exemption shall begin on the date of any qualifying National Weather Service forecast of a 7Q10 event until 72 hours following the event. Allowance for this extended period encourages emergency spills of longer duration that produce lower levels of TDG. It is preferred to produce lower levels of TDG over a longer duration rather than produce higher levels of TDG over a shorter duration. PSE shall include in its Annual Water Quality Report to Ecology a summary of the duration of all spills, including those occurring prior to and after a 7Q10 flow event. During the exemption period PSE shall, to the extent possible, manage spill levels to minimize TDG production.

4) *TDG Exceedances Associated with Spills for Minimum Instream Flow Requirements or Spills Requested by Other Government Agencies*. To remain in compliance with the minimum instream flow provisions of this certification, releases of water by means other than the penstock and powerhouse may occasionally be required during powerhouse maintenance, inspection, or testing outages. These alternative releases will most likely result in TDG levels greater than 110% in the Lower Baker tailrace. Ecology has determined that no or low flow would harm biota more than the short-term elevated TDG levels, so TDG exceedances shall be allowed during these releases. However, PSE must apply in advance for a short-term modification in writing to Ecology and WDFW.

   TDG minimization shall remain a priority and any means to reduce TDG production during all releases shall be explored and addressed in the TDG Abatement Plan.

5) *TDG Abatement Plan*: Existing data show that TDG compliance can be met except during ramp-down at Lower Baker Dam and during spill events at both dams. PSE shall submit to Ecology for approval a TDG Abatement Plan that proposes options for minimizing TDG production associated with spills and air-injected ramp-downs. The TDG Abatement Plan shall be submitted to Ecology for approval within one (1)

20081017-3024 FERC PDF (Unofficial) 10/17/2008

year of license issuance. The Plan shall be updated and re-submitted for approval if any Project modifications are made that affect TDG production. The Project shall be operated according to this plan once approved with the objective of minimizing TDG producing events.

6) *Compliance Schedule:* PSE shall to the greatest extent reasonable and feasible eliminate ramp-down related exceedances with the installation of new generating units as required by Article 106(E) of the Settlement Agreement. PSE shall also to the greatest extent reasonable and feasible utilize the new generating units in a manner consistent with reducing TDG production. Spill events should be avoided except in anticipation of and during 7Q10 flow events, or as otherwise provided in the TDG Abatement Plan. Article 106(E) requires turbine installation within six (6) years after license issuance, therefore a compliance schedule of seven (7) years will allow sufficient time for the turbine installation and shakedown, at which point TDG compliance during ramp-down will potentially be achieved.

   If compliance is not achieved within this seven (7) year period, PSE shall within six months submit to Ecology a feasibility analysis of all reasonable and feasible methods to achieve compliance, and, if applicable, a schedule describing when the methods can be applied. Upon review of such analysis, Ecology will issue an order setting forth appropriate compliance actions or if appropriate, evaluate whether modification of the application of the TDG standard with respect to these circumstances is warranted.

5.5 TEMPERATURE AND DISSOLVED OXYGEN

1) The Project shall not cause any violation of the temperature or dissolved oxygen (DO) water quality standards as set forth in Chapter 173-201A-200(1)(c) WAC in any waters of the state, including without limitation the Baker Project waterbodies.

2) *Natural Conditions*: Baker Lake, Upper Baker Tailrace and Lake Shannon are classified as “lakes”. The “natural conditions” referenced in the temperature and DO lake criteria are unknown for these waterbodies. The dams were built in 1925 and 1956, and natural conditions are difficult to apply to the Project’s reservoirs and tailraces since the lower reservoir did not occur naturally and the upper reservoir was only a fraction of the size it is today. In this circumstance, instead of referencing “natural conditions”, Ecology is requiring PSE to use all reasonable and feasible measures to achieve conditions that best protect the designated uses within the reservoirs and the Upper Baker Tailrace.

3) *Temperature and DO Standards Exceedances:* At the writing of this certification it is uncertain if the Project will meet these standards because these parameters may be significantly altered with the installation of the new turbines and/or FSCs. If the presence or operation of the Project causes water temperature or DO in the Lower

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Baker Tailrace to violate standards, PSE shall follow the compliance schedule procedure outlined below.

4) *Planned Project Modifications:* At the writing of this certification there are three planned Project modifications that may significantly impact temperature and DO downstream of the two dams. These modifications include the new turbine installation at Lower Baker and the FSC installations at Upper Baker and Lower Baker. Understanding the impacts of these projects on temperature and DO is one of the objectives of the Water Quality Monitoring Plan required in Section 5.6 of this certification.

5) *Compliance Schedule*: A 10-year compliance schedule is provided for herein that focuses on meeting the water quality standards in the Lower Baker Tailrace and achieving the highest water quality conditions reasonably and feasibly attainable within the reservoirs and in the Upper Baker Tailrace. Throughout the ten-year compliance schedule, compliance with temperature and DO standards shall be maintained in the Lower Baker Tailrace to the extent reasonable and feasible.

6) *Water Quality Attainment Plan*: PSE shall develop a Water Quality Attainment Plan (WQAP) that, in accordance with WAC 173-201A-510(5), provides a detailed strategy for maintaining the highest attainable water quality condition to best protect the biota with respect to temperature and DO that is reasonable and feasible to achieve in the reservoirs and tailraces. The WQAP shall identify and evaluate potential reasonable and feasible operational and structural changes to improve temperature and DO in the reservoirs and tailraces. Any operational or structural change that conflicts with other conditions of this certification requires prior approval by Ecology. The WQAP shall also identify the temperature and DO regime that is reasonably and feasibly achievable based upon such evaluation, such that the temperature and DO in the discharge from each dam is maintained to the highest extent reasonable and feasible. It is recognized that a trade-off between these two parameters may be required (i.e., discharging the preferred cooler waters from deep in a reservoir may result in DO deficiency downstream). Thus, when it is not feasible to meet both the temperature and dissolved oxygen criteria at the same time, the intent is to find the balance where biological protection would be optimized.

   A Responsiveness Summary shall be incorporated into the WQAP that evaluates the effectiveness of the modifications, if any, and identifies follow-up studies and actions that can be performed to further improve temperature and DO concentrations based on the initial findings.

   A draft of the WQAP shall be submitted to an advisory committee consisting of Ecology, the ARG, and any interested member of the public for comment within a year after completing the three major modifications listed above, or within 8 years of license issuance, whichever comes first. The draft shall include DO and temperature

20081017-3024 FERC PDF (Unofficial) 10/17/2008

data collected during normal operation with the new Lower Baker turbines and both FSCs to the extent possible. The final WQAP shall include the comments and responses of PSE and must obtain Ecology approval. The WQAP must include a schedule for carrying out an adaptive process for evaluating feasible and reasonable technical and operational changes that will improve water quality protection within 10 years of license issuance.

7) *Post-Compliance Schedule*: If implementing the compliance schedule and adaptive management strategy does not result in compliance with water quality standards at the time the compliance schedule expires, PSE may explore other alternative approaches available in the water quality standards, including a second compliance schedule or other approaches that could include modification of the water quality standards. Ecology urges PSE to work closely with Ecology if this eventuality arises

5.6 MONITORING AND REPORTING

1) *Water Quality Monitoring Plan.* Water quality shall be monitored as detailed in the Water Quality Monitoring Plan to be prepared by PSE within six (6) months of license issuance and approved by Ecology. Water quality measurements shall be made for the parameters listed in Table 2 at the identified locations and frequencies.

Table 2. Water Quality Monitoring Schedule

Parameter	Location	Depths (ft)	Frequency
Flow	Upper Baker Tailrace	--	Hourly
	Lower Baker River	--	15 minutes[1]
Total Dissolved Gas (TDG)	Baker Lake Forebay, B-19	--	No monitoring
	Upper Baker Tailrace, UB-TR	> 7	Spill events: As required in the TDG Abatement Plan
	Lake Shannon Forebay, SH-A	--	No monitoring
	Lower Baker Adult Fish Trap, FT	> 7	New turbine characterization: Hourly from one month before until a minimum of 3 months after installation. Spill events: As required in the TDG Abatement Plan
Temperature[2]	Baker Lake Forebay, B-19	1, 40, 80, 120, ~200	May 1–Oct 31: Hourly
	Upper Baker Tailrace, UB-TR	~1	May 1–Oct 31: Hourly
	Lake Shannon Forebay, SH-A	1, 40, 80, 120, ~200	May 1–Oct 31: Hourly
	Adult Fish Trap, FT	~10	May 1–Oct 31: Hourly
Turbidity	Baker Lake Forebay, B-19	surface	During drawdown[3]: Weekly
	Upper Baker Tailrace, UB-TR	surface	During drawdown[3]: Weekly
	Lake Shannon Forebay, SH-A	surface	During drawdown[3]: Weekly
	Lower Baker Adult Fish Trap, FT	surface	During drawdown[3]: Weekly Background characterization monitoring

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Dissolved Oxygen[4]	Baker Lake Forebay, B-19	Every 20' from 0'-~200'	1 time characterization May 1–Oct 31: Monthly @ all depths, twice daily (early morning and late afternoon) 1 time characterization Nov 1–April 30: Monthly @ single depth
	Upper Baker Tailrace, UB-TR	surface	Monthly, early morning
	Lake Shannon Forebay, SH-A	Every 20' from 0'-~200'	1 time characterization May 1–Oct 31: Monthly @ all depths, twice daily (early morning and late afternoon) 1 time characterization Nov 1–April 30: Monthly @ single depth
	Lower Baker Adult Fish Trap, FT	~10	Monthly, early morning
Oil & Grease	Lower Baker Adult Fish Trap, FT	~1	Monthly

[1] Lower Baker River flow can be determined using data from USGS Station 12193500.

[2] Temperature monitoring shall begin 1 year prior to any project expected to have temperature impacts (e.g. FSC installations at upper and lower dams, new turbine installation). Monitoring shall continue at frequencies outlined above until a monitoring reduction is agreed upon by PSE and Ecology.

[3] Drawdown monitoring is triggered when reservoir elevations are within 5 feet of target elevations; monitoring shall continue for 30 days after reservoir levels are 5 feet above target elevations. Target elevations are 685' and 389' for Baker Lake and Lake Shannon, respectively.

[4] DO monitoring shall begin 1 year prior to any project expected to have DO impacts (e.g. FSC installations at upper and lower dams, new turbine installation). Monitoring shall continue at frequencies outlined above until a monitoring reduction is agreed upon by PSE and Ecology.

The intention of this monitoring program is to assess the water quality impact of the overall Project, as well as the impact of smaller, embedded, projects that could potentially degrade water quality. These smaller projects include the FSCs at Upper and Lower Baker Dams and the new turbines at Lower Baker Dam. Any projects proposed in the future that could potentially degrade water quality will require a similar monitoring regiment to assure compliance with applicable water quality requirements.

2) *Annual Water Quality Report.* Water quality data shall be summarized and reported in a format approved by Ecology and submitted annually. The report shall include sample dates, times, locations, and results. Any violations of state water quality standards shall be highlighted. The report shall also discuss reservoir pool elevation data and the associated turbidity (required in Section 5.3 of this certification) and implementation of the Water Quality Protection Plan (required in Section 5.1 of this certification). The report shall be submitted by June 30th of the year following the collection of the data. Data reports shall be submitted to the hydropower certification manager at the Department of Ecology, Water Quality Program, Northwest Regional Office.

5.7 MODIFICATIONS TO MONITORING

Modifications to the monitoring program can be requested by submitting to Ecology reasons for the modifications along with a modified Water Quality Monitoring Plan.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Written approval must be received by Ecology before the modified plan can be implemented.

A more rigorous water quality sampling program for the listed parameters or additional parameters may be required by Ecology if necessary to protect water quality in the future based on monitoring results, regulatory changes, changes in Project operations, requirements of TMDLs, or to otherwise provide reasonable assurance of compliance with state water quality standards.

5.8 WATER QUALITY CRITERIA VIOLATIONS

Any work that is out of compliance with the provisions of this certification, or Project-related conditions that result in distressed, dying or dead 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. If these conditions occur, the applicant shall immediately take the following actions:

a) Cease operations at the location of the violation to the extent such operations may be causing or contributing to the problem.
b) Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
c) Observed violations of flow or observation of a sheen from petroleum products or of dying fish shall be reported to Ecology, Northwest Regional Office immediately or no later than 24 hours. PSE shall provide a written follow-up report to Ecology within two (2) weeks of the incident stating what occurred, whether the incident was due to natural events or human-related activities, PSE's response, any measures PSE proposes to reduce future similar occurrences, results of any samples taken, and any additional pertinent information.
d) All other observed water quality violations shall be highlighted in the annual monitoring report (see *Section 5.6, Monitoring and Reporting*).

Compliance with these requirements does not relieve PSE from the responsibility to maintain continuous compliance with the terms and conditions of this certification or the resulting liability from failure to comply.

5.9 AQUATIC RIPARIAN HABITAT PROTECTION, AND ENHANCEMENT PLAN

Within two years of license issuance, PSE shall develop and submit for Ecology approval an Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan (ARP) for the purpose of identifying actions to protect and enhance low-elevation bottomland ecosystems in the Skagit River basin, which includes the Baker River sub basin, focusing

20081017-3024 FERC PDF (Unofficial) 10/17/2008

on habitat for protection, acquisition, restoration and maintenance for anadromous salmonids, other aquatic species and riparian-dependent birds and amphibians.

PSE shall develop the ARP in consultation with the Terrestrial Resources Implementation Group (TRIG), the Aquatics Resources Group (ARG), and Ecology, specifically including the US Forest Service, Washington Dept. of Fish and Wildlife (WDFW), Washington Dept. of Natural Resources (WDNR), The Nature Conservancy, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community. Within one year of license issuance, PSE shall submit a draft of the ARP to the TRIG and the ARG for review and comment. PSE shall include, with the ARP, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. Prior to submitting the ARP to Ecology for its approval with or without modifications or remand for further development, PSE shall seek to obtain approval of the TRIG and ARG, and if approval of either for any part of the draft ARP is not obtained, provide detailed written explanation of the reasons for any such difference to Ecology.

