INTRODUCTION

1. On January 21, 2009, the City of Tacoma, Washington (Tacoma) filed a comprehensive offer of settlement intended to resolve all outstanding issues associated with relicensing the 131-megawatt (MW) Cushman Hydroelectric Project No. 460. The project is located on the North Fork of the Skokomish River in Mason County, Washington, and occupies U.S. lands within the Olympic National Forest and the Skokomish Indian Reservation. The Commission issued a new license for the project in 1998, but later stayed most of its provisions pending judicial review and further order. After a court remand in 2006, Tacoma and the Skokomish Indian Tribe (Tribe) entered into negotiations that ultimately led to a settlement.

2. Tacoma filed the offer of settlement on behalf of itself, the Tribe, the U.S. Forest Service (Forest Service), U.S. Department of Commerce’s National Marine Fisheries Service (NMFS), U.S. Department of the Interior’s (Interior) Fish and Wildlife Service (FWS) and Bureau of Indian Affairs (BIA), Washington Department of Fish and Wildlife (Washington DFW), and Washington Department of Ecology (Washington Ecology). The settlement includes revised conditions for protection of the Skokomish Indian Reservation, fish passage facilities, and measures for fish and wildlife protection. In conjunction with the settlement, Tacoma also seeks authorization to construct a new 3.6-MW powerhouse that will increase the project’s authorized capacity to 134.6 MW. For the reasons discussed below, we amend the license to include license articles consistent
with the settlement, extend the license expiration date to June 30, 2048, authorize
construction of the new powerhouse, and lift the stay.

BACKGROUND

3. The Commission issued an original license for the Cushman Project in 1924.\(^\text{1}\) Consistent with the Commission’s interpretation of its jurisdiction at that time, the
original license was for a minor part of a complete project. It authorized the flooding of
8.8 acres of U.S. lands to allow Tacoma to construct and operate the project. The
Commission later determined that Tacoma should obtain a license for the entire Cushman
Project, and Tacoma included the complete project in the relicensing application it filed in
1974.

4. As described more fully in the next section, the Cushman Project consists of two
dams, two powerhouses, and associated facilities. Both dams are located on the North
Fork of the Skokomish River. The first dam (Cushman Dam No. 1), completed in 1926,
impounds Lake Cushman, a 9.6-mile-long reservoir that supplies water for generation at a
powerhouse with a capacity of 50 MW located about 600 feet downstream of the dam.
The second dam (Cushman Dam No. 2), completed in 1930 and located about two miles
downstream of the first dam, impounds Lake Kokanee, a much smaller reservoir with a
surface area of about 100 acres. Historically, the Cushman Project has diverted nearly all
of the flow of the North Fork Skokomish River from Lake Kokanee out of the river basin
through a 2.5-mile-long tunnel to a second powerhouse with a capacity of 81 MW located
on the shoreline of Hood Canal, which adjoins Puget Sound. Because the water leaving
the second powerhouse enters Hood Canal and is not returned to the North Fork
Skokomish River, much of the controversy in the relicensing proceeding has concerned
the amount of flow diverted from the river, its environmental effects, and the appropriate
level of minimum flows that should be required to return water to the North Fork.

5. After a lengthy and contentious relicensing proceeding, the Commission issued a
new license for the Cushman Project on July 30, 1998,\(^\text{2}\) and issued an order on rehearing
on March 30, 1999.\(^\text{3}\) A detailed procedural summary of the relicensing proceeding to
that point appears in the 1998 relicense order and need not be repeated here. Multiple
parties filed petitions for judicial review. On May 21, 1999, in response to Tacoma’s
request, the Commission stayed the new license pending judicial review and further


\(^{3}\) City of Tacoma, Washington, 86 FERC ¶ 61,311 (1999).
As a condition of the stay, Tacoma began releasing a minimum flow of 60 cubic feet per second (cfs) to the North Fork Skokomish River below Cushman Dam No. 2. Two salmon species were subsequently listed as threatened under the Endangered Species Act (ESA), and the Commission entered into formal consultation with NMFS concerning the effects of relicensing the Cushman Project on those species. On October 30, 2000, the D.C. Circuit Court of Appeals remanded the case to the Commission for completion of formal consultation under section 7 of the ESA. Shortly thereafter, the Commission entered into formal consultation with the FWS concerning the effects of relicensing the project on bull trout, another threatened fish species that was listed after issuance of the Commission’s order on rehearing.

6. On March 3, 2003, the Tribe filed a motion to partially lift the stay to require interim conditions to protect the listed fish species pending judicial review. On September 24, 2003, the Commission set the matter for hearing before a settlement judge to conduct a proceeding on interim conditions. The presiding judge issued his findings on December 8, 2003. NMFS and FWS subsequently filed their biological opinions for protection of the listed fish on February 7, 2004, and March 4, 2004, respectively. The presiding judge, NMFS, and FWS all found that Tacoma should be required to release a minimum flow to the North Fork Skokomish River of 240 cfs or inflow, whichever is less, as an interim measure to protect the fish. On June 21, 2004, the Commission issued an order in response to the court’s October 30, 2000 remand, amending the new license to include conditions of the biological opinions, granting in part the Tribe’s motion to partially lift the stay, and requiring that Tacoma release a minimum flow of 240 cfs or inflow, whichever is less, to benefit the listed fish species.

4 City of Tacoma, Washington, 87 FERC ¶ 61,197 (1999).

5 Before then, the revised water quality certification for the project, issued on December 30, 1987, had required Tacoma to release a minimum flow of 30 cfs. See City of Tacoma, Washington, 84 FERC ¶ 61,107, at 61,546 (1998).


8 City of Tacoma, Washington, 104 FERC ¶ 61,324 (2003).


10 City of Tacoma, Washington, 107 FERC ¶ 61,288 (2004), on reh’g, 110 FERC (continued…)
7. Multiple parties, including Tacoma and the Tribe, filed petitions for judicial review of the amended license. In response to Tacoma’s request, the court granted a stay of the 240-cfs minimum-flow release requirement. On August 22, 2006, the D.C. Circuit Court of Appeals issued its decision. The court affirmed the Commission on most issues and did not vacate the license. However, the court held that the Commission was required to include in the new license, without modification, Interior’s conditions under section 4(e) of the Federal Powers Act (FPA) for protection of the Skokomish Indian Reservation. Because the Commission had not considered whether it would issue the new license with all of Interior’s conditions included, the court remanded the license for further proceedings. The court also vacated its stay of the minimum flow requirement, thus reinstating the requirement that Tacoma release a minimum flow of 240 cfs as an interim measure to protect threatened fish species, and leaving the Commission’s earlier partial stay in effect. As required by the non-stayed provisions of its license, Tacoma subsequently designed and installed a minimum-flow release valve at the base of Cushman Dam No. 2 and began releasing 240 cfs into the North Fork Skokomish River on March 7, 2008.

8. In January 2007, Tacoma and the Tribe initiated settlement negotiations as part of the Ninth Circuit Court of Appeals’ mediation program in the Tribe’s law suit against Tacoma and the United States for damages caused by the Cushman Project. As part of this effort, Tacoma and the Tribe sought to reach agreement on resource protection

¶ 61,140 (2005), reh’g denied, 110 FERC ¶ 61,239 (2005).

11 City of Tacoma v. FERC, 460 F.3d 53 (D.C. Cir. 2006).

12 Skokomish Indian Tribe v. United States and Tacoma Public Utilities, 9th Circuit Case No. 06-35403. In 1999, the Tribe filed suit in federal district court against the United States and Tacoma, alleging harms caused by the Cushman Project and seeking over $5 billion in damages. In 2000, the district court dismissed the United States as a defendant, granted summary judgment in favor of Tacoma, and dismissed the Tribe’s claims. The Tribe appealed, and the Ninth Circuit affirmed. Skokomish Indian Tribe v. United States, 332 F.3d 551 (9th Cir. 2003). The Ninth Circuit subsequently issued an en banc decision affirming the dismissal of the Tribe’s claims against Tacoma and transferring the Tribe’s treaty-based claims against the United States to the Court of Federal Claims. Skokomish Indian Tribe v. United States, 401 F.3d 979 (9th Cir. 2005). The U.S. Supreme Court denied the Tribe’s petition for a writ of certiorari. In 2006, the Tribe filed a motion to allow the case to proceed on federal common law claims against Tacoma. The district court denied the motion and the Tribe appealed. The Ninth Circuit referred the matter to its mediation program, commencing the negotiations that led to the settlement.
measures to resolve issues raised by the D.C. Circuit’s remand. On May 15, 2007, Tacoma and the Tribe requested that the Commission defer action in response to the D.C. Circuit’s 2006 remand to allow these negotiations to proceed. Commission staff granted the request and required periodic status reports on the progress of settlement negotiations. Tacoma and the Tribe later engaged in discussions with federal and state agencies regarding resource protection measures, mandatory conditions under FPA section 4(e), fishway prescriptions under FPA sections 18, and the project’s water quality certification. Tacoma also conducted meetings and discussions with Save the Lakes Coalition, American Rivers, and Mr. Gerald Richert (all of whom were intervenors in the relicensing proceeding). On January 12, 2009, Tacoma, the Tribe, and the six federal and state agencies signed the settlement agreement, which Tacoma filed on January 21, 2009.

9. In an appendix to the settlement, Tacoma included a draft of its application for a license amendment to construct a new North Fork powerhouse, to be filed under separate cover. Tacoma requested that the Commission process this application in conjunction with its review of the settlement, but added that the settlement parties had agreed that processing of the powerhouse amendment should not delay implementation of the proposed license articles included in the settlement. Tacoma subsequently filed its application for the new powerhouse on January 26, 2009.

10. On January 27, 2009, the Commission issued notice of the settlement and solicited comments on it by February 26, 2009, with reply comments due by March 13, 2009. The Tribe, NMFS, BIA, and FWS filed comments in support of the settlement and urged the Commission to amend the license consistent with the settlement agreement. Mr. Richert, a former owner and current property manager of Skokomish Farms, Inc. (Skokomish Farms), filed comments on February 6 and 17, 2009, objecting to the settlement’s proposed removal of a requirement in the 1998 license to construct two bridges across the North Fork Skokomish River to provide access to portions of the property of Skokomish Farms, commonly referred to in this proceeding as “Richert Ranch.” On February 10, 2009, Skokomish Farms, through its president and CEO, Mr. Allan Krivor, filed similar comments. On March 13, 2009, Tacoma filed a reply to

---


14 The Tribe filed comments on February 6, 2006; NMFS filed on February 12, 2009; BIA filed on February 23, 2009; and FWS filed on March 6, 2009.

15 Richert Ranch is located on the lower North Fork of the Skokomish River where it meets the South Fork of the Skokomish River to form the mainstem Skokomish River, about 8 miles downstream of Cushman Dam No. 2 and well outside the project boundary.
the comments of Mr. Richert and Skokomish Farms. These comments are addressed in detail later in this order (in the section concerning proposed license Article 412).

11. On February 12, 2009, the Commission issued notice of Tacoma’s application for the new powerhouse and solicited comments, motions to intervene, and protests. The Tribe, Interior (through its BIA, FWS, and National Park Service (Park Service)), Washington Ecology, Washington DFW, and Save the Lakes Coalition filed timely motions to intervene. These motions were unopposed, so they were automatically granted under the Commission’s rules. On May 8, 2009, and May 18, 2009, respectively, NMFS and Mr. Richert filed motions for late intervention, which the Commission granted.

12. As provided in the settlement, on March 12, 2009, Interior filed revised section 4(e) conditions, and NMFS filed revised section 18 fishway prescriptions and fish and wildlife recommendations under FPA section 10(j). The Forest Service filed revised section 4(e) conditions on March 16, 2009, and filed a clarification of them on June 16, 2010.

13. On May 21, 2009, Commission staff held a technical conference in Tacoma, Washington, to address questions regarding the proposed license articles in the settlement, Tacoma’s amendment application for the new powerhouse, and procedures for processing the requests and obtaining the necessary authorizations from federal and state agencies. That same day, Commission staff held a public meeting to allow an opportunity for public comment regarding these matters. Staff also conducted a site visit the preceding day with representatives of Tacoma, the Tribe, and interested parties and members of the public.

---

16 By notice issued on April 16, 2009, the Commission extended the deadline for filing comments, interventions, and protests until May 4, 2009.


18 See Notice Granting Late Intervention, issued in the docket for Project No. 460-040 on May 12, 2010.


20 Transcripts of the technical conference and public meeting are available in the docket for this proceeding. Tacoma filed a summary of the site visit on June 5, 2009.
14. At the technical conference, Commission staff informed the parties that, because
the measures proposed in the settlement agreement were within the range of alternatives
examined in the final environmental impact statement (EIS) prepared for relicensing the
Cushman Project, a supplemental EIS would not be required for the settlement
agreement. In addition, staff stated that a supplement would not be needed for the new
powerhouse amendment, because the final EIS had already considered an alternative to
add a similar powerhouse at the base of Cushman Dam No. 2.

15. Staff noted that, as provided in the settlement, NMFS and FWS intended to
prepare revised biological opinions to address the effects of changes proposed in the
settlement. Staff inquired about the timing and scope of formal consultation under
section 7 of the ESA for the settlement agreement’s proposed license articles and the new
powerhouse license amendment, as well as the timing of water quality certification under
section 401 of the Clean Water Act (CWA) for construction and operation of the new
powerhouse. After consulting with the relevant agencies, Tacoma provided information
on June 5, 2009, indicating that the agencies would endeavor to issue their supplemental

16. Mr. Richert and Skokomish Farms filed supplemental comments on the bridge
issue on July 21, 2009; December 16, 2009; and January 13, 2010. Tacoma filed reply
comments on February 12, 2010. In addition, as discussed below in the section on
recreation measures, during August and September 2009, five individuals filed letters
raising concerns about the settlement’s proposed transfer of certain recreation facilities
(the Camp Cushman property) to the Tribe.21

17. Washington Ecology filed its water quality certification for the new powerhouse
on April 22, 2010. On March 31, 2010, and April 27, 2010, respectively, NMFS and
FWS filed their revised biological opinions.

18. As discussed in more detail throughout this order, the Commission has fully
considered the motions to intervene, comments, recommendations, conditions, and
prescriptions, as well as the settlement agreement and powerhouse amendment
application, in determining whether and under what conditions to issue this amended
license for the Cushman Project.

PROJECT DESCRIPTION

21 These letters were from Liz Hunter (filed August 10, 2009), Kim Nordstrom
McCaw (filed August 13, 2009), Laura Hunter (filed August 14, 2009), the West Family
(filed September 4, 2009), and Tracy L. Ruef and families (filed September 16, 2009).
A. Existing Project Facilities

19. The Cushman Project consists of two dams and impoundments on the North Fork of the Skokomish River, with associated power tunnels and penstocks, powerhouses, and a 25.8-mile-long primary transmission system.

20. The Cushman Dam No. 1 development consists of: (1) a 1,111-foot-long, 260-foot-high concrete arch dam that impounds Lake Cushman, a 9.6-mile-long storage impoundment with a 4,058-acre surface area, and a 453,350 acre-foot storage capacity at full pool (elevation 738.0 feet Cushman Datum); (2) a spillway with two radial gates; (3) a power intake upstream of the dam; (4) a 17-foot-diameter, 540-foot-long power tunnel; and (5) two 10-foot-diameter, 150-foot-long penstocks. Powerhouse No. 1, located approximately 600 feet downstream from the dam, contains two single runner, vertical shaft Francis turbines with a hydraulic capacity of 2,800 cfs and an installed generating capacity of about 50 MW. A switchyard abuts the powerhouse and two 115-kilovolt (kV) primary transmission lines extend approximately 5 miles to the Cushman Dam No. 2 development.

21. The Cushman Dam No. 2 development consists of: (1) a 575-foot-long, 230-foot-high concrete arch dam approximately 2 miles downstream from Cushman Dam No. 1, which impounds Lake Kokanee, a 128-acre lake with a gross storage capacity of 7,300 acre-feet at full pool (elevation 480.0 feet Cushman Datum); (2) a gated spillway structure abutting the dam; (3) a power intake; (4) a 17-foot-diameter, 2.5-mile-long pressure tunnel; (5) a steel surge tank; and (6) three 12-foot-diameter, 1,350-foot-long steel penstocks. Powerhouse No. 2 contains three turbine-generator units for a total installed capacity of 81 MW and a maximum hydraulic capacity of approximately 3,000 cfs. From a switchyard adjacent to Powerhouse No. 2, two 115-kV transmission lines extend approximately 20.8 miles to Tacoma’s Vaughn Tap.

\[\textit{Cushman Datum is about 3 feet lower than National Geodetic Vertical Datum.}\]

\[\textit{The switchyard located adjacent to Powerhouse No. 2 is the tie-in point for the Cushman Dam No. 1 transmission lines. From the switchyard, two 115-kV transmission lines extend southward along Hood Canal, eastward across the Skokomish Estuary, to and across North Bay, and then tie into Tacoma’s integrated transmission system at Vaughn Tap, just east of the town of Allyn, on the Kitsap Peninsula. The transmission line right-of-way is about 100 feet wide and covers a total area of approximately 324 acres over its 25.8-mile length.}\]
22. License Article 408 of the new license issued on July 31, 1998, as modified by the March 31, 1999 rehearing order and the June 21, 2004 order on remand, requires Tacoma to install a mechanism at the base of Cushman Dam No. 2 to release instream flows to the North Fork Skokomish River. To accommodate the new flow requirement of 240 cfs or inflow, whichever is less, Tacoma installed a new 65-inch jet flow gate valve on one of the two existing 78-inch outlets at the base of Cushman Dam No. 2. This valve automatically adjusts in response to changes in lake water levels.

B. Current Project Operation

23. The Cushman Project is currently operated to provide load-following power and to meet peak-demand period needs. By storing water in Lake Cushman and diverting it to the powerhouses when needed, the project provides firm capacity, peaking power, and flood attenuation. The project also provides flows for fish in the North Fork of the Skokomish River.

24. The project is operated according to reservoir operating criteria that form a rule curve. Operations are designed to ensure that Cushman Dam No. 1 can safely pass the probable maximum flood at all times.

C. Project Recreation Facilities

25. Tacoma owns and operates eight recreational facilities at the Cushman Project, including: the Lake Cushman Viewpoint; the Hood Canal Recreation Park; the Staircase Road Recreation Area; the Bear Gulch Recreation Area; the Lake Kokanee Boat Ramp and Parking Area; Camp Cushman; the Dry Creek Boater Destination Park; and the Deer Meadow Boater Destination Park. Common amenities at these sites include picnic areas, restrooms, parking areas, and signage. Public boat ramps are provided on Lake Cushman and Lake Kokanee at Camp Cushman and the Lake Kokanee Boat Ramp and Parking Area, respectively. The Staircase Road and Bear Gulch Recreation Areas offer

---


27 See final EIS at 2-5 and 2-6; Table 2-3 and section 2.2 for a discussion of the reservoir rule curve.

28 The 525-acre Camp Cushman is located on the eastern shore of Lake Cushman, adjacent to Big Creek. It has 82 campsites, a boat ramp, and parking.
public picnic facilities and scenic views, the Lake Cushman Viewpoint offers scenic views of Lake Cushman, and Camp Cushman provides camping opportunities. As discussed later in this order, Tacoma proposes as part of the settlement to make improvements to some project and Forest Service recreational facilities, and to transfer Camp Cushman and most of Hood Canal Recreation Park to the Tribe.

D. Proposed Facilities, Operation, and Environmental Measures

1. Project Facilities and Operation

26. As part of its application for a non-capacity amendment for a new North Fork powerhouse, Tacoma proposes to construct a new 3.6-MW powerhouse at the base of Cushman Dam No. 2. The new powerhouse would be designed to recapture some of the generation lost due to the release of flows into the North Fork Skokomish River, up to a peak hydraulic capacity of 320 cfs. In addition, the powerhouse would be designed and constructed as an integrated fish collection facility to facilitate the passage of anadromous fish upstream of the project.

27. The proposed powerhouse would consist of a 46-foot by 20-foot, two-story concrete structure. The new powerhouse penstock would tap into one of the 78-inch outlet valves at the base of Cushman Dam No. 2, which would bifurcate into two 48-inch powerhouse penstocks. The two 48-inch penstocks, which lead to the powerhouse, would incorporate butterfly shut-off valves. The powerhouse would contain two Francis turbine-generator units, each with a 1.8-MW capacity and rated at 2,700 horsepower. The generators are rated at 4,160 volts. The generator units are expected to produce 23,500 megawatt-hours (MWh) in annual generation.

28. The generator leads (at 4,160 volts) would travel through a conduit to a 12.5-kV step-up transformer located near the existing service house at Cushman Dam No. 2. From this point, the leads would extend underground along Lower Lake Road to a new 115-kV step-up substation on the transmission line between Cushman Powerhouse No. 1 and Powerhouse No. 2.

29 The bifurcation would consist of a 90 degree tap of the 78-inch penstock between a butterfly guard valve and a butterfly discharge valve.

30 Best gate position of the turbine-generators would be 240 cfs and 3.0 MW, with a peak capacity of 320 cfs and 3.9 MW.
29. The proposed powerhouse and integrated upstream fish passage facility are discussed in more detail later in this order.

30. Tacoma proposes to continue operating the Cushman Project to provide load-following and to meet peak-demand period needs, but would operate the project within the lake level and flow constraints outlined in the settlement and described in greater detail later in this order. Construction of the new powerhouse would add 3.6 MW to the project’s capacity.

2. **Environmental Measures**

31. Tacoma proposes to implement the measures outlined in the proposed amended articles included as part of the settlement agreement. The amended articles set forth provisions that address resources affected by the continued operation of the Cushman Project, including: water quality at the project and in the North Fork Skokomish River; impoundment elevations of Lake Cushman and Lake Kokanee; flow releases to the North Fork Skokomish River for fish; channel conveyance capacity of the mainstem Skokomish River to reduce flooding on the mainstem; restoration of fish habitat in the North Fork Skokomish River and its tributaries; water quality, fish, and habitat monitoring; downstream and upstream fish passage, including monitoring; fish supplementation; Powerhouse No. 2 tailrace monitoring of fish migration delay, injury, and mortality; measures to protect and enhance federally listed threatened and endangered fish species; terrestrial habitat and wildlife protection; shoreline management and recreation enhancements,\(^{31}\) including monitoring; management of two Forest Service roads to address project-related use; and managing cultural resources and historic properties. To implement the fish and aquatic habitat provisions of the amended articles, Tacoma proposes to establish and convene a Fisheries and Habitat Committee. The specific provisions of the proposed amended articles are discussed later in this order.

E. **Project Boundary**

32. The existing project boundary for the Cushman Project encompasses the dams, reservoirs, intakes, penstocks, powerhouses, tailraces, and the primary transmission facilities. The project boundary for the Cushman Dam No. 1 development generally follows the 742.0-foot contour around the perimeter of Lake Cushman, which is 4 feet

\(^{31}\) As discussed below in connection with Article 425, Tacoma proposes to make improvements to the Staircase Road Recreation Area, the Lake Cushman Viewpoint, the Dry Creek and Mt. Rose Trailheads, the Lake Kokanee Boat Ramp and Parking Area, the Forest Service’s Big Creek Campground (located along Big Creek, a tributary to Lake Cushman), the Bear Gulch Recreation Area, and the Big Rock site.
above the full pool elevation of 738.0 feet Cushman Datum. For the Cushman Dam No. 2 development, the project boundary generally follows the 482.0-foot contour around Lake Kokanee, which is 2 feet above the full pool elevation of 480.0 feet Cushman Datum. The project boundary also encloses the Hood Canal Recreation Park; the Staircase Road Recreation Area; the Bear Gulch Recreation Area; the Lake Kokanee Boat Ramp and Parking Area; Camp Cushman; the Dry Creek Boater Destination Park; and the Deer Meadow Boater Destination Park.

33. Tacoma proposes to modify the existing project boundary in a number of ways. First, Tacoma proposes to remove some parcels and add others as part of its proposed wildlife enhancement plan. The number of acres to be managed for native vegetation and wildlife habitat would total 2,746 acres.\(^{32}\) Second, Tacoma proposes to add the Mt. Rose Trail and Parking Area to the project boundary. Third, Tacoma proposes to discontinue operating and maintaining a portion of the Hood Canal Recreation Park\(^{33}\) and the entire 525-acre Camp Cushman, and to remove the underlying lands from the project boundary so that they can be transferred to the Tribe. Finally, Tacoma proposes to remove lands currently within the project boundary, but that are situated north of Forest Service Road No. 24 along Lake Cushman. The existing Staircase Road Recreation Area, located south of Forest Service Road No. 24, would remain in the project boundary.

34. We further discuss these modifications of the project boundary in subsequent sections of the order where we consider the amended license articles. Article 204 requires Tacoma to file revised exhibit G drawings that include a revised project boundary with acreages for all project lands (including federal lands), showing the existing and proposed recreation facilities, the wildlife lands, and the removal of Camp Cushman and a portion of the Hood Canal Recreation Park, as described above.

\(^{32}\) The existing transmission line corridor would add 95 acres to the total lands managed for vegetation and wildlife habitat (see Joint Explanatory Statement at 44, filed with the settlement agreement on January 21, 2009).

\(^{33}\) The Hood Canal Recreation Park is approximately six acres in size. Tacoma proposes to remove approximately 4.5 acres from the project boundary (see Joint Explanatory Statement, at 50-51, filed with the settlement agreement on January 21, 2009).
OVERVIEW OF THE SETTLEMENT AGREEMENT

A. Proposed License Articles and Appendices

35. As described in the joint explanatory statement filed with the settlement agreement, the settlement for the Cushman Project is a comprehensive package intended to resolve outstanding issues associated with relicensing the project, including those arising from the D.C. Circuit’s 2006 remand of the 1998 license. Among other things, it provides that, within 60 days after execution of the agreement, Interior will file revised conditions under section 4(e) of the FPA for the protection and utilization of the Skokomish Indian Reservation that are consistent with the proposed license articles set forth in Appendix 1 of the settlement. Similarly, NMFS will file revised fishway prescriptions under FPA section 18 and fish and wildlife recommendations under FPA section 10(j), and the Forest Service will file modified section 4(e) conditions; all consistent with the proposed license articles. In addition, the settlement provides that the Tribe will inform the Commission that it does not contest the validity of water quality certification for the project issued for relicensing, and Washington Ecology will inform the Commission that it intends to take no further action with respect to the certification for the amended license. The parties have since made all of these filings.

36. The proposed license articles in Appendix 1 of the settlement address flows, flooding, fish passage, fish and wildlife habitat restoration and enhancement, water quality, fish supplementation, and recreation. They are more specific than the provisions of the 1998 license and are intended to provide Tacoma with greater certainty. As a result, Tacoma states that it will accept the license if it is amended in accordance with the terms of the settlement.

37. Flows will be determined each year as part of a water budget for the river. The water budget includes minimum flows released according to the natural hydrograph and provisions for annual flow releases for channel forming and sediment transport based on real-time conditions. A committee composed of federal and state agencies, the Tribe, and Tacoma will evaluate use of the water budget each year. This approach provides a

---

34 The court found that section 401(a)(1) of the CWA impliedly requires states to comply with their public notice procedures and requires the Commission “to obtain some minimal confirmation of such compliance, at least in a case where compliance has been called into question.” City of Tacoma v. FERC, 460 F.3d 53, 67 (D.C. Cir. 2006). The Tribe’s withdrawal of its objection to the certification resolves the Commission’s obligation to address this issue. As discussed later in this order, Washington Ecology has issued a second certification for the new powerhouse amendment that includes conditions consistent with the settlement’s proposed license articles.
feedback mechanism to help ensure that adequate flows will be available to meet the needs of anadromous fish at different times of the year, support aquatic habitats, maintain improvements to the channel capacity of the river, and provide some assurance that the flows released will benefit these resources.

38. Physical improvements to the mainstem channel capacity will be coordinated with other federal efforts that are currently underway. Together, the channel modifications and sediment transport flows are intended to help address flooding. Tacoma will develop stream flow management and monitoring plans to evaluate the effectiveness of these measures and to provide information needed for adaptive management.

39. Fish protection, mitigation, and enhancement will be accomplished through a number of measures. Flows released from the annual water budget will support spawning, rearing, and migration of anadromous fish, and will improve water quality. Ramping rates will help to minimize potential fish stranding. Habitat enhancement and restoration work will benefit anadromous fish by improving channel habitat and removing instream barriers. Tacoma will monitor to determine if the mitigation measures are effective and if modifications may be necessary. Tacoma will also develop a plan to implement measures designed to protect threatened or endangered species affected by the project.

40. Downstream fish passage will be provided through construction and operation of a floating surface collector in Lake Cushman, near Cushman Dam No. 1. The collector will be constructed in one or two phases, depending on whether the first phase meets certain passage criteria. Once the collector meets the passage criteria, Tacoma will monitor its performance to ensure that it continues to meet the criteria throughout the term of the license and will modify it if necessary. Upstream fish passage will be provided by a trap and haul system that will be consistent with NMFS design criteria. Tacoma will monitor the effectiveness of the facility and modify it if needed to ensure safe, timely, and effective fish passage. Tacoma will also conduct studies to help design both the upstream and downstream passage facilities as effectively as possible.

41. To restore anadromous fish populations in the upper North Fork Skokomish River and to implement a resident fishery, the fish supplementation program will include construction and operation of anadromous fish hatcheries, stocking of rainbow trout in Lake Kokanee, and other actions.

42. To address recreation, Tacoma will enhance the Forest Service’s Big Creek Campground and other recreation sites within and outside the project boundary. Tacoma will also monitor recreation and develop additional facilities if necessary. To enhance recreation and water quality, Tacoma will also make improvements to a section of Staircase Road.
43. In addition to the proposed license articles in Appendix 1, the settlement also includes appendices setting forth the parties’ authorized representatives (Appendix 2), provisions related to the Fisheries and Habitat Committee (Appendix 3), and a fish supplementation framework for the Cushman Project (Appendix 4). The Appendices are all integral parts of the settlement.

**B. Off-License Agreements**

44. The settlement includes three attachments that are off-license agreements included for the Commission’s information. The parties do not seek Commission approval of these agreements, and they will not become part of the license. Attachment A is an off-license agreement between the Tribe and Tacoma resolving the Tribe’s claim against Tacoma for damages caused by the Cushman Project. The damages settlement ends an adversarial relationship between the Tribe and Tacoma that dates back to the original construction of the project, and is intended to settle all of the Tribe’s damages claims pertaining to construction and operation of the Cushman Project. Tacoma and the Tribe agree that, together with the licensing settlement, the damages settlement is intended to establish a strong foundation for future cooperation and improved communication between Tacoma and the Tribe.

45. Under the terms of the damages settlement, Tacoma will pay the Tribe a lump sum as well as annual payments based on a percentage of the new value of electric production from the project. Tacoma will also convey certain lands to the Tribe, including project lands that are of significant cultural and historic importance to the Tribe. These lands include Nalley Ranch, a portion of Hood Canal Recreation Park (also known as Saltwater Park), and Camp Cushman. These transfers are discussed in greater detail in the recreation section of this order.35

46. The damages settlement provides that, within 60 days after the Commission issues an amended project license based on the license settlement articles, Tacoma and the Tribe will file a joint motion with the Ninth Circuit to remand the case to the district court. Upon remand, the parties will file the damages settlement with the court as a consent decree and request that the case be dismissed.

47. Tacoma and the Tribe emphasize that the license agreement and damages settlement are interrelated parts of the settlement. They were negotiated simultaneously.

35 The damages settlement also addresses claims related to the Tribe’s trespass lawsuit against Tacoma concerning five allotments of Tribal lands that the court determined the city had illegally condemned. See United States v. City of Tacoma, 332 F.3d 574 (9th Cir. 2003).
in a comprehensive manner to resolve all outstanding issues related to construction and operation of the Cushman Project.

48. Attachment B to the settlement is an off-license agreement with the Washington DFW for fish supplementation beyond that provided for under the settlement. Since 1959, Tacoma has annually provided funding to the state of Washington to reimburse the state for a portion of Washington DFW’s expense incurred in operating the George Adams Hatchery as part of a settlement to resolve litigation pertaining to state law requirements for fish passage on anadromous fish streams. As part of the license settlement, Tacoma will be implementing fish passage under the amended project license. In this off-license agreement, however, Tacoma has agreed to continue funding the George Adams Hatchery for the duration of the license term.

49. In addition, Tacoma has made a commitment to release 33,333 pounds of rainbow trout (approximately 100,000 fish) each year into Lake Kokanee and other lakes. Tacoma and Washington DFW executed this supplementation agreement because the George Adams Hatchery is remote from the Cushman Project. Tacoma will release 24,000 to 35,000 of these fish into Lake Kokanee, with the remainder to be released into lakes that are remote from the project and outside of the project boundary.

50. Attachment C to the settlement is an off-license agreement between Tacoma and the Forest Service to provide for operation, maintenance, and administration of recreational facilities owned or operated by the Forest Service, as well as law enforcement on project lands. Tacoma’s responsibilities under this agreement are in addition to those set forth in Article 425, which are primarily one-time actions to construct certain facilities.

51. Tacoma states that it entered into this agreement with the Forest Service because project-induced recreation accounts for only some of the recreational use at these facilities. The agreement provides that Tacoma will contribute funds to cover part of the cost of operating and maintaining these Forest Service facilities without expanding the project boundary to include them. The Forest Service includes a reservation of authority under FPA section 4(e) to require enforcement of the off-license agreement as a license condition if the licensee defaults or the off-license agreement terminates.
C. Revised Terms and Conditions

1. Revised Section 10(j) Recommendations

52. Section 10(j) of the FPA\textsuperscript{36} 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,\textsuperscript{37} “to adequately, and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

53. Interior, FWS, NMFS, and Washington DFW submitted fish and wildlife recommendations for the Cushman Project, pursuant to section 10(j), in October 1994. On April 13, 2009, NMFS filed revised section 10(j) recommendations. Neither Interior nor Washington DFW filed revised section 10(j) recommendations. NMFS’s revised recommendations are consistent with proposed license articles 403, 405-407, 410-413, 417, 418, 423, and 432 included as part of the settlement agreement. This amended license adopts the proposed articles without material modification, consistent with NMFS’s revised 10(j) recommendations.\textsuperscript{38}

2. Revised Section 18 Prescriptions

54. Section 18 of the FPA\textsuperscript{39} 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. Interior, through FWS, and Commerce, through NMFS, previously provided fishway prescriptions for the Cushman Project. On April 13, 2009, NMFS filed revised


\textsuperscript{38} Proposed license article 432 requires Tacoma to establish and convene a Fisheries and Habitat Committee to implement specific provisions of the settlement agreement. NMFS’s recommendation for this committee does not fall within the scope of section 10(j), as the recommendation is not a specific fish and wildlife measure. However, we consider this recommendation under section 10(a) of the FPA. The recommendation for a Fisheries and Habitat Committee provides a means for implementing the flow, fishery, and habitat provisions of this license. Therefore, we include this provision in the amended license.

fishway prescriptions pursuant to section 18 of the FPA. Interior did not file a revised fishway prescription. NMFS’s revised fishway prescriptions are consistent with proposed Articles 414-416 included as part of the settlement agreement. This amended license adopts the proposed articles without material modification, consistent with NMFS’s revised fishway prescription, and Ordering Paragraph (K) makes the revised prescriptions part of this amended license.

3. Revised Section 4(e) Conditions

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


58. On March 12, 2009, Interior filed revised section 4(e) conditions for the protection of the Skokomish Indian Reservation. Interior’s revised 4(e) conditions are consistent with proposed license articles 403, 406, 407, 410-418, 420, 421, 432, and 434 included as part of the settlement agreement. This amended license adopts the proposed articles without material modification, consistent with Interior’s revised section 4(e) conditions, and Ordering Paragraph (J) makes the revised conditions part of this amended license.


41 Reservations are defined in section 3(2) of the FPA, 16 U.S.C. § 796(2) (2006).

42 Cushman Powerhouse No. 2 and the penstocks to that powerhouse are located within the exterior boundaries of the Skokomish Indian Reservation on land owned by Tacoma, and an access road and a transmission line are located on five allotments within the reservation. See City of Tacoma, Washington, 84 FERC ¶ 61,107 (1998). See also United States v. City of Tacoma, 332 F.3d 574 (9th Cir. 2003) (declaring invalid Tacoma’s condemnation of these allotments in 1921).

43 The Cushman Project occupies 14 acres of National Forest System lands and waters administered by the Olympic National Forest (see Forest Service letter filed March 16, 2009, transmitting its revised section 4(e) conditions).
59. On March 16, 2010, and clarified on June 16, 2010, the Forest Service filed revised conditions under section 4(e) of the FPA for the protection and utilization of the Olympic National Forest and to ensure consistency with the Olympic National Forest Land and Resource Management Plan. The Forest Service’s revised Conditions 1 through 5 are identical to proposed Articles 410(2), 425, 427, 428, and 433 included as part of the settlement agreement. Revised Conditions 6 through 9 are updated versions of the earlier-filed conditions that were to remain in the license. This amended license adopts the proposed articles without material modification, consistent with the Forest Service’s revised section 4(e) Conditions 1 through 5, and includes the Forest Service’s updated section 4(e) Conditions 6 through 10 in Appendix B to this order. Ordering Paragraph (I) makes the revised conditions part of this amended license. As explained below in the section discussing the proposed articles, although we would not normally do so, we included the agencies’ mandatory conditions as license articles rather than attaching them as an appendix in this particular case. As a result, the 400-series articles include some measures that the Commission would not otherwise require.

D. North Fork Powerhouse

60. Attachment D to the settlement is a draft of Tacoma’s application for a license amendment for a new North Fork powerhouse, which the settlement states would be filed under separate cover. As noted above, Tacoma filed its application for the new powerhouse on January 26, 2009. Tacoma requests that the Commission process this application in conjunction with its review of the settlement. Tacoma proposes to construct a new powerhouse on the North Fork Skokomish River immediately downstream of Cushman Dam No. 2, to take advantage of the minimum flow releases for power generation. Tacoma made a similar proposal in connection with its relicense application, and Commission staff evaluated several alternatives for the new powerhouse in the draft EIS. Tacoma subsequently withdrew the proposal for economic reasons.44

61. Tacoma states that the new powerhouse is now economically viable and requests authorization to construct and operate it. The new powerhouse would be designed and constructed to support a fish collection facility and would recapture some of the generation lost by the release of flows into the North Fork. The agencies agreed to waive pre-filing consultation for construction of the new powerhouse, but retain all other rights regarding it, including commenting on the application and development of the design, construction, and operation of the powerhouse. Although the new powerhouse is not part of the settlement, it is integrally related to it by virtue of its connection to the fish collection and passage facilities. For this reason, we consider it together with the settlement in this order.

AMENDED LICENSE ARTICLES

62. In this section, we review the provisions of the 1998 license and the changes proposed in the settlement. License articles that are unchanged are also noted. For convenience, this order reproduces the complete text of the license as amended in this order, so that there is no need to refer to a prior Commission order for the text of any condition of the amended license. In addition, most of the settlement’s proposed revisions to articles in the 400 series are mandatory conditions under sections 4(e) or 18 of the FPA. As a result, the 400-series articles in this amended license include some measures that the Commission would not otherwise require under its settlement policy. Ordinarily, we would attach the agencies’ mandatory conditions as an appendix to the order, reserving the 400-series articles for the measures that the Commission requires. In the particular circumstances of this case, however, because we are amending an issued license in response to both a court remand and a settlement, we have included the revised articles in the manner that the settlement parties proposed.

Article 201: Annual Charges

63. The Commission collects annual charges from its licensees to reimburse Indian tribes for the use and occupancy of their reservation lands. Under FPA section 10(e), the Commission must fix a reasonable annual charge for such use, subject to the approval of the tribe. Although the Commission has used a variety of procedures to satisfy its section 10(e) obligation, our current practice is that annual charges for Indian reservation

45 This license includes all articles from the 1998 license that are unchanged, all articles that were amended in prior Commission orders or in this order, all mandatory conditions and prescriptions, revised section 10(j) recommendations, standard license articles, water quality certification conditions, and incidental take conditions of the biological opinions.

46 There are only six of the 24 remaining articles in the 400 series that are not part of the agencies’ mandatory conditions. They are: Article 405 (impoundment elevations), Article 423 (threatened and endangered species plan), Article 424 (shoreline management plan), Article 429 (historic properties management plan), Article 431 (the Commission’s standard land use article), and Article 435 (memorandum of agreement for the new powerhouse).

lands should rest on agreements between the parties, the terms of which we will then incorporated in the license unless they are patently unreasonable.  

64. Article 201(c) of the 1998 license requires Tacoma to negotiate with the Tribe to establish a reasonable annual charge for the use of tribal lands. As a result of the settlement, Tacoma and the Tribe have agreed that Tacoma will pay the Tribe an annual charge of $20,000 (2008 dollars), adjusted annually by the Consumer Price Index, for the use of reservation lands. We agree that these charges, which are the outcome of a negotiated settlement between Tacoma and the Tribe, are reasonable. We therefore include them in amended Article 201(c).

65. The Commission also collects annual charges from its licensees for administration of the FPA and for the use and occupancy of U.S. lands. Article 201 of the 1998 license provides for the collection of funds for these charges.

66. This order authorizes the construction of a new powerhouse that will increase the project’s authorized installed capacity from 131 MW to 134.6 MW. In accordance with Commission policy, the effective date of the revised annual charges will be the date of the start of operation of the new powerhouse.

67. This order authorizes measures that require certain lands to be added to or removed from the existing project boundary. Some of these changes may affect the total acreage of U.S. lands that are included in the project boundary. Revised annual charges for the use of federal lands will be assessed based on revised Exhibit G drawings filed pursuant to Article 204.

**Articles 202-205, 301-303: Administrative and Engineering Provisions**

68. Article 203 of the 1998 license requires Tacoma to reimburse the owner of a headwater improvement for any benefits Tacoma receives from such improvement. Article 205 of the 1998 license requires Tacoma to develop and file a Hydropower Compliance Management Program for the project. The provisions of the settlement agreement do not change the requirements of these two articles. We therefore include Articles 203 and 205 without modification in this amended license.

---


69. Article 202 of the 1998 license requires Tacoma to file approved Exhibit J, K, and L drawings on aperture cards. Article 204 of the 1998 license requires Tacoma to file a revised Exhibit K showing wildlife habitat parcels to which title or development rights have been obtained. Article 301 provides that any construction be initiated within two years and completed with four years of license issuance. Article 302 requires Tacoma to file contract plans and specifications for pertinent features of the project. Finally, Article 303 requires that Tacoma file as-built drawings after finishing any construction activity at the project. This amended license authorizes changes in the project boundary and the construction of a new powerhouse at the base of Cushman Dam No. 2. Therefore, as discussed later in this order, there is a need to update the provisions of these articles.

**Article 401: Construction Plan for Nalley Ranch Dike Removal**

70. Article 401 of the 1998 license requires Tacoma to develop and file a construction control plan for purpose of controlling the effects resulting from the removal of dikes on Nalley Ranch. The settlement agreement proposes to delete this article from the license, because its primary objectives have been substantially achieved.

71. Much of the dike removal and restoration work on the Nalley Ranch property has been completed outside the licensing process.\(^50\) In 2006, the Tribe, Tacoma, the Mason Conservation District, and other partners began a joint project to restore natural tidal hydrology to most of the Skokomish Estuary in Hood Canal.\(^51\) The project consists of: (1) removing island dikes, levees, and roads; (2) filling borrow ditches; (3) removing culverts and tide gates; and (4) improving salmonid refugia, tidal marsh habitat, and water quality. A construction control plan would be a prerequisite to completing these activities.

72. We see no reason to retain Article 401 as a part of the license. First, Nalley Ranch is located within the boundaries of the Skokomish Indian Reservation,\(^52\) and the property

---

\(^{50}\) See Joint Explanatory Statement to the Settlement Agreement at 18. Because Article 401 has been stayed pending judicial review and further order of the Commission, Tacoma elected to proceed with this work on a voluntary basis, assuming the risk that the Commission might later impose additional or different requirements.

\(^{51}\) The project is occurring in two phases. Phase 1, which was completed in 2007, restored about 110 acres of intertidal wetlands on Nalley Ranch. Phase 2, expected to be completed in 2009, will restore an additional 210 acres of intertidal wetlands.

\(^{52}\) Nalley Ranch represents nearly 20 percent of the Tribe’s reservation land base.
is of significant cultural, historic, and societal importance to the Tribe and its membership. Because of this significance, Tacoma proposes to convey ownership of the property to the Tribe. Second, much of the restoration work on Nalley Ranch has been completed, and additional work is planned through the collaborative partnership outside the licensing process. Third, Articles 412 and 421 include significant aquatic habitat enhancements, and wildlife management lands and projects, respectively, to address project effects. Finally, Nalley Ranch is located at the mouth of the Skokomish River, remote from the primary project area. Only some of the project’s transmission lines cross a small portion of the property. For these reasons, the construction plan required by Article 401 is no longer needed. Therefore, Ordering Paragraph (F) removes Article 401 from the amended license.

**Article 402: McTaggert Creek Diversion Dam**

73. Article 402 of the 1998 license requires Tacoma to develop and file a final construction control plan for the purpose of controlling erosion, bank stability, sedimentation, turbidity, and water pollutant effects resulting from the removal of the McTaggert Creek diversion and replacing two culverts on Forest Service roads to accommodate the increased flow in the creek. The settlement agreement does not propose any changes to this article. However, the McTaggert Creek diversion dam has been removed, the culverts have been replaced, and the requirements of Article 402 have been fulfilled. Therefore, this article is no longer necessary, and Ordering Paragraph (F) removes it from this amended license.

**Article 403: Channel Conveyance Capacity**

74. Article 403 of the 1998 license requires Tacoma to develop and file a plan to enhance the channel conveyance capacity of the mainstem Skokomish River. Proposed Article 403 coordinates Tacoma’s obligations under the 1998 license with ongoing multi-party efforts to restore the mainstem capacity of the Skokomish River. Instead of developing a separate plan for enhancing channel conveyance capacity, proposed Article 403 requires Tacoma to assist the U.S. Army Corps of Engineers (Corps), in conjunction with Mason County and the Tribe, in the Corps’ effort to complete the Skokomish River Basin Ecosystem Restoration and Flood Damage Reduction General Investigation (General Investigation). Proposed Article 403 requires Tacoma to provide

---

53 As with the Nalley Ranch dike removal, Tacoma elected to proceed with this work while Article 402 was stayed, and informed Commission staff of its plans. Tacoma completed the project on October 15, 2009, and filed its McTaggert Creek Restoration Final Construction Report on January 6, 2010. The Commission accepted this report on February 2, 2010.
the Corps with 25 percent of the funds necessary to complete the General Investigation. Although we would not normally require such a cost-sharing measure, we include it because it is a section 4(e) condition.

75. The purpose of the General Investigation is to develop and recommend potential measures to address ecosystem restoration and flood damage reduction. The objective is to restore proper natural function to the basin while minimizing flood damages. The work includes formulating alternative measures, evaluating costs and benefits, preparing initial designs, and recommending a plan to initiate measures. The Corps currently anticipates completing this study by 2012. The General Investigation will be the basis for a decision by Congress to authorize the restoration project and to appropriate federal funds for implementation.

76. Proposed Article 403 also requires Tacoma to develop a Mainstem Channel Restoration Plan (Restoration Plan), if, by year 15 after the issuance of the license, the U.S. Congress has not appropriated sufficient funds to implement measures that address mainstem channel restoration. The Restoration Plan would: (1) identify and prioritize appropriate measures proposed within the General Investigation that can be implemented by Tacoma to enhance mainstem channel capacity, or identify alternative measures; (2) include individual implementation schedules, and cost estimates for each measure; and (3) identify provisions for creating and managing a Restoration Plan account.

77. These proposed modifications to Article 403 are appropriate in this case. The record in this proceeding shows that increased sedimentation has occurred in the mainstem Skokomish River, due in part to logging and the introduction of sediment to the South Fork, as well as reduced flow in the North Fork associated with project operation. These factors have exacerbated flooding along the mainstem, including on the Skokomish Indian Reservation. Tacoma bears some responsibility for these conditions. Working with the Corps in implementing its General Investigation will improve efficiency in the process by allowing Tacoma’s obligations to be coordinated with the Corps’ ongoing efforts to restore the mainstem capacity of the Skokomish River. If no measures are implemented to address channel conveyance capacity by year 15 of the amended license, Tacoma will develop a plan to implement appropriate measures on its own.

54 The Corps currently estimates that the General Investigation will cost approximately $4.4 million. Tacoma’s share is $400,000 per year, or $1.2 million total.

55 Projects implemented in areas that are both: (a) outside the North Fork Skokomish sub-basin, and (b) outside the then-existing project boundary, will be one-time actions or other measures that would not result in expansion of the project boundary.
These requirements, when coupled with the flow provisions of proposed Article 407, represent a reasonable, balanced approach for addressing an issue with multiple causes that are the responsibility of multiple entities. Article 403, as modified by the settlement, is required by Interior’s revised section 4(e) conditions for the project. We therefore include proposed Article 403 in this amended license.

**Article 404: Maintaining Channel Conveyance Capacity**

Article 404 of the 1998 license requires Tacoma to file a plan to study the effectiveness of maintaining the channel conveyance capacity of the mainstem Skokomish River through flow manipulation, including implementing flushing flows. The settlement agreement proposes to delete this article from the license, because its provisions are now included in proposed Article 407(3), Component 3 – Mainstem Sediment Transport Flows. The rationale for moving the requirements of Article 404 to proposed Article 407 is discussed below in connection with the North Fork Skokomish River flow regime. Article 404 is no longer necessary, and Ordering Paragraph (F) deletes it from this amended license.

**Article 405: Impoundment Elevations**

Article 405 of the 1998 license requires Tacoma to maintain a minimum impoundment elevation in Lake Cushman of between 735 and 738 feet Tacoma Datum from Memorial Day weekend through Labor Day weekend. The existing article also requires Tacoma to maintain a minimum impoundment elevation in Lake Cushman of 690 feet Tacoma Datum from November 1 through March 31. Finally, Tacoma is required to maintain the elevation of Lake Kokanee between 475 and 478 feet Tacoma Datum at all times, except during maintenance activities for the intake or spillway.

Proposed Article 405 retains the existing minimum impoundment elevation requirements for Lake Cushman, but revises them for Lake Kokanee to require Tacoma to maintain impoundment elevations between 474 and 480 feet Tacoma Datum at all times. This change would allow Tacoma to continue operating the project efficiently while providing the new flow regime included in Article 407 of this amended license. In addition, proposed Article 405 provides for temporary modifications of the impoundment elevation requirements if required by operating emergencies or upon approval of the Fisheries and Habitat Committee. This is similar to the requirement in the existing Article 405, which allows for such modifications upon agreement of resource agencies and the Tribe.

---

56 Existing Article 405 requires agreement of the Washington DFW, Washington Ecology, FWS, Forest Service, the Tribe, and Lake Cushman State Park. Except for the (continued…)
82. Proposed Article 405 offers a more effective approach to water level management at the project, as it will streamline the process for addressing temporary modifications to the lake levels required by the amended license. This will provide Tacoma with more flexibility to respond to specific issues that arise during operation of the project, which will allow for better management of water levels. It will also provide Tacoma with additional flexibility to adjust project operations in response to data from the monitoring and fishery reports that will be produced under proposed Article 413, which is discussed below. Finally, more efficient management of lake levels will enhance the recreational, aesthetic, and socio-economic values of Lake Cushman, and will facilitate dam safety and flood control. For these reasons, we adopt these modifications and include proposed Article 405 in this amended license.