The ARP shall be prepared based on the following criteria:

a) Candidate sites shall be examined for their potential to provide long-term benefits. Implementation proposals shall be based on a comparison of the predicted benefits arising at a specific site in relation to the costs of the action or actions proposed for the site, with the same factors for other sites with similar potential, based on a reasonable range of options for alternative sites;

b) The location of sites for the purposes of implementation shall be used to aid in prioritizing locations in the following order: i) within the Baker River basin, ii) within the middle Skagit River and tributaries immediately downstream of the Baker River (from the confluence with the Baker River to the Pipeline Crossing at RM 24.3), iii) within the lower Skagit River and estuary, and iv) elsewhere in the Skagit River basin, or as may otherwise be established in the ARP;

c) i) consideration of any potential to impair, diminish, or abrogate tribal treaty or cultural rights, by providing that PSE shall identify suitable alternative sites or management activities if the designated representative of any affected tribe notifies the TRIG, ARG, and Ecology of its conclusion that a particular site or management activity will impair, diminish, or abrogate specific tribal treaty or cultural rights and describes the basis for its conclusion; ii) consideration of the potential for integration of the site acquisition and management required by this article and other articles to optimize the resulting ecosystem benefits; iii) consideration of appropriate land acquisition costs; iv) consideration of the potential to secure grant funds to supplement the funds otherwise for implementation of this article; v) consideration of whether any sites so acquired are appropriately included in the Project boundary, and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

if so, provide for the filing of an appropriate request to the Commission; and vi) providing for continuing consultation with the TRIG, ARG, and Ecology in the implementation of the approved plan;

d) the plan shall be structured to allow for flexibility in revising site selection criteria and reprioritizing types of habitat lands to be protected, acquired, restored and/or managed in response to changing needs and conditions over the term of the license;

e) when considering land acquisition or management activities, evaluate the extent of required noxious weed management in accordance with criteria developed in Article 508 of the Baker River Hydroelectric Project Relicensing Comprehensive Settlement Agreement;

f) to aid in the evaluation of a specific resource project and site selection proposed under the ARP, PSE shall provide information to the TRIG, ARG, and Ecology regarding any other resource projects being considered pursuant to other license article requirements similar to the project being considered, or that provide similar potential biological benefits and have the potential for integration with related enhancement actions; and

g) monitoring needs.

In addition to these general guidelines, the ARP shall require that up to $1,000,000 of the funds available for implementation of the ARP be expended within the Baker River watershed, as established in the ARP. For funds expended outside the Baker Basin, a minimum of 50% shall be spent on riverine/riparian habitat acquisition with anadromous fish benefits. A minimum of 50% of the funds so spent on riverine/riparian habitat shall be spent on habitat that benefits both anadromous species and deciduous forest/wetland species, unless otherwise agreed by the TRIG and ARG.

PSE shall provide funding for implementation of the ARP in a total amount not to exceed $10,200,000, according to the following schedule for funding: $50,000 available annually starting the first year following license issuance and concluding in the sixth year following license issuance for planning and site evaluation activities; $300,000 available within two years following license issuance for initial protection, restoration, enhancement, and management activities; and $2,000,000 available in each of years 3, 8, 13, and 18 following license issuance. To the extent such funding is required to carry out the ARP, PSE shall also contribute up to $1,600,000 if phase two of Article 105 of the Baker River Hydroelectric Project Relicensing Comprehensive Settlement Agreement is not implemented.

For the purposes of this article, acquisition costs may include: transaction costs, such as completion of appropriate site assessments for hazardous materials and noxious weeds; land surveys, including timber cruise if needed; appraisals; habitat surveys; filing fees; excise taxes; title searches, reports, fees and insurance; closing costs; preparation of land

20081017-3024 FERC PDF (Unofficial) 10/17/2008

acquisition agreements and any required governmental approvals. Acquisition costs may exclude: internal personnel and administrative costs of the parties associated with land acquisitions, such as staff salaries and benefits; attorney fees and other legal expenses incurred by PSE or any other party not related to the preparation of land acquisition agreement and any required government approvals; and fees paid by PSE to third parties for administrative costs associated with a third parties' acquisition of interests in land on behalf of PSE. Prior to completing any transaction, PSE will notify the TRIG and ARG, as appropriate, if it appears that transaction costs will be significantly higher than expected, and shall, in consultation with the TRIG and ARG, determine whether to proceed with a transaction with significant transaction costs.

If funds are available twenty-five years following license issuance, and PSE, in consultation with the TRIG and ARG, determines lands are not available and/or habitat enhancement or management actions are not feasible for any of the intended purposes of this article, the remaining funds required by this article may be made available to the Habitat Enhancement, Restoration and Conservation (HERC) Fund and/or Terrestrial Enhancement and Research Fund (TERF) as provided in the Settlement Agreement.

Without any limitation on any other reservation of authority provided in this certification, Ecology specifically reserves the right to modify any decision provided under this section insofar as necessary to comply with state water quality standards, including providing mitigation for harm or injury to existing or designated uses or violations or other applicable water quality standards.

5.10 CONSTRUCTION PROJECTS, MISCELLANEOUS DISCHARGES, AND HABITAT MODIFICATIONS

The following applies to all in-water or near-water work related to the Project that can impact surface- or ground-water quality. This includes, but is not limited to, construction and maintenance of, or emergencies from, any of the following: fish collection structures, generation turbines, penstocks, hatcheries, transportation facilities, portable toilets, boat ramps, access roads, transmission corridors, structures, gravel augmentation projects, and staging areas for all Project-related activities.

If water quality exceedances are predicted as being unavoidable, a short-term modification must be applied for in writing to Ecology and WDFW at least three months prior to project initiation. If any project has a long-term impact on a regulated water quality parameter, characterization monitoring must be performed for the impacted parameter(s), and a monitoring plan must be outlined in the Water Quality Protection Plan discussed below.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Water Quality Protection Plan (WQPP)

A water quality protection plan (WQPP) shall be prepared, and followed, for all Project-related construction, maintenance and repair work that is in- or near-water that has the potential to impact surface- and/or groundwater quality. The plan shall include control measures to prevent contaminants from entering surface water and groundwaters, and shall include, but not be limited to, the following elements:

1) Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall specify the Best Management Practices (BMPs) and other control measures to prevent pollutants from entering the Project's surface water and groundwaters. The SWPPP shall address the pollution control measures for PSE's activities that could lead to the discharge of stormwater or other contaminated water from upland areas. The SWPPP should also specify the management of chemicals, hazardous materials and petroleum (spill prevention and containment procedures), including refueling procedures, the measures to take in the event of a spill, and reporting and training requirements. The SWPP shall also specify water quality monitoring protocols and notification requirements.

2) In-Water-Work Protection Plan. The In-Water-Work Plan shall be consistent with the SWPPP and shall specifically address the BMPs and other control measures for PSE activities that require work within surface waters. In addition to construction activities, this work includes, but is not limited to, the application of herbicides, pesticides, fungicides, disinfectants, and lake fertilization. The Plan shall address water quality monitoring provisions for all in-water work, including monitoring outside the area that could be influenced by the work, and at the point of compliance throughout the project life.

3) The WQPP should include procedures for monitoring water quality and the actions to implement if a water quality exceedance were to occur, including procedures for reporting any water quality violations to Ecology. The WQPP shall include all water quality protection measures consistent with an HPA for the project.

The WQPP shall be submitted to Ecology for review and approval at least three (3) months prior to work initiation, and a copy of the WQPP shall be in the possession of the on-site construction manager, and available for review by Ecology staff, whenever construction work is under way.

Best Management Practices for Construction Work

WQPPs for construction work should include, at a minimum, the following BMPs:

1) All reasonable measures shall be taken to minimize the impact of any project on waters of the state. Water quality constituents of particular concern are turbidity, TDG, suspended sediment, oil and grease, and pH. BMPs shall be implemented to control erosion and sedimentation, to assure proper use of chemicals, to prevent and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

control oil and chemical spills, and to properly dispose of surplus construction supplies and other solid wastes.

2) All necessary measures shall be taken to minimize the disturbance of existing riparian, wetland or upland vegetation.
3) All equipment shall be placed so that it cannot accidentally enter a waterway or cause water quality degradation to state waters.
4) Retention areas or swales shall be used to prevent discharging of water from construction areas.
5) PSE shall ensure that any fill materials placed for habitat improvements in any waters of the state do not, by reference to applicable standards, contain toxic materials in toxic amounts.

Turbidity Standards for Construction Projects Work

1) Certification of this project does not authorize PSE to exceed the turbidity standard during construction work beyond the mixing zone described below. Turbidity within the Project waters shall not exceed 5 NTU over background turbidity when 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.
2) Consistent with WAC 173-201A-200(1)(e)(i), a mixing zone is established within which the turbidity standard is waived. The mixing zone is established to allow only temporary exceedances of the turbidity criteria during and immediately after in-water work. The temporary turbidity mixing zone shall be as follows:
   a) For waters up to 10 cfs flow at the time of construction, the point of compliance shall be 100 feet downstream from activity causing the turbidity exceedance.
   b) For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be 200 feet downstream from activity causing the turbidity exceedance.
   c) For waters above 100 cfs flow at the time of construction, the point of compliance shall be 300 feet downstream from activity causing the turbidity exceedance.
   d) For in-water work within or along reservoirs, lakes, ponds, wetlands, or other non-flowing waters, the point of compliance shall be at a radius of 150 feet from the activity causing the turbidity exceedance.

5.11 CONTAMINANT SPILL AND RELEASE PREVENTION AND CONTROL

[In the context of this section, “spills” will refer to contaminant spills as opposed to the release of water from the hydroelectric project.]

No oil, fuel, or chemicals shall be discharged into state waters, or onto land with a potential for entry into state waters as prohibited by Chapter 90.56 RCW.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

A Spill Prevention, Containment, and Countermeasure (SPCC) Plan must be prepared that covers, as applicable within the Clean Water Act, any equipment to be used at the site, including the powerhouse and any equipment associated with the powerhouse, that holds or contains oil, fuel, or chemicals that are potentially detrimental to water quality and the biota. The plan must be kept on site, in the possession of the person in charge at all times. The plan shall be submitted to Ecology for approval within one (1) year of license renewal. The plan must include, at a minimum, the following BMPs and spill response requirements.

Best Management Practices:

1) Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering waters of the state.
2) Visible floating oils released from construction or Project operation shall be immediately contained and removed from the water.
3) All oil, fuel or chemical storage tanks shall be diked and located on impervious surfaces so as to prevent spills from escaping to surface waters or ground waters of the state.
4) 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 state waters. Refueling of equipment on land shall occur where there is no potential of spilling fuel into rivers, creeks, wetlands, or other waters of the state. Equipment that requires refueling in-water shall be maintained and operated to prevent any visible sheen from petroleum products from appearing on the water. Proper security shall be maintained to prevent vandalism.
5) Oil & grease usage should be regularly monitored. Observation of significant increase in usage should trigger an investigation for leaks, followed by any required maintenance or corrective action.
6) No emulsifiers or dispersants are to be used in waters of the state without prior approval from the Department of Ecology, Northwest Regional Office.
7) Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall be contained for proper disposal, and shall not be discharged into state waters.

Spill and Release Response:

1) In the event of a discharge or release 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.
2) Water samples shall be collected and analyzed to assess the extent of the spill and to

20081017-3024 FERC PDF (Unofficial) 10/17/2008

assure all contaminants have been thoroughly removed from the waterbody.

3) Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately or no later than 24 hours after discovery to the Department of Ecology, Northwest Regional Office at 425-649-7000 (24-hour phone number). PSE shall provide a written follow-up report to Ecology within two (2) weeks of the incident stating what occurred, whether the incident was due to natural events or human-related activities, PSE's response, a plan detailing long-term corrective actions and monitoring protocols if needed, any measures PSE proposes to reduce future similar occurrences, results of any samples taken, and any additional pertinent information.
4) Compliance with this condition does not relieve PSE from responsibility to maintain continuous compliance with terms and conditions of this certification or resulting liability from further failure to comply.

Additional BMPs are listed in Appendix E of this certification; Ecology recommends that all applicable BMPs in Appendix E are included in the SPCC Plan.

5.12 HERBICIDE/PESTICIDE/FERTILIZER APPLICATIONS

Prior to the use of herbicides, pesticides, fungicides, disinfectants, fertilizers, or algicides in or adjacent to waters of the state, coverage under a National Pollutant Discharge Elimination System (NPDES) Aquatic Pesticides Permit shall be obtained, and conformance with any other applicable state requirement such as SEPA, shall be attained.

In addition, BMPs and other control measures for the application of herbicides, pesticides, fungicides, disinfectants, fertilizers, or algicides must be addressed in the In-Water-Work Protection Plan. An appropriate water quality monitoring plan shall be developed prior to the application and implemented for all related work. Prior to the use of pesticides adjacent to waters of the state, PSE shall follow BMPs to avoid the entry of such materials into waters of the state. Applicable BMPs include, but are not limited to, such actions as hand application and avoiding drift of materials into the water.

5.13 LOWER BAKER POWERHOUSE MODIFICATIONS

Modifications to the Lower Baker power plant as proposed would require a Water Quality Protection Plan due to the potential release of hazardous materials from old equipment at the site. This plan shall follow the WQPP requirements detailed in Section 5.10 and shall include adoption of best management practices.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Additionally, Ecology should be informed in advance of any action related to the Lower Baker Powerhouse that may significantly and adversely impact water quality.

Environmental Analysis: As required by FERC in Section 3 of the FEIS, the extent of contamination by hazardous materials should be determined prior to their disturbance through the preparation of a Phase I EA. If potentially hazardous materials are present, the removal of the original equipment should be conducted in a manner that prevents runoff or dispersal of contamination. PSE shall consult with Ecology to determine a preferred method for investigating the extent of contamination and discarding contaminated materials.

Best Management Practices: Appropriate best management practices shall be implemented to limit the possibility of introducing hazardous materials to or substantially increasing turbidity in the Lower Baker River.