Article 406: Operational and Flow Monitoring Plan

83. Article 406 of the 1998 license requires the licensee to develop and implement an Operational and Flow Monitoring Plan. The article specifies that the plan include use of two existing North Fork Skokomish River U.S. Geological Survey (USGS) gages (Nos. 1205880 and 12059500), and one unidentified site on the South Fork of the Skokomish River for a third gage, to monitor instantaneous headpond and tailwater elevations for the two dams, flows through the two powerhouses using generation records, and flows in Skokomish River downstream from Cushman Dam No. 2, as well as provisions to telemeter these gages. The article also requires that the plan include: (1) the proposed location, design, and calibration of monitoring equipment; (2) the extent of manned versus unmanned operation of monitoring equipment; (3) methods for recording and maintaining flow data; (4) a mechanism for providing flow data to FWS, NMFS, Park Service, Forest Service, Washington DFW, and the Tribe; (5) a provision that describes the priorities in operating the project when the requirements for flow releases in Article 407 conflict with the Lake Cushman water surface elevations in Article 405; and (6) a schedule for implementation, consultation with stakeholders, and filing of data and comments with the Commission. Lastly, the article requires that the plan be developed in consultation with FWS, NMFS, Park Service, Forest Service, State Park, which no longer exists, each of these entities is a member of the Fisheries and Habitat Committee.

Washington DFW, Save the Lakes Coalition, and the Tribe, and that the licensee shall file the plan for approval with Commission.

84. Proposed Article 406 is similar to existing Article 406 and includes the same substantive provisions. Instead of requiring that the two existing North Fork Skokomish River USGS gages and the one unidentified gage on South Fork be used to monitor project operations, proposed Article 406 requires the use of three existing North Fork Skokomish River USGS gages (Nos. 12056500, 12058790, and 12059500) and one mainstem gage (No. 12061500) to monitor flows in the North Fork and mainstem Skokomish River. Proposed Article 406 also clarifies that the provision for describing priorities and resolving conflicts includes consideration of not only flow releases and Lake Cushman water surface elevations, but also refill of the reservoir and project generation needs. It requires Tacoma to provide flow and impoundment elevation data to the Fisheries and Habitat Committee, Save the Lakes Coalition, and the USGS. Lastly, the revised article requires that the plan be developed in consultation with the Fisheries and Habitat Committee and Save the Lakes Coalition, and be approved by NMFS, FWS, BIA, and the Commission.

85. The proposed changes to Article 406 provide additional detail regarding the licensee’s obligation to monitor flows and project operations. They are also required by Interior’s revised section 4(e) conditions and Washington Ecology’s water quality certification for the new powerhouse. We therefore include proposed Article 406 in this amended license.

Article 407: Minimum Flows

86. Article 407 of the 1998 license requires Tacoma to release a minimum flow of 240 cfs or inflow, whichever is less, for the protection and enhancement of fish and wildlife resources, riparian vegetation, aesthetic resources, and water quality in the North Fork Skokomish River downstream of Cushman Dam No. 2. Proposed Article 407 accommodates these objectives while also addressing fish migration, channel formation in the lower North Fork, and sediment transport in the mainstem Skokomish River.58

87. To achieve these goals, proposed Article 407 uses a water budget of 160,000 acre-feet to support a flow regime designed to mimic the timing, duration, and frequency of annual flow events. Proposed Article 407 sets a predetermined minimum flow schedule, based on 115,835 acre-feet of storage in Lake Cushman, to establish and maintain habitat improvements in the river. In addition, an annual variable flow from 44,165 acre-feet of

58 Sediment transport also supports several objectives identified in proposed Article 403 to reduce the human health and welfare risks from flooding.
storage will be released to address juvenile and adult fish migrations through the mainstem Skokomish and lower North Fork Skokomish Rivers. Finally, channel formation and sediment transport flows, in addition to those provided based on storage in Lake Cushman, will be released as seasonal conditions dictate.  

88. The channel formation and sediment transport flows will be subject to adaptive management over the license term. For instance, beginning in year five of the license and every five years thereafter, the Fisheries and Habitat Committee, using data collected under Article 413, will evaluate the effectiveness of the flows and recommend any necessary modifications to the flow trigger, timing, and duration. If the Committee determines that these flows are not effective at improving mainstem sediment transport, it may request that Tacoma cease these flows and develop and implement a Flood Damage Reduction and Mitigation Plan (Flood Mitigation Plan).

89. The approach to flow management outlined in proposed Article 407 is more closely tied to resource needs, and will ensure a greater level of protection to the resources than would be afforded by a single minimum flow. These modifications to Article 407 will allow Tacoma, resource managers, and the Tribe to assess the flow needs for fish each year and adjust accordingly. Proposed Article 407 addresses the possibility that the parties may not reach agreement on flow changes by establishing a default flow regime. These modifications are not likely to exacerbate mainstream flooding, because flow releases will be better timed with flows in the South Fork and mainstem Skokomish Rivers. Finally, the long-term effects of the channel-forming and sediment-transport flows are expected to improve channel conveyance capacity, thus reducing the potential for flooding over time. Article 407, as modified by the settlement, is required by Interior’s revised section 4(e) conditions and Washington Ecology’s water quality

59 The channel formation flows released from Cushman Dam No. 2 will be triggered when runoff at the Staircase USGS stream flow gage reaches predetermined levels, resulting in simulated freshets, which will be based on in-season conditions. The sediment transport flows, which are intended to support the mainstem’s natural capacity to move sediments downstream following significant weather events, will be triggered using the Skokomish River at Potlach USGS stream flow gage.

60 The Flood Mitigation Plan would: (1) outline the rationale for ending the channel forming and sediment transport flows; (2) identify an initial list of projects that Tacoma would implement; (3) include provisions for establishing a Flood Damage reduction and Mitigation Fund; and (4) include provisions for resuming the flows, if determined appropriate. Projects implemented in areas that are both outside the North Fork Skokomish sub-basin, and outside the then-existing project boundary, will be one-time actions that would not result in the expansion of the project boundary.
certification for the new powerhouse. We therefore include proposed Article 407 in this amended license.

**Article 408: Minimum Flow Plan**

90. Article 408 of the 1998 license requires Tacoma to file a plan describing the methods for releasing the minimum flows required by Article 407 downstream of Cushman Dam No. 2. The settlement agreement proposes to delete this article from the license, because its provisions relate to how flows are to be released to the river and are no longer applicable. We agree, and see no reason to retain it as part of the license. We previously lifted the stay of the minimum flow requirement for the North Fork Skokomish River in Article 407 and the requirement in Article 408 for a plan outlining how the flow would be released.\(^{61}\) Tacoma installed a new minimum flow valve and began releasing the required 240-cfs minimum flow on March 7, 2008.\(^{62}\) For these reasons, Ordering Paragraph (F) deletes Article 408 from the license.

**Article 409: Modified Intake Structure at Dam No. 1**

91. Article 409 of the 1998 license required that Tacoma develop and file a plan to modify the Cushman Station No. 1 intake to withdraw warmer water from Lake Cushman during the summer and fall months. On rehearing of the license order, the Commission deleted this requirement from the license in 1999.\(^{63}\) Because the settlement does not include this measure and we have no new information that would lead us to reconsider it, we do not reinstate it.

**Article 410: Water Quality Enhancement Plan**

92. Article 410 of the 1998 license requires the licensee to develop and implement a Water Quality Enhancement Plan. The article requires that the plan include provisions for: (1) installing emergency intake shutoff valves on all penstock intakes; (2) improving and maintaining Staircase Road to protect water quality; and (3) monitoring dissolved gases at all powerhouse outfalls and spillways, including mechanisms, data recording methods, a schedule, and reasonable enhancement measures if needed to maintain state water quality standards. Lastly, the article requires that the plan be developed in consultation with FWS, NMFS, Park Service, Forest Service, the U.S. Environmental


\(^{62}\) See Joint Explanatory Statement to the Settlement Agreement at 4.

\(^{63}\) See *City of Tacoma, Washington*, 86 FERC ¶ 61,311 (1999).
Protection Agency (EPA), Washington DFW, Washington Ecology, BIA, and the Tribe, and that it be filed with the Commission for approval.\(^{64}\)

93. Proposed Article 410 is similar to existing Article 410, but includes some different provisions concerning Tacoma’s responsibility for improving Staircase Road (Forest Service Road 24). Both existing and proposed Article 410 require Tacoma improve and maintain Staircase Road to protect water quality. However, proposed Article 410 clarifies Tacoma’s responsibilities and accommodates the Forest Service’s goal of transferring jurisdiction over Staircase Road to a public road management agency, such as Mason County or the Washington Department of Transportation. To help facilitate this transfer, proposed Article 410(2) requires Tacoma to contribute up to $750,000 as matching dollars for federal or other grants if jurisdiction over Staircase Road is transferred to a road management agency. If jurisdiction over Staircase Road is not transferred within three years of issuance of an amended license, proposed Article 410 requires Tacoma to apply a double thick layer of bituminous surface treatment and additional aggregate base to accommodate anticipated traffic and protect water quality by reducing road dust and siltation effects on Lake Cushman. Finally, proposed Article 410 maintains the requirement to consult with the entities listed above, except EPA is no longer included as an entity to be consulted.

94. The proposed changes to Article 410, as described herein, will protect aquatic resources in the project area and provide additional detail regarding Tacoma’s responsibilities for upgrading Staircase Road to protect water quality in Lake Cushman. We would not normally include a requirement that the licensee make a financial contribution to a road management agency. However, Article 410, as modified by the settlement, is required by Interior’s and the Forest Service’s revised section 4(e) conditions, as well as the Washington Ecology’s water quality certification for the new powerhouse. We therefore include proposed Article 410 in this amended license.

**Article 411: Ramping Rate Conditions**

95. Article 411 of the 1998 license requires Tacoma to develop a plan to implement and maintain ramping rates for flow releases from the Cushman Project. Proposed Article 411 requires Tacoma to follow the ramping rate restrictions recommended by the resource agencies in the 1998 license. However, rather than requiring a separate plan, proposed Article 411 provides that Tacoma’s compliance with the ramping rate restrictions will be measured at North Fork Skokomish River USGS streamflow gage.

\(^{64}\) The Commission added BIA as a consulted agency on rehearing of the relicense order. *See City of Tacoma, Washington, 86 FERC ¶ 61,311, at 62,105 (Ordering Paragraph (C)) (1999).*
No. 2058790. It also requires Tacoma to maintain specific downramping and upramping restrictions based on the time of year and time of day.\textsuperscript{65}

96. The modifications included in proposed Article 411 are better suited to address resource protection goals than existing Article 411 because they provide more specificity as to Tacoma’s obligations to protect the resources in the North Fork and mainstem Skokomish Rivers. Article 411, as modified by the settlement, is required by Interior’s revised section 4(e) conditions and Washington Ecology’s water quality certification for the new powerhouse. We therefore include proposed Article 411 in this amended license.

**Article 412: Fish Habitat Enhancement and Restoration Plan**

1. **Proposed Revisions to Article 412**

97. Article 412 of the 1998 license requires Tacoma to enhance aquatic habitat in the North Fork Skokomish River and restore aquatic habitat in McTaggert Creek. Article 412 also requires Tacoma to provide access to spawning habitat in tributaries of Lake Cushman and Lake Kokanee by: (1) augmenting gravel in the North Fork; (2) replacing McTaggert Creek culverts; (3) funding the design, construction, and maintenance of two bridges at river fords (wet crossings) on Richert Ranch;\textsuperscript{66} (4) providing access to spawning habitat in upper Big Creek and Dow Creek; (5) removing the McTaggert Creek diversion structure and restoring natural flows to the stream; (6) implementing one-time habitat enhancements for the lower North Fork of the Skokomish River; and (7) implementing measures to minimize the take of listed salmon stocks.

98. Proposed Article 412 requires Tacoma to file, within one year of issuance of the amended license, a comprehensive Fish Habitat Enhancement and Restoration Plan (Fish Habitat Plan) to enhance fish habitat in the North Fork Skokomish River Basin. The

\textsuperscript{65} Downramping rates, varying from no ramping to two inches per hour, are implemented at flows less than the critical flow of 500 cfs, which is defined as the river stage at which the lowest gradient gravel bars are exposed. In this case, the McTaggert Creek confluence with the North Fork Skokomish is the lowest gradient gravel bar. Upramping rates are limited to no more than one foot per hour, unless required by an operating emergency. Time of year is defined as from February 16 to June 15; June 16 to October 31; and November 1 to February 15. Daylight is defined as one hour before sunrise to one hour after sunset. Night is defined as one hour after sunset to one hour before sunrise.

\textsuperscript{66} In the 1998 license, Article 412 refers to this property as “Richert Farm.”
purpose of the Fisheries Habitat Plan is to provide guidance for projects designed and implemented to enhance aquatic habitat in the North Fork Skokomish River and McTaggert Creek, and to provide access to spawning habitat in tributaries of Lake Cushman. Proposed Article 412 requires Tacoma to implement all habitat projects identified in existing Article 412, with the exception of the two bridges at river fords on Richert Ranch (which we discuss in detail below).  

99. In addition, proposed Article 412 requires that Tacoma develop and implement aquatic habitat enhancement and restoration projects within and adjacent to the North Fork Skokomish River. Such projects are to include, at a minimum: (1) instream structure enhancements; (2) side-channel habitat development; (3) removal of existing barriers to upstream migration in upper Big Creek and Dow Creek; and (4) gravel augmentation projects in the river downstream of Cushman Dam No. 2 to increase anadromous fish spawning habitat, if warranted based on monitoring provided for in Proposed Article 413. Finally, Tacoma is required to implement measures to minimize the take of listed salmon stocks associated with in-water work during the installation of any physical structures and facilities.

100. To implement the provisions of proposed Article 412, Tacoma is required to establish a Habitat Restoration Account by initially depositing $3.5 million into an interest bearing account within 30 days after issuance of this amended license. In addition, beginning five years after issuance of the amended license, and annually thereafter, Tacoma is required to deposit $300,000 into the account, adjusted annually by the Consumer Price Index. The settlement parties anticipate that these funds are likely to exceed the anticipated costs of the listed projects. If available funds remain within the Habitat Restoration Account, Tacoma would implement other appropriate aquatic habitat enhancement and restoration projects developed by the Fisheries Habitat Committee within the Skokomish River Basin. All projects to be implemented in areas that are both outside the North Fork Skokomish sub-basin and outside the then-existing project boundary would be one-time actions that would not result in expansion of the project boundary.

101. Proposed Article 412 is better tailored to provide resource protection than the existing Article 412, because it requires Tacoma to undertake projects that will provide considerable aquatic habitat benefits within the North Fork Skokomish River Basin.

---

67 As stated earlier in this order, Tacoma has completed the successful removal of the McTaggert Creek diversion dam, restored the natural flow to the creek, and replaced two culverts on USFS roads. Therefore, we see no reason to retain the provision requiring these measures and delete it from proposed Article 412.
throughout the license term.\textsuperscript{68} The projects will provide important resource protection measures that will work in concert with other specific measures, such as flows and fish passage. Given the expected changes over time, establishing the Habitat Restoration Account will allow for adaptive management and the most effective resource protection measures throughout the life of the license. The enhancements provided under proposed Article 412 and the Habitat Restoration Account will best address habitat enhancement and restoration needs throughout the license term by providing flexibility in the development and implementation of habitat enhancement and restoration projects. Article 412, as modified by the settlement, is required by Interior’s revised section 4(e) conditions. We therefore include proposed Article 412 in this amended license.\textsuperscript{69}

2. **Removal of Requirement to Construct Bridges**

   a. **History of the Bridge Requirement**

102. The Commission first required Tacoma to build two bridges at existing wet crossings on Richert Ranch in the 1998 license.\textsuperscript{70} Mr. Richert had intervened in the relicensing proceeding in 1992 to request that Tacoma be required to replace his wet crossings on the North Fork with bridges, and on the main stem of the Skokomish River with a temporary bridge for the summer months.\textsuperscript{71} Later in 1994, Washington DFW and FWS recommended, as a fish protection measure pursuant to FPA section 10(j), that Tacoma be required to fund the design, construction, and maintenance of two bridges over the North Fork on Richert Ranch, where river fords were used for crossing.\textsuperscript{72} The

---

\textsuperscript{68} Proposed Article 412 requires Tacoma to file a report with the Commission fully describing its implementation of the Fish Habitat Plan during the previous calendar year.

\textsuperscript{69} As explained in the Commission’s Settlement Policy, we do not view the funds deposited into the Habitat Restoration Account as a spending limit or cap on Tacoma’s obligations under the plan. See *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270, at 12 (2006).

\textsuperscript{70} See *City of Tacoma, Washington*, 84 FERC ¶ 61,107, at 61,577 and 61,585 Article 412 (1998).

\textsuperscript{71} See motion to intervene of Gerald G. Richert, J R Co. (filed January 31, 1992). Mr. Richert also sought to require Tacoma to provide a small increase in flows for irrigation and a fence to protect his property from increased elk and deer herds.

\textsuperscript{72} Washington DFW had also recommended that Tacoma be required to acquire conservation easements or development rights on Richert Ranch, which is part of the Southern Lower North Fork parcel, as one of several parcels to be managed for fish and (continued…)}
Commission agreed that these bridges would be appropriate to protect water quality and aquatic resources because they would help keep vehicles and farm equipment out of the river, and required that Tacoma provide a proposal for funding them as part of the fish habitat enhancement plan in Article 412.

103. Tacoma sought rehearing, and the Commission reiterated that the requirement was an appropriate measure to protect water quality and aquatic resources, and was not for the sole benefit of the landowner.\textsuperscript{73} The Commission also clarified that Article 412 does not specify the quality of the bridges to be constructed, but leaves it to the licensee to propose a design, in consultation with the fish and wildlife agencies and the landowner, that would adequately protect those resources. The Commission added: “If the agencies conclude that the bridges are not necessary for such purposes, they may join Tacoma in a request that Tacoma’s license be amended to delete this requirement.”\textsuperscript{74} As noted earlier, the Commission subsequently stayed the new license pending judicial review and further order of the Commission, and Tacoma began releasing a minimum flow of 60 cfs to the North Fork as a condition of the stay.\textsuperscript{75}

104. In 2003, the Commission directed a proceeding before a settlement judge to consider possible interim conditions to benefit threatened fish species pending completion of the remanded relicensing proceeding and any subsequent judicial review.\textsuperscript{76} Among other things, the judge found that a minimum flow of 240 cfs or inflow, whichever is less, was required on an interim basis to protect federally listed fish species, based in part on draft biological opinions prepared by FWS and NMFS. The judge also found that increasing lower North Fork flows to 240 cfs would require construction of a bridge, not only as a substitute for the wet crossing, but for water quality and aquatic resource protection as well. The judge further found that the record contained adequate support to conclude that a bridge could feasibly be constructed out of two 89-foot flat wildlife habitat. The Commission rejected this recommendation because of its high cost (over $12 million), requiring instead in Article 421 of the 1998 license that Tacoma acquire and manage a riverine buffer zone through this parcel. \textit{See City of Tacoma, Washington}, 84 FERC ¶ 61,107, at 61,557 and Article 421 (1998).

\textsuperscript{73} \textit{City of Tacoma, Washington}, 86 FERC ¶ 61,311, at 62,097 (1999).

\textsuperscript{74} \textit{Id.}

\textsuperscript{75} \textit{See City of Tacoma, Washington}, 87 FERC ¶ 61,197 (1999).

\textsuperscript{76} \textit{City of Tacoma, Washington}, 104 FERC ¶ 61,324 (2003).
railcars placed side by side and supported by concrete abutments on the channel banks, at a total estimated cost of $91,000 and an estimated construction time of three months.\(^77\)

105. On June 21, 2004, after FWS and NMFS issued their final biological opinions, the Commission issued an order partially lifting the stay to require that Tacoma complete the design and installation of a minimum flow release valve and begin releasing a minimum flow of 240 cfs.\(^78\) In that order, the Commission stated that increasing flows to 240 cfs would inundate two river fords on Richert Ranch and that, based on staff’s independent review, the solution of using two flatbed railroad cars was not feasible, because the cars would likely be damaged or washed away during high water events. Noting that no feasible bridge design had yet been identified, the Commission partially lifted the stay of Article 412 to require that Tacoma file a plan to replace one wet crossing on Richert Ranch with an appropriately designed bridge or some other appropriate structure, to be developed in consultation with federal and state agencies, owners of Richert Ranch, and the Tribe.\(^79\)

106. On October 19, 2004, Tacoma filed a plan proposing two alternative options for the bridge. Tacoma explained that the parties were unable to agree on the proposed design and location of the bridge, and that it developed the second alternative to address negative comments filed in response to the first alternative. Among other things, Tacoma’s filing suggested that changing the proposed location of the bridge would require Commission approval, and resolving the parties’ concerns about environmental impacts and state permitting requirements could delay the release of minimum flows. In comments filed on November 17, 2004, the Tribe requested that the Commission not allow the bridge construction to delay increasing minimum flows.\(^80\) On February 14, \(^80\)

\(^77\) Id. at 65,251 and 65,264.


\(^79\) Id. at P 45 n.12. The Commission specified that the bottom of the bridge should be at least two feet above the 100-year flood level of 9,000 cfs, and required that Tacoma review the plan with a qualified bridge engineer before filing it with the Commission. Id. The Commission reiterated that the purpose of the plan was to replace the existing wet crossing to protect water quality and aquatic resources in the lower North Fork of the Skokomish River. Id. at Ordering Paragraph (D).

\(^80\) The Tribe also questioned the need for the bridge and attached information suggesting that Mr. Richert used his existing suspension bridge during the high flow winter months, and often drove trucks across it. Tacoma’s October 19, 2004 bridge plan includes comments from Mr. Richert indicating that his father constructed the bridge some 50 years ago; one of the points of disagreement concerned Tacoma’s proposed (continued…)
2005, in an order on rehearing of the June 2004 interim flow order, the Commission clarified that, although it was interested in having the bridge completed as soon as possible, it did not want construction of the bridge to delay the release of minimum flows, and Tacoma would be required to begin releasing them as soon as the minimum flow release valve could be installed.81

107. The D.C. Circuit Court of Appeals stayed implementation of the Commission’s interim flow order on May 3, 2005, but subsequently lifted its stay on August 22, 2006.82 As a result, the Commission’s partial stay continued in effect. While judicial review was pending, Commission staff reviewed Tacoma’s October 2004 bridge plan and found it inadequate. By letter dated February 1, 2006, staff noted that the need to file a revised plan could depend on the outcome of the court’s review, and required that Tacoma file a revised bridge plan after a court decision. The court remanded the proceeding to the Commission on August 22, 2006.

108. On May 15, 2007, Tacoma and the Tribe jointly informed the Commission that they had entered into settlement negotiations in January 2007 and requested that the Commission refrain from taking any action in response to the court’s remand to allow those negotiations to proceed. On July 2, 2007, Tacoma filed a request for an extension of time to file an update on the status of the bridge plan, stating that the outcome of the settlement negotiations could affect the development of the plan. On August 7, 2007, Mr. Richert filed a letter expressing concern about the timing of bridge construction and maintaining that a bridge must be in place before any increase in flows. By letter dated August 28, 2007, Commission staff indicated support for a comprehensive settlement and agreed to await the parties’ settlement agreement, anticipated by October 1, 2007, before determining next steps to address the court’s remand. On August 31, 2007, Commission staff granted an extension of time to file the bridge plan until October 1, 2007. In subsequent filings, Tacoma and the Tribe reported on the progress of negotiations and requested additional time to reach a settlement. Commission staff continued to express location of the new bridge at the wet crossing instead of farther downstream, because it would require removal of the suspension bridge. It is unclear whether this bridge still exists; no parties have mentioned it in any filings since 2004. We note that one of the photographs of the existing wet crossing included in Mr. Richert’s filing of January 13, 2010, shows a sign that reads, “Danger, Bridge Unsafe, Keep Off.”

81 City of Tacoma, Washington, 110 FERC ¶ 61,140, at n.52 (2005), reh’g denied on other grounds, 110 FERC ¶ 61,239 (2005).

82 See City of Tacoma v. FERC, 460 F.3d 53 (D.C. Cir. 2006). The bridge was not an issue in the appeal.
support for a comprehensive settlement if it would serve the public interest and would not unduly delay the proceeding. Tacoma continued to request extensions of time to file the bridge plan on the grounds that the settlement could affect the development of the plan, and Commission staff continued to grant the requested extensions.\(^{83}\)

109. On January 15, 2008, Tacoma and the Tribe jointly filed a status report on the progress of negotiations, stating that Tacoma intended to complete installation of the flow valve and begin releasing 240 cfs into the Lower North Fork Skokomish River on March 7, 2008. On January 29, 2008, Mr. Richert filed a letter expressing concern about beginning the minimum flow releases and requesting that they be delayed until a bridge is constructed on his property. On February 8, 2008, the Tribe filed a letter supporting Tacoma’s plans to begin releasing minimum flows to protect ESA-listed fish species and arguing that no further delay is warranted. On February 15, 2008, anticipating that minimum flow releases would soon begin, Tacoma filed a motion for a partial stay or in the alternative for an extension of time to file the bridge plan, stating that negotiations had expanded to include federal and state resource agencies and that the outcome of these negotiations could affect whether there would be a continued need for a bridge at Richert Ranch, and if so, what type of crossing would be appropriate. On March 3, 2008, Mr. Richert filed a response in opposition to Tacoma’s motion, continuing to assert a need for a bridge to replace the wet crossing that would be inundated by higher flows. The Commission took no action on Tacoma’s stay request, and Tacoma began releasing 240 cfs on March 7, 2008, as scheduled.

110. On March 20, 2008, Mr. Richert filed a letter stating that the increased flows were significantly affecting his farming and ranching operations and requesting that flows be reduced until a legal-load carrying bridge could be installed at a location meeting his approval. On June 2, 2008, and again on July 8, 2008, Mr. Richert reiterated the need for a bridge or a reduction in flows to 60 cfs.