5.14 HATCHERY OPERATION

Hatcheries discharging at least thirty (30) days per calendar year and producing more than 20,000 pounds of fish per year, or feeding more than 5,000 pounds of fish food during any calendar month, must apply for the general NPDES hatchery permit. The hatcheries within the Baker River watershed do not meet this requirement at the writing of this certification, but the hatcheries shall comply with the BMPs and other requirements stated in the general NPDES hatchery permit as it exists now or in the future. These BMPs shall be included in the Fish Propagation Facilities Plan (FPFP) required by the Settlement Agreement.

5.15 INSPECTIONS AND ADMINISTRATION

PSE shall allow Ecology and WDFW such access as necessary to inspect the Project operations, Project area, and Project records required by this certification in order to monitor compliance with the conditions of this certification.

Copies of this certification and associated permits, licenses, approvals, and other documents shall be kept on site and made readily available for reference by PSE staff, its contractors and consultants, and by Ecology and WDFW.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

[Water Quality Certificate] Appendix D – Submittal Requirements

The following submittals are requirements of this certification. Refer to the specified section for additional information. Unless indicated otherwise, submittals shall be sent to the permit manager at the Department of Ecology, Northwest Regional Office, Water Quality Section, 3190 160th Avenue SE, Bellevue, Washington 98008.

[To the extent this Appendix D is inconsistent with the conditions set forth in the text of this certification, the conditions set forth in the text of this certification shall govern and control.]

Section	Submittal	Frequency	First Submittal Date
5.1 General Requirements	Notification of Spill Events	As necessary	Within 24 hrs of event
5.1 General Requirements	Project Water Quality Protection Plan (WQPP)	Once, updated as necessary	Within 1 year of license issuance
5.2 Instream flows and Ramping Rates	Flow Implementation Report	Annually	Within 2 years of license issuance
5.2 Instream flows and Ramping Rates	Notification of Flow Violation	As necessary	Within 24 hrs of violation
5.3 Turbidity	Background Turbidity Concentration Report	Once	Within 3 years of license issuance
5.4 Total Dissolved Gas (TDG)	7Q10 Storm Event Size Determination	Once	Within 6 months of license issuance
5.4 Total Dissolved Gas (TDG)	TDG Abatement Plan	Once, updated as necessary	Within 1 year of license issuance
5.4 Total Dissolved Gas (TDG)	Compliance Feasibility Analysis	Once, updated as necessary	Within 7 years of license issuance
5.5 Temperature and Dissolved Oxygen	Water Quality Attainment Plan (WQAP)	Once, updated as necessary	Within 8 years of license issuance
5.6 Monitoring and Reporting	Water Quality Monitoring Plan	Once, updated as necessary	Within 6 months of license issuance
5.6 Monitoring and Reporting	Annual Water Quality Report	Annually	June 30th following license issuance
0	Notification of WQ Violation	As necessary	Within 24 hrs of event
5.9 Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan	Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan (“ARP”)	Once	Within 2 years of license issuance
5.10 Construction Projects, Miscellaneous Discharges, and Habitat Modifications	Construction Water Quality Protection Plan (WQPP)	As necessary	3 Months prior to construction projects
5.10 Construction Projects, Miscellaneous Discharges, and Habitat Modifications	Short-term modification	As necessary	3 Months prior to construction projects
5.11 Contaminant Spill and Release Prevention and Control	SPCC Plan	Once, updated as necessary	Within 1 year of license issuance
5.12 Herbicide/Pesticide/ Fertilizer Applications	NPDES Aquatic Pesticide Permit	As necessary	60 days prior to application

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Section	Submittal	Frequency	First Submittal Date
5.13 Lower Baker Powerhouse Modifications	Phase I EA for Lower Baker Powerhouse Construction / WQPP	Once	
5.14 Hatchery Operation	NPDES Hatchery Permit	As necessary	180 days prior to planned activity

[Water Quality Certificate] Appendix E – Recommended SPCC Plan BMPs

Spill Response

a) Establish in agreement with the Department of Ecology, site oil spill cleanup material inventory and include an inventory list at each site. Project Operators and any staff required to respond to an oil spill must have input on the inventory levels, type, product brand and quality of the oil spill cleanup supplies maintained on site. Purchase good quality spill cleanup supplies.
b) In the event of an oil spill, properly dispose of used/contaminated materials and oil and as soon as possible restock new supplies. Include records of proper disposal in the oil consumption records and keep copies of disposal records of contaminated cleanup supplies on-site for inspection.
c) Ensure that operational work boats and trained boat operators are available at the project. Install mechanisms as appropriate to safely launch or lower work boats into areas where work boats would be deployed in the event of an oil spill.
d) Install stair cases, permanent ladders, etc. allowing for oil spill response staff to safely reach areas anticipated that could, in the event of an oil spill, need to be accessed to deploy sorbent pads and boom materials.

Oil-Water Separators (OWS)

a) Have a maintenance plan for the OWS. This maintenance plan must include a process to periodically test the oil-stop valves and insure quality assurance that they will work as designed.
b) OWS shall not include rain or other water run-off.
c) Perform periodic and appropriate maintenance and inspection on a schedule to include cleaning of sediment.
d) Clean and service the OWS in the event of an oil spill incident where oil is introduced into the OWS.
e) Evaluate each OWS for inflows to account for a total transformer container failure during a major rain event to insure that oil would not be “washed through” the OWS during such an event.

Transformers

a) Transformer deck containment area surfaces must be impervious. Conduct periodic inspections and re-surfaced areas, fill cracks, caulk metal plate footings or otherwise ensure that containment areas will contain all spill fluids.
b) Obtain pre-approval from Ecology before breaching containment areas for reasons other that containment area maintenance.
c) Remove oil from transformers prior to moving them from the transformer containment area.
d) Snowy or icy conditions require daily inspections of transformer deck containment area including an inspection of the drains leading to the OWS for freeze-up conditions. Inspect the condition of the transformers and the transformer cooling system to insure that water pipes do not break and cause an oil leak or spill. Water cooled transformers that are off-line must have the cooling systems properly secured at the time of transformer decommissioning, regardless of the season or time of year to insure that in the event of freezing weather, the cooling systems will not freeze-up and cause a transformer oil leak or spill. Remove any observed rain water pooling in the containment areas.
e) Build covers over the transformer decks to prevent rain water and snow accumulation if it can be safely conducted.

Sumps

a) Locate oil sensors on the surface of the water in each sump in addition to the oil sensors located at the bottom of each pumping cycle. Inspect and test these sensors every 3-months or sooner if needed to insure that they will work as designed. Include in the inspection provisions to verify that the oil sensors

20081017-3024 FERC PDF (Unofficial) 10/17/2008

located at the bottom of each pumping cycle are properly placed at the proper level. Visually inspect of these areas each week if oil is suspected to be present such as in the event of an oil sensor alarm or the observance of an oil or grease spill in the turbine pit of sufficient volume to reach the sump. Any oil detected in the sumps requires immediate EMD and NRC notification and cleanup.

b) Immediately repair those oil leaks in the turbine pit that are of sufficient volume that can reach the sump and that can not be placed under a containment pan.

c) Install hand rails and mechanisms so the sump covers can be removed for a visual inspection of the sump. Provide water-proof lighting in the sumps or spotlights adequate to view the surface water in the sumps. Provide a mechanism to satisfactorily deploy and recover sorbent boom in the sumps at each project.

Oil, fuel and chemical Storage containers, containment areas, and conveyance systems

a) Provide proper containment around each storage container (including transformers) or around a combination of storage containers as appropriate and agreed upon by Ecology. Proper containment equals the volume of the container plus 10 per cent.

b) Recalculate required containment areas to insure proper containment still exists after major equipment changes. Example: when converting from water cooled transformer to an air cooled unit, re-calculate oil volume and compare to containment area. Calculate containment volumes from *maximum* storage volumes, not normal oil level volumes.

c) Provide external oil level gauges for governor oil tanks, transformers and other oil tanks that contain over 100-gallons of oil. Provide appropriate level markings for these gauges. Provide a sign or other means at each tank, near the tank level gauge, that describes these level markings and the relationship of each inch vs. how many gallons (in the case of a glass tube type of gauge). Dial gauges must also describe oil volume in gallons or have a sign or other means provided at each reservoir that adequately describes dial movement in relation to gallons. Provide a sign or other indication that shows ¼, ½, ¾, and full gauge readings or indications in gallons. If equipment must be placed in a special mode of operation, prior to level observance, this must also be posted. Example: wicker gate ram position or other hydraulic ram positions, prior to oil level reading.

d) Regularly check all fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc, for drips or leaks. Maintain and properly store them to prevent spills into state waters.

e) Do not refuel equipment within 50 feet of rivers, creeks, wetlands, or other waters of the state.

f) When working on transformers and other equipment that might spill or drip oil provide full oil spill containment capacity plus 10 per cent.

g) Inspect containers once per week. Maintain container Inspection sheets to include: maximum container volume and an exact reading recording of the oil level by the staff/operator conducting the inspection. Weekly inspection readings must be consistent; provide training to the staff/operator to ensure consistent and accurate readings.

h) Keep oil consumption records maintained on-site; provide these records to the Department of Ecology immediately upon request.

i) In the event that any Project modifies the oil transfer operation to include hard-plumbing to reservoirs such as the governor oil tank from the oil tank room, or other extensive modifications, Ecology notification and approval of such modification should be conducted.

j) Contain wash water containing oils, grease, or other hazardous materials resulting from wash-down of equipment or working areas for proper disposal, and do not discharge this water into state waters.

Other

a) Identify and map floor drains. Post these maps at the Project in a conspicuous location for use by Operators and other personnel in the event of an oil spill. Seal floor drains that are no-longer needed.

b) Maintain site security at each Project site to reduce chance of oil spills.

c) Keep SPCC Plans as required and historical spill records on-site. Provide these to Ecology immediately upon request.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX D

U.S. Department of Interior, U.S. Fish and Wildlife Service,
Section 18 Fishway Prescriptions, filed August 17, 2006

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
PRESCRIPTIONS FOR FISHWAYS
PURSUANT TO SECTION 18 OF THE FEDERAL POWER ACT
FOR THE BAKER RIVER HYDROELECTRIC PROJECT NO. 2150

These prescriptions are numbered to match the numbers contained in our preliminary Fishway prescriptions filed with the Commission on March 18, 2005. All criteria specified in these prescriptions shall be used in the design and construction of fishways, unless otherwise agreed to by the Service and NOAA Fisheries.

1. General Prescription Provisions: The Licensee shall, in consultation with the Service, NOAA Fisheries, the WDFW, and the Tribes design, construct, operate, maintain, and monitor at its own expense, facilities for the effective upstream and downstream passage of adult and juvenile anadromous fish at Upper and Lower Baker Dams.

1.1. While planning and construction are being completed, operations to move juvenile fish downstream and adult fish upstream will continue under the current program.

1.2. The Service shall be provided opportunities at the 30%, 60%, and 90% design stages to review and provide comments on the facility design.

1.3. The Licensee shall submit final plans to the Service for approval at least 60 days prior to submission of the final plans to the Commission. The final plans shall include:

1.3.1. Final design drawings;

1.3.2. Pertinent hydraulic information related to fish passage and trap operation; and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

1.3.3. Written operation and maintenance plans for the completed facility, to be updated periodically (if necessary) as approved by the Service.

2. Prescription for Upstream Fish Passage Facilities at the Baker River Project: The Licensee shall provide upstream fish passage facilities by constructing, operating, and maintaining an effective trap and haul facility designed to provide:

2.1. Safe, timely and effective upstream passage of anadromous fish;

2.2. Access to historic anadromous fish habitat above Lower and Upper Baker Dams; and

2.3. The capture, holding, safe handling, sorting, and selection of broodstock.

2.4. The Licensee shall complete construction, hydraulic testing, and subsequent adjustments to assure that the redesigned trap and haul facility is operational in compliance with The Upstream Fish Passage Implementation Plan.

2.5. Initial design input to carry out this upstream passage fishway prescription is provided below.

2.5.1. The upstream passage facilities shall be operational year-round except for an annual maintenance period as specified in consultation with the Service.

2.5.2. The Licensee shall design the trap and haul facility to provide safe, timely, and efficient fish passage over the design flow range for the passage facility, defined as the range of streamflows between the daily mean stream discharge exceeded 95% of the time (low design flow) and. the daily mean stream discharge exceeded 5% of the time (high design flow), when upstream migrating fish are normally present at the barrier dam, located downstream of Lower Baker powerhouse.

2.6. Barrier Dam: The Licensee shall provide a barrier dam to effectively divert upstream migrating fish into the fish trap. If the existing barrier dam becomes less than effective, the Licensee shall modify the structure in consultation with the Service.

2.7. Fishway: The Licensee shall provide a fish ladder that leads fish to the trap facility to include a low flow and a high flow entrance positioned below the barrier dam.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2.7.1. The low flow entrance should discharge fish ladder attraction flow adjacent and parallel to the downstream face of the dam.

2.7.2. The high flow entrance should discharge fish ladder attraction flow slightly downstream from the dam and parallel to the shoreline, to provide a discernable fishway attraction flow jet under high design flow conditions.

2.7.3. Entrance gates to the ladder shall provide a minimum width of 4 ft and a minimum water depth of 6 ft, unless otherwise agreed to by the Service.

2.7.4. Auxiliary Water System (AWS): The Licensee shall provide auxiliary water systems to augment ladder flow to effectively attract and collect upstream migrating fish into the fish ladder.

2.7.5. The attraction flow from the fishway entrance should be between 5% and 10% of the high design passage flows.

2.8. Gravity Water Supply: The Licensee shall provide the upstream passage facility with an uninterruptible (gravity supply) source of supply water for the holding pools and fish ladder.

2.8.1. All supply water (including the AWS prescribed above) shall be screened in accordance with current Service criteria or such alternative criteria acceptable by the Service.

2.9. Entrance Pool Diffusers: The Licensee shall provide the AWS such that AWS flow will be introduced into the fishway entrance pools at a maximum velocity of 1 fps through upwelling floor diffusers, or 0.5 fps through wall diffusers.

2.9.1. The AWS diffuser gratings shall have a maximum 1/2 inch clear opening.

2.9.2. The AWS diffusers shall be oriented such that fish are led to the trap.

2.10. Ladder Type: The Licensee shall provide the upstream passage facility to include a pool, weir and orifice ladder, or a vertical slot ladder or other ladder design as acceptable to the Service.

2.10.1. Vertical slot ladders shall have a minimum of 15-inch-wide slots.

2.10.2. Either type of ladder will have a maximum hydraulic drop of 1 ft

20081017-3024 FERC PDF (Unofficial) 10/17/2008

between ladder pools.

2.10.3. The fishway pools shall be configured in a manner acceptable to the Service.

2.10.4. The maximum slope of the fish ladder should not exceed 10%.

2..11. Fishway Pool Volume: The Licensee shall design the fish ladder to include fishway pools that are at a minimum 6 ft deep, and pools in pool and weir fishways shall have sufficient volume to dissipate energy of 4 ft pounds per second per cubic foot (ft) of pool volume, unless otherwise approved by the Service.

2.12. Trap Holding Pools: The Licensee shall provide the holding pools of sufficient volume to provide a carrying capacity equal to a Projected 1 day peak run of about 1,200 fish (Montgomery Watson Harza 2003).

2.12.1. Based upon a minimum holding density of 5 ft^3 of volume per fish, the holding pools will contain a minimum volume of 6,000 ft^3 of water at the low design water surface elevation.

2.12.2. Flow into the holding pools shall be a minimum of 2 gallons per minute (gpm) per adult fish, up to the carrying capacity of the pools, or a minimum of 2,400 gpm (5.4 cfs).

2.12.3. A finger weir or V-trap lead shall be provided between the ladder and the lower holding pool, and between holding pools such that once fish enter they are not able to fall back downstream.

2.13. Fish Lock Crowder and Braille Systems: The Licensee shall provide the upstream passage facility to include crowder and braille system in each holding pool as necessary to move fish from the holding. pools to the fish lock.

2.13.1. When not in use, the crowder should be stored either against the back wall of the holding pool or out of the water entirely.

2.13.2. The braille should be stored in a recess in the floor of the holding pool when not in service.

2.13.3. The braille shall be sloped and contoured so that fish are guided toward the entrance to the fish lock.

2.13.4. The crowder and braille shall provide fish tight seals (maximum

20081017-3024 FERC PDF (Unofficial) 10/17/2008

opening of 1/2 inch) against the walls and floors of the holding pool so that no fish can become trapped behind them.

2.13.5. The travel speed of both the crowder and braille should be adjustable up to 3 ft per minute. Maximum clear opening between bars in the crowder or braille shall be 1 /2 inch.

2.13.6. When the crowder is in use, a removable barrier will be installed across the fish ladder exit into the holding pool to prevent fish from entering the holding pool.

2.13.7. Fish should not come into contact with sharp or abrupt edges (including structural supports) anywhere throughout the system.

2.13.8. The maximum clear opening between bars in the crowder or braille may need to be less than 1/2 inch.

2.13.9. Tests shall be completed at the trap vicinity to determine if there are smaller fish in the vicinity of the trap.

2.13.9.1. The head width of these fish will be measured and a decision as to the permanent spacing of the bars should be determined based on the 50% exceedence level.

2.13.9.2. This test should be done in conjunction with testing adult bull trout behavior at the trap entrance. At present, it is unknown if the adult bull trout being trapped represent the full extent of upstream migration or if they are only using the trap during certain conditions. Bull trout are difficult to trap and may need modifications to the trap to increase their capture efficiency.

2.13.10. Fish Lock System: The Licensee shall provide a fish lock for the upstream passage facility with the minimum dimensions of 6 ft wide, 6 ft long and 7 ft deep at the minimum water surface elevation of 161.0 finsl (Montgomery Watson Harza 2003).

2.13.10.1. Based upon these dimensions and a minimum loading density of 3 cubic ft per fish, the lock will be of sufficient volume to hold about 84 fish per cycle.

2.14. Fish Lock Braille: The Licensee shall provide the fish lock system that includes a braille recessed into the floor when not in use.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2.14.1. Entrance to the lock shall be blocked with a gate during a locking operation so that fish cannot become trapped behind the lock braille.

2.14.2. Clear opening between the bars of the braille and of the blocking gate shall not exceed 1/2 inch.

2.14.3. The braille and blocking gate shall provide fish tight seals (maximum opening of 1/2 inch) with the walls of the lock.

2.14.4. The cycle time of the lock should be limited to about 11 minutes (Montgomery Watson Harza 2003) to move fish out of the lock and into the transport flume.

2.14.5. The braille should not begin rising in the lock tower until the water level in the tower has been raised to the uppermost level.

2.14.6. The braille should not travel faster than 3 ft per minute and shall be manually controlled during the last 4 ft of operation.

2.14.7. The braille shall be sloped to move fish out of the lock, over the control weir, and into the transport flume.

2.15. Fish Lock Water Supply: The Licensee shall provide the fish lock system water supply to the lock to minimize turbulence in the lock and to introduce flow through a diffuser or series of diffusers located in the floor of the fish lock beneath the braille, designed as described above for the entrance pool diffusers.

2.15.1. Overflow from the lock shall pass over a control weir at a minimum depth of 6 inches and through a short, descending slope separator (screen), allowing excess flow to be drained off and adult fish to be routed into a wetted chute (transport flume) for routing to sample tanks, sorting/holding pools, or direct loading to transport truck.

2.16. Transport Flume and Raceways: The Licensee shall provide the fish lock system to include an open, U-shaped, and smooth-sided transport flume, a minimum of 15 inches wide and 24 inches deep.

2.16.1. The transport flume shall be of sufficient slope and water supply to keep fish moving along the flume (the specifics are to be determined in consultation with the Service).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2.16.1.1. A dewatering system shall consist of downward sloping (10% slope), smooth 1 inch diameter bars (pipe) with 1 /2 inch maximum clear opening at least 2 ft long (length sufficient to dewater the total flow expected from the lock) or alternate design as developed in consultation with the Service.

2.16.1.2. The clear opening between the separator bars may have to be reduced if smaller fish are expected to use the facility.

2.16.1.3. The transport flume should include provisions for a PIT tag interrogation system located upstream of any of the diverter gates.

2.16.1.4. Straight alignment of the transport flume should be provided so that an operator can determine species type and select the appropriate gate leading to the appropriate raceway.

2.16.1.5. Provisions shall be made to divert fish to sampling, anesthetic, disease treatment, and recovery tanks, or routed to the appropriate raceway.

2.16.1.6. Diversion gates shall be of a proven design.

2.16.1.7. The transport flume and diversion gates should be covered with neoprene to prevent injury to the fish.

2.16.1.8. Where the transport flume enters the raceway, the exit shall be covered by a neoprene flap such that fish are not attracted to and cannot reenter the transport flume once in the raceway.

2.16.1.9. Provisions shall be made to allow the direct loading of the fish into the transportation trucks.

2.16.1.10. Maximum loading density of the raceways can vary depending on expected duration of holding.

2.16.1.11. For short-term holding (less than 1 hour) holding density will be limited to 3 ft^3 per fish.

2.16.1.12. Longer term holding (for periods greater than 1 hour) holding density will be limited to 5 ft^3 per fish).

2.16.1.13. Each raceway (and crowding channel) will have a water

20081017-3024 FERC PDF (Unofficial) 10/17/2008

supply equal to 2 gpm/fish based on the maximum number of fish expected for that raceway.

2.16.1.14. Provisions should be made to guarantee a continuous supply of water to the raceways (such as redundant pumps, backup pumps, emergency generator, etc.).

2.16.1.15. Provisions should be made for the emergency release of fish back to the river in emergencies.

2.16.1.16. Each raceway (and crowding channel) shall include a crowder to move fish from the raceway to the crowding channel leading to the transport hopper for truck loading.

2.16.1.17. Maximum clear opening of the crowder shall be 1/2 inch and the crowder shall provide a fish tight seal (maximum opening not to exceed 1/2 inch) to the floor and walls to prevent fish from getting around the crowder.

2.16.1.18. In the event of a power outage, provisions should be made for manual crowding of fish from the raceways and from the crowding channel.

2.17. Transport Hopper. Loading density of the transport hopper shall be limited to 3 ft^3 per fish.

2.17.1. The volume of the transport. hopper should ¯be equal or less than the volume of the transport trucks (to reduce the possibly of overloading the transport trucks).

2.17.2. The transport hopper should connect. via a water to water transfer with the transport trucks or trailers..

2.18. Transport Trucks. Maximum loading density of the transport trucks shall be limited to 3 ft^3 per fish.

2.18.1. Carrying tanks on the transport trucks shall be filled with water from the same supply line as the raceways to insure minimal thermal stress or water quality differences.

2.18.1.1. Transport trucks and trailers shall have provisions to supply oxygen to the transport water and have double-wall insulated tanks.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2.18.1.2. Provisions shall be made to provide a flushing flow through the transport tank during the release process.

2.18.1.3. Provisions should be made at the release point to acclimate the transported fish to the receiving water if the temperature difference exceeds 5 degrees C.

2.18.1.4. The entire adult fishway facility shall provide a means to evacuate fish back to the Baker River in the event of the lost of power or water supply.

2.19. Sample/Anesthetic/Recovery Tanks: The Licensee shall design the sampling, anesthetic, and recovery tanks in consultation with the Service.

2.19.1. The system shall include provisions to move fish to the raceways or return fish to the river after they have fully recovered.

2.20. Auxiliary Power: The Licensee shall provide auxiliary power in the event of a power failure.

2.20.1. Full operation of the facility shall be restored within 48 hours.

2.20.2. Auxiliary power shall be sufficient to operate the pumped water supply and all associated apparatus until all fish dependent on pumped water have been processed and removed from the facility.

2.21. Post Construction Evaluation: The Licensee shall prepare, in consultation with the Service, a post construction evaluation plan for approval by the Service prior to completion of the upstream passage facility.

2.21.1. The plan shall include hydraulic and biological evaluations to ensure the proper performance of the facilities and that the facility provides safe, timely, and effective passage of fish.

2.21.2. The Licensee shall carry out this plan to evaluate facility performance upon completion of construction of the upstream passage facility.

2.21.3. The Licensee shall upon completion of the evaluation, implement any required changes; reevaluate, and implement such additional changes to the operations or facilities as may be required by the Service, within a time frame established by the Service in consultation with the Licensee.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

2.22. Future Modifications: The Licensee shall provide a commitment to update and modify these facilities as necessary based upon changing resource management requirements or as technology advances for the safe, timely, and effective passage of fish.

2.23. Inspections: The Licensee shall provide access to the upstream passage facilities for immediate inspection of fishway operation and d maintenance conditions, upon request by any fishery agency.

3. Downstream Passage Prescription at Upper Baker Lake and Lake Shannon: The Licensee shall construct downstream fish passage facilities, for juveniles and kelts, to provide for safe, timely, and effective downstream passage of anadromous fish and to continue to provide access for their populations to areas above both Lower Baker Dam (Lake Shannon) and Upper Baker Dam (Baker Lake).

3.1. The downstream fish passage facilities at Lower Baker Dam and Upper Baker Dam are floating surface collectors (FSC) as described further in this Section.

3.2. Operational Period: The respective downstream passage facilities shall be capable of operating over the entire range of forebay levels expected year round, unless otherwise agreed to by the Service, for both the Upper Baker and Lower Baker facilities (except for periods of high flow where it is necessary to spill).

3.2.1. The operational period is March 1 through July 31 unless directed otherwise by the Service, NOAA Fisheries or WDFW.

3.2.2. The Service may require operation during August if sufficient downstream bull trout migrants are not captured during the previous 5 months or if bull trout smolts are present or being captured during the last two weeks of July.

3.2.3. Maintenance outages shall not occur during the specified FSC operation period.

3.3. Debris and Trash Management: Floating log booms shall be installed in the forebay of each facility upstream of the guide nets in order to provide protection to the fish passage facilities.

3.4. Guide Net: The Licensee shall design and install a guide net in the forebay of each reservoir. The net should extend from shoreline to shoreline and from surface to bottom of the reservoir.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.4.1. The guide net shall form a V-shape in the lake (plan view) with the apex of the net terminating at the net transition structure.

3.4.2. The guide net shall be made of a knotless mesh net with mesh size not to exceed 1/4 of an inch clear opening and resistant to rot and ultraviolet degradation.

3.4.3. There shall not be any gaps in the guide net or any points where the top of the net is allowed to submerge beneath the water surface.

3.4.4. The guide net shall have surface floats capable of deflation to allow the net to temporarily submerge approximately 50 feet beneath the water's surface to allow debris to pass over during spill and for boats to cross.

3.4.5 To improve guidance of fry to the FSC, the guide net in the upper 30 ft of the water column may incorporate a knotless mess net with mesh size not to exceed 3/32 of an inch of an impermeable membrane.

3.4.6. The guide net system shall be designed in consultation with the Service.

3.4.7. No design will be implemented that compromises the long-term effectiveness of the net system.

3.4.8. Provisions shall be made such that the net transition structure and floating surface collector are free to move with the surface of the reservoir but that the guide net forms a fish tight seal with the net transition structure.

3.5. Net Transition Structure (NTS): The Licensee shall design the net transition structure as a modular unit to provide a transition from the guide net to the floating surface collector.

3.5.1. Design velocity at the entrance to the NTS should be 0.15 fps. This represents acceleration over the reservoir conditions.

3.5.2. The NTS should be at least 50 ft deep.

3.5.3. Maximum acceleration through the NTS is limited to 0.1 fps per ft. It may be necessary in the future to try various configurations of this NTS to increase juvenile collection efficiencies

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.6. Floating Surface Collector (FSC): The Licensee shall provide and operate the floating surface collector and associated facilities.

3.6.1. The FSC is a conventional V-screen contained within a floating channel, with flow induced by pumps.

3.6.2. The screens shall be designed to meet the Service's criteria in effect on November 30, 2004, except where otherwise agreed by the Service.