111. On January 21, 2009, Tacoma filed its settlement agreement and joint explanatory settlement on behalf of the settlement parties. The Commission issued notice of the settlement agreement and requested comments by February 26, 2009. Mr. Richert filed comments on February 6, 2009 and February 17, 2009, opposing the settlement’s proposal to remove the bridge requirement.

112. On February 24, 2009, Mr. Alann Krivor, President and CEO of Skokomish Farms, informed the Commission that as of November 26, 2008, Land Northwest LLC, ___

\(^{83}\) Commission staff issued orders granting extensions of time to file the bridge plan on August 31, 2007; September 26, 2007; January 10, 2008; May 7, 2008; October 22, 2008; April 17, 2009; December 22, 2009; and March 16, 2010.
an Idaho limited liability company, had purchased the issued and outstanding shares of Skokomish Farms, a corporation formed in 1980 to assume ownership of Richert family holdings, including Richert Ranch. Among other things, Mr. Krivor indicated that the existing wet crossing had become very dangerous and requested that the Commission forbid any further delay and enforce the Article 412 requirement to construct two bridges, as originally written. On March 13, 2009, Tacoma filed a reply to the comments of Mr. Richert and Skokomish Farms.

113. At the public meeting following the technical conference on May 21, 2009, Mr. Krivor provided additional information regarding plans of Skokomish Farms to develop the property and reiterated the need for a bridge to provide safe daily access to the west side of the property year round, under all flow conditions. Mr. Krivor also suggested that, without a bridge, farming the west side would no longer be feasible and would result in a taking of property without just compensation.

114. On January 13, 2010, Mr. Richert, acting in his capacity as manager of Skokomish Farms, filed comments through his attorney, reiterating the need for a bridge and raising concerns regarding the impact of minimum flows, increased flows in McTaggert Creek, storm flows, and flushing flows. On February 12, 2010, Tacoma filed an answer in opposition to Mr. Richert’s comments.

b. Construction of Bridges on Richert Ranch

115. The settlement parties propose to eliminate the existing requirement in Article 412(3) that Tacoma provide funding for the design, construction, and maintenance of two bridges at river fords on Richert Ranch. In the Joint Explanatory Statement accompanying the settlement agreement, the settlement parties state that the bridges no longer serve the public interest, because federal and state fish and wildlife agencies have concluded that they are not needed to protect water quality and aquatic resources. They add that an alternate road exists that provides access to the western part of the Richert Ranch, and that Tacoma and the Tribe understand that the ranch is being sold and developed for real estate, which would eliminate the original need for access to the western part of Richert Ranch for farming.

116. Skokomish Farms owns a total of 805 acres in Mason County, of which approximately 375 acres border both sides of the Lower North Fork Skokomish River, below its confluence with McTaggert Creek, downstream of the Cushman Project. Throughout this proceeding, Mr. Richert has been the property manager for Skokomish Farms. He was also an owner of the property until its sale in November 2008.84

84 At the public meeting following the technical conference on May 21, 2009, Mr. Krivor introduced himself and his wife, Mali Krivor, as the new owners of

(continued…)
Mr. Richert and Skokomish Farms request that the Commission continue to require Tacoma to construct two bridges at river fords on Richert Ranch. They assert that these bridges are critical to the overall operation of the farm, because increased flows in the North Fork have rendered their wet crossing unsafe and unusable. They have used the wet crossings to enable trucks and farm equipment to access the western part of the farm. They state that these crossings were usable when the Cushman Project released instream flows of 60 cfs and below, but are now detrimental to farm equipment at the current flow release of 240 cfs. They further assert that the bridges are necessary to protect public safety, water quality, and aquatic resources. Finally, they raise concerns about how the Cushman Project affects flooding, the conveyance capacity of the Skokomish River channel, and the water table in the river valley.

117. As the preceding history of the bridge requirement makes clear, the Commission adopted the bridge requirement to protect water quality and aquatic resources, including ESA-listed fish species. Initially, the public interest in protecting water quality and aquatic resources coincided with the private interest of Mr. Richert and Skokomish Farms in having bridges constructed on Richert Ranch to facilitate farming operations. Now, circumstances have changed.

118. In the 1998 license order, the Commission made it clear that the purpose of the bridge requirement was to protect water quality and aquatic resources from the effects of vehicles crossing the river, not for the sole benefit of the landowner. Significantly, the Commission adopted this measure under FPA section 10(j), which requires the Commission to accept agency recommendations to protect fish and wildlife resources unless they are inconsistent with the FPA or other applicable law. Because it appeared that the bridges were needed to protect water quality and aquatic resources and could be constructed at reasonable cost, the Commission included this measure in the 1998 license. On rehearing, however, the Commission expressly stated that Tacoma and the agencies could request a license amendment to delete this requirement if the agencies concluded that the bridges were not necessary to protect water quality or aquatic resources.

119. The settlement agreement reflects the conclusion of all the federal and state fish and wildlife agencies, as well as the other settlement parties, that bridges on Richert Ranch are not needed to protect water quality and aquatic resources, based on the proposed flow regime and the anticipated lack of use of the wet crossing. We agree

See Transcript at 91, 94.

Neither FWS nor NMFS included the bridge in their biological opinions as part of the proposed action, or required any conditions regarding them.
that, because of increased flows in the river, use of the wet crossing will likely diminish, and any environmental effects of its continued use will not likely be significant. As a result, we have insufficient justification for continuing the bridge requirement.

120. Mr. Richert asserts that the bridges are necessary to protect water quality and aquatic habitat. He states that, since Tacoma began releasing 240 cfs or inflow, whichever is less, in March 2008, he has had to make repairs to the existing river crossing and use heavy equipment to cross the river, and that his vehicles are potentially discharging oils and other pollutants into the North Fork. Tacoma argues that, to the extent that these actions are not de minimis, they are subject to compliance with state and federal environmental laws. As an example, Tacoma points out that repairs or modifications to an existing river crossing would require a permit from the Washington DFW. Tacoma adds that other federal and state water quality laws would likely address Mr. Richert’s ongoing actions. We agree that Mr. Richert and Skokomish Farms bear the responsibility for ensuring that their actions are in compliance with federal and state law and do not significantly affect water quality. We cannot require Tacoma to build a bridge simply to facilitate a private landowner’s compliance with environmental laws.

121. Mr. Richert and Skokomish Farms argue that the alternate route the settlement parties suggest is available to access the western part of the property is not a feasible alternative to building the two bridges. Mr. Richert and Skokomish Farms state that the road suggested as an alternate route is a logging road that is gated and kept locked and would require use agreements from both the Forest Service and Green Diamond Timber Company. They add that the road is very steep in places and also very narrow. Mr. Richert estimates that it would take one hour to access the western part of the farm in a 4-by-4 truck, and it might take up to four hours to make the trip using smaller farm equipment. Tacoma responds that both the Forest Service and Green Diamond have indicated a willingness to enter into access agreements. Tacoma adds that the issue of bridges is a matter of logistical convenience, efficiency, and expense, and that Mr. Richert and Skokomish Farms have been able to continue their farming operations without the bridges in place. While the bridges might facilitate farming on the western part of the property, this does not provide a sufficient basis for us to require that they be built.

122. According to Skokomish Farms, the new owner, Land Northwest LLC, plans to change the character of Richert Ranch from a hay crop production to a grass-fed, cross-pastured livestock operation with multiple greenhouses to grow organic crops. In addition, Land Northwest plans to sell a total of nineteen 40-acre parcels, with 35 acres of each parcel held in a common conservation easement to preserve the land for permanent agricultural use. The company states that these nineteen parcels form the 665-acre farming operation, and that this is more land in agricultural use than under the previous shareholders. Tacoma responds that the company’s comment indicates a clear intent to add a residential use to the property, and that if the alternative access road is not
sufficient to accommodate this potential residential use, Skokomish Farms will need to construct a bridge that will be suitable for such use. The company’s web site confirms this intended use; it states that each parcel includes a single homesite where owners can build a farmhouse.\footnote{See the “Buying Land” section of the Skokomish Farms web site, available at \url{www.skokomishfarms.com/buyingland.html}.}

123. As Tacoma correctly points out, the company’s plans for development of its property are not an effect of the Cushman Project, and would not justify requiring Tacoma to fund a bridge to facilitate that development. The 1998 license did not specify the quality of bridges to be constructed, and the Commission clarified in its March 31, 1999 rehearing order that Tacoma could propose “any design of water crossing that adequately protects water quality and aquatic resources.”\footnote{See City of Tacoma, Washington, 86 FERC ¶ 61,311, at 62,097 (1999).} Similarly, the order partially lifting the stay to require minimum flow releases required Tacoma to file a plan to replace the wet crossing “with a bridge or some other appropriate structure.”\footnote{See City of Tacoma, Washington, 107 FERC ¶ 61,288, at P 45 n.12 (2004).} Thus, as originally contemplated, the bridges were to be relatively simple structures. Later, during consultation on the bridge plan, it became apparent that a bridge would have to meet the state’s permitting standards, and that Mr. Richert wanted a bridge at a different location that would better accommodate his long range future plans for the property.\footnote{See Letter from Gerald Richert to Stephen Fairchild, Tacoma (dated October 4, 2004), included as Attachment 3 to Tacoma’s bridge plan (filed October 19, 2004).}

124. As noted earlier, the settlement judge found that a simple bridge using flatbed rail cars would cost Tacoma about $91,000 to build. However, the Commission found that there were safety concerns associated with flood-flows and required that any bridge built at the wet crossing must be built above the 100-year flood level. Commission staff subsequently rejected Tacoma’s alternative plans for providing a bridge. Without an approved bridge design, it is difficult to estimate the cost to build a bridge that would satisfy the Commission’s height criteria, state permitting standards, and the interests of all parties required to be consulted under Article 412 of the 1998 license and Ordering Paragraph (D) of the Commission’s June 21, 2004 order. In its filing of February 15, 2008, Tacoma estimates that building just one acceptable bridge could range from $300,000 to $500,000, not including the cost of obtaining the needed permits or any obligation to maintain the bridge over the licensee term. Based on costs of recent bridge construction, Commission staff estimates that the cost to build one bridge (without the
costs of permits or maintenance) would be more in the range of $550,000 to $750,000. Given that a bridge is not needed to protect water quality and aquatic resources, there is insufficient basis for requiring Tacoma to fund a more costly, permanent bridge to accommodate planned development of the Skokomish Farms property. 90

125. Mr. Richert and Skokomish Farms also assert that bridges are needed for public safety, because crossing the river at higher flows is a greater safety hazard. Tacoma points out that, because this portion of the North Fork of the Skokomish River is abutted on both sides by Skokomish Farms’ private property, there is no open public access to the crossing points and thus no issue of public safety. We agree. If using the wet crossings is unsafe, Mr. Richert and Skokomish Farms should discontinue using them. We have no basis for requiring Tacoma to fund one or more bridges to prevent a private landowner from using its property in a manner that is unsafe.

126. Tacoma argues that nothing in the 1998 license order would justify requiring the licensee to construct bridges for the sole benefit of the landowners. Tacoma adds that, under Washington state law, a dam operator is not required to maintain existing river conditions for the benefit of downstream property owners, or to maintain certain river flow levels to allow a downstream property owner’s continued use of a river crossing. 91 Tacoma further asserts that, to the extent that Cushman Project operations are affecting

90 In addition, there are other aspects of building a bridge at Richert Ranch that would likely increase the overall cost. For example, in commenting on Tacoma’s preliminary bridge designs, the consulted parties raised several issues with the preliminary bridge plans that could be difficult for Tacoma to address and would likely lead to a more costly design. These issues include the backwater effects of building a bridge, whether constraining flood flows at the bridge would erode the bridge abutments, and how any changes in stream velocity caused by the bridge would affect downstream aquatic resources.

91 In support, Tacoma cites Drainage Dist. No. 2 of Snohomish County v. City of Everett, 18 P.2d 53, 55 (Wash. 1933) (rejecting claim by a downstream owner of drainage ditches for damages resulting from destruction of an upstream dam), and De Ruwe v. Morrison, 184 P.2d 273, 279 (Wash. 1947) (refusing to compel owner of drainage ditches to continue to divert water so that property owner may have dry land instead of a natural water course). Tacoma also cites a Ninth Circuit case based on Idaho law, which Tacoma asserts is similar, holding that a downstream property owner has no right to require the operator of a dam to maintain lower river flows to allow a property owner to continue to be able to ford the river to access his farm land. See Johnson v. Utah Power & Light Co., 215 F.2d 814, 815-16 (9th Cir. 1954).
Richert Ranch, Tacoma acquired the legal right to do so pursuant to condemnation proceedings that occurred in 1921.\footnote{In support, Tacoma cites \textit{City of Tacoma v. Funk}, No. 1651 (Sup. Ct. Mason County Oct. 8, 1921 (Judgment Nos. 1 and 2). Aspects of this condemnation proceeding involving allotted lands of members of the Tribe were declared invalid in \textit{United States v. City of Tacoma, Washington}, 332 F.3d 574 (2003). Other aspects of the condemnation proceedings were not at issue in that case.}

127. Our review of the cases Tacoma cites suggests that Skokomish Farms would not have a right to expect continued low flows in the river that would preserve the use of its wet crossing. We need not decide these issues of state law, however, because standard article 5 of Tacoma’s license for the Cushman Hydroelectric Project requires the licensee to have or to obtain all rights needed for operating the project. Thus, if Tacoma does not already possess those rights, it will be required to obtain them, and can use the federal power of eminent domain to do so, if necessary, under section 21 of the FPA.

128. Skokomish Farms argues that, without bridges, the increased flows from the Cushman Project raise an issue of taking private property without just compensation, adding: “We don’t want just compensation. We want a bridge.”\footnote{Transcript public meeting following the May 21, 2009 technical conference at 95, 96.} Although the landowner’s use of the wet crossing has been affected, no property has been taken. Skokomish Farms has lost nothing more than the expectation of a bridge, the possibility of which has been uncertain for more than ten years, when the Commission first suggested in its rehearing order of March 31, 1999, that Tacoma and the agencies could request that the requirement be deleted.

\textbf{c. Removal of the McTaggart Creek Diversion Dam}

129. Mr. Richert and Skokomish Farms argue that Tacoma’s recent removal of the McTaggart Diversion Dam has significantly increased the streamflow at the wet crossings. In their January 13, 2010 filing, they submit photographs, rainfall records, and stream gage data that they assert demonstrate problems with Tacoma’s analysis and show that the impacts to the ranch are as Mr. Richert predicted and support the need for one or more bridges on Richert Ranch. They state that it is reasonable for the Commission to consider this information now because it could not be known until the flows were recently added and the impacts observed.
130. In its February 12, 2010 response, Tacoma compares the size of the McTaggert Creek drainage area to the size of the drainage area above the site of the McTaggert Creek Diversion Dam. According to Tacoma’s analysis, the drainage area above the site of the diversion dam is only 16 percent of the total drainage area of the creek. This suggests that removal of the diversion dam would not be likely to appreciably affect the total amount of flow that McTaggert Creek adds to the lower North Fork of the Skokomish River. In fact, based on this calculation of drainage area and the available streamflow records, Tacoma shows that Richert Ranch has experienced high winter flows from the McTaggert Creek drainage before the diversion was removed.

131. To assess the effects of higher streamflow at the wet crossings, Commission staff examined streamflow records of a USGS gage on Richert Ranch, including recent streamflow records showing Tacoma’s higher instream flow releases. During the years that Tacoma was releasing a minimum flow of 60 cfs below Cushman Dam No. 2, the streamflow at Richert Ranch averaged about 74 cfs during the drier months of May through September. During the wet season from October through April, the average monthly flows at the gage ranged from 125 to 369 cfs. During the summer months of 2008, when Tacoma released the higher flow of 240 cfs, the average monthly flow at Richert Ranch gage increased to about 228 cfs.

132. Based on these gage records, the higher flows required by this amended license are expected to triple the streamflow present at the Richert Farm gage during the summer months. Using information from the Richert Ranch gage, Commission staff estimates that the increase in streamflow would raise the stream’s water surface by about 5 inches (from a gage reading of 2.68 feet to a gage reading of 3.13 feet), increase stream width by about 16 feet (from 49 to 65 feet), and increase the stream’s average velocity by about 0.26 feet per second (from 1.74 to 2.00 feet/second). Because the gage is located in a more confined area of the stream than the nearby wet crossing, staff estimates that both the water surface and the average stream velocity at the crossing would increase less than at the gage, and the channel width would increase more.

133. Based on staff’s analysis, raising instream flow in the lower North Fork makes summer use of the existing wet crossings on Richert Ranch somewhat more difficult and could limit the kinds of vehicles that can easily cross. Because proposed Article 407 would also raise instream flow during winter months, the higher instream flow release would also have similar affects at the wet crossing during this period. However, staff’s analysis of streamflow records at the gage shows that high winter flows have always existed on the lower North Fork. This would have made, and will continue to make, use of the wet crossing difficult, if not impossible, during the winter months. For example, during the winter the lower North Fork has had average monthly flows as high as 368 cfs and has had peak average daily flows exceeding 2,000 cfs during twelve of the last twenty years. These flows are within the range of flows that Mr. Richert and Skokomish Farms now complain are preventing access to the western portion of the farm due to the
releases from Cushman Dam No. 2. In light of our finding, as discussed above, that a bridge is not needed to protect water quality or aquatic resources, the effects of removing the McTaggert Creek diversion dam would not provide a basis for requiring that Tacoma fund one or more bridges on Richert Ranch.

d. Flood Control Benefits

134. In his letter filed on February 17, 2009, Mr. Richert states that proposed Article 403 requires Tacoma to implement a flood damage reduction program, and asks why Mason County, Washington DFW, landowners, and the agricultural community are not involved in the creation and implementation of this program. Mr. Richert also questions whether the sediment release flow requirements of proposed Article 407 would cause flooding if the flow released is in excess of 2,400 cfs.

135. Under proposed Article 403, Tacoma will assist the Corps to complete the Corps’ Skokomish River Basin General Investigation. As Tacoma notes in its March 13, 2009 filing, federal, state, and local entities, as well as the Tribe, and local stakeholders, will have an opportunity to participate in the Corps’ General Investigation. In addition, proposed Article 407 includes a flushing flow component, which involves flow triggers at a USGS flow gage on the mainstem Skokomish River, below the confluence of the North and South Forks. Tacoma explains that the 2,200 cfs flushing flow is not in addition to the flow of 9,800 cfs or greater that would trigger implementing the requirement. Rather, as flow levels decrease below flood stage, Tacoma would release up to 2,200 cfs to prolong a bank-full condition in the Skokomish River mainstem. Collectively, these measures are expected to reduce the amount of sediment in the mainstem Skokomish River, which, over time, is expected to decrease the number of flood events and the effects associated with such events.

e. River Channel Conveyance Capacity

136. Mr. Richert states that a specific plan is needed to increase channel flow capacity. He suggests the use of dredging as a potential solution, along with building berms.

137. Tacoma responds that a specific plan to increase channel flow capacity is premature. Proposed Article 403 requires Tacoma to enhance the channel conveyance

---

94 Component 3 of proposed Article 407 provides that the licensee shall increase flow releases from the Cushman Project, into the lower North Fork of the Skokomish River, up to 2,200 cfs for 48 consecutive hours whenever the daily average flow at the USGS gage 12061500 exceeds 9,800 cfs, or 15 percent above flood stage, whichever is greater, between October 1 and February 15 of each year.
capacity of the mainstem Skokomish River by working with the Corps on implementing the Corps’ General Investigation, and by developing a Mainstem Channel Restoration Plan after 15 years if the Corps does not implement measures to address the channel capacity of the mainstem.

138. In the final EIS, Commission staff concluded that constructing and operating the Cushman Project, when added to other activities in the Skokomish River Basin, had caused several reaches of the river to aggrade, reducing the channel’s capacity. Proposed Article 403 presents a reasonable and sound approach to addressing the channel conveyance capacity issue on the mainstream Skokomish River, and we include it in this amended license.

f. Effects on the Skokomish River Valley Water Table

139. Mr. Richert states that higher flow releases in the North Fork will raise the groundwater table, taking agricultural land out of production. Mr. Richert raised this issue previously, in comments on the draft EIS.

140. Commission staff reviewed the effects of higher flow releases in the final EIS and found no evidence to suggest that flow releases from the Cushman Dam No. 2 would significantly increase the groundwater table in the Skokomish River Valley. Rather, staff found that the Cushman Project completely interrupts sediment transport to the lower North Fork, and Cushman Dam No. 2 has interrupted flows in the lower North Fork, so that the river contributes very little to the sediment load in the lower North Fork and mainstream Skokomish River. Staff also found that, due to logging and land use activities, the South Fork of the Skokomish River contributes a large quantity of sediment to the mainstem, which has resulted in river bed aggradation. Staff concluded that this aggradation reduced channel capacity, which caused more frequent overbank flood flows, stream channel braiding, and riverbank erosion.

141. The aggradation that has occurred in the South Fork and mainstream Skokomish River has increased water levels in the mainstem by over three feet. This is the most

95 Final EIS at 3-7 to 3-9.

96 Final EIS at A-228.

97 Final EIS at 3-5, 3-9.

98 Id. at 3-9, 4-1. Aggradation is a geologic process in which inorganic materials carried downstream are deposited in streambeds, floodplains, and other water bodies, resulting in a rise in elevation in the bottom profile of the water body.
likely source of any groundwater increases that may be occurring in the basin. Nevertheless, staff examined the effects associated with the changes in flow levels in the lower North Fork Skokomish River under the settlement proposal. As explained above, from May to September, which includes the area’s growing season, the settlement proposal (i.e., minimum flows and removal of the McTaggert Creek Diversion Dam) is expected to raise the river’s water surface at the USGS gage on Richert Ranch by about five inches. While more water will be flowing in the North Fork, staff concludes that the surrounding groundwater level is not likely changed in any significant way.

142. Mr. Richert argues that the fish flows, McTaggert Creek flows, storm flows and the flushing flows from the North Fork will increase gravel aggradation, and that such effects have not previously been studied and addressed. Mr. Richert also states that sediments that are held back by many small culverts that are being replaced with larger, more fish-friendly culverts, will be carried into the river by the higher velocity flows; thereby increasing the amount of gravel in the river, not reducing sediment load. However, Mr. Richert provides no evidence to support his argument, and staff’s analysis refutes it.

143. Commission staff assessed whether the flow regime increases sediment transport, including bedload transport, in the final EIS. Based on its assessment, staff concluded that the river’s sediment transport capacity would increase exponentially with the magnitude of the flow release. The measures we include in this license (specifically, Articles 403, 404, and 407) are expected to reduce sediment aggradation in the mainstem Skokomish River by transporting sediment from the system. This, in turn, will increase the river’s channel conveyance capacity and, over time, lower groundwater levels in the valley, including those on Richert Ranch.

g. Other Requests

144. Mr. Richert requests that the Commission hold a technical conference to address the bridge, effects of removing the McTaggert Creek diversion dam, flood control, river channel conveyance capacity, and effects on the Skokomish River Valley water table. He

---

99 In his January 13, 2010 filing, Mr. Richert appears to support this conclusion, stating: “Aggradation has occurred that blocks the groundwater flows from entering the stream, but rather, causes them to flow away from the stream in agricultural lands.”

100 Final EIS at 4-2 to 4-9.

101 Id. at 4-2.
also asks that the Commission delay action on the settlement to allow time for pre-litigation settlement negotiations.

145. We deny these requests. Commission staff held a technical conference in Tacoma, Washington, on May 19, 2009, and representatives of Skokomish Farms were provided an opportunity to express their views regarding the bridge and other issues. As discussed above, the existing record is sufficient to resolve these issues, making a second technical conference unnecessary. Moreover, Tacoma and Skokomish Farms have had ample time to attempt to reach agreement on the bridge issues, beginning in 2004 with consultation on Tacoma’s bridge plan, and more recently in connection with Tacoma’s outreach regarding the settlement. We therefore conclude that no further delay is warranted.

146. In sum, it appears from the record that the bridges are not needed to protect the aquatic environment in the North Fork of the Skokomish River. The Commission’s obligation in issuing a license – to ensure that the licensed project is best adapted to a comprehensive plan for developing affected waterways – is to consider all public interest factors. The license as now proposed provides for more natural flows in the river, with significant consequent environmental benefits. That these flows may inconvenience private interests is not a matter that the Commission is required to remedy. This is a matter that may be resolvable through negotiations between Tacoma and Skokomish Farms; it is not a matter regarding which we will include conditions in Tacoma’s license.\footnote{Section 10(c) of the FPA provides that any damages occasioned by the construction and operation of a licensed private hydropower project are the responsibility of the licensee, not the federal government.}

**Article 413: Fish and Habitat Monitoring Plan**

147. Article 413 of the 1998 license requires Tacoma to develop and implement a fish habitat and population monitoring plan. The plan is to include: (1) a description of the proposed methods for monitoring sediment transport, channel morphology, and fish habitat and populations in the North Fork and mainstem Skokomish rivers; (2) provisions to monitor and report on turbidity levels in the North Fork;\footnote{The Commission added this provision in response to the incidental take statement for bull trout in the FWS’s 2004 biological opinion. See City of Tacoma, Washington, 107 FERC ¶ 61,288 (2004) (Ordering Paragraph (H) and revised Article 413).} (3) a discussion of Tacoma’s responsibilities in implementing the monitoring program; (4) provisions for
using the monitoring data for enhancing anadromous fish habitat; and (5) the preparation of a Skokomish River anadromous fishery report every five years.