3.6.3. The initial installation (phase I) shall be sized at 500 cfs capacity and be constructed to meet screening standards of a maximum of 0.4 ft/sec. approach velocity, but shall allow testing of 1,000 cfs capacity at higher approach velocities.

3.6.4. The facility shall be designed to accept an expansion module to accommodate a permanent increase of flow capacity to a maximum of 1,000 cfs (which equals approximately 20 percent of Upper Baker generation capacity).

3.6.5. The expansion shall occur only if the 500 cfs capacity FSC fails to meet the performance criteria.

3.6.6. The initial FSC and the expansion module shall be designed to accommodate an entrance module and/or net transition connection at its upstream end.

3.6.7. Should the decision be made to permanently increase the FSC capacity to 1000 cfs, then additional screen area and associated equipment (porosity control, screen cleaners, etc.) shall be installed sufficient to meet the Service's juvenile fish passage criteria for fry passage.

3.6.8. The FSC concept may be developed using hydraulic modeling (physical or numerical) to permit resolution of flow continuity, flow orientation and construction/installation issues.

3.6.9. The velocity into and through the screen structure and bypass shall remain constant or accelerate slightly at a maximum 0.1 fps per ft.

3.6.10. The configuration of the bypass shall create a capture velocity area where the centerline water velocities are in excess of 8 fps.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.6.11. This capture velocity area shall be a minimum of 3 ft wide and 3 ft deep.

3.6.12. Downstream of the capture velocity area, the deceleration of the water velocity will be designed in consultation with the Service to reduce juvenile delay in this area.

3.6.13. In high velocity areas (where the water velocity is greater than 3 fps), screen cleaners shall be removed from the water column when not in use or when traveling upstream or shall be located behind the screen face so that fish may not come into contact with the equipment.

3.6.14. The FSC shall include dewatering capability, sorting mechanisms to effectively separate adult and juvenile fish, and holding area.

3.6.15. Provisions for flow control will be made on the bypass flow from the FSC.

3.6.16. The Licensee will make provisions to inspect the bypass transport pipe/flume on a regular basis (once per day - more often during periods of high debris loading and less often during low debris periods) and remove any debris found.

3.6.17. Velocities in the bypass transport pipe/flume should be between 5 fps and 10 fps.

3.6.18. The bypass pipe/flume shall meet the Service's juvenile fish passage criteria.

3.6.19. Transport flumes should be 16 inches wide and should be U-Shaped or approximately U-shaped (fillet in the corners of the flume).

3.7. Dewatering and Detection: Prior to entering the raceways, provisions shall be made to reduce the bypass flow to a level that can be accepted by the raceways. The dewatering screens shall meet the Service's juvenile fish screening criteria, including the need for cleaning.

3.8. The Licensee shall make provisions to include a PIT tag interrogation system such that all fish (juvenile and adult) collected by the FSC can be interrogated prior to those fish entering the raceways.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.9. A mechanism will be provided such that fish in any time interval can be automatically routed to any of four raceways.

3.10. Raceways: The Licensee shall provide the transport flumes and raceways for the safe and timely passage of fish.

3.10.1. Crowders shall be provided for each raceway to crowd fish into the transport hopper.

3.10.2. The crowders will create fish tight seals along the walls and floor of the raceway so that it is not possible for fish to inadvertently get behind the crowder.

3.10.3. Crowders shall not interfere with fish entering the raceway and will be either removed from the flow when not in use or parked out of the way along the back wall of the raceway.

3.10.4. Maximum clear opening on the mesh used for the crowder shall not exceed 3/32 of an inch if perforated plate or woven mesh is used for the crowder material.

3.10.5. Holding density of juvenile fish will not exceed 1.2 pounds of juvenile fish per cubic foot of raceway volume.

3.10.6. The maximum juvenile fish density in each raceway (and crowding channel) shall not exceed 5 pounds of juvenile fish per gallon per minute of inflow, based on the maximum number of fish expected for that raceway.

3.10.7. Provisions shall be made to guarantee a continuous supply of water to the raceways (such as redundant pumps, backup pumps, emergency generator, etc.).

3.10.8. Provisions shall be made for the emergency release of fish should conditions dictate.

3.10.9. Holding areas shall be equipped with emergency recirculation pumps.

3.11. Transport Hopper: The Licensee shall provide the transport hopper and lifting capability to provide water-to-water transfer as fish are being loaded into the hopper and as they are being transferred to the transport trucks.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.11.1. Maximum loading density will be developed in consultation with the Service.

3.12. Transport Trucks/Trailers: The Licensee shall provide transportation trucks or trailers acceptable to the Service for the transportation of juveniles from the collection facilities to the stress relief ponds.

3.12.1. The trucks or trailers should include provision to supply oxygen to the holding water and have double-wall insulated tanks.

3.12.2. Filling the tanks shall be done with the same source water as supplies the raceways, to reduce the possibility for adverse reactions.

3.12.3. Provisions shall be made to acclimate the fish to the receiving water prior to their release from the transport trucks.

3.13. Stress Relief Ponds: The Licensee shall provide for transport of collected fish to the stress relief ponds and holding for a minimum of 48 hours and a maximum of 72 hours before their release to the Baker River.

3.14. The ponds shall be sized to hold the 1-day maximum expected collection of fish from both Upper and Lower Baker facilities.

3.15. Maximum holding density and minimum water supply will be developed in consultation with the Service.

3.16. The initial pond size may be smaller; however, provisions should be made to expand the capabilities of the ponds as necessary.

3.17. Ponds shall be designed for forced release and shall provide for volitional egress.

3.18. Auxiliary Power: The Licensee shall use every reasonable effort to maintain continuous operation and restore operation in the case of local or regional power failure.

3.18.1. Priorities of restoration of operation shall be:

3.18.1.1. Restore flow to raceways;

3.18.1.2. Transport fish from the raceways; and

20081017-3024 FERC PDF (Unofficial) 10/17/2008

3.18.1.3. Restore fish collection capability.

3.18.2. Reasonable restoration periods are:

3.18.2.1. Restore water circulation to the raceways within 15 minute of a power failure.

3.18.2.2. Fish transport capability restored within 24 hours.

3.18.2.3. FSC operation restored within 48 hours.

3.18.3. In the event that restoring FSC operation requires more than 48 hours, the Service shall be consulted.

3.19. Post Construction Evaluation Plan: Prior to completion of the construction of the juvenile fish passage facility, the Licensee, in consultation with the Service, NOAA Fisheries, WDFW and the Tribes, shall prepare a post construction evaluation plan for approval by the Service.

3.19.1. The plan shall include hydraulic and biological evaluation to ensure proper performance of the facilities.

3.20. Upon completion of construction, the Licensee shall implement this plan to evaluate the performance of the collection system.

3.21. Upon completion of the evaluation, the Licensee shall implement any required changes, reevaluate, and implement such additional changes to the operations or facilities, as may be required by the Service, within a time frame established by the agencies in consultation with the Licensee.

4. Connectivity between Lake Shannon and Baker Lake (Proposed License Article 104): The Licensee shall provide a fishway between Lake Shannon and Baker Lake for native char and other native fish species that become isolated by the Project.

4.1. No later than three years after license issuance, the Licensee shall conduct an investigation, in consultation with the ARG, and specifically with the Service, NOAA Fisheries, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community, to develop and initiate studies with regard to the type of fishway, its location and timing, and the species and numbers of fish to be collected and transported upstream of Upper Baker Dam, following approval from NOAA Fisheries and the Service.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

4.2. The investigation may include tagging, radio-tagging or other methods.

4.3. Fishways provided according to this Prescription may range from, but are not limited to, collect and haul operations, a temporary weir and trap on Sulphur Creek or a similar facility installed below Upper Baker Dam, up to a more permanent trap and haul facility below Upper Baker Dam.

4.4. The facility shall include design accommodations for other aquatic species that do not compromise the primary design focus on native char and may be significantly lesser in scope and complexity than the adult fish trap downstream of Lower Baker Dam. Investigation is necessary to narrow the range of prospective fishway alternatives within this range.

4.5. If testing demonstrates that the approved prototype fishway does not appropriately achieve fish species connectivity, the Licensee shall propose an alternative plan to the ARG for approval by the Service and NOAA Fisheries.

4.6. The Licensee shall develop, submit to the Service and NOAA Fisheries for approval, and file with the Commission for approval, a Fish Connectivity Implementation Plan (FCIP).

4.7. The Licensee shall develop the FCIP in consultation with the ARG and specifically with the Service, NOAA Fisheries, WDFW, the Upper Skagit Indian Tribe, the Sauk-Suiattle Indian Tribe, and the Swinomish Indian Tribal Community.

4.8. The Licensee shall develop and submit the FCIP in phases, according to the schedule that follows, or on an alternative schedule submitted to the Commission for approval by the Licensee within six months of license issuance:

> 4.8.1. <u>FCIP - Fish Connectivity Construction & Design.</u> No less than 60 days before initiation of construction and no later than 3 years after license issuance, the Licensee shall file with the Commission, its complete plans, specifications, and schedule for construction of facilities and/or operations for attraction, capture, and transport of upstream migrating fish from Lake Shannon to Baker Lake.
>
> 4.8.2. <u>FCIP - Fish Connectivity Operation & Maintenance (O&M).</u> No less than 60 days before initiation of operation, the Licensee shall file with the Commission its complete plans and specifications for O&M of upstream passage facilities. The O&M plan shall include at least the following elements:

20081017-3024 FERC PDF (Unofficial) 10/17/2008

4.8.2.1. Fish handling,

4.8.2.2. Hauling frequencies,

4.8.2.3. Frequency and magnitude of attraction flows,

4.8.2.4. Species protocol,

4.8.2.5. Trap operational flows,

4.8.2.6. A schedule,

4.8.2.7. The method for providing annual updates, and

4.8.2.8. Trap reporting requirements.

4.8.3. FCIP - Fish Connectivity Quality Assurance/Quality Control. No less than 60 days before initiation of operation, the Licensee shall file with the Commission for approval a quality assurance/quality control plan for the upstream passage connectivity facilities and/or operations to confirm the approved plans will be constructed and/or operated as approved.

4.8.4. FCIP - Fish Connectivity Emergency Response Plan. No less than 120 days prior to the initiation of operation of any of the fish passage facilities required by this Prescription, the Licensee shall file with the Commission a preliminary response plan addressing operational contingencies and emergencies, and shall file a final plan with the Commission within 120 days from startup testing.

4.8.5. FCIP - Fish Connectivity Annual Reporting. The Licensee shall file with the Commission an annual report describing the operation of the upstream fish passage connectivity facilities for the past year at the Upper Baker and Lower Baker Developments, pursuant to Condition 20 (Proposed License Article 102).

4.8.5.1. The report shall include the numbers and species of fish captured in the trap and the associated disposition of those fish.

4.8.5.2. The report shall include a description of problems and associated remedies for such problems, any modifications of the facilities implemented in the prior year, and audit and report operational compliance.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

4.8.5.3. The Licensee shall provide a minimum of 30 days for the consulted parties to comment and to make recommendations before filing each of the above plan components with the Commission.

4.8.6. The Licensee shall include the following items with each component of the plan and each reports required by this Prescription;

4.8.6.1. Documentation of consultation and copies of comments and recommendations on the completed plan component after it has been prepared and provided to the consulted parties;

4.8.6.2. Documentation of the approval of the Service and NOAA Fisheries or documentation of the status of the review by the Service and NOAA Fisheries; and

4.8.6.3. Specific descriptions of how the other consulted parties' comments are accommodated by the plan.

4.8.7. If the Licensee does not accept a recommendation, the filing shall include the Licensee's reasons, based on Project-specific information.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX E

U.S. Department of Commerce, National Marine Fisheries Service
Section 18 Fishway Prescriptions Filed August 25, 2006

Pursuant to Section 18 of the FPA, as amended, the Department of Commerce exercises its authority therein, through NMFS, to prescribe the construction, operation, and maintenance of fishways at the Baker River Project, as deemed necessary by NMFS, including measures to evaluate the need for fishways, and to determine, ensure, or improve the effectiveness of such fishways. This authority includes the authority to prescribe fishways for existing riverine fish species and any fish species to be managed, enhanced, protected, or restored in the basin during the term of the license. Furthermore, authority is reserved for NMFS to modify the prescriptions for fishways at any time before license issuance, as well as any time during the term of any license issued, after review of new information, or for other pertinent reasons.

General Prescriptions

For the protection of, mitigation of damages to, and enhancement of fish resources, the Licensee must, in consultation with NMFS, the United States Fish and Wildlife Service (USFWS), the Washington Department of Fish and Wildlife (WDFW), and the tribes design, construct, operate, maintain, and monitor at its own expense, facilities for the effective upstream and downstream passage of adult and juvenile anadromous fish at Upper and Lower Baker Dams. The fishways must conform generally with proposed license articles 103, 104, and 105 of the Settlement Agreement (SA) and revised Preliminary Draft Environmental Assessment and specifically as described herein. We have provided no details for proposed article 104 because its development is still contingent on the investigations described in the proposed article.

The current draft of NMFS' Anadromous Salmonid Passage Facility Guidelines and Criteria contains more detailed information on facility design and must be used for general design guidance. This document is attached. As updates to this working document become available, NMFS will provide additional input as appropriate to the Licensee. NOAA uses their criteria to guide design prescriptions and recommendations. There may be cases where site constraints or extenuating biological circumstances dictate that certain prescriptions or recommendation deviate from NOAA guidelines. It is the responsibility of the Applicant to provide compelling evidence in support of any proposed designs that deviate from NOAA guidelines. Conversely, where NMFS deems there is a need to provide additional protection for fish, more restrictive site-specific

20081017-3024 FERC PDF (Unofficial) 10/17/2008

criteria may be added. These circumstances will be considered by NMFS on a project-by-project basis.

Modification or new construction activities for upstream and downstream passage must be completed within the terms and schedule identified within the Settlement Agreement. While planning and construction are being completed, operations to move juvenile fish downstream and adult fish upstream will continue under the current program.

NMFS must be provided opportunities at the 30%, 60%, and 90% design stages to review and provide comments on the facility design. The Licensee must submit final plans to NMFS for approval at least 60 days prior to submission of the final plans to FERC. The final plans must include:

1. Final design drawings.
2. Pertinent hydraulic information related to fish passage and trap operation.
3. Written operation and maintenance plans for the completed facility, to be updated periodically (if necessary) as approved by NMFS.

Prescription for Upstream Fish Passage Facilities at the Baker River Projects

The Licensee must provide upstream fish passage facilities by constructing, operating, and maintaining an effective trap and haul facility designed to provide:

1. Safe, timely, and effective upstream passage of anadromous fish.
2. Access to historic anadromous fish habitat above Lower and Upper Baker Dams.
3. The capture, holding, safe handling, sorting, and selection of broodstock.

The Licensee must complete construction, hydraulic testing, and subsequent adjustments to assure that the redesigned trap and haul facility is operational in compliance with terms and schedule of the Settlement Agreement. Initial design input to carry out this upstream passage fishway prescription is provided below.

Operational Period

The upstream passage facilities must be operational year-round except for an annual maintenance period as specified in consultation with NMFS.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Upstream Passage Facility Design Flow Range

The Licensee must design the trap and haul facility to provide safe, timely, and efficient fish passage over the design flow range for the passage facility, defined as the range of streamflows between the daily mean stream discharge exceeded 95 percent of the time (low design flow) and the daily mean stream discharge exceeded 5 percent of the time (high design flow), when upstream migrating fish are normally present at the barrier dam, located downstream of Lower Baker powerhouse.

Barrier Dam

The Licensee must provide a barrier dam to effectively divert upstream migrating fish into the fish trap. If, in NMFS' opinion, the existing barrier dam becomes less than effective, the licensee must modify the structure in consultation with NMFS.

Fishway

The Licensee must provide a fish ladder that leads fish to the trap facility to include a low flow and a high flow entrance positioned below the barrier dam. The low flow entrance should discharge fish ladder attraction flow adjacent and parallel to the downstream face of the dam. The high flow entrance should discharge fish ladder attraction flow slightly downstream from the dam and parallel to the shoreline, to provide a discernable fishway attraction flow jet under high design flow conditions. Current NMFS criteria states that entrance gates to the ladder must provide a minimum width of 4 ft and a minimum water depth of 6 ft, unless otherwise agreed to by NMFS.

Auxiliary Water System

The Licensee must provide auxiliary water systems (AWS) to augment ladder flow to effectively attract and collect upstream migrating fish into the fish ladder. Current NMFS guidelines state that the attraction flow from the fishway entrance should be between 5 percent and 10 percent of the high design passage flows.

Gravity Water Supply

The Licensee must build the upstream passage facility to include an uninterruptible (gravity supply) source of supply water for the holding pools and fish ladder. All supply water (including the AWS prescribed above) must be screened in accordance with current NMFS criteria, or such alternative criteria acceptable by NMFS.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Entrance Pool Diffusers

The Licensee must build the AWS such that AWS flow will be introduced into the fishway entrance pools at a maximum velocity of 1 fps through upwelling floor diffusers, or 0.5 fps through wall diffusers. The AWS diffuser gratings must have a maximum 1/2 inch clear opening. The AWS diffusers must be oriented such that fish are led to the trap.

Ladder Type

The Licensee must provide the upstream passage facility to include either a pool, weir and orifice ladder, or a vertical slot ladder or other ladder design as acceptable to NMFS. Vertical slot ladders must have a minimum of 15-inch-wide slots. Either type of ladder will have a maximum hydraulic drop of 1 ft between ladder pools. The fishway pools must be configured in a manner acceptable to NMFS. The maximum slope of the fish ladder should not exceed 10 percent.

Fishway Pool Volume

The Licensee must design the fish ladder to include fishway pools that are at a minimum 6 ft deep, and pools in pool and weir fishways must have sufficient volume to dissipate energy of 4 ft pounds per second per cubic foot (ft^3) of pool volume, unless otherwise approved by NMFS.

Trap Holding Pools

The Licensee must provide holding pools of sufficient volume to provide a carrying capacity equal to a projected 1 day peak run of fish (about 1200 fish, Montgomery Watson Harza 2003). Based upon a minimum holding density of 5 ft^3 of volume per fish, the holding pools will contain a minimum volume of 6,000 ft^3 of water at the low design water surface elevation. Flow into the holding pools must be a minimum of 2 gallons per minute (gpm) per adult fish, up to the carrying capacity of the pools, or a minimum of 2400 gpm (5.4 cfs). A finger weir or V-trap lead must be provided between the ladder and the lower holding pool and between holding pools such that once fish enter they are not able to fallback downstream.

Fish Lock Crowder and Braille Systems

The Licensee must build the upstream passage facility to include crowder and braille systems in each holding pool as necessary to move fish from the holding pools to the fish lock. When not in use, the crowder should be stored either against the back wall of the holding pool or out of the water entirely. Likewise, the braille should be stored recessed in the floor of the holding pool when not in service. The braille must be sloped

20081017-3024 FERC PDF (Unofficial) 10/17/2008

and contoured so that fish are guided toward the entrance to the fish lock. Both the crowder and braille must provide fish tight seals (maximum opening of 1/2 inch) against the walls and floors of the holding pool so that no fish can become trapped behind them. The travel speed of both the crowder and braille should be adjustable up to 3 ft per minute. Maximum clear opening between bars in the crowder or braille must be 1/2 inch. When the crowder is in use, a removable barrier will be installed across the fish ladder exit into the holding pool to prevent fish from entering the holding pool. Fish should not come into contact with sharp or abrupt edges (including structural supports) anywhere throughout the system.

The maximum clear opening between bars in the crowder or braille may need to be less than 1/2 inch. Tests will need to be completed at the trap vicinity to determine if there are smaller fish in the vicinity of the trap. The head width of these fish will be measured and a decision as to the permanent spacing of the bars should be determined based on the 50 percent exceedance level. This test should be done in conjunction with testing adult bull trout behavior at the trap entrance. At present, it is unknown if the adult bull trout being trapped represent the full extent of upstream migration or if they are only using the trap during certain conditions. Bull trout are difficult to trap and may need modifications to the trap to increase their capture efficiency.

Fish Lock System

The Licensee must provide the upstream passage facility to include a fish lock with the minimum dimensions of 6 ft wide, 6 ft long and 7 ft deep at the minimum water surface elevation (WSEL) of 161.0 fmsl (Montgomery Watson Harza 2003). Based upon these dimensions and a minimum loading density of 3 cubic ft per fish, the lock will be of sufficient volume to hold about 84 fish per cycle.

Fish Lock Braille

The Licensee must build the fish lock system to include a braille recessed into the floor when not in use. Entrance to the lock must be blocked with a gate during a locking operation so that fish cannot become trapped behind the lock braille. Clear opening between the bars of the braille and of the blocking gate must not exceed 1/2 inch. Both the braille and blocking gate must provide fish tight seals (maximum opening of 1/2 inch) with the walls of the lock. The cycle time of the lock should be limited to about 11 minutes (Montgomery Watson Harza 2003) to move fish out of the lock and into the transport flume. The braille should not begin rising in the lock tower until the water level in the tower has been raised to the uppermost level. The braille should not travel faster than 3 ft per minute and must be manually controlled during the last 4 ft of operation. The braille must be sloped to move fish out of the lock, over the control weir, and into the transport flume.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Fish Lock Water Supply

The Licensee must build the fish lock system water supply to the lock to minimize turbulence in the lock and to introduce flow through a diffuser or series of diffusers located in the floor of the fish lock beneath the braille, designed as described above for the entrance pool diffusers. Overflow from the lock must pass over a control weir at a minimum depth of 6 inches and through a short, descending slope separator (screen), allowing excess flow to be drained off and adult fish to be routed into a wetted chute (transport flume) for routing to sample tanks, sorting/holding pools, or direct loading to transport truck.

Transport Flume and Raceways

The Licensee must build the fish lock system to include an open, U-shaped, and smooth-sided transport flume, a minimum of 15 inches wide and 24 inches deep. The transport flume must be of sufficient slope and water supply to keep fish moving along the flume (the specifics are to be determined in consultation with NMFS). A dewatering system must consist of downward sloping (10 percent slope), smooth 1 inch diameter bars (pipe) with 1/2 inch maximum clear opening at least 2 ft long (length sufficient to dewater the total flow expected from the lock) or alternate design as developed in consultation with NMFS. The clear opening between the separator bars may have to be reduced if smaller fish are expected to use the facility.

The transport flume should include provisions for a passive integrated transponder (PIT) tag interrogation system located upstream of the diverter gates. Straight alignment of the transport flume should be provided so that an operator can determine species type and select the appropriate gate leading to the appropriate raceway. Provisions must be made to divert fish to sampling, anesthetic, disease treatment, and recovery tanks or routed to the appropriate raceway. Diversion gates must be of an approved design. The transport flume and diversion gates should be covered with neoprene to prevent injury to the fish. Where the transport flume enters the raceway, the exit must be covered by a neoprene flap such that fish are not attracted to and cannot reenter the transport flume once in the raceway. Provisions must be made to allow the direct loading of the fish into the transportation trucks.

Maximum loading density of the raceways can vary depending on expected duration of holding. For short-term holding (less than 1 hour) holding density will be limited to 3 ft^3 per fish. Longer term holding (for periods greater than 1 hour) holding density will be limited to 5 ft^3 per fish. Each raceway (and crowding channel) will have a water supply equal to 2 gpm/fish based on the maximum number of fish expected for that raceway. Provisions should be made to guarantee a continuous supply of water to the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

raceways (such as redundant pumps, backup pumps, emergency generator, etc.). Provisions should be made for the emergency release of fish back to the river in emergencies.

Each raceway (and crowding channel) must include a crowder to move fish from the raceway to the crowding channel leading to the transport hopper for truck loading. Maximum clear opening of the crowder must be 1/2 inch and the crowder must provide a fish tight seal (maximum opening not to exceed 1/2 inch) to the floor and walls to prevent fish from getting around the crowder. In the event of a power outage, provisions should be made for manual crowding of fish from the raceways and from the crowding channel.

Loading density of the transport hopper must be limited to 3 ft^3 per fish. The volume of the transport hopper should be equal or less than the volume of the transport trucks (to reduce the possibly of overloading the transport trucks)

The transport hopper should connect via a water to water transfer with the transport trucks or trailers. Maximum loading density of the transport trucks must be limited to 3 ft^3 per fish. Carrying tanks on the transport trucks must be filled with water from the same supply line as the raceways to insure minimal thermal stress or water quality differences. Transport trucks and trailers must have provisions to supply oxygen to the transport water and have double-wall insulated tanks.

Provisions must be made to provide a flushing flow through the transport tank during the release process. Provisions should also be made at the release point to acclimate the transported fish to the receiving water if the temperature difference exceeds 5 degrees C.

The entire adult fishway facility must provide a means to evacuate fish back to the Baker River in the event of the lost of power or water supply.

Sample/Anesthetic/Recovery Tanks

The Licensee must design the sampling, anesthetic, and recovery tanks in consultation with NMFS. The system must include provisions to move fish to the raceways or return fish to the river after they have fully recovered.

Auxiliary Power

The Licensee must provide auxiliary power in the event of a power failure. Full operation of the facility must be restored within 48 hours. Auxiliary power must be sufficient to operate the pumped water supply and all associated apparatus until all fish dependent on pumped water have been processed and removed from the facility.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Post Construction Evaluation

The Licensee must prepare, in consultation with NMFS, a post construction evaluation plan for approval by NMFS prior to completion of the upstream passage facility. The plan must include hydraulic and biological evaluations to ensure the proper performance of the facilities and that the facility provides safe, timely, and effective passage of fish. The Licensee must carry out this plan to evaluate facility performance upon completion of construction of the upstream passage facility. The Licensee should upon completion of the evaluation, carry out any required changes, reevaluate, and perform such additional changes to the operations or facilities as may be required by NMFS, within a time frame established by NMFS in consultation with the Licensee.

Future Modifications

The Licensee must update and modify these facilities as necessary based upon changing resource management requirements or as technology advances for the safe, timely, and effective passage of fish.

Inspections

The Licensee must provide access to the upstream passage facilities for immediate inspection of fishway operation and maintenance conditions, upon request by any fishery agency.

Downstream Passage Prescription at Upper Baker Lake and Lake Shannon (Lower Baker)

The Licensee must construct downstream fish passage facilities for juveniles and kelts to provide for safe, timely, and effective downstream passage of anadromous fish and to continue to provide access for their populations to areas above both Lower Baker Dam (Lake Shannon) and Upper Baker Dam (Baker Lake). The downstream fish passage facilities at Lower Baker Dam and Upper Baker Dam are floating surface collectors (FSC) as described further in this section.

Operational Period

The respective downstream passage facilities must be capable of operating over the entire range of forebay levels expected year round, unless otherwise agreed to by NMFS, for both the Upper Baker and Lower Baker facilities (except for periods of high flow where it is necessary to spill). The operational period is March 1 through July 31

20081017-3024 FERC PDF (Unofficial) 10/17/2008

unless directed otherwise by NMFS, USFWS, or WDFW. Maintenance outages must not occur during the specified FSC operation period.

Debris and Trash Management

Floating log booms must be installed in the forebay of each facility upstream of the guide nets in order to provide protection to the fish passage facilities.

Guide Net

The Licensee must design and install a guide net in the forebay of each reservoir. The net should extend from shoreline to shoreline and from surface to bottom of the reservoir. The guide net should form a v-shape in the lake (plan view) with the apex of the net terminating at the net transition structure. The guide net must be made of a knotless mesh net with mesh size not to exceed 1/4 of an inch clear opening and resistant to rot and ultraviolet degradation. There should not be any gaps in the guide net or any points where the top of the net is allowed to submerge beneath the water surface. The guide net must have surface floats capable of deflation to allow the net to temporarily submerge approximately 50 feet beneath the water's surface to allow debris to pass over during spill and for boats to cross. To improve guidance of fry to the FSC the guide net in the upper 30 ft of the water column must incorporate a knotless mesh net with mesh size not to exceed 3/32 of an inch or an impermeable membrane. The guide net system must be designed in consultation with NMFS. No design will be implemented that compromises the long-term effectiveness of the net system.