148. Proposed Article 413 clarifies the existing article’s requirements by providing specificity as to the type of fisheries and habitat monitoring that would occur. Proposed Article 413 requires Tacoma to file a Fisheries and Habitat Monitoring Plan (Fisheries Plan)\textsuperscript{104} with the Commission within one year of issuance of the amended license. The Fisheries Plan would be developed in consultation with the Fisheries and Habitat Committee, and approved by NMFS, FWS, and BIA. The Fisheries Plan would include a schedule for implementing the plan and consultation with the Fisheries and Habitat Committee. Also, under the Fisheries Plan, Tacoma would prepare and file an annual report describing the previous year’s monitoring activities and results, and a plan for activities in the following year.

149. The modifications included in proposed Article 413 will help ensure that fisheries and habitat monitoring provides the necessary data to inform actions required by other license articles, including proposed Articles 407, 412, 414, 415, and 417. Article 413, as modified by the settlement, is required by Interior’s revised section 4(e) conditions for the project. We therefore include proposed Article 413 in this amended license.

**Article 414: Downstream Fish Passage**

150. Article 414 of the 1998 license requires the licensee to develop and implement a Downstream Fish Passage Plan. The article specified that the plan include: (1) functional design drawings for the downstream fish passage facility; (2) quantification of required flows for operation; (3) an operation and maintenance plan for the facility; (4) a schedule for installation; and (5) estimated capital, as well as annual operation and maintenance costs. The article requires that the plan be developed in consultation with FWS, NMFS, Washington DFW, and the Tribe, and that Tacoma file the plan with the Commission for approval.

151. Proposed Article 414 is similar to existing Article 414 but includes some significant differences. First, proposed Article 414 includes details on how downstream fish passage would be achieved through the deployment of a Floating Surface Collector.

\textsuperscript{104} The Fisheries Plan would consist of monitoring three categories: (1) sediment transport and channel morphology in the lower North Fork and mainstem Skokomish rivers; (2) fish and habitat in the North Fork and mainstem Skokomish rivers, including monitoring riverine habitat, lake productivity, and water temperature; and (3) fish populations in the North Fork Skokomish River. The monitoring would be conducted pursuant to the details set forth in the individual proposed articles.
It describes in detail how the Floating Surface Collector would be developed, designed, and verified, and how its performance would be measured. Second, proposed Article 414 includes provisions for: (1) short and long term monitoring to determine the effectiveness of the downstream passage facility; (2) plans for facility modification to meet requirements of safe, effective passage, if needed; and (3) dates for completing each provision of the plan. Lastly, proposed Article 414 requires that the plan be developed in consultation with the Fisheries and Habitat Committee, and be approved by NMFS, FWS, BIA, and the Commission.

152. These modifications to Article 414 provide greater detail for the best site-specific measures for downstream passage at the project, while also providing Tacoma with certainty regarding specific time periods to demonstrate and verify compliance with performance standards before significant modifications in the constructed fish passage facilities at the project are made. The current design of the Floating Surface Collector is expected to be more protective of downstream migrants at the project than the unspecified facility included in existing Article 414. Article 414, as modified by the settlement, is required by NMFS’s section 18 fishway prescription and Interior’s section 4(e) conditions. We therefore include proposed Article 414 in this amended license. 

**Article 415: Upstream Fish Passage**

153. Article 415 of the 1998 license requires Tacoma to develop and implement an Upstream Fish Passage Plan. The article specified that the plan include: (1) functional design drawings for the upstream fish passage facility; (2) quantification of required flows for operation; (3) an operation and maintenance plan for the facility; (4) a schedule for installation; and (5) estimated capital, as well as annual operation and maintenance costs. The article requires that the plan be developed in consultation with FWS, NMFS, Washington DFW, and the Tribe, and that Tacoma file the plan with the Commission for approval.

---

105 In its comments on the settlement, FWS notes that proposed Article 414, as included in Appendix 1 to the settlement, lacks sufficient oversight by, and notification to, FWS concerning bull trout. FWS asks the Commission to modify proposed Article 414 to allow FWS to participate in the development and implementation of downstream fish passage measures at the project, and for Tacoma to consider the needs of bull trout in any action it may take regarding downstream passage at the project. We agree, and will modify Article 414 to add FWS to the entities to be consulted under the plan.
154. Proposed Article 415 is similar to existing Article 415. However, there are a few significant differences. First, proposed Article 415 provides more detail with regard to how upstream fish passage would be achieved through the construction and operation of a trap and haul facility. The revised article describes how the trap and haul facility would be designed, where it would be located, how it would be operated, and how its performance would be measured. Second, as with the downstream fish passage facilities, proposed Article 415 includes provisions that were not in the 1998 license, including: (1) short and long term monitoring to determine the effectiveness of the upstream passage facility; (2) plans for facility modification to meet requirements of safe, effective passage, if needed; and (3) dates for completion of each provision of the plan. Third, proposed Article 415 would require Tacoma to modify Little Falls, which is located downstream of Cushman Dam No. 2, if the Fisheries and Habitat Committee determines that modifications are needed to achieve safe passage in the North Fork of the Skokomish River. Lastly, proposed Article 415 requires that the plan be developed in consultation with the Fisheries and Habitat Committee, and be approved by NMFS, FWS, BIA, and the Commission.

155. The proposed modifications to Article 415 provide significantly more detail on the best site-specific measures, using a proven technology such as trap and haul, for upstream fish passage facilities at the project. These modifications to the article will also ensure that anadromous fish fully utilize the lower North Fork of the Skokomish River. Article 415, as modified by the settlement, is required by NMFS’s section 18 fishway prescription and Interior’s section 4(e) conditions. We therefore include proposed Article 415 in this amended license.\footnote{As it did for Article 414, FWS makes a similar request regarding oversight and notification for considering bull trout in the development and implementation of upstream fish passage at the project. For the same reasons, we modify Article 415 to include these provisions.}

**Article 416: Fish Passage Monitoring Plan**

156. Article 416 of the 1998 license requires Tacoma to develop and implement a Fish Passage Monitoring Plan. The article requires the plan to include: (1) specific provisions for monitoring the effectiveness of upstream and downstream fish passage facilities; (2) a schedule for implementing the plan; (3) consultation with FWS, NMFS, Washington DFW, and the Tribe concerning the results of fish passage monitoring efforts; and (4) a provision to file the results and any comments on them with the Commission. If the monitoring results show that changes in facility design or project operation are needed to facilitate passage, the Commission could direct the licensee to make reasonable changes. Finally, the article requires that the plan be developed in consultation with FWS, NMFS,
Washington DFW, and the Tribe, and that Tacoma file it with the Commission for approval.

157. Proposed Article 416 is similar to existing Article 416, although there are some key differences. First, the revised article now includes specific methods and frequencies for fish passage effectiveness monitoring. Second, the revised article requires Tacoma to consult with the Fisheries and Habitat Committee concerning the results of fish passage monitoring efforts. If the results show that changes are warranted to facilitate passage at the project, the Committee may direct the licensee to make any reasonable changes that are needed.\footnote{The Commission implements its relicensing processes within the framework of the FPA and its own regulations. The Commission can not defer to a third party its responsibility to administer compliance with any aspect of the license. Therefore, Tacoma is reminded that changes in project facilities or operation may not be implemented without prior Commission approval, as may be granted after the filing of an application to amend the license.} The revised article also gives the Committee the authority to modify data collection methods and frequency. Third, proposed Article 416 requires that Tacoma file an annual report with the Commission, describing the monitoring efforts of the previous calendar year and any changes made to the program. Finally, proposed Article 416 requires that the plan be developed in consultation with the Fisheries and Habitat Committee, and that it be approved by NMFS, FWS, BIA, and the Commission.

158. The proposed modifications to Article 416 improve the level of detail associated with the monitoring plan and its provisions. This will assist Tacoma in administering the monitoring plan. In addition, implementation of the monitoring plan will help inform decisions regarding the need for modifications to the upstream and downstream fish passage facilities at the Cushman Project. Article 416, as modified by the settlement, is required by NMFS’s section 18 fishway prescription and Interior’s section 4(e) conditions. We therefore include proposed Article 416 in this amended license.

**Article 417: Fish Supplementation Program**

159. Article 417 of the 1998 license requires Tacoma to develop and implement a Fish Supplementation Program. The article requires that the program include a strategy to stock anadromous fish and other salmonids in the lower North Fork of the Skokomish River, Lake Cushman, and Lake Kokanee. The article further requires that Tacoma provide up to $3.6 million in capital expenditures to construct a fish hatchery and up to $271,000 annually for operation and maintenance during the license term. This would allow Tacoma to meet fish supplementation requirements in the article, which include annually stocking Lake Cushman with 1.5 million kokanee salmon smolts and 140,000...
catchable sea-run cutthroat trout, and Lake Kokanee with 12,000 catchable rainbow trout. Finally, existing Article 417 requires that the Fish Supplementation Program be developed in consultation with FWS, NMFS, Washington DFW, and the Tribe, and that Tacoma file it with the Commission for approval.

160. Proposed Article 417 maintains the primary purposes of enhancing anadromous fisheries in the North Fork and mainstem Skokomish River and in Lake Cushman, as well as enhancing resident fisheries in Lake Kokanee. It also significantly expands Tacoma’s fish supplementation obligations. Proposed Article 417 requires that the Fish Supplementation Plan incorporate the guiding principles and program elements of the Cushman Project Fish Supplementation Framework, which is included as Appendix 4 to the settlement agreement. Proposed Article 417 is consistent with the Supplementation Framework.

161. Proposed Article 417 eliminates the funding limitation in existing Article 417 and replaces it with detailed requirements for fish supplementation facilities for sockeye, spring Chinook, steelhead, coho, and rainbow trout. These facilities potentially would be located: (1) at Tacoma’s Saltwater Park property; (2) in the vicinity of Cushman Powerhouse No. 2; (3) on the east shore of Lake Kokanee; or (4) in net-pen rearing facilities in Lake Kokanee. Proposed Article 417 also eliminates the existing requirement pertaining to resident fish stocking in Lake Cushman. The settlement omits this measure, because potential conflicts between the resident and anadromous fish programs for Lake Cushman could limit the success of the anadromous fish and bull trout restoration program for the upper North Fork of the Skokomish River, as well as Lake Cushman and its tributaries. Instead, proposed Article 417 requires Tacoma to release 24,000 to 35,000

---

108 The Fish Supplementation Framework was developed to guide restoration of anadromous fish populations in the upper North Fork Skokomish River and to implement a resident fishery. The guiding principles within the Framework provide that: (1) hatchery production will be integrated with natural production; (2) the supplementation program will avoid creating “weak stocks” for fisheries management; (3) the program will emphasize production that uses lake-rearing life histories; (4) the program’s production levels will be sized to historic run sizes or their adult equivalents; and (5) the program will address potential ecological interactions.

109 The revised article requires Tacoma to release each year: 2 million sockeye salmon to Lake Cushman or the North Fork of Skokomish River; 375,000 spring Chinook salmon to the pool at base of Cushman Dam No. 2; 15,225 steelhead trout in the North Fork Skokomish River; and 10,000-35,000 coho salmon into the pool at base of Cushman Dam No. 2.
rainbow trout each year into Lake Kokanee,\textsuperscript{110} where conflicts with anadromous fish are not a concern.

162. Proposed Article 417 requires Tacoma to develop a monitoring plan as a part of the Fish Supplementation Program, and outlines specific details to be included in this plan. Finally, proposed Article 417 requires that the Fish Supplementation Program be developed in consultation with the Fisheries and Habitat Committee, and be approved by NMFS, FWS, BIA, and the Commission.

163. These modifications to Article 417 will provide more specificity regarding the Fish Supplementation Program’s objectives, program elements, timing, and implementation. They will also improve the supplementation program by providing specific measures and protocols for ESA-listed salmon and steelhead. Article 417, as modified by the settlement, is required by Interior’s section 4(e) conditions. We therefore include proposed Article 417 in this amended license.

**Article 418: Tailrace Monitoring Plan**

164. Article 418 of the 1998 license requires Tacoma to develop and implement a Tailrace Monitoring Plan. It requires that the plan include methods used to monitor fish migration delay, injury, and mortality at the Cushman Powerhouse No. 2 tailrace; and a schedule for implementation, consultation with resource agencies, and filing of results and comments with the Commission. In addition, the article provides that if the results of monitoring show that changes are required to reduce injury and mortality, the Commission may direct Tacoma to make reasonable changes. Finally, the existing article requires that the plan be developed in consultation with FWS, NMFS, Washington DFW, and the Tribe, and be filed with the Commission for approval.

165. Proposed Article 418 continues to require that Tacoma monitor migration delay, injury, and mortality at the Cushman Powerhouse No. 2 tailrace. However, the revised article changes the deadline for filing the monitoring plan (from 180 days after license issuance to five years after issuance of the amended license). This change would allow the plan to be developed and implemented after construction of the sockeye hatchery at Saltwater Park, whose outfall pipe would be adjacent to the tailrace of Cushman Powerhouse No. 2. Thus, this change will provide for a more comprehensive program in

\textsuperscript{110} Consistent with Attachment B of the Settlement Agreement (the off-license agreement with Washington DFW), Tacoma would release 100,000 rainbow trout into Lake Kokanee and other lakes located within 60 miles of Hoodsport (the location of Cushman Powerhouse No 2) to enhance recreational fishing in the project area and vicinity. Lake Kokanee would receive 24,000 to 35,000 of these fish.
that the monitoring will more accurately reflect the conditions that exist once the hatchery is built and placed in operation, particularly for sockeye salmon. Also, proposed Article 418 requires that the plan be developed in consultation with the Fisheries and Habitat Committee, and be approved by NMFS, FWS, BIA, and the Commission.

166. Article 418, as modified by the settlement, is required by Interior’s section 4(e) conditions. We therefore include proposed Article 418 in this amended license.

**Article 419: Reservation of Authority to Construct Fishways**

167. Proposed Article 419 is identical to existing Article 419, and no changes are needed. We therefore include proposed Article 419 in this amended license.

**Article 420: Terrestrial Plan**

168. Article 420 of the 1998 license requires Tacoma to develop and implement a Terrestrial Resources Protection Plan (Terrestrial Plan) to protect plant and wildlife resources on project properties. The Terrestrial Plan requires two components: a mitigation plan that includes measures to minimize adverse effects on terrestrial resources during project construction; and a monitoring and protection plan that includes monitoring and protection measures for terrestrial resources during project operation. Tacoma must file the Terrestrial Plan for Commission approval after consultation with Washington DFW, FWS, Forest Service, BIA, the Tribe, and any additional agency or non-governmental organization specified for particular parts of the plan.111

169. Proposed Article 420 is essentially the same as existing Article 420. It is also required by Interior’s section 4(e) conditions. We therefore include proposed Article 420 in this amended license.

**Article 421: Comprehensive Wildlife Habitat Enhancement Plan**

170. Article 421 of the 1998 license requires Tacoma to file a Comprehensive Wildlife Habitat Enhancement Plan. The objectives of the plan are to enhance native plant and wildlife habitat within the project boundary. The plan consists of two components: acquisition of land; and enhancement of habitat and wildlife populations. As discussed below, proposed Article 421 has the same objectives and components as existing Article 421, with some changes.

---

111 The Commission added BIA and the Tribe as consulted entities for this article in its order on rehearing of the license order. *See City of Tacoma, Washington, 86 FERC ¶ 61,311 (1999) (Ordering Paragraphs (C) and (D)).*
1. Acquisition of Land

171. Tacoma owns approximately 1,060 acres of land within or adjacent to the project boundary. These lands have not been developed, and Tacoma had proposed to enhance them for native plant and wildlife habitat. These lands include parcels: on the west side of Lake Cushman near Dry Creek (193 acres); at Dow Mountain (225 acres); at Lake Standstill (55 acres); at Deer Meadow (400 acres); and along the Cushman Powerhouse No. 1 transmission line and Cushman Powerhouse No. 2 power tunnel route (187 acres). Tacoma also had proposed to acquire the rights to: undeveloped lands that it leased to Lake Cushman State Park (now Camp Cushman); and Simpson Timber Company-owned lands adjacent to Deer Meadow (40 acres). The latter parcel includes lands adjacent to the North Fork of the Skokomish River from Cushman Dam No. 2 to about 2.5 miles downstream. As discussed below, some of these lands are included in the 1998 license and are likewise included in the settlement, whereas others are proposed for removal.

172. Article 421 of the 1998 license requires Tacoma to acquire title or development rights to the 40-acre Simpson-owned site adjacent to Deer Meadow, the Northern Lower North Fork parcel, and the Purdy Creek parcel for the purpose of enhancing native plants and wildlife populations. It also requires Tacoma to develop a detailed Buffer Zone Management Plan for the corridor of the Southern Lower North Fork parcel along the Lower North Fork Skokomish River.

173. Since 1998, the character of the lands Tacoma would be required to acquire has changed. For example, the 40-acre Deer Meadow parcel was recently logged and offers minimal wildlife habitat value. A significant portion of the Northern Lower North Fork parcel remains in the settlement as land to be purchased by Tacoma. However, the parcel is currently managed under a Green Diamond Habitat Conservation Plan that protects the parcel’s riparian areas, and requiring Tacoma to acquire the rest of the parcel would provide little additional value for wildlife habitat. Finally, the majority of the Purdy Creek Parcel is currently owned by the Tribe or Mason County, and requiring Tacoma to acquire the Purdy Creek Parcel would provide little additional wildlife habitat benefits.

174. The settlement expands the number of acres of land that would be managed for native plant and wildlife habitat from 2,586 acres (excluding Nalley Ranch and the transmission lines) to 2,746 acres (plus 95 acres of transmission line corridor). The settlement proposes to exclude Nalley Ranch because, under the Damages Settlement, Tacoma will transfer ownership of Nalley Ranch to the Tribe within 120 days of issuance of the amended license. Nalley Ranch is located at the mouth of the Skokomish River and is within the boundaries of the Skokomish Indian Reservation.
175. Proposed Article 421 also modifies the lands to be acquired by requiring Tacoma to acquire the 320-acre Green Diamond-owned site adjacent to Tacoma-owned Homan Flats and the 425-acre Green Diamond-owned Lake May/Northern Lower North Fork site, for a total of 745 acres. In addition, it establishes a procedure for Tacoma to acquire appropriate alternative parcels that provide habitat benefits greater than or equal to the above-described parcels. Tacoma is required to manage these lands to enhance native plants and wildlife populations.

176. Proposed Article 421 would eliminate the requirement that Tacoma develop a Buffer Zone Management Plan for the corridor of the Southern Lower North Fork parcel. As explained above, the parcel is currently managed under a Green Diamond Habitat Conservation Plan that provides substantial protection to the parcel’s riparian areas. Tacoma’s development of a Buffer Zone Management Plan would provide no additional habitat benefits. Therefore, this requirement is no longer needed, and we remove it from Article 421.

177. In lieu of the lands included in the 1998 license, the settlement identifies other parcels that would provide equivalent or greater wildlife habitat benefits. In addition, reduced elk forage habitat has become a limiting factor for the recovery of elk populations in the Skokomish River watershed. As a result, acquiring lands for elk forage has become more important than it was in 1998. Therefore, Tacoma will acquire and manage the 320-acre site adjacent to Homan Flats. In addition, the 425-acre Lake May/Northern Lower North Fork parcel provides numerous potential elk forage areas. Finally, a significant portion of the 425-acre Lake May/Northern Lower North Fork parcel includes critical wetland and aquatic habitat. Acquiring these parcels will provide additional wildlife and habitat benefits beyond what the Commission required in the 1998 license.

2. Enhancement of Habitat and Wildlife Populations

178. Article 421 of the 1998 license requires Tacoma to develop a Native Plants and Wildlife Population Plan for: (1) the transmission line right-of-way; (2) project reservoirs; and (3) the Westside, Dow Mountain, Deer Meadow, Northern Lower North Fork.

\[112\] The settlement adds Tacoma’s 160-acre Homan Flats parcel as land to be managed to enhance native plants and wildlife populations.

\[113\] Since 1998, Tacoma has acquired the 920-acre Brown Creek Parcel and the 120-acre Dry Creek Parcel.

\[114\] See Joint Explanatory Statement to the Settlement Agreement at 46.
Fork, Purdy Creek, and Nalley Ranch parcels. The plan is to be developed in consultation with FWS, the Forest Service, Washington DFW, BIA, the Tribe, and affected landowners.

179. Proposed Article 421 requires Tacoma to develop a Native Plants and Wildlife Population Plan for: (1) project reservoirs; (2) the Tacoma-owned Westside, Dow Mountain, Deer Meadow, Brown Creek, Dry Creek, and Homan Flats parcels; (3) the 745 acres of Green Diamond acquisition land described above (the 320 acres adjacent to Homan Flats and the 425-acre Lake May/Northern Lower North Fork parcel); (4) the Cushman transmission line right of way between Cushman Dam No. 1 and Cushman Powerhouse No. 2; and (5) 75-acres of Tacoma-owned land located in sections 27 and 28, Township 22 North, Range 4 West, West Meridian, above Powerhouse No. 2.\footnote{115}

180. As described above, the settlement does not include acquisition of Northern Lower North Fork and Purdy Creek parcels, which would eliminate Tacoma’s habitat management obligations on those lands. In addition, the settlement does not include the Nalley Ranch parcel, as it would be transferred to the Tribe. Finally, the settlement does not include the project’s transmission lines (other than the lines between Cushman Dam No. 1 and Cushman Dam No. 2) in the Native Plants and Wildlife Population Plan. These areas provide marginal habitat benefits. Also, the majority of the lines are located in residential areas or adjacent to county roads, and Tacoma therefore has limited flexibility to manage these transmission-line lands for native plant and wildlife habitat.

181. The revised Native Plants and Wildlife Population Plan required under proposed Article 421 requires a suite of enhancement measures, including: (1) constructing three osprey nesting structures on Lake Cushman and Lake Kokanee; (2) protecting and preserving suitable bald eagle and osprey perching, roosting, and nesting trees on the project’s wildlife management lands; (3) establishing high density snag areas in conifer-dominated Class 3 forests (300 snags); (4) scarifying, seeding, planting, and implementing other measures to remove and revegetate roads not needed for parcel maintenance;\footnote{116} (5) improving forage production and tree growth within 200 acres of dense Class 1 or 2 conifer forest;\footnote{117} (6) installing, maintaining, and monitoring at least 20

\footnote{115} These parcels are shown on the map included as Appendix 1 to the settlement (Article 421 wildlife lands).

\footnote{116} Roads needed for maintenance, but not for approved recreational access, are to be gated.

\footnote{117} Production of conifer forests would be improved by thinning and maintaining target tree densities and forage, using techniques specified in the Native Plants and Wildlife Population Plan.
wood duck nest boxes in the project area; (7) installing, maintaining, and monitoring at least seven bat boxes in the project area; and (8) constructing, maintaining, and monitoring up to 200 acres of elk forage fields. These measures, collectively, will enhance wildlife habitat in the project area.

182. The proposed modifications to Article 421, including the land acquisitions and the Native Plants and Wildlife Population Plan, reflect changes in land use and land availability in the project area and would increase the total acreage of wildlife habitat protected. They would also provide improved wildlife habitat benefits. Article 421, as modified by the settlement, is required by Interior’s section 4(e) conditions. We therefore include proposed Article 421 in this amended license. Article 204 requires Tacoma to file revised Exhibit G drawings showing the wildlife lands acquired under Article 421 within the project boundary.

**Article 422: Estuarine Enhancement Plan**

183. Article 422 of the 1998 license requires Tacoma to develop an Estuarine Enhancement Plan that provides for the removal of dikes, re-establishment of former tidal channels, and restoration of estuarine conditions at Nalley Ranch. The settlement would eliminate this article from the license. As explained above in our discussion of Article 401, many of the measures required by existing Article 422 have been completed. In addition, under the Damages Settlement, Tacoma will transfer ownership of Nalley Ranch to the Tribe. For these reasons, the provisions of Article 422 are outdated and are no longer warranted. We agree that sufficient work to improve estuarine conditions has been undertaken. Therefore, Ordering Paragraph (F) removes Article 422 from the license.

**Article 423: Threatened and Endangered Species Plan**

184. Article 423 of the 1998 license requires Tacoma to develop a Threatened and Endangered Species Protection Plan. This plan requires measures to protect the peregrine falcon, bald eagle, marbled murrelet, and spotted owl during construction and operation of the project. The plan is to be developed in consultation with the FWS, the Forest Service, and Washington DFW.

118 There are separate plans to complete the removal of dikes, re-establish former tidal channels, and restore estuarine conditions at Nalley Ranch. See Joint Explanatory Statement to the Settlement Agreement at 48-49. To the extent that Tacoma’s funding or implementation of specific one-time estuary enhancement projects is appropriate, the Fisheries and Habitat Committee may allocate supplemental funds from proposed Article 412 to such actions.
185. Proposed Article 423 is consistent with these requirements. However, it also includes measures to protect Puget Sound Chinook salmon, Puget Sound Steelhead, Hood Canal summer-run chum salmon, and bull trout. In addition, the plan would be prepared in consultation with the Fisheries and Habitat Committee and approved by FWS and NMFS.\textsuperscript{119}

186. Proposed Article 423 expands the species to be included in the plan, along with the corresponding measures to protect the species and their habitat. The measures to be included in the plan are consistent with the requirements of existing Article 423, and will also include measures consistent with the provisions of Article 405 and the mandatory conditions outlined in proposed Articles 403, 406, 407, 410-419, and 421. We therefore include proposed Article 423 in this amended license.

\textbf{Article 424: Shoreline Management Plan}

187. Article 424 of the 1998 license requires Tacoma to file a detailed management plan for the use of the project’s shoreline project buffer zone lands. The plan is to include allowable uses in the buffer zone lands, specify conditions for allowable uses (such as measures to maintain the aesthetic quality of the lakes), and establish a permit program to control development along the lakes.

188. Proposed Article 424 includes measures that are consistent with the objectives and requirements of existing Article 424. However, proposed Article 424 extends the deadline for developing the plan to two years after issuance of the amended license, instead of one year after license issuance, and includes all shoreline lands instead of just the buffer zone lands. The plan would be developed in consultation with Washington DFW, FWS, Forest Service, and Mason County, and would be filed with the Commission for approval.