Provisions must be made such that the net transition structure and floating surface collector are free to move with the surface of the reservoir but that the guide net forms a fish tight seal with the net transition structure.

Net Transition Structure

The Licensee must design the net transition structure (NTS) as a modular unit to provide a transition from the guide net to the floating surface collector. Design velocity at the entrance to the NTS should be 0.15 fps. This represents an acceleration over the reservoir conditions. The NTS should be at least 50 ft deep. Maximum acceleration through the NTS is limited to 0.1 fps per ft. It may be necessary in the future to try various configurations of this NTS to increase juvenile collection efficiencies.

Floating Surface Collector

The Licensee must provide and operate the floating surface collector and associated facilities. The FSC is a conventional V-screen contained within a floating

20081017-3024 FERC PDF (Unofficial) 10/17/2008

channel, with flow induced by pumps. The screens must be designed to meet NMFS criteria in effect at the signing of the agreement, except where otherwise agreed by NMFS. The initial installation (phase I) must be sized at 500 cfs capacity and be constructed to meet screening standards of a maximum of 0.4 ft/sec. approach velocity, but shall allow testing of 1,000 cfs capacity at higher approach velocities. The facility must be designed to accept an expansion module to accommodate a permanent increase of flow capacity to a maximum of 1,000 cfs (which equals about 20 percent of Upper Baker generation capacity). The expansion must occur if the 500 cfs capacity FSC fails to meet the performance criteria. In addition, the initial FSC and the expansion module must be designed to accommodate an entrance module and/or net transition connection at its upstream end. Should the decision be made to permanently increase the FSC capacity to 1000 cfs, then additional screen area and associated equipment (porosity control, screen cleaners, etc.) must be installed sufficient to meet NMFS' juvenile fish passage criteria for fry passage. NMFS recommends that the FSC design concept be developed using hydraulic modeling (physical or numerical) to permit resolution of flow continuity, flow orientation and construction/installation issues.

The velocity into and through the screen structure and bypass must remain constant or accelerate slightly at a maximum 0.1fps per ft. The configuration of the bypass must create a capture velocity area where the centerline water velocities are in excess of 8 fps. This capture velocity area must be a minimum of 3 ft wide and 3 ft deep. Downstream of the capture velocity area, the deceleration of the water velocity will be designed in consultation with NMFS to reduce juvenile delay in this area.

In high velocity areas (where the water velocity is greater than 3 fps), screen cleaners must be removed from the water column when not in use or when traveling upstream or must be located behind the screen face so that fish may not come into contact with the equipment.

The FSC shall include dewatering capability, sorting mechanisms to effectively separate adult and juvenile fish, and holding area. Provisions for flow control will be made on the bypass flow from the FSC. The Licensee will make provisions to inspect the bypass transport pipe/flume on a regular basis (once per day - more often during periods of high debris loading and less often during low debris periods) and remove any debris found. Velocities in the bypass transport pipe/flume should be between 5 fps and 10 fps. The bypass pipe/flume must meet NMFS' juvenile fish passage criteria. Transport flumes should be 16 inches wide and should be U-Shaped or approximately U-shaped (fillet in the corners of the flume).

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Dewatering and Detection

Prior to entering the raceways, the bypass flow must be reduced to a level that can be accepted by the raceways. The dewatering screens must meet NMFS' juvenile fish screening criteria, including the need for cleaning.

The Licensee must make provisions to include a PIT tag interrogation system such that all fish (juvenile and adult) collected by the FSC can be interrogated prior to those fish entering the raceways.

A mechanism will be provided such that fish in any time interval can be automatically routed to any of four raceways.

Raceways

The Licensee must provide the transport flumes and raceways for the safe and timely passage of fish. Crowders must be provided for each raceway to crowd fish into the transport hopper. The crowders will create fish tight seals along the walls and floor of the raceway so that it is not possible for fish to inadvertently get behind the crowder. Crowders must not interfere with fish entering the raceway and will be either removed from the flow when not in use or parked out of the way along the back wall of the raceway. Maximum clear opening on the mesh used for the crowder must not exceed 3/32 of an inch if perforated plate or woven mesh is used for the crowder material. Holding density of juvenile fish will not exceed 1.2 pounds per cubic foot of raceway volume.

The maximum juvenile fish density in each raceway (and crowding channel) must not exceed 0.5 pounds of juvenile fish per gallon per minute of inflow, nor 1.5 pounds of fish per cubic foot of space, based on the maximum number of fish expected for that raceway. Provisions must be made to guarantee a continuous supply of water to the raceways (such as redundant pumps, backup pumps, emergency generator, etc.). Provisions must be made for the emergency release of fish should conditions dictate. Holding areas must be equipped with emergency recirculation pumps.

Transport Hopper

The Licensee must provide the transport hopper and lifting capability to provide water-to-water transfer as fish are being loaded into the hopper and as they are being transferred to the transport trucks. Maximum loading density will be developed in consultation with NMFS.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Transport Trucks/Trailers

The Licensee must provide transportation trucks or trailers acceptable to NMFS for the transportation of juveniles from the collection facilities to the stress relief ponds. The trucks or trailers should include provision to supply oxygen to the holding water and have double-wall insulated tanks. Filling the tanks must be done with the same source water as supplies the raceways, to reduce the possibility for adverse reactions. Provisions must be made to acclimate the fish to the receiving water prior to their release from the transport trucks.

Stress Relief Ponds

The Licensee must provide for transport of collected fish to the stress relief ponds and holding for a minimum of 48 hours and a maximum of 72 hours before their release to the Baker River. The ponds must be sized to hold the 1-day maximum expected collection of fish from both Upper and Lower Baker facilities. Maximum holding density and minimum water supply will be developed in consultation with NMFS. The initial pond size may be smaller, however, provisions should be made to expand the capabilities of the ponds as necessary. Ponds must be designed for forced release and must allow volitional egress.

Auxiliary Power

The Licensee must use every reasonable effort to maintain continuous operation and restore operation in the case of local or regional power failure. Priorities of restoration of operation must be: 1) restore flow to raceways, 2) transport fish from the raceways, and 3) restore fish collection capability. A reasonable restoration period is:

- Restore water circulation to the raceways within 15 minutes of a power failure.
- Fish transport capability restored within 24 hours.
- FSC operation restored within 48 hours.
- In the event that FSC operation requires more than 48 hours, NMFS shall be consulted.

Post Construction Evaluation Plan

Prior to completion of the construction of the juvenile fish passage facility, the Licensee, in consultation with NMFS, USFWS, WDFW and the tribes, must prepare a post construction evaluation plan for approval by NMFS. The plan must include hydraulic and biological evaluation to ensure proper performance of the facilities. Upon completion of construction, the Licensee must complete this plan to evaluate the

20081017-3024 FERC PDF (Unofficial) 10/17/2008

performance of the collection system. Upon completion of the evaluation, the Licensee must carry out any required changes, reevaluate, and perform such additional changes to the operations or facilities, as may be required by NMFS, within a time frame established by the agencies in consultation with the Licensee.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX F

U.S. Department of Interior, U.S. Fish and Wildlife Service,
Biological Opinion Terms and Conditions, filed June 22, 2007

REASONABLE AND PRUDENT MEASURES

The FWS believes the following reasonable and prudent measures (RPM) are necessary and appropriate to minimize take of bald eagles, bull trout, marbled murrelets, and NSOs. Section 7 of the ESA requires the development of reasonable and prudent measures necessary or appropriate to minimize the level of incidental take. The RPMs can include only actions that occur within the action area and reduce the level of take associated with project activities. The test for reasonableness is whether the proposed measure would cause more than a minor change to the proposed location or would alter the basic design, location, scope, duration or timing of the proposed actions.

With implementation of these RPM, the FWS believes take of bald eagles, bull trout, marbled murrelets, and NSOs in the form of harm, harassment, or killing, from the applicants' project operations, will be reduced. As a consequence, the FWS believes the following RPMs are necessary and appropriate to minimize incidental take of these species in the Baker River system. The measures described below are non-discretionary, and must be undertaken by the FERC, the ACOE, and Puget and made binding conditions of any license or permit issued, as appropriate, for the exemption of section 7(o)(2) to apply. The FERC and the ACOE have a continuing duty to regulate the activity covered by this Incidental Take Statement. If the FERC and/or the ACOE 1) fails to assume and implement the terms and conditions, or 2) fails to require applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or license document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the action agencies must report the progress of the action and its impact on the species to the FWS as specified in this Incidental Take Statement.

Bull Trout

RPM BT 1: Minimize the footprint and construction impacts of an upstream fish passage facility placed at Sulphur Creek.

RPM BT 2: Minimize negative effects of increased sockeye propagation on bull trout.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

RPM BT 3: Minimize harm and harassment of bull trout as a result of research and monitoring, and capture and haul facilities.

RPM BT 4: Minimize unanticipated mortality of bull trout from project operation.

RPM BT 5: Minimize mortality of bull trout originating outside of project area.

Marbled Murrelet

RPM MM 1: Minimize adverse effects on nesting marbled murrelets in occupied marbled murrelet nesting habitat.

RPM MM 2: Minimize adverse effects on nesting marbled murrelets at the peak times of murrelet nest activity.

Northern Spotted Owl

RPM NSO 1: Minimize the effect of disturbance from redevelopment of the Baker Lake Resort on NSOs.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the ESA, the FERC must comply with the following terms and conditions, which implement the RPM described above. In the event that there are any inconsistencies or discrepancies between these terms and conditions and the FERC's final order approving the applications to amend the licenses, the FERC will comply with the ESA if Puget complies with the terms and conditions in this Incidental Take Statement. These terms and conditions are non-discretionary.

Bull Trout

<u>Implement RPM BT 1 -- Minimize the footprint and construction impacts of an upstream fish passage facility placed at Sulphur Creek.</u>

T&C BT 1.1: Removal of riparian vegetation at Sulphur Creek will be minimized. Areas disturbed during construction and not required for future access or for maintenance and operation will be replanted with native riparian vegetation to minimize the loss of function.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

T&C BT 1.2: Concentrate instream work between the July 15 and August 20 part of the anticipated HPA work window to further minimize or avoid construction disturbance to juvenile bull trout outmigrants and return bull trout spawners.

T&C BT 1.3: Fully minimize size of the concrete sill for a weir spanning Sulphur Creek to reduce instream habitat loss to juvenile bull trout.

T&C BT 1.4: Ensure any contaminated water, remaining within the cofferdams after concrete curing, is pumped upland or into "baker tanks" for offsite/upland disposal.

Implement RPM BT 2 -- Minimize negative effects of increased sockeye propagation on bull trout.

T&C BT 2.1: Consistent with the HERC fund under license Article 602 (Required Funding) and in coordination with the Aquatic Resources Group (ARG), the Licensee shall periodically monitor sockeye use of the upper Baker River mainstem for natural spawning (e.g., after Phase 1 and then again after Phase 2 hatchery improvements have been completed) to determine if there are increases in competitive interactions with bull trout for spawning sites or higher rates of redd superimposition than anticipated. If the ARG or the FWS determine that significant levels of competitive interactions are present, the Licensee shall work with fisheries co-managers to adjust the number of adult sockeye released into Baker Lake, or take other measures, as determined appropriate by the ARG or FWS, to minimize these interactions.

Implement RPM BT 3: Minimize harm and harassment of bull trout as a result of research and monitoring, and capture and handling at fish passage facilities.

1.

T&C BT 3.1: The Licensee must understand and agree to abide by the General Conditions for Native Endangered and Threatened Wildlife Species Permits, 50 CFR Part 13, 50 CFR 17.22 (endangered wildlife) and 50 CFR 17.32 (threatened wildlife), as applicable. In addition, the Licensees must have all other applicable State and Federal permits prior to the commencement of activities authorized by this Incidental Take Statement. The Licensees is authorized to take (harass by survey, capture, handle, and release) bull trout while conducting annual monitoring activities and surveys for the purpose of enhancing bull trout survival, as well as to take bull trout in bull trout passage operations in accordance with the conditions stated below. Permitted activities are restricted to named and unnamed waterbodies in the Baker River watershed, Whatcom, and Skagit Counties.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

T&C BT 3.2. The Licensee is responsible for assuring that the individuals conducting research and monitoring or collect and haul operations at fish passage facilities are properly trained and educated, and comply with the following Terms and Conditions. The Licensee shall retain a current list of such people and the list should include the following:

1) The name of each individual.
2) The resume or qualifications statement of each, detailing their experience with each species and type of activity for which they will be conducting.
3) The names and phone numbers of a minimum of two references.

T&C BT 3.3: All capture, handling, and observation methods shall be implemented at times that will avoid temperature stress of bull trout being surveyed, collected, tagged, monitored, or relocated.

T&C BT 3.4: All live bull trout captured shall be released as soon as possible. Any bull trout captured and showing signs of stress or injury should only be released when able to maintain itself. Nurture such individuals in a holding tank until they have recovered. If bull trout are held in a tank, a healthy environment for the stressed bull trout must be provided, and the holding time must be minimized. Water-to-water transfers, the use of shaded, dark containers and supplemental oxygen shall all be considered in designing bull trout handling operations. Any bull trout fry must be held in a separate container from other bull trout (including juvenile bull trout), to avoid predation by larger bull trout during captivity.

T&C BT 3.5: The period of time that captured bull trout are anesthetized shall be minimized. The number of bull trout that are anesthetized at one time shall be no more than what can be processed (biosampled) within several minutes.

T&C BT 3.6: Prior to conducting activities that involve handling of bull trout, the permittee shall ensure that hands are free of sunscreen, lotion, or insect repellent.

T&C BT 3.7: Any electrofishing conducted during the spawning season, typically between August and December, shall only be performed in areas where adult bull trout, that is, those over 305 mm in length, or their redds, have not been observed.