189. The change in time to develop the plan will allow Tacoma to prepare a plan that adequately addresses all uses of shoreline lands. We therefore include proposed Article 424 in this amended license.

\textsuperscript{119} Like the existing article, proposed Article 423 includes the bald eagle as a species to be included in the plan. On July 9, 2007, FWS issued a final rule removing the bald eagle from the list of endangered and threatened wildlife. See \textit{Removing the Bald Eagle in the Lower 48 States from the List of Endangered and Threatened Wildlife}, 72 Fed. Reg. 37,346 (July 9, 2007). However, the bald eagle is protected under the Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668-668(d) (2006), and the Migratory Bird Treaty Act, as amended, 16 U.S.C. §§ 703-712 (2006).
Articles 425 and 428: Recreation Plan and Recreational Use Monitoring

1. Article 425: Recreation Plan

190. Article 425 of the 1998 license requires Tacoma to develop new facilities and improve existing facilities to increase recreation opportunities at Staircase Road Recreation Area, Camp Cushman (formerly Lake Cushman State Park), Lake Cushman viewpoint, two hiking trails, the Forest Service’s Big Creek Campground, and Hood Canal Recreation Park.

191. As described below, proposed Article 425 includes and updates the existing Article 425 provisions for: (1) Staircase Road recreation sites; (2) Lake Cushman Viewpoint; (3) Dry Creek Trailhead and Mt. Rose Trailhead improvements; (4) Lake Kokanee boat ramp; (5) Big Creek Campground; (6) Bear Gulch Access; (7) considering the needs of the disabled in the planning and design of each recreation facility; and (8) an implementation schedule. Proposed Article 425 does not include existing Article 425 requirements for Camp Cushman improvements, Hood Canal Recreation Park improvements, a reservation system for the Camp Cushman longhouse/day-use building, and the Hood Canal Recreation Park boat ramp. Article 425, as revised by the settlement, is required by Condition 2 of the Forest Service’s section 4(e) conditions.

a. Removal of Recreation Lands from the Project Boundary

192. The settlement does not include the longhouse/day use building and other improvements to Camp Cushman and the Hood Canal Recreation Park that the Commission required in the 1998 license. Both of these properties are located within the boundaries of the Skokomish Indian Reservation and are of significant cultural and historic importance to the Tribe. Except for the proposed location of the sockeye hatchery that will be constructed pursuant to Article 417 of this amended license, Tacoma will transfer both of these properties to the Tribe as part of the Damages Settlement.

---

120 Proposed Article 425 uses a different numbering system than existing Article 425. For example, Article 425(a) of the 1998 license is now proposed Article 425(1).

121 See Joint Explanatory Statement to the Settlement Agreement at 51.

122 The settlement parties have identified the Hood Canal Recreation Park as the preferred location for the sockeye hatchery. They anticipate that the hatchery would occupy approximately 1.5 acres of the Park, with the remainder of the parcel to be transferred to the Tribe. Id.
193. To offset the changes in recreational opportunities that the 1998 license contemplated would be provided by Camp Cushman and the Hood Canal Recreation Park, including camping and day-use picnicking, the settlement provides for additional improvements to the Forest Service-owned Big Creek Campground and other project recreation facilities. Among the improvements to be provided at the Big Creek Campground, which we describe in greater detail below, Tacoma would add 60 new campsites to the 23 existing campsites at the campground.

194. All features of Camp Cushman and the Hood Canal Recreation Park would not be replaced “in kind” in this amended license. Specifically, the boat launch facilities and associated parking areas at these two sites are not included in proposed Article 425. However, as part of the Damages Settlement, the Tribe would allow public access to the Camp Cushman boat launch and parking area from Memorial Day weekend through Labor Day weekend, and the Hood Canal Recreation Park boat launch and parking area year-round.123

195. At the public meeting following the May 21, 2009 technical conference and in several letters filed with the Commission, members of the public raised concerns about the settlement’s proposed transfer of Camp Cushman to the Tribe. They explain that they and their families have enjoyed camping at this site for many years, and urge the Commission to ensure that Camp Cushman remains open to the public.

196. We recognize that closing Camp Cushman to camping will shift recreational camping use from Camp Cushman to other recreation areas around the project, such as Big Creek Campground and the Park Services’ Staircase Campground. However, we do not expect that such a shift will significantly affect overall camping opportunities in the project area.124

197. The present Camp Cushman property was formerly a site that the Tribe used extensively, including as a winter village that was located at the lower end of the lake, and is of significant cultural and historic importance to the Tribe.125 Among other things, conveyance of the property to the Tribe will help protect undiscovered cultural resources.

198. As described in more detail below, Tacoma will provide significant improvements to the Big Creek Campground and other Forest Service facilities, as well as at other

123 See Joint Explanatory Statement to the Settlement Agreement at 54.

124 See final EIS at 3-53 to 3-55.

125 See Joint Explanatory Statement to the Settlement Agreement at 51.
project recreation sites. The improvements to these other facilities will help offset the lost recreation opportunities at Camp Cushman and the Hood Canal Recreation Park. In addition, based on the Tribe’s commitments in the Damages Settlement, public boat access to Lake Cushman and Hood Canal will not change substantially from what has existed historically. Therefore, Camp Cushman and a substantial portion of the Hood Canal Recreation Park (except the portion where the sockeye hatchery will be located) are no longer needed to serve a project purpose. Rather, the need to protect the tribal values and cultural attributes of these areas outweighs the public benefit of retaining these sites as part of this license.

199. Given the transfer of Camp Cushman and the Hood Canal Recreation Park to the Tribe, as well as the recreation improvements that Tacoma will provide elsewhere in the project area, the measures pertaining to these two sites, except for the sockeye hatchery, are no longer needed. Accordingly, we do not include the improvements from the 1998 license at Camp Cushman and Hood Canal Recreation Park in this license, and find that Camp Cushman and the portion of the Hood Canal Recreation Park not needed for the sockeye hatchery may be removed from the project boundary. Article 204 requires Tacoma to file revised Exhibit G drawings showing the removal of these properties, except for lands needed for the sockeye hatchery, from the project boundary.

b. Staircase Road Recreation Area and Bear Gulch Access

200. Article 425(a) of the 1998 license requires Tacoma to improve five existing shoreline access sites on project lands along Staircase Road (Staircase Road Recreation Area) by converting the sites from informal camp sites to formal day-use only sites. Article 425(h) requires Tacoma to improve the Bear Gulch Access (Bear Gulch Picnic Area) by providing picnic and camping units, toilets, and parking facilities. These areas are project features that are currently within the project boundary, and must remain so under this amended license.

201. Proposed Articles 425(1) and (6) and Condition 2 of the Forest Service’s section 4(e) conditions require the same improvements as the existing article. In addition, they require that Tacoma impose campfire and camping restrictions on Tacoma-owned land along Staircase Road, at the request of the Forest Service, and repair or replace the existing toilet at the Bear Gulch Access. These additional provisions would help to address pollution issues at the sites; reduce incidences and risks of human-caused fires in the area; and enhance the use of Bear Gulch Access as a day-use area. These provisions are reasonable additions to Articles 425(1) and (6) and we therefore include them in this amended license.

c. Lake Cushman Viewpoint

202. The Lake Cushman Viewpoint is an unimproved pullout off Lake Cushman Road, just south of Camp Cushman. It provides parking for 20 vehicles. Tacoma owns the
lands underlying this site. However, the site is not currently within the project boundary, and Tacoma is not proposing to add it as a project feature to the project boundary.

203. Article 425(b) of the 1998 license requires Tacoma to develop four day-use picnic sites and a toilet, as well as to improve accessibility by including gravel parking for 20 vehicles, at Lake Cushman Viewpoint. Proposed Article 425(2) makes no changes to the existing license requirement related to Lake Cushman Viewpoint. Condition 2 of the Forest Service’s section 4(e) conditions requires measures consistent with those of existing Article 425(2), except for the provision related to parking for 20 vehicles.

204. We make no changes to the Lake Cushman Viewpoint requirements of proposed Article 425(2) and include them in this amended license. However, this recreation site is on land owned by Tacoma, provides views of Lake Cushman, and will require on-going maintenance by Tacoma over the license term. Therefore, Lake Cushman Viewpoint and its associated facilities must be included within the project boundary. Article 204 requires Tacoma to file revised Exhibit G drawings showing the lands underlying the viewpoint and associated facilities within the project boundary.

d. Mt. Rose Trailhead

205. Mt. Rose Trail is a 6.4-mile loop that originates from the northern shores of Lake Cushman just west of the Big Creek campground along Staircase Road. The trail offers hiking and wildlife observation opportunities, as well as provides views from the Mt. Rose summit (including views of Lake Cushman). Currently, there is a small parking area and one toilet facility. Tacoma owns the land underlying the Mt. Rose Trailhead and proposes to include it as a project feature within the project boundary.

206. Article 425(c) of the 1998 license requires Tacoma to enlarge the parking area to accommodate eight vehicles and include a turnaround; and install a trailhead sign, an information kiosk, and toilet facilities. Proposed Article 425(3) makes no changes to the existing license requirements for the Mt. Rose Trailhead, and Condition 2 of the Forest Service’s section 4(e) conditions requires measures consistent with those of proposed Article 425(3). Therefore, we make no changes to the Mt. Rose Trailhead requirements of proposed Article 425 and include them in this amended license. Article 204 requires Tacoma to file revised Exhibit G drawings showing the lands underlying the Mt. Rose Trailhead and associated facilities within the project boundary.

e. Dry Creek Trailhead

207. Dry Creek Trail is a 7-mile-long trail located near Staircase campground off Forest Service Road 2451. The trail meanders through Olympic National Forest along the shore of Lake Cushman to a viewpoint where Mt. Rose is visible. The Dry Creek Trailhead is located on a private road, but on land owned by Tacoma and leased to the Lake Cushman
Development Company. The trailhead is not currently within the project boundary, and Tacoma is not proposing to add it as a project feature within the project boundary.

208. Article 425(c) of the 1998 license requires Tacoma to relocate the Dry Creek Trailhead to a location near Copper Creek to prevent user conflicts with adjacent landowners at the existing trailhead. In addition, the article requires Tacoma to implement the following improvements: (1) a trailhead sign; (2) an information kiosk; (3) improvements to about 0.1 mile of Copper Creek Trail; (4) 0.57 mile of new trail from Copper Creek Trail to the existing Dry Creek Trail; (5) gravel parking for six vehicles; and (6) a barrier-free toilet.

209. Proposed Article 425(3), which is consistent with Condition 2 of the Forest Service’s section 4(e) conditions, makes no changes to the existing license requirements for the Dry Creek Trailhead, except to allow Tacoma to relocate the trailhead or to secure legal public access for the existing trailhead and portions thereof. This additional provision is reasonable and will help prevent conflicts between trail users and adjacent landowners. We therefore include it in this amended license.

210. The Dry Creek Trailhead is on land that Tacoma owns, and the improvement of this trailhead will require ongoing maintenance over the license term. The Dry Creek Trail also provides access to Lake Cushman. Therefore, the Dry Creek Trailhead and its associated facilities must be included within the project boundary. Article 204 requires Tacoma to file revised Exhibit G drawings showing the lands underlying the Dry Creek trailhead and its associated facilities within the project boundary.

f. Lake Kokanee Boat Ramp and Parking Area

211. The Lake Kokanee Boat Ramp and Parking Area is located on the south end of Lake Kokanee, near the Cushman No. 2 Dam. The facility consists of a concrete boat launch, a large gravel-surfaced parking area, and pit toilet facilities. Access and general recreation at the boat launch have created litter and general maintenance issues. Tacoma owns the land underlying this access area, but it is operated and maintained by the Washington DFW. This is a project recreation facility that Tacoma proposes to include within the project boundary.

212. Article 425(d) of the 1998 license requires Tacoma to assume responsibility for the annual operation and maintenance of the Lake Kokanee boat ramp facilities. Maintenance is to include the following: (1) repairing or replacing broken slabs in the ramp; (2) installing and maintaining new concrete vault toilets; (3) removing garbage and litter; (4) removing debris and trash; (5) planting vegetation; (6) maintaining record keeping; and (7) maintaining and cleaning restrooms.

126 See Joint Explanatory Statement for the Settlement Agreement at 53.
litter; (4) adding new crushed rock to the parking area; (5) grading the parking area annually; and (6) other general maintenance activities. Proposed Article 425(4) and Condition 2 of the Forest Service’s section 4(e) conditions require the same measures, but further enhance recreational amenities at Lake Kokanee by requiring Tacoma to install a boat loading dock, delineate parking stalls, and provide picnic tables and kiosks.

213. These provisions are reasonable additions that will enhance access to Lake Kokanee, as well as improve recreationists’ use of the facilities and knowledge of the area. We therefore include proposed Article 425(4) in this amended license. Article 204 requires Tacoma to file revised Exhibit G drawings showing the lands underlying the Lake Kokanee Boat Ramp and Parking Area within the project boundary.

g. Big Creek Campground

214. Big Creek Campground is owned and managed by the Forest Service and is located about two miles north of Lake Cushman. The facility currently has 23 campsites that can accommodate tents, trailers, and recreational vehicles (RVs), and is situated in a forested setting adjacent to Big Creek, a tributary to Lake Cushman. The campground provides no direct access to Lake Cushman or existing project lands, and Tacoma does not propose to bring it into the project boundary.

215. Article 425(f) of the 1998 license requires Tacoma to improve the undeveloped areas within the Big Creek Campground to provide for organized overnight and day-use opportunities. The facilities to be constructed would include RV parking spaces, community kitchen shelters, picnic tables, fire rings, barrier-free restrooms, informational kiosks, trash receptacles, directional signs, and gravel parking spaces. Proposed Article 425(5) and Condition 2 of the Forest Service’s section 4(e) conditions mirror the requirements of existing Article 425(f), but further enhance recreation at the campground by requiring Tacoma to: (1) install a new water system; (2) resurface campground roads; (3) build accessible, double vault toilets and a fee collection station; (4) provide a trailer dump station; (5) construct an interpretive trail; and (6) add lighting to existing facilities such as shelters, kiosks, and the host site, and also add lighting and fans to the toilets, when power lines are brought to within one quarter mile from the campground.

216. These provisions will enhance the public’s recreation experience at the Cushman Project. The specific provisions included in proposed Article 425(5) for the Big Creek Campground will help offset the loss of camping opportunities associated with removing Camp Cushman from the project boundary and provide needed public recreation opportunities in the project area.127 As required by proposed Article 425(5), which is

127 See 18 C.F.R. § 2.7(e) (2010).
identical to the Forest Service’s section 4(e) Condition 2, Tacoma will construct the additional amenities and the Forest Service, a public agency that will continue to exist in the future, will provide ongoing operation and maintenance of the facilities pursuant to an off-license agreement between these entities.\textsuperscript{128} These provisions are reasonable in this case, and we therefore include them in this amended license.

217. The proposed improvements to the Big Creek Campground will occur on Forest Service-owned land that is not currently within the project boundary. However, proposed Article 425 states that the improvements to the campground are meant to be one-time actions that will not require on-going maintenance, management, monitoring, or oversight by Tacoma over the license term. Because these measures for the Big Creek Campground are one-time actions that will be undertaken pursuant to a comprehensive settlement filed in the proceeding, and we have reasonable assurance that the Forest Service will maintain the facilities in the future pursuant to an off-license agreement with Tacoma, we will not require that the project boundary be expanded to include the campground.\textsuperscript{129}

\textbf{h. Big Rock Site}

218. The Big Rock site is a Forest Service-owned and managed recreational site on Lake Cushman. This area consists of a large rock off the shore of Lake Cushman and adjacent lands that all serve as a gathering place for visitors at the lake. The Big Rock site is located on project lands, and Tacoma proposes to include it within the project boundary.

219. The 1998 license does not require any specific measures for the Big Rock recreation site. However, proposed Article 425(8) and Condition 2 of the Forest Service’s section 4(e) conditions require Tacoma to complete an assessment of the site in consultation with the Forest Service, Washington DNR, and the Mason County Sheriff to address wildfire and public safety issues at the site.\textsuperscript{130} This assessment will help inform potential options for managing public use of the site, which may include limiting access to the site, limiting parking opportunities, use of traffic control measures and signage, and fire prevention patrols. This is a reasonable addition, and we therefore include proposed Article 425(8) in this amended license. Article 204 requires Tacoma to file revised

\textsuperscript{128} See Attachment C to the Settlement Agreement.


\textsuperscript{130} See Joint Explanatory Statement for the Settlement Agreement at 53.
Exhibit G drawings showing the lands underlying the Big Rock recreation site within the project boundary.

i. **Schedule for Implementing Recreation Improvements**

220. Article 425(l) of the 1998 license requires Tacoma to provide a schedule for constructing new or upgrading existing recreation facilities. Proposed Article 425(10) requires that the new and upgraded facilities be constructed or improved within three years of issuance of this amended license. Proposed Article 425(10) provides additional detail regarding when new recreation facilities will be added and existing facilities improved. This modification is reasonable, and we therefore include it in this amended license.

2. **Article 428: Recreational Use Monitoring Plan**

221. Article 428 of the 1998 license requires Tacoma to develop and implement a study of recreational use with provisions to monitor and report on recreational use at the project, to determine whether the existing recreational facilities are meeting recreational demands. The filed report is required to include annual use figures, a discussion of adequacy of project facilities, a description of methodology, and a plan to accommodate additional facilities, if needed.

222. Proposed Article 428 does not substantially change these provisions. Under the proposed article, Tacoma will study the adequacy of existing recreational facilities in the project area, and if additional facilities are needed to meet project-related recreation demand, Tacoma will address those needs. The monitoring study will be developed in consultation with the Forest Service, Park Service, Washington DFW, Washington Department of Natural Resources, and the Washington State Parks and Recreation Commission, and will be approved by the Forest Service. Unlike the existing article, proposed Article 428 establishes a timeframe for implementing its provisions. Specifically, the study is due within one year of completion of the required improvements.

223. This change will allow the study to take into account any changes in project-related recreation which may occur as a result of implementing the amended license. Proposed Article 428 is also required by Condition 4 of the Forest Service’s section 4(e) conditions. We therefore include it in this amended license.

**Article 426: Longhouse/Day-use Building at Camp Cushman**

224. Article 426 of the 1998 license requires Tacoma to file a report on whether the longhouse/day-use building required under Article 425 adequately meets the needs of Indian tribes and the public. The settlement proposes to delete this article, because the Tribe is not interested in having Tacoma develop a longhouse/day-use building at Camp
Cushman, and the parties anticipate that Tacoma will transfer the Camp Cushman property to the Tribe as part of the Damages Settlement. As discussed above, the improvements to facilities at Camp Cushman are no longer needed. Therefore, Ordering Paragraph (F) removes Article 426 from the license.

**Article 427: Road Management Plan**

225. Forest Service Road 24 (Staircase Road) is currently an unpaved road that provides the primary access to the Staircase entrance of Olympic National Forest. This road is also heavily travelled by recreationists enjoying Lake Cushman. During the peak season, use of the road exceeds capacity, and overuse causes road conditions to deteriorate. Forest Service Road 2451 (Causeway Access Road) provides access to the Forest Service lands on the northwest corner of Lake Cushman. Among other uses, this road provides access to the Dry Creek and Copper Creek trailheads located on Forest Service lands.

226. Article 427 of the 1998 license requires Tacoma to file a road management plan for Forest Service Roads 24 and 2451 to protect water quality, as well as recreational and aesthetic resources along the roads. Proposed Article 427 is similar and requires Tacoma to develop a road management plan that addresses: (1) project-induced effects relevant to road development and use; (2) projected future use levels; (3) public safety; (4) year-round access needs; (5) winter maintenance; and (6) objectives for future road standards that may facilitate jurisdiction by public road management agencies. In addition, proposed Article 427 requires Tacoma to assume a portion of the responsibility, commensurate with project-related use, for operation and maintenance activities of Forest Service Road 24 (from road miles 10.1 to 14.08) and Forest Service Road 2451. Tacoma’s responsibility for a portion of this operation and maintenance would continue until road jurisdiction is transferred to others or unless the Forest Service otherwise agrees. Finally, proposed Article 427 clarifies that Tacoma is not responsible for any structural damages to Forest Service Road 2451 caused by acts of nature or project operations.\(^{131}\)

227. These changes to Article 427 require Tacoma to assume some responsibility towards annual operation and maintenance of two multi-purpose Forest Service roads that provide access to project recreation facilities, as well as Forest Service and Park Service

---

\(^{131}\) In 1957, the Forest Service acquired an easement from Tacoma to develop the causeway (USFS Road 2451). *See* Joint Explanatory Statement for the Settlement Agreement at 56. As a condition of the easement, the Forest Service agreed that Tacoma would not be responsible for any damage to the causeway from flooding or project operations.
recreation sites in the project area. This will help alleviate the deterioration of the roads that is caused by recreationists seeking to use project and other recreation facilities. It will also help protect water quality in the bordering areas of Lake Cushman. The Commission would not normally require a licensee to provide funding for part of the cost of maintaining these two Forest Service roads. However, proposed Article 427 is required by Condition 3 of the Forest Service’s revised section 4(e) conditions. We therefore include it in this amended license. Because only some of the use of these roads is project-related, and we have reasonable assurance that the Forest Service or a road management agency will continue to maintain them, we need not require that the roads be included in the project boundary.

**Article 429: Historic Properties Management Plan**

228. Article 429 of the 1998 license requires Tacoma to file a revised cultural resources management plan to protect historic properties. In the settlement, Tacoma states that this article is unchanged. However, at the May 21, 2009 technical conference, Commission staff explained that Article 429 would need to be revised to reflect current regulations and guidance, as well as to accommodate the settlement’s proposal, discussed in more detail in the next section, to delete existing Article 430, which requires Tacoma to paint the Cushman Dam No. 2 penstocks and surge tank.

229. The settlement takes into account the historical and visual significance of the Cushman Dam No. 2 penstocks and surge tank, as well as the need to maintain their integrity within the Cushman Dam No. 2 Hydroelectric Power Plant Historic District, which is listed in the National Register of Historic Places (National Register). In addition, there is a need to update the article to reflect revised regulations of the Advisory Council on Historic Preservation (Advisory Council), including referring to the cultural resource management plan as a historic properties management plan. Revised Article 429, as included in this amended license, reflects these considerations.

230. Revised Article 429 requires Tacoma to file a historic properties management plan to protect historic properties and archaeological resources, including properties of traditional religious and cultural importance to the Tribe. The plan is to be prepared in consultation with the Washington State Historic Preservation Officer (Washington SHPO), the Tribe, and BIA, and must be filed with the Commission for approval within one year of issuance of this amended license. Revised Article 429 continues the requirement of existing Article 429 that Tacoma determine whether certain identified properties are eligible for listing in the National Register. These determinations are to be included in Tacoma’s historic properties management plan.

---

132 See Joint Explanatory Statement for the Settlement Agreement at 57 and 58.
231. In one instance, however, any required eligibility determinations must be made earlier. Article 429 in the 1998 license requires that Tacoma determine whether Camp Cushman, a Civilian Conservation Corps camp with its associated road, bridges, and cabins, is eligible for listing in the National Register. As discussed above, under the Damages Settlement, Tacoma will transfer Camp Cushman and a portion of the Hood Canal Recreation Area to the Tribe within 120 days of issuance of this amended license. Under the Advisory Council’s regulations, transfer of an eligible historic property out of federal jurisdiction is considered an adverse effect.\(^{133}\) Therefore, revised Article 429 provides that, prior to this transfer, Tacoma must consult with the Tribe, BIA, and the Washington SHPO to apply the National Register criteria to Camp Cushman, as well as any identified archaeological or ethnographic sites located on the property to be transferred, to determine whether any property may be eligible for listing in the National Register. If any property is found eligible, Tacoma must document the property before transferring it to the Tribe.

232. In addition, as discussed above, a portion of the Hood Canal Recreation Area will be retained for construction of a sockeye hatchery. The Hood Canal Recreation Area is identified as Saltwater Park in the 1998 license. Existing Article 429 requires that, if project-related ground disturbance at Saltwater Park may exceed one meter, Tacoma must determine whether there are any properties eligible for listing in the National Register in the precise locations of the ground disturbance. Revised Article 429 retains this provision for the portion of the property that will be used for the hatchery. It also requires Tacoma to identify the area of potential effects (APE) for the Cushman Project and procedures for modifying the APE to reflect the inclusion or exclusion of lands within the project boundary, as required in this amended license.

**Article 430: Painting of Project Features**

233. Article 430 of the 1998 license requires Tacoma to paint the Cushman Dam No. 2 penstocks and surge tank to reduce their visual effect on the surrounding area. In the final EIS,\(^ {134}\) Commission staff concluded that painting the penstocks and surge tanks with non-reflective natural paint colors would make the features blend in better with the surroundings and reduce their prominence in the viewscape as seen from US 101, State Highway 106, Hood Canal Recreation Park, Hood Canal, and other places nearby, such as the Skokomish Delta.

\(^{133}\) See 36 C.F.R. § 800.5(a)(2)(vii) (2010).

\(^{134}\) See Final EIS at 4-126.
234. The settlement proposes to delete this article, because painting the penstocks and surge tank would adversely affect the Cushman No. 2 Power Plant Historic District. According to a report by Historical Research Associates, the penstocks are significant for their association with the Cushman No. 2 Power Plant, and their aluminum color is listed as a character-defining feature. Therefore, preserving the integrity of the penstocks requires that they retain their distinctive aluminum (silver) coloring. In addition, Tacoma states that the penstocks have historically experienced damage due to expansion, and that painting them a darker color will result in additional expansion when they are dewatered during maintenance, exacerbating the problem. We concur that painting the silver-colored penstocks a non-reflective darker paint would adversely affect a component of the historic district. Therefore, Ordering Paragraph (F) deletes Article 430 from this amended license.

**Article 431: Use and Occupancy of Project Lands and Waters**

235. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 431 of the 1998 license sets forth the Commission’s standard land-use article, which allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting and some boat dock construction. Such uses must be consistent with the purpose of protecting and enhancing the scenic, recreational, and environmental values of the project.

236. The settlement states that this article is unchanged. However, since the 1998 license, the Commission has deleted a provision from this article to reduce the number of filings required. In addition, Exhibit K maps have been superseded by Exhibit G drawings. Therefore, as included in this amended license, revised Article 431 reflects these changes.

**Article 432: Fisheries and Habitat Committee**

237. Proposed Article 432 and Appendix 3 to the settlement agreement require Tacoma to establish and convene a Fisheries and Habitat Committee to provide advice on fisheries and habitat issues related to the implementation of the amended license. The

---

135 See Settlement Agreement at 57-58.

136 The deleted provision read: “If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.”

137 Members of the Fisheries and Habitat Committee will include a representative (continued…)
Committee would be established within three months of issuance of this amended license, and would consult with, review plans for, and provide advice to Tacoma, as provided for in specific license articles. Tacoma would arrange, administer, and chair all meetings, although a facilitator may be used. Finally, the role and procedures of the Committee would be evaluated after five years to determine if they should remain the same, or be modified or discontinued.

238. Proposed Article 432 will serve an important function, as it will provide a forum for the federal and state agencies, the Tribe, and Tacoma to collaborate on the implementing the fisheries and habitat articles of this amended license. The Fisheries and Habitat Committee is a provision of the settlement agreement and is required by Interior’s section 4(e) conditions. We therefore add proposed Article 432 to this amended license. However, we remind Tacoma and the other parties to the settlement that the Commission cannot require entities other than Tacoma to participate on this committee. Rather, we can only require that Tacoma consult the other members of the committee in implementing the measures required by the license.

**Article 433: Forest Service’s Section 4(e) Reservation of Authority**

239. Proposed Article 433 reserves the authority of the Forest Service, under section 4(e) of the FPA, to require this license to include conditions necessary to enforce Tacoma’s obligations under sections 3 and 7 of the off-license agreement between Tacoma and the Forest Service,\(^{138}\) in the event of Tacoma’s default or termination of the agreement. Proposed Article 433 is a required by Condition 5 of the Forest Service’s section 4(e) conditions, and we therefore add it to this amended license. We note, however, that if changes to the license are contemplated, a license amendment will be required. Further, the Forest Service cannot through a section 4(e) condition expand our jurisdiction beyond that conferred by the FPA.

**Article 434: Interior’s Section 4(e) Reservation of Authority**

240. Proposed Article 434 reserves Interior’s authority, under section 4(e) of the FPA, to require this license to include any additional measures that may be necessary to ensure adequate protection and utilization of the Skokomish Indian Reservation. Proposed Article 434 is a section 4(e) condition, and, we therefore add it to this amended license.

\(^{138}\) The off-license agreement is Attachment C to the Settlement Agreement.
We note, however, that if changes to the license are contemplated, a license amendment will be required.

**NORTH FORK POWERHOUSE AMENDMENT**

241. On January 26, 2009, Tacoma filed an application for a non-capacity amendment for the Cushman Project. Under the amendment, Tacoma proposes to construct a new powerhouse at the base of Cushman Dam No. 2. Construction of the new powerhouse would increase the installed capacity of the Cushman Project by 3.6 MW, from 131.0 MW to 134.6 MW.\(^\text{139}\) The proposed powerhouse would be constructed entirely within the existing project boundary. The parties to the settlement agreed to waive any pre-filing consultation that might otherwise be required under Commission rules.\(^\text{140}\)

242. The new powerhouse would be designed and constructed as a fish collection facility for upstream migrants to use the flow of the turbines through an upwell grate into a 30-foot by 14-foot tailwater pool for fish attraction and holding. Fish are expected to approach the powerhouse and jump over a finger weir\(^\text{141}\) into the holding tank. Fish would be guided into transport tanks and raised up to the top of the dam and new fish sorting facilities. Features of the powerhouse that influence the function and operation of the upstream fish passage facilities would be designed to be consistent with NMFS’s Anadromous Salmonid Passage Facility Design Manual.\(^\text{142}\)

\(^{139}\) The two 1.8-MW Francis units would be controlled locally by a system designed for both manual and computer control. The system would tie into a new plant control system for the Cushman Project. Tacoma’s plant control systems tie to the project through a microwave loop system and are controlled by the power dispatchers located at Tacoma’s headquarters in the City of Tacoma.

\(^{140}\) Settlement Agreement at 9.

\(^{141}\) A finger weir is a small structure that raises the water level and slows the velocity of water.

\(^{142}\) In its comments on the amendment application, NMFS asks the Commission to ensure that the parties work collaboratively on the design development and post-construction evaluation of the North Fork powerhouse (see section 4.5 of the settlement). This amended license includes conditions that require Tacoma to consult with NMFS and other parties in implementing the provisions of the license, including those for the new powerhouse (see, e.g., Articles 205, 410, 413-416, 423, and 432). This addresses NMFS’ concern.
243. Tacoma’s application is for a non-capacity amendment, which is defined in section 4.201 of the Commission’s regulations as one which does not increase the maximum hydraulic capacity of the project by 15 percent or more and increase the installed nameplate capacity of the project by 2 MW or more. Capacity-related amendments are those that meet both of these criteria. Applications for capacity-related amendments are required to include certain exhibits specified in section 4.201, including Exhibit E (the Environmental Report). Applications for non-capacity-related amendments are not required to include specific exhibits, but must include “those exhibits that require revision in light of the nature of the proposed amendments.” Depending on the nature of the proposal, this may require environmental data and studies. In this case, Tacoma included Exhibits A, B, C, D, and E in its amendment application.

244. Commission regulations require that a licensee undertake a three-stage pre-filing consultation process for capacity amendments, as well as amendments that do not meet the capacity requirements of section 4.201(b) but involve the addition of new turbines. Tacoma’s proposed license amendment involves adding two new 1.8-MW turbines. Therefore, the Commission’s three-stage consultation process applies. To meet its consultation obligations, Tacoma consulted with the state and federal agencies and the Tribe concerning the proposed license articles in Appendix 1 to the settlement, which includes a requirement for upstream fish passage at Cushman Dam No. 2. Because the

---

143 Construction of the North Fork powerhouse would change the operation of the Cushman Project by adding more than 2.0 MW of capacity. However, the new powerhouse would not increase the hydraulic capacity of the project by 15 percent or more. Rather, adding the new powerhouse would increase the project’s hydraulic capacity by less than 6 percent.


146 Subject to section 3 of the settlement, which allows for consideration of new information arising in the powerhouse amendment proceeding or during ESA consultation, the settlement parties intend that no resource protection measures or other license provisions, other than those provided in Appendix 1 of the settlement, are necessary to amend the project license to satisfy the requirements of the FPA and its implementing regulations (see Application for Non-Capacity License Amendment at E-1).

147 The new powerhouse would be designed to include certain components of the fish passage facilities provided for in proposed Article 415. The facilities and conceptual

(continued…)
settlement parties were involved in developing the settlement and agreed to waive any additional consultation for the new powerhouse, we waive the three-stage consultation requirements of section 4.38 for the amendment application.

245. The 1996 final EIS and documents supporting the settlement include a description of the environmental setting of the Cushman Project and an analysis of the project’s effects on water use and quality, fish, wildlife, botanical resources, recreation, and cultural resources. The final EIS evaluated multiple options for a new powerhouse at or near the base of Cushman Dam No. 2, including one that Tacoma had proposed. Except for some of the design provisions, Tacoma’s two proposals for a new powerhouse are substantially similar, and most of the effects described in the final EIS apply to Tacoma’s current proposal. Therefore, a detailed evaluation of the new powerhouse is not necessary here.

246. The final EIS included an analysis of flows and flow regimes for the North Fork Skokomish River downstream of Cushman Dam No. 2. In it, Commission staff recommended a minimum flow release of 240 cfs or inflow, whichever is less, for the North Fork, as well as flushing flows and channel maintenance flows for the North Fork and mainstem Skokomish rivers. The 1998 license includes staff’s recommended flow regime.

247. As noted earlier, on March 7, 2008, Tacoma began releasing 240 cfs or inflow, whichever is less, to the North Fork through a flow release valve at the base of Cushman Dam No. 2. Based on Commission staff’s observations during the May 20, 2009 site visit, this release strategy results in water leaving the base of the dam under pressure and projecting 100 to 200 feet downstream into the North Fork. This can lead to gas supersaturation and affect the suitability of the aquatic habitat in the river immediately downstream of the dam. The new powerhouse would help to alleviate these conditions. First, it would provide the most efficient means of dissipating the force of the minimum flow release on the aquatic habitat immediately downstream of the dam. Gas supersaturation would likely be reduced, leading to improved water quality and making the reach of river immediately downstream of the dam more hospitable to fish and other aquatic organisms. Second, the new powerhouse would be designed to provide the

plans were discussed during the development of the settlement.

148 See Final EIS at 4-1 through 4-3, 4-9 and 4-10, 4-18 through 4-21, 4-43 and 4-44, 4-75 through 4-77, 4-100, 4-107 and 4-108, 4-122, 4-128 and 4-129, and 4-136.

149 Gas supersaturation is a condition whereby water contains more of a dissolved material (e.g., nitrogen) than it could otherwise dissolve under normal conditions.
attraction flow and holding tanks for the proposed upstream fish passage facilities at the project. This would facilitate passage of anadromous fish to the upper North Fork and help FWS and NMFS achieve their recovery goals for bull trout, salmon, and steelhead. Finally, the new powerhouse would allow Tacoma to recapture some of the generation lost to the minimum flow release.

248. For these reasons, Tacoma’s proposal for a new powerhouse at the base of the Cushman Dam No. 2 is in the public interest. We therefore approve the amendment application and authorize construction of the new powerhouse in Ordering Paragraph (C). Article 301 requires Tacoma to commence construction of the new powerhouse within two years of issuance of this amended license and to complete construction within four years.

WATER QUALITY CERTIFICATION

249. Under section 401(a)(1) of the Clean Water Act (CWA), 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 state certification shall become a condition of any federal license that authorizes construction or operation of the project.

A. Existing Project

250. Washington Ecology issued a revised certification for the Cushman Project on December 30, 1987, pursuant to a settlement of Tacoma’s appeal of the certification. The revised certification requires Tacoma to release a minimum instream flow of at least 30 cfs, augmented by periodic flushing flows, into the North Fork of the Skokomish River on an interim basis, until the Commission issues a new license for the project. The conditions of the revised certification are set forth in Appendix A and are incorporated in the license by Ordering Paragraph (H)

B. New North Fork Powerhouse


---


Ecology issued its certification for the powerhouse amendment. As discussed below, the certification includes twelve general conditions and six project-specific conditions. These conditions are set forth in Appendix C and are incorporated in the license by Ordering Paragraph (H).

1. **General Conditions**

252. Condition A provides that the certification does not authorize Tacoma to exceed applicable state water quality standards, ground water quality standards, sediment quality standards, and other requirements of state law. Condition B provides that changes in the CWA and state water quality standards shall apply to the project and other attendant agreements, orders, or permits. Condition C prohibits the discharge of any solid or liquid waste to the waters of the state. Condition D requires Tacoma to obtain Washington Ecology review and approval before undertaking any change to the project or project operations that might violate water quality standards. Condition E provides that the certification does not exempt Tacoma from complying with other statutes and codes administered by other federal, state, and local agencies.

253. Condition F provides that nothing in the certification waives Washington Ecology’s authority to issue additional orders if it determines that further actions are necessary to implement the water quality laws of the state. It also states that Washington Ecology retains continuing jurisdiction to make modifications if additional impacts due to project operation are identified, or if additional conditions are necessary to further protect water quality. Condition G provides that nothing in the certification prevents or prohibits Tacoma from taking actions that will provide a greater level of protection, mitigation, or enhancement of water quality.

254. Condition H requires that copies of the certification, as well as associated permits, licenses, approvals and other documents, be kept on the project site. Condition I requires Tacoma to allow Washington Ecology personnel to have access to the project to inspect the project and project records for the purpose of monitoring compliance with the certification’s conditions. Condition J requires that Tacoma respond to requests for information from Washington Ecology. Condition K prohibits conditions that result in distressed, dying, or dead fish; any discharge of oil, fuel, or chemicals into state waters; or violation of turbidity criteria. It also identifies specific actions to take if such conditions occur. Condition L provides for civil penalties or other enforcement actions if any person or entity fails to comply with the certification’s conditions.

2. **Specific Conditions**

255. Condition 4.1 requires Tacoma to comply with all applicable water quality standards, as outlined in tables 4-1 and 4-2 of the certification. Condition 4.2 requires Tacoma to manage flows in the North Fork of the Skokomish River in accordance with proposed Articles 406, 407, and 411 of the settlement.
256. Condition 4.3(A) provides that the project must not cause any exceedance of the total dissolved gas water quality criteria, and requires that Tacoma manage spill and power production to limit total dissolved gas production to 110 percent or less saturation. It also requires that Tacoma implement proposed Article 410 of the settlement. Condition 4.3(B) sets a 7Q10 flow of 1,907 cfs, above which the 110 percent total dissolved gas criterion does not apply if Tacoma takes all reasonable and feasible operational efforts to minimize total dissolved gas. Condition 4.3(C) establishes a process for monitoring total dissolved gas, including: (1) developing a total dissolved gas monitoring plan; (2) monitoring turbine operation (e.g., in the forebay, generation plumes during normal operation and during up- and down-ramping activities, and downstream in the North Fork) and spills during high-flow events; and (3) developing a Total Dissolved Gas Water Quality Attainment Plan if monitoring shows that total dissolved gas exceeds the 110 percent criterion. Condition 4.4 requires Tacoma to implement the monitoring provisions in proposed Article 410 of the settlement. It also requires Tacoma to monitor pH, water temperature, dissolved oxygen, and turbidity, as well as the total dissolved gas monitoring provided for in condition 4.3 of the certification.

257. Condition 4.5 sets forth various conditions that apply to all over-water or near-water work related to the project that can affect surface or ground water quality. Condition 4.5(A) requires that Tacoma develop and implement a Water Quality Protection Plan for all activities that may affect surface or ground water quality. Condition 4.5(B) requires that Tacoma apply for a National Pollutant Discharge Elimination System Permit and a Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities, if applicable. Condition 4.5(C) provides five Best Management Practices that Tacoma must implement to protect water quality. Condition 4.5(D) provides conditions to maintain turbidity standards during in-water construction work.

258. Condition 4.6 provides a series of conditions for managing and containing spills of oils, fuels, and chemicals. These conditions address general oil spill prevention and control; discharge of oil and grease to turbine pits; sump operation and inspections; transformer containment areas; storm water pollution prevention and containment area management; and site security and general administration of the certification.

---

152 A 7Q10 flow is the lowest stream flow for seven consecutive days that would be expected to occur once in ten years. For the certification, Washington Ecology estimated this flow. Condition 4.3(B) provides that Tacoma may develop a 7Q10 flow based on real-time gaging data if it chooses.
a. Water Quality Monitoring and Protection Plans

259. As noted above, Condition 4.3(B) establishes a 7Q10 flow for the North Fork Skokomish River downstream of Cushman Dam No. 2. Condition 4.3(C) requires Tacoma to develop and implement a Total Dissolved Gas Monitoring Plan for the North Fork Powerhouse for review and approval by Washington Ecology. The plan is to be submitted to Washington Ecology within six months of issuance of the certification, and is to include: (1) a description of the total dissolved gas monitoring locations; (2) proposed analysis of the total dissolved gas monitoring data; (3) the monitoring data to be provided; (4) a monitoring schedule; and (5) a schedule for submitting the analysis and monitoring results to Washington Ecology. Data will be collected for ten years or for three qualifying spill events\(^{153}\) that do not result in violations of total dissolved gas standards, whichever is sooner. Condition 4.3(C) describes in some detail where total dissolved gas is to be monitored, and requires that Tacoma develop a Water Quality Attainment Plan if monitoring shows that total dissolved gas exceeds the 100-percent saturation criteria.

260. The provisions of Condition 4.3(C) appear consistent with those of proposed Article 410(3) included in the settlement. However, Condition 4.3(a) of the certification uses “percent saturation” as its criteria for determining compliance with Washington’s total dissolved gas standard, whereas proposed Article 410(3) uses a measure of nitrogen as the standard. This difference should be addressed during consultation on the Monitoring Plan. In addition, the certification establishes a 7Q10 flow of 1,907 cfs and provides more detail for the total dissolved gas monitoring and protection program for the new North Fork Powerhouse. These conditions are part of the certification, and are thus part of this amended license. However, Tacoma may also find it appropriate to incorporate them in its Water Quality Enhancement Plan under Article 410.

261. Finally, Condition 4.3(C) requires that Tacoma submit a Total Dissolved Gas Monitoring Plan and, if necessary, a Water Quality Attainment Plan to Washington Ecology for review and approval. Tacoma is reminded that any plan or report submitted to Washington Ecology under this condition of the certification must also be filed with the Commission for review and approval, as appropriate. We therefore modify proposed Article 410 to include a requirement to file these plans and reports with the Commission for approval.

\(^{153}\) Qualifying spill events are defined as follows: “If flows from the NF Powerhouse being built at Cushman Dam No. 2, plus spill from base of the dam exceed 500 cfs at Cushman Dam No. 2, the dam spillway, or 500 cfs at the North Fork Skokomish gage (USGS 1205880), then [total dissolved gas] monitoring is required during the high flow spill event.” Condition 4.3(C) (Spill Events).
b. **Water Quality Parameters**

262. Condition 4.4 of the certification requires Tacoma to implement the TDG monitoring provisions of proposed Article 410(3). It also provides that, in addition, to TDG, Tacoma must monitor pH, water temperature, dissolved oxygen, and turbidity to determine what effects the new powerhouse may have on water quality in the North Fork Skokomish River. Tacoma is required to submit a plan to monitor these parameters to Washington Ecology within six months of the date of the certification.

263. These additional parameters are important constituents of water quality, particularly in a river system that contains habitat used by threatened and endangered fish species, as is the case for the North Fork Skokomish River. Monitoring TDG, pH, water temperature, dissolved oxygen, and turbidity would provide a more complete picture of what effects the new powerhouse may have on the water quality in the North Fork. These conditions are part of the certification, and are thus part of this amended license. However, Tacoma may also find it appropriate to incorporate them in its Water Quality Enhancement Plan under Article 410.

c. **Construction Projects, Discharges, and Habitat Modifications**

264. This amended license authorizes Tacoma to construct a new powerhouse at the base of Cushman Dam No. 2. In addition, proposed Article 412 requires that Tacoma undertake various habitat enhancement and restoration projects in the project area and downstream in the North Fork. If not properly managed, these activities have the potential to affect water quality in the lakes and the North Fork Skokomish River. Condition 4.5 of the certification addresses this possibility by requiring Tacoma to develop and implement a Water Quality Protection Plan for all activities that may affect surface and/or ground water quality; implement Best Management Practices; and maintain state turbidity standards.

265. Implementing measures to minimize runoff and other discharges during construction activities in, or near, water, will help to minimize any effects such activities may have on water quality in the lakes and the North Fork. These conditions are part of the certification, and are thus part of this amended license. However, Tacoma may also find it appropriate to incorporate them in its Water Quality Enhancement Plan under Article 410.
THREATENED AND ENDANGERED SPECIES

266. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)\(^{154}\) requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat for those species.

267. In 1999, after the Commission issued the new license for the Cushman Project, several species of fish indigenous to the Skokomish River were listed as threatened under the ESA, including the Puget Sound Chinook salmon (\textit{Oncorhynchus tshawytsha}), the Hood Canal summer-run chum salmon (\textit{O. keta}), and the Coastal-Puget Sound bull trout (\textit{Salvelinus confluentus}). In response to these listings, Commission staff initiated formal consultation with FWS and NMFS under section 7 of the ESA. These agencies issued Biological Opinions in 2004,\(^{155}\) concluding that the license as issued in 1998 would not jeopardize the continued existence of the listed species. FWS and NMFS provided measures to minimize the risk of incidental take of these species, which the Commission required as part of the license.\(^{156}\) The Puget Sound Steelhead (\textit{O. mykiss}) was subsequently listed as threatened in 2007.\(^{157}\)

268. The settlement recognized that the Commission would reinitiate consultation under section 7(a)(2) of the ESA, and that FWS and NMFS would likely have to prepare supplemental or revised biological opinions based on the provisions contained in the proposed articles included with the settlement.\(^{158}\) In addition, all parties recognized that formal consultation would be required for construction of the new powerhouse. As discussed below, this has occurred.

A. Fish and Wildlife Service

269. On September 29, 2009, Commission staff issued its revised biological assessment for the bull trout, as well as the threatened northern spotted owl (\textit{Strix occidentalis})


\(^{158}\) Settlement Agreement at 8.
caurina) and marbled murrelet (Brachyramphus marmoratus). Based on its review of the record, staff concluded that operating the Cushman Project in accordance with the measures included in the settlement and the amendment application for the new powerhouse is likely to adversely affect the bull trout in the North Fork Skokomish River, but would not jeopardize the continued existence of the species. Staff found that critical habitat for the species would not be adversely affected. Staff also concluded that continued operation of the project with these measures is not likely to adversely affect the northern spotted owl, marbled murrelet, or their habitat.

270. On April 26, 2010, FWS filed its Biological Opinion for the Cushman Project. The Biological Opinion treats the provisions of the settlement and powerhouse amendment as the proposed action for purposes of ESA consultation. FWS concurs with staff’s finding for the northern spotted owl and marbled murrelet. For bull trout, FWS agrees that the proposed action would adversely affect but is not likely to jeopardize the continued existence of the species.

271. To ensure that any incidental take of bull trout will be authorized, FWS identifies reasonable and prudent measures to avoid or minimize incidental take, as well as terms and conditions to implement those measures. The measures require Tacoma to minimize incidental take of bull trout that will result from elevated sediment levels and entrainment at Cushman Dam No. 2. These measures are the same as reasonable and prudent measures 2 and 3 included in FWS’s 2004 Biological Opinion,\(^{159}\) and the Commission included them in the license in its June 21, 2004 order.\(^{160}\)

272. The incidental take conditions to implement these reasonable and prudent measures, which we adopt, are set forth in Appendix D and required by Ordering Paragraph (L). In addition, any plans or reports that are required by the conditions of the incidental take statement to be filed with FWS for approval must also be filed with the Commission for approval.

273. In addition to the incidental take conditions, FWS recommends two conservation measures to promote the recovery of bull trout and its habitat.\(^{161}\) These measures would

\(^{159}\) FWS’ 2004 Biological Opinion also included RPM 1, which required Tacoma to “minimize take of bull trout from stocking trout.” This RPM and its implementing conditions are no longer necessary, because they have been incorporated in the settlement as part of the proposed action. Therefore, FWS does not include RPM 1 or its implementing conditions in the revised Biological Opinion for bull trout.


\(^{161}\) FWS makes these recommendations under section 7(a)(1) of the ESA, which (continued…)
require: (1) conducting bull trout surveys in the Skokomish Estuary and Lake Kokanee to expand the understanding of species distribution and habitat use in the project area; and (2) coordination among the Commission, FWS, Tacoma, and the Park Service in developing and implementing upstream and downstream fish passage protocols for bull trout.

274. We support conservation efforts for bull trout in the Skokomish River Basin, and, to the extent that those measures relate to the project, the amended license includes articles that address FWS’s recommended measures.\(^\text{162}\) However, conservation measures are discretionary recommendations.\(^\text{163}\) In this instance, the recommended surveys of the Skokomish Estuary are related to general research, and are not necessarily connected to operation of the Cushman Project. We therefore do not require them.

275. Nevertheless, there is nothing in the settlement or the license which would preclude Tacoma from undertaking surveys of the Skokomish Estuary. We encourage Tacoma to continue working with the resource agencies and other members of the Fisheries and Habitat Committee to manage bull trout in the Skokomish River Basin.

B. **National Marine Fisheries Service**

276. On September 29, 2009, Commission staff issued its revised Biological Assessment for the Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and the Puget Sound steelhead, as well as the endangered Southern Resident killer whale (*Orcinus orca*). Based on its review of the record, staff concluded that operating the project in accordance with the measures included in the settlement and the amendment application for the new powerhouse is likely to adversely affect the Puget Sound salmon.

directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species.

\(^{162}\) Article 413 addresses aspects of FWS’s recommendation for surveys within Lake Kokanee. Articles 414-416 and 432 address FWS’s recommendation for coordination among Tacoma and the agencies, including the Park Service, during the development of fish passage facilities at the project. In addition, Article 412(3) of the license requires Tacoma to implement measures to minimize take of listed salmon and bull trout associated with in-water work for any physical structures and facilities.

\(^{163}\) The regulations implementing the ESA define conservation recommendations as “suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.” See 50 C.F.R. § 402.02 (2010).
Sound Chinook salmon, Hood Canal summer-run chum salmon, and Puget Sound steelhead in the North Fork Skokomish River, but would not jeopardize the continued existence of these species. Staff found that critical habitat for these species would not be adversely affected. Staff also concluded that continued operation of the project is not likely to adversely affect the Southern Resident killer whale or its habitat.

277. On March 31, 2010, NMFS filed its Biological Opinion for the Cushman Project. The Biological Opinion treats the provisions of the settlement and powerhouse amendment as the proposed action for purposes of ESA consultation. NMFS concurs with staff’s finding for the Southern Resident killer whale. For the Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and Puget Sound steelhead, NMFS concludes that the proposed license amendments included in the settlement would address the effects of the Cushman Project on the three listed species, and would not jeopardize the continued existence of any of them. In addition, NMFS concludes that critical habitat for Chinook and summer-run chum salmon in the Skokomish River Basin would not be destroyed or adversely modified.\(^\text{164}\)

278. To ensure that any incidental take of Puget Sound Chinook, Hood Canal summer chum, and Puget Sound steelhead will be authorized, NMFS identifies reasonable and prudent measures to avoid or minimize incidental take, as well as terms and conditions to implement those measures. These measures require Tacoma to minimize incidental take of Puget Sound Chinook, Hood Canal summer chum, and Puget Sound steelhead that would result from: (1) operation of the project; (2) monitoring and handling listed species; and (3) construction activities in, or near, watercourses. The reasonable and prudent measures and their implementing conditions are consistent with the provisions of the proposed articles included in the settlement, as discussed in other sections of this order.