T&C BT 3.8: Electrofishing during spring in bull trout habitat runs the risk of injuring or killing alevins or fry that remain in or near the gravels of redd. If salmonid alevins or fry are seen during spring electrofishing, the activity shall be stopped immediately until identification can be made. If they are determined to be bull trout, electrofishing at the site shall be terminated.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

T&C BT 3.9: Artificial lures with a single barbless hook are required for all hook-and-line sampling. The use of bait is prohibited.

T&C BT 3.10: Any tagging studies (i.e., radio, acoustic, pit) shall be approved by the FWS prior to implementation.

T&C BT 3.11: Reports of incidental injury or killing must include the date, time, precise location of the injured animal or carcass, and any other pertinent information such as cause of death or injury. All incidental mortalities shall be preserved in a fashion to best provide maximum scientific information (otoliths, scales, genetic samples, general fisheries statistics, etc.).

T&C BT 3.12: Any specimen killed shall be kept whole and put on ice or frozen, and a small sample of tissue (a fin clip approximately 1 square centimeter) shall be preserved in a vial of 95 percent ethanol for genetic analysis. Any mortalities that are frozen shall be wrapped directly in aluminum foil to preserve the specimen for future contaminant analysis. The permittee shall supply the depository with a copy of this permit to validate that the specimens were taken pursuant to a permit.

<u>Implement RPM BT 4 – Minimize any unanticipated levels of bull trout mortality from project operation.</u>

T&C BT 4.1(A) (Hydropower Operations): The Licensee shall consult with FWS and the ARG to develop a monitoring strategy that adequately assesses bull trout spawner returns to Baker Lake and Sulphur Creek local populations. This is necessary to confirm that bull trout take anticipated from project operations is not underestimated and will not result in population declines. The monitoring of returns will provide an early indicator of unanticipated levels of mortality potentially attributable to hydropower operations. If such monitoring should reveal an unanticipated decline of the bull trout population, then the Licensee, in coordination with the ARG and FWS, shall determine to what extent hydropower operations are the cause of the decline and whether reinitiation is warranted.

<u>Implement RPM BT 5 – Minimize mortality of bull trout originating outside of project area.</u>

T&C BT 5.1: In the implementation of the Upstream Fish Passage Implementation Plan required by Article 103, if it is determined by the Licensee, the ARG, or the FWS that the movement of native char from the Skagit River into the Lower Baker adult fish passage facility is detrimental to the local bull trout population, then the Licensee shall, in consultation with FWS and the ARG develop and implement procedures to appropriately minimize the number of

20081017-3024 FERC PDF (Unofficial) 10/17/2008

individuals originating from local populations outside of the Baker River Basin being passed upstream of Lower Baker Dam.

Marbled Murrelet

Implement RPM MM 1 - Minimize adverse effects on nesting marbled murrelets in occupied marbled murrelet nesting habitat.

T&C MM 1: Article 303 shall be amended by FERC to ensure that the following language is included in the Baker Lake Resort Redevelopment Plan. If FWS, in consultation with USFS, determines that surveys for marbled murrelets are not necessary (T&C MM 1), this requirement may be waived:

"Prior to commencing redevelopment of the Baker Lake Resort (Article 303), the 22.89 acre (9.3 hectares) development site and also within a 55 m (180 ft) border surrounding the development site, surveys for marbled murrelet occupancy will be conducted using current protocols established by the Pacific Seabird Group and adopted by the FWS."

Implement RPM MM 2 - Minimize adverse effects on nesting marbled murrelets at the peak times of marbled murrelet nest activity.

T&C MM 2: Article 303 shall be amended by FERC to ensure that the following language is included in the Baker Lake Resort Redevelopment Plan:

"Activities that are part of the redevelopment of the Baker Lake Resort (Article 303) including building decommissioning, construction activities, road and trail work, campsite and infrastructure development, and vegetation management including overstory thinning will be conducted to minimize effects to nesting marbled murrelets in adjacent stands. During the marbled murrelet breeding season (April 1 through September 15), these activities will only be conducted from 2 hours after sunrise until 2 hours before sunset, within 55 m (180 ft) of occupied or unsurveyed, suitable marbled murrelet habitat."

Northern Spotted Owl

Implement RPM NSO 1: Minimize the effect of disturbance on NSOs for reconstruction of the Baker Lake Resort.

T&C NSO 1: Article 303 shall be amended by FERC to ensure that the following language is included in the Baker Lake Resort Redevelopment Plan:

20081017-3024 FERC PDF (Unofficial) 10/17/2008

> "Conduct NSO calling surveys for the presence of NSO within a quarter mile of the Baker Lake Resort prior to redevelopment of this site into a campground. If NSO are detected, conduct activities that could cause disturbance outside the nesting season (March 1-July 15)."

The RPMs, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the RPM provided. The FERC must immediately provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the RPM.

The FWS is to be notified within 3 working days upon locating a dead, injured, or sick endangered or threatened species specimen. Initial notification must be made to the nearest U.S. Fish and Wildlife Service Law Enforcement Office. Notification must include the date, time, precise location of the injured animal or carcass, and any other pertinent information. Care should be taken in handling sick or injured specimens to preserve biological materials in the best possible state for later analysis of cause of death, if that occurs. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed. Contact the U.S. Fish and Wildlife Service Law Enforcement Office at (425) 883-8122, or the FWS' Western Washington Fish and Wildlife Office at (360) 753-9440.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX G

U.S. Department of Commerce, National Marine Fisheries Service,
Biological Opinion Terms and Conditions, filed July 2, 2008

8.2 Reasonable and Prudent Measures

RPMs are non-discretionary measures to be taken in addition to the proposed action in order to satisfy the ESA's requirement to minimize incidental take. RPMs must be carried out as binding conditions if the proposed action is to enjoy the exemption from the prohibition of take in Section 7(o)(2) of the ESA. FERC has the continuing duty to regulate the activities of the Licensee covered in this Incidental Take Statement. If FERC or the Licensee fails to adhere to the terms and conditions of the Incidental Take Statement, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) will lapse. Activities carried out in a manner consistent with these RPMs, except those otherwise identified, will not necessitate further site-specific consultation. Activities that do not comply with all relevant RPMs will require reinitiation of consultation.

FERC must require the Licensee to carry out the following necessary and appropriate RPMs to minimize the effect of anticipated incidental take of PS Chinook salmon and steelhead. FERC must require the Licensee to:

1) Maintain and operate a real-time streamflow gaging station in the Baker River.

   Data from this gage will provide reliable information about modifications to the river environment by Project operations, which the fishery resource agencies will use in advising the Licensee how to manipulated flows in a manner that will minimize incidental take.

2) Modify the Lower Baker Dam powerhouse as described in Article 106 by adding two 750 cfs capacity units to improve PSE's ability to comply with minimum flow and downramping restrictions for the project. Until completion of the modification, continue to comply with minimum flow and downramping restrictions in the Interim Protection Plan.

3) Complete and operate the proposed FSC as described in Article 105 at Baker Lake to minimize incidental take of PS Chinook salmon and PS steelhead in the Baker sub-basin.

4) Develop the proposed adult fishway modifications as described in Article 103 to minimize incidental take during the attraction, trapping, sorting, and transport of PS Chinook salmon and PS steelhead to the upper Baker sub-basin and other sites.

5) Develop the proposed fish culture facility as described in Article 101 consistent with the Skagit and Puget Sound Hatchery and Genetics Management Plan embedded in the Shared

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Strategy for Puget Sound recovery plan.

6) Develop the gravel augmentation plan as described in Article 108 to improve spawning habitat if determined beneficial by the BRCC.

7) Develop the LWDMP as described in Article 109 to improve juvenile salmonid rearing habitat.

8) Ensure completion of a monitoring and reporting program to confirm that the terms and conditions are effective in minimizing take from permitted activities.

The Corps must carry out the following necessary and appropriate RPM to minimize the effect of anticipated incidental take of PS Chinook salmon and steelhead. The Corps must:

- Reinitiate consultation with NMFS under Section 7 of the ESA and assess the potential for take of listed species if the Corps in its General Investigation of flood damage reduction in the Skagit River basin elects to modify flood storage capacity or operations at the Baker Project.

8.3 Terms and Conditions

To be exempt from the prohibitions of Section 9 of the ESA, the Licensee and its cooperators, if any, must fully comply with conservation measures described as part of the proposed action and the following terms and conditions that complete the RPMs described above. Partial compliance with these terms and conditions may invalidate this take exemption, result in more take than anticipated, and lead NMFS to a different conclusion regarding whether the proposed action will result in jeopardy or the destruction or adverse modification of critical habitats.

1) To implement RPM #1, the Licensee must maintain and operate real-time streamflow gaging at the Baker River.

2) To implement RPM #2, the Licensee must modify the Lower Baker Dam powerhouse as described in proposed Article 106.

3) To implement RPM #3, the Licensee must complete and operate the proposed FSC as described in proposed Article 105.

4) To implement RPM #4, the Licensee must: develop the proposed adult fishway modifications as described in proposed Article 103 and design and develop improvements to the Baker fishway in collaboration with NMFS fish passage engineers for temporary fish collection and transport during the construction phase of fishway replacement.

5) To implement RPM #5, the Licensee must develop the fish culture facility as described in proposed Article 101.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

6) To implement RPM #6, the Licensee must develop the gravel augmentation plan as described in proposed Article 108.

7) To implement RPM #7, the Licensee must develop the LWDMP as described in proposed Article 109.

8) To implement RPM #8, the Licensee must complete a monitoring and reporting program to confirm that the terms and conditions are effective in minimizing take from permitted activities.

   a. Monitoring reports will be submitted to:

National Marine Fisheries Service
FERC and Water Diversion Branch
Attn: Keith Kirkendall
NMFS Log Number 2006/05514
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232-2778

20081017-3024 FERC PDF (Unofficial) 10/17/2008

APPENDIX H

Interim Protection Plan

1. Baker River Flow Reduction Rate Limitation. Whenever the total Skagit River flow falls below 18,000 cfs as measured at the Skagit River USGS Gage No. 12194000 near Concrete, WA, operate the Baker Project to limit the average hourly rate of Baker River flow reduction attributable to the Baker Project to a rate not greater than 2,000 cubic feet per second (cfs).

2. Enhanced Storage/Split Chinook Spawning Season Flow Management Plan. Subject to and so as not to affect the existing Puget/Corps flood control agreement (and absent circumstances beyond Puget's reasonable control), operate the Baker Project during late summer/fall as follows:

   a. Enhanced Storage:

      Create 115,000 acre-feet of flood storage at the Baker Project by October 1. From October 1 through November 15, available flood storage will not, by virtue of fisheries directed operations, exceed 156,000 acre-feet (i.e., Puget will reserve up to 41,000 acre-feet of reservoir storage as a hedge against dry conditions). If the Skagit River flow measured at the USGS gage near Concrete is greater than 40,000 cfs during this period, and Baker Project storage exceeds 74,000 acre-feet, Puget will consult with the Corps regarding the timing of flow releases to reduce peak flow. If the flood peak can be significantly reduced, Puget will shut off all generation and store inflow until the flood crest estimated by the Corps passes the Baker River/Skagit River confluence.

   b. Early Chinook Spawning Period September 15–October 15:

      1) When flow in the Skagit River, measured immediately above the confluence of the Baker River, is greater than 4,200 cfs, and inflow to Baker Lake is less than 2,500 cfs, Puget will store inflow to the Baker Project and avoid generation at the Lower Baker Development unless generation is needed to satisfy the Enhanced Storage measure.

      2) During periods of low flow (less than 4,200 cfs measured in the Skagit River immediately above the Baker River confluence), Puget will generate at least 3,200 cfs on a continuous basis not to exceed 156,000 acre-feet of evacuated reservoir storage. If Puget cannot meet the amplitude limitation without violating storage directives, Puget will still

20081017-3024 FERC PDF (Unofficial) 10/17/2008

try to release no more water than the volume of the Skagit Project load-following troughs (subject to high flow conditions outlined below).

3) During periods of high inflow to Baker Lake (greater than 2,500 cfs), Puget will generate power at the Lower Baker Development to restore available flood storage. Puget will initially generate to fill Skagit Project load-following troughs or generate continuously at the Lower Baker Development if needed to maintain 115,000 acre-feet of total flood storage.

c. Late Chinook Spawning Period October 16–November 15:

1) During the majority of the 31-day late spawning period, Puget will generate power at the Lower Baker Development to restore available flood storage. Depending on the level of available flood storage on October 16, Puget will initially generate into Skagit Project load-following troughs or generate continuously at the Lower Baker Development if needed to restore available flood storage. If available flood storage capacity on October 16 is less than 74,000 acre-feet, Puget will generate continuously to restore flood storage capacity to that level. If the available flood storage capacity is greater than 74,000 acre-feet but less than the target level of 115,000 acre-feet, Puget will evacuate storage through generation at a rate needed to achieve the target storage level by November 15. Flow will preferentially be released during the Skagit Project troughs prior to releasing flows outside of these time periods.

2) During periods of low flow (less than 6,000 cfs measured in the Skagit River immediately above the Baker River confluence), Puget will generate at least 3,200 cfs at the Lower Baker Development into Skagit Project load-following troughs or will generate at 3,200 cfs on a continuous basis not to exceed 156,000 acre-feet of evacuated reservoir storage.

3) During periods of high inflow to Baker Lake (greater than 3,400 cfs), Puget will generate power at the Lower Baker Development to restore available flood storage. Puget will initially generate into Skagit Project load-following troughs or generate continuously at the Lower Baker Development if needed to maintain 115,000 acre-feet of total flood storage.

20081017-3024 FERC PDF (Unofficial) 10/17/2008

Emergency Exclusion

Flood control measures required to protect human life and property will override requested releases for fisheries benefits. In the event of an emergency power shortage, all available water stored behind the Baker Project reservoirs may be used to generate power.

Monitoring and Reporting

Bi-annually, the licensee shall submit a report to the Commission and NMFS identifying and describing any instances of project operations that deviate from the proposed conservation measures.

Document Content(s)

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