279. We adopt, as conditions of this amended license, the terms and conditions that implement the reasonable and prudent measures of the incidental take statement. These terms and conditions are set forth in Appendix E to this order and are required by Ordering Paragraph (L). In addition, any plans or reports that are required by the conditions of the incidental take statement to be filed with NMFS for its approval must also be filed with the Commission for approval.

\(^{164}\) NMFS states that its analysis also applies to Puget Sound steelhead, assuming that NMFS designates critical habitat for the species during the term of the amended license.
ESSENTIAL FISH HABITAT

280. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act\(^\text{165}\) 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 identified under the Act. Under section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide essential fish habitat conservation recommendations for actions that would adversely affect essential fish habitat.\(^\text{166}\) Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on essential fish habitat.\(^\text{167}\)

281. The Cushman Project area includes habitat that has been designed as EFH for various life-history stages of Chinook and coho salmon.\(^\text{168}\) Continued operation of the Cushman Project is likely to adversely affect designated EFH for Chinook and coho salmon. Potential effects relate to: (1) acquiring and managing wildlife lands; (2) construction timing; (3) erosion plans and control; (4) enhancing river channel conveyance; (5) minimum instream flows, simulated flood flows, and reservoir water levels; (6) ramping rates; (7) habitat enhancements, as well as habitat and fish monitoring; (8) fish passage and monitoring; (9) fish supplementation; and (10) false attraction at Cushman Powerhouse No. 2.

282. As part of its Biological Opinion, NMFS recommends that the terms and conditions of its incidental take statement be considered its essential fish habitat


\(^\text{167}\) 16 U.S.C. § 1855(b)(4)(B) (2006). The Secretary’s recommended measures are advisory, not prescriptive. However, if the federal agency does not agree with them, the agency must explain its reasons for not following the recommendations.

\(^\text{168}\) Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable manmade barriers. See Pacific Fisheries Management Council. 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation measures for Salmon. Portland, Oregon.
conservation measures and be included in the license. We include them in this amended license as Appendix E.

**NATIONAL HISTORIC PRESERVATION ACT**

283. Under section 106 of the National Historic Preservation Act (NHPA)\(^{169}\) and its implementing regulations,\(^{170}\) federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and afford the Advisory Council 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.

284. During the relicensing proceeding for the Cushman Project, Commission staff identified historic properties, assessed effects of the project on those properties, and recommended measures to avoid or mitigate adverse effects, taking into consideration the Advisory Council’s comments. To conclude the section 106 process, the Commission included Article 429 in the 1998 license, requiring Tacoma to prepare and implement a cultural resource management plan.\(^{171}\) As discussed earlier, we retain Article 429 in this amended license, but revise it to reflect the settlement and to require that Tacoma file a historic properties management plan.

285. Commission staff also conducted additional consultation to address the new powerhouse and fish collection facility. On March 2, 2010, Commission staff issued a letter finding that Tacoma’s proposal to construct new project features at the historic Cushman No. 2 Dam would result in an adverse effect. To resolve adverse effects, Commission staff executed a Memorandum of Agreement (MOA) with the Washington SHPO on May 13, 2010. Tacoma, the Tribe, and BIA signed the MOA as concurring parties. The MOA requires Tacoma to prepare Historic American Building


\(^{171}\) On judicial review, the court found that the Commission complied with its section 106 obligation, but noted that including Interior’s section 4(e) conditions might require the Commission to reconsider the effects of its actions. *City of Tacoma, Washington v. FERC*, 460 F.3d 53, 69 (2006). As discussed above, we have done so in this order, and the amended license includes additional measures to protect historic properties.
Survey/Historic American Engineering Record (HABS/HAER) documentation for the Cushman No. 2 Dam. In addition, the MOA requires Tacoma to develop and implement a Treatment Plan that identifies how the Cushman No. 2 Dam would be managed from the start of construction of the new powerhouse through completion of construction and reclamation of project-related construction areas. Execution and implementation of the MOA demonstrate the Commission’s compliance with section 106 of the NHPA. Article 435, which we add to this amended license, requires Tacoma to implement the MOA and associated Treatment Plan.

**ADMINISTRATIVE PROVISIONS**

### A. Exhibit F and G Drawings

286. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. The Commission previously approved project drawings for the Cushman Project in the license order issued on July 30, 1998.\(^{172}\) Tacoma filed revised Exhibit L (currently known as Exhibit F) drawings, as well as Exhibit J and K (currently known as Exhibit G) drawings, on October 23, 1998.

287. The Exhibit L drawings that the Commission approved on July 30, 1998, must be updated to rename the drawings using the current “Exhibit F” naming convention. Article 202 requires the filing of these drawings.

288. Tacoma’s application for a non-capacity amendment filed on January 26, 2009, did not include Exhibit F drawings. This amended license approves Exhibit A in Ordering Paragraph (E). Article 206 requires Tacoma to file Exhibit F drawings for the new North Fork Powerhouse, including any Cushman Dam No. 2 drawings that may need revision.

289. The Exhibit J and K drawings that the Commission approved on July 30, 1998, do not meet the Commission’s current requirements for a project boundary map,\(^{173}\) nor do they include all lands necessary for project operations. Article 204 requires Tacoma to file revised Exhibit G drawings. The revised drawings must enclose within the project

---

\(^{172}\) *City of Tacoma, Washington*, 84 FERC ¶ 61,107, at 61,578 (1998) (Ordering Paragraph (C)).

\(^{173}\) *Id.* A project boundary map must: (1) show the project boundary with three known referenced points; (2) provide the project boundary data in a geo-referenced electronic format; and (3) be stamped by a registered land surveyor.
boundary all project lands and facilities needed to operate and maintain the project, as discussed above. Exhibit G drawings must also identify all lands of the United States, in acres, that are enclosed within the project boundary, including all the land acquisitions and deletions under the Comprehensive Wildlife Habitat Enhancement Plan.

**B. Review of Final Plans and Specifications**

290. This amended license authorizes Tacoma to construct a new powerhouse at the base of Cushman Dam No. 2. It also requires Tacoma to build upstream fish passage facilities integral with the new powerhouse, as well as a downstream fish passage system. Article 301 authorizes Tacoma to start construction of the powerhouse and fish passage facilities within two years of issuance of the amended license and to complete construction within four years of issuance of the amended license.

291. Article 302 requires Tacoma to provide the Commission’s Division of Dam Safety and Inspections, Portland Regional Office, with final contract drawings and specifications, together with a supporting design report consistent with the Commission’s engineering guidelines.

292. Article 303 requires Tacoma to provide the Portland Regional Office with cofferdam construction drawings.

293. Where new construction or modifications to the project are involved, the Commission requires a licensee to file revised exhibits and drawings depicting the project features as built. Article 304 provides for the filing of these drawings.

**PROJECT ECONOMICS**

294. 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.*, 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

---

174 These lands and facilities include: (1) existing and proposed recreation facilities; (2) federal lands occupied by the project; (3) wildlife lands to which title or development rights have been obtained; (4) the project’s transmission lines; and (5) any access roads.

175 See *Mead Corporation*, 72 FERC ¶ 61,027 (1995) (*Mead Corp.*).
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.

295. The Commission evaluated project economics in the 1998 relicensure order. Tacoma sought rehearing and judicial review, arguing that the terms of the new license made the project uneconomic and constituted a de facto decommissioning of the project in violation of the FPA. The court upheld the Commission’s authority to impose reasonable and necessary conditions, even if they might cause the licensee to reject a new license.\(^\text{176}\) The court noted that including Interior’s section 4(e) conditions could “substantially alter the character of the license, requiring [the Commission] to reweigh power and nonpower interests.”\(^\text{177}\) Therefore, we must now reconsider project economics for this amended license in light of the settlement, Interior’s revised section 4(e) conditions, and construction of the new powerhouse.

296. In applying this analysis to the Cushman Project, Commission staff evaluated the power benefits of both the existing project and Tacoma’s proposal to add a powerhouse at Cushman Dam No. 2. We have considered the power benefits of the existing project and proposed development herein.

297. As proposed by Tacoma and as licensed herein, the levelized annual cost of operating the existing project is $12,274,000 or $40.78/MWh. The proposed project would generate an estimated average of 301,000 MWh of energy annually. When staff’s estimate of average generation is multiplied by the alternative power cost of $49.09/MWh,\(^\text{178}\) the result is the total value of the development’s power of $14,777,000 in 2010 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project’s cost from the alternative cost of the project’s power. The outcome is that in the first year of operation, the proposed project would cost $2,503,000 or $8.31/MWh less than the likely alternative cost of power.

298. For Tacoma’s proposed new powerhouse at Cushman Dam No. 2, which we authorize in this amended license, the levelized annual cost of operating the development is $1,472,000 or $62.60/MWh. The proposed new powerhouse would generate an estimated average of 23,500 MWh of energy annually. When staff’s estimate of average

\(^{176}\) City of Tacoma, Washington v. FERC, 460 F.3d 53, 74 (D.C. Cir. 2006).

\(^{177}\) Id.

\(^{178}\) The alternative power cost is based on energy cost information from Tacoma and Bonneville Power Administration’s firm capacity rates for 2010.
generation is multiplied by the alternative power cost of $49.09/MWh, the result is the total value of the new powerhouse’s power of $1,153,000 in 2010 dollars. Using the methodology described above, in the first year of operation, the proposed new powerhouse would cost $319,000 or $13.60/MWh more than the likely alternative cost of power. However, the Cushman Project as a whole would be economically viable, because the combined cost of producing power at the project would be less than the likely alternative source of power.

299. Although our analysis shows that the proposed new powerhouse, as licensed herein, would cost more to operate than our estimated cost of alternative power, it is the applicant who must decide whether to accept this amended license and any financial risk that entails. In addition, although Commission staff does not account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

**COMPREHENSIVE DEVELOPMENT**

300. Sections 4(e) and 10(a)(1) of the FPA 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. Accordingly, any license issued shall, in the Commission’s judgment, be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to issue this amended license, and the terms and conditions included herein, reflect such consideration.

301. The Final EIS for the project, as well as other filings in the proceeding and the Joint Explanatory Statement accompanying the settlement, contain background information, analysis of effects, and support for the license articles contained herein. The project will be safe if operated and maintained in accordance with the requirements of this amended license.  

---


180 The Commission’s Division of Dam Safety and Inspection reviewed the settlement and powerhouse amendment and found that: (1) the project’s two dams will continue to be able to safely pass the Probable Maximum Flood; and (2) the new powerhouse and fish passage facility are not expected to adversely affect the safety of
302. Based on our independent review and evaluation of the Cushman Project, we have selected the settlement agreement, with the modifications discussed in this order, as the preferred alternative, and find that it is best adapted to a comprehensive plan for improving or developing the North Fork and mainstem Skokomish Rivers. We have selected this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, historic properties, and resources of value to the Tribe; and (3) the 131.0 MW of existing electric generation capacity, along with 3.6 MW of new capacity, available from this renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

LICENSE TERM

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

304. This amended license authorizes Tacoma to construct a new 3.6-MW powerhouse at the base of Cushman Dam No. 2. In addition, it requires extensive mitigation and enhancement measures; some of which place significant new financial and performance obligations on Tacoma that were not contemplated in the 1998 license. Given the above Cushman Dam No. 2, if they are constructed, operated, and maintained in accordance with the Commission’s standards and oversight.

181 We reviewed the settlement and Tacoma’s amendment application to construct a new powerhouse at the base of the Cushman No. 2 Dam, the revised section 4(e) conditions filed by Interior and the Forest Service, the revised section 18 prescription filed by NMFS, the revised biological opinions submitted by FWS and NMFS, the water quality certification conditions, and recommendations from resource agencies and other entities.


considerations, the signatories to the settlement agree to a 50-year license term.\textsuperscript{184} We note that the term of the license was likely an important element in the negotiations that lead to the settlement. Because this amended license requires extensive measures, including the settlement provisions and the new powerhouse, a 50-year license for the Cushman Project is appropriate.

The Commission orders:

(A) This amended license is issued to the City of Tacoma, Washington (Tacoma, or licensee), for a period of 50 years, effective the first day of the month in which the 1998 license order was issued (i.e., July 1, 1998), to construct, operate and maintain the Cushman Hydroelectric Project. This license is subject to the terms and conditions of the 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 stay issued on May 21, 1999, as modified on June 24, 2004, pending rehearing and further order of the Commission, is lifted.

(C) The application for a license amendment filed by Tacoma on January 26, 2009, to construct a new North Fork Powerhouse at the base of Cushman Dam No. 2 is approved and made part of the license.

(D) The project consists of:

(1) All lands, to the extent of the licensee’s interests in those lands, described in the project description and the project boundary sections of this order.

(2) The Cushman No. 1 and Cushman No. 2 developments.

The Cushman No. 1 development, consisting of: (a) Dam No. 1, a 1,111-foot-long, 260-foot-high concrete arch dam that impounds Lake Cushman, a 9.6-mile-long storage reservoir having a 4,058-acre surface area and a 453,350-acre-foot storage capacity at a full pool elevation of 738.0 feet Cushman Datum; (b) a spillway with two radial gates; (c) a power intake upstream of the dam; (d) a 17-foot-diameter, 540-foot-long power tunnel; (e) two 10-foot-diameter, 150-foot-long penstocks; (f) Powerhouse No. 1, approximately 600 feet downstream from the dam, with two single runner, vertical shaft Francis turbines, a hydraulic capacity of 2,800 cubic feet per second (cfs), and an installed generating capacity of about 50 MW; (g) a switchyard abutting the powerhouse;

\textsuperscript{184} See Settlement Agreement at 3 to 5.
and (h) and two 115-kilovolt (kV) primary transmission lines extending approximately 5 miles to the Cushman No. 2 development.

The Cushman No. 2 development, consisting of: (a) Dam No. 2, a 575-foot-long, 230-foot-high concrete arch dam, approximately 2 miles downstream from Dam No. 1, which impounds Lake Kokanee, a 128-acre reservoir with a gross storage capacity of 7,300 acre-feet at a full pool elevation of 480.0 feet Cushman Datum; (b) a gated spillway structure abutting the dam; (c) a power intake; (d) a 17-foot-diameter, 2.5-mile-long pressure tunnel; (e) a steel surge tank; (f) three 12-foot-diameter, 1,350-foot-long steel penstocks leading to the powerhouse; (g) Powerhouse No. 2, which contains three turbine-generator units, having a total installed capacity of 81 MW and a maximum hydraulic capacity of about 3,000 cfs; (h) a switchyard adjacent to Powerhouse No. 2; and (i) two, 115-kV transmission lines that extend 20.8 miles from Powerhouse No. 2 to Tacoma’s Vaughn Tap facility.

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

Exhibit A: Pages 5 and 6 of the license application, filed on November 5, 1974, and as described on pages 2-1 through 2-5 of the Final EIS issued November 18, 1996, and in the license order issued July 30, 1998 (84 FERC ¶ 61,107).

The following Exhibit L (herein renamed as Exhibit F) drawings approved by the Commission on July 30, 1998 and filed on October 23, 1998:

<table>
<thead>
<tr>
<th>Exhibit F Drawings</th>
<th>FERC No. 460-</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (L-1)</td>
<td>1001</td>
<td>Power Plant No. 1-General</td>
</tr>
<tr>
<td>2 (L-2)</td>
<td>1002</td>
<td>Dam No. 1 Foundation Plan</td>
</tr>
<tr>
<td>3 (L-3)</td>
<td>1003</td>
<td>Power Plant No. 1 Section</td>
</tr>
<tr>
<td>4 (L-4)</td>
<td>1004</td>
<td>Dam No. 1 Earth Dam &amp; Core Wall</td>
</tr>
<tr>
<td>5 (L-5)</td>
<td>1005</td>
<td>Dam No. 1 Spillway</td>
</tr>
<tr>
<td>6 (L-6)</td>
<td>1006</td>
<td>Powerhouse No. 1 Foundation Plan</td>
</tr>
</tbody>
</table>

185 The corresponding Exhibit L drawings are shown in parenthesis.
<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1007</td>
<td>Powerhouse No. 1 Main Floor Plan</td>
</tr>
<tr>
<td>1008</td>
<td>Powerhouse No. 1 Plan of Control Rm. &amp; Messanine Floors</td>
</tr>
<tr>
<td>1009</td>
<td>Powerhouse No. 1 Longitudinal &amp; Cross Section</td>
</tr>
<tr>
<td>1010</td>
<td>Powerhouse No. 1 Outdoor Portion Plan</td>
</tr>
<tr>
<td>1011</td>
<td>Dam No. 2 Downstream Developed Elevation</td>
</tr>
<tr>
<td>1012</td>
<td>Dam No. 2 Spillway Arrangement &amp; Sections</td>
</tr>
<tr>
<td>1013</td>
<td>No. 2 Power Tunnel Layout &amp; Details</td>
</tr>
<tr>
<td>1014</td>
<td>No. 2 Penstocks Plan &amp; Profile</td>
</tr>
<tr>
<td>1015</td>
<td>Powerhouse No. 2 Superstructure Section</td>
</tr>
<tr>
<td>1016</td>
<td>Powerhouse No. 2 Substructure Plan Below Elev. 12.55</td>
</tr>
<tr>
<td>1017</td>
<td>Powerhouse No. 2 Substructure Foundation Plan &amp; Section</td>
</tr>
<tr>
<td>1018</td>
<td>Powerhouse No. 2 Outdoor Portion Plan</td>
</tr>
<tr>
<td>1019</td>
<td>Reservoir and Spillway Charts</td>
</tr>
</tbody>
</table>

(3) A new North Fork Powerhouse at the base of Cushman Dam No. 2, consisting of: (a) a two-story concrete structure, approximately 46 feet long by 20 feet wide; (b) two 48-inch diameter penstocks, each equipped with butterfly shut-off valves, that tap into one of the existing 78-inch outlet valves at the base of Dam No. 2; (c) two 1.8 MW, 2,700 horsepower Francis turbine/generator units, having a combined capacity of 3.6 MW; (d) transmission facilities that consist of 4,160-volt generator leads, a conduit leading to a 12.5-kV step-up transformer, and a line extending a short distance to a 115-kV step-up substation on the transmission line between Cushman Powerhouse No. 1 and Cushman Powerhouse No. 2; and (e) an integrated upstream fish collection, passage, and sorting facility.
The project works generally described above (i.e., new powerhouse and upstream fish passage facility) are more specifically shown and described by those portions of Exhibit A shown below:

Exhibit A: Pages A-2 through A-6, including the conceptual drawings shown in Figures A-1 (Cushman No. 2 Dam North Fork Skokomish Powerhouse Topography), A-2 (Cushman No. 2 Dam River Outlet Powerhouse Elevations), A-3 (Cushman No. 2 Dam River Outlet Powerhouse Upper Floor Plan), and A-4 (Cushman No. 2 Dam River Outlet Powerhouse Lower Floor Plan), of the Application of Non-Capacity Related License Amendment for New North Fork Powerhouse, filed on January 26, 2009.

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

(E) The Exhibit A filed as part of the relicense application; the Exhibit A filed as part of the application for the North Fork Powerhouse, as described above in Ordering Paragraph (B)(3); and the Exhibit F drawings (filed as Exhibit L drawings) filed as part of the relicense application, as described above in Ordering Paragraph (D)(2); are approved and made part of this license. The Commission-approved Exhibit J and K drawings do not conform to the Commission’s current regulations and must be revised in accordance with Article 204 of this amended license. The Exhibit F drawings associated with the new North Fork Powerhouse shall be filed, for Commission approval, in accordance with Article 206 of this amended license.

(F) Articles 401, 402, 404, 408, 422, 426, and 430 of the 1998 license are deleted from this amended license.\(^\text{186}\)

(G) Articles 201, 202, 204, 206, 301-304, 403, 405-407, 410-418, 420, 421, 423-425, 427, 428, and 432-435, as set forth in Ordering Paragraph (M), are amended or added to the license.

(H) This license is subject to the conditions of the water quality certifications issued by the Washington Department of Ecology under section 401(a)(1) of the Clean

\(^{186}\) Article 409 was previously deleted from the license by Commission order issued March 31, 1999 (86 FERC ¶ 61,311).
Water Act, 33 U.S.C. § 1431(a)(1) (2006), as those conditions are set forth in Appendices A and C to this order.

(I) This license is subject to the revised conditions submitted by the U.S. Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix B of this amended license, and includes conditions that are identical to, and thus set forth in, license Articles 410(2), 425, 427, 428, and 433.

(J) This license is subject to the revised conditions submitted by the U.S. Department of the Interior under section 4(e) of the FPA, as those conditions are identical to, and thus set forth in, license Articles 403, 406, 407, 410-418, 420, 421, 432, and 434.

(K) This license is subject to the revised conditions submitted by the U.S. Department of Commerce, National Marine Fisheries Service, under section 18 of the FPA, as those conditions are identical to, and thus set forth in, license articles 414-416.

(L) This license is subject to the incidental take terms and conditions of the Biological Opinions submitted by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service under section 7 of the Endangered Species Act, as those conditions are set forth in Appendices D and E respectively, 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 1792, 1808 (October 1975)), as reproduced at the end of this amended license, 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 the provisions of the Commission's regulations in effect from time to time, for the purposes of:

(a) Reimbursing the United States for the cost of administration of Part 1 of the Federal Power Act. The authorized installed capacity for that purpose is 131,000 kilowatts, until the date of commencement of operation of the new capacity authorized by this license, after which time the authorized installed capacity is 134,600 kilowatts.

(b) Recompensing the United States for the use, occupancy and enjoyment of 14 acres of its lands (other than for transmission line right-of-way), or for the acreage of land as determined pursuant to Article 204.

(c) The licensee shall pay the Skokomish Indian Tribe an annual charge of $20,000 based on 2008 dollars and adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for
Seattle-Tacoma-Bremerton (CPI-U), for the use of reservation lands. The first payment will be made within 60 days after issuance of the amended license and annually for the term of the amended license and any subsequent annual licenses.

**Article 202. Exhibit F Drawings.** Within 45 days of the date of issuance of the amended license, the licensee shall file the approved, revised exhibit 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 Project-Drawing Number (i.e., P-460-1001 through P-460-1019) 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 the license shall be typed on the upper left corner of each aperture card.

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

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections, Portland Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR § 388.113(c) (2010). 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-460-1001, 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. 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 204. Exhibit G Drawings.** Within 90 days of issuance of the amended license, 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, including (a) the existing and proposed project recreation facilities,¹⁸⁷ (b) federal lands occupied by the project, (c) the wildlife lands to which title or development rights have been obtained, (d) the project’s primary transmission lines, and (e) any access roads. The revised Exhibit G drawings shall also reflect the removal of Camp Cushman and that portion of the Hood Canal Recreation Park not needed for project purposes.

The acreage of total lands and of all federal lands shall be shown and explained. The Exhibit G drawings must comply with 18 C.F.R. sections 4.39 and 4.41 of the Commission’s regulations.

**Article 205. Hydro Compliance Program.** (1) Within 4 months of issuance of this amended license, the licensee shall file a Hydropower Compliance Management Program (HCMP) for Commission approval. The HCMP shall include the following elements for each license requirement:

a. the identification of, and a schedule for, each action necessary to complete the license requirement;

b. a schedule for the start and completion of the consultation process with each resource agency required to be consulted for each action necessary to complete the license requirement; and

c. the identification of specific individuals in each agency that need to be consulted on each action necessary to complete the license requirement.

¹⁸⁷ The recreation facilities include (1) the Lake Cushman Viewpoint, (2) that portion of the Hood Canal Recreation Park to be retained as part of the project, (3) the Staircase Road Recreation Area, (4) the Bear Gulch Recreation Area, (5) the Lake Kokanee boat Ramp and Parking Area, (6) the Dry Creek Boater Destination Park and Trailhead, (7) the Deer Meadow Boater Destination Park, and (8) the Mt. Rose Trailhead and Parking Area.
(2) The licensee shall file an annual report with the Commission, on or before each anniversary of the issuance date of this amended license, which demonstrates the progress made toward completion of each license requirement under the schedules presented in the HCMP.

(3) The licensee shall file an annual monitoring report with the Commission, starting on or before each anniversary of the issuance date of this amended license, documenting the licensee’s compliance with all requirements of the license that do not require specific filing with the Commission.

Seven copies of all submissions under this article must be filed with the Secretary of the Commission. Alternatively, the submissions required under this article may be filed electronically via the Internet. See 18 § CFR 385.2001(a)(1)(iii) (2010) and the instructions on the Commission’s website (http://www.ferc.gov) under the “e-filing” link. One copy of each submission must also be filed with any agency consulted under element 1(b) above.

The Commission reserves the right to require the licensee to make modifications to the HCMP and to take other actions necessary to ensure compliance, by the licensee, with the terms and conditions of this license. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 206. North Fork Powerhouse Exhibit F Drawings. Within 60 days of issuance of this amended license, the licensee shall file Exhibit F drawings for the new North Fork Powerhouse, including any revisions to the Exhibit F drawings for Cushman Dam No. 2, for Commission approval in aperture card and electronic file format.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-460-1001 through P-460-1019) 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 the license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards shall be filed with the Office of the Secretary, 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 Office of the Secretary, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections, Portland Regional
Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR § 388.113(c) (2010). 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-460-1001, 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 301. Start of Construction.** The licensee shall commence construction of the new North Fork Powerhouse and appurtenant facilities, including the upstream fish passage collection facilities, and the downstream fish passage facilities within 2 years from the issuance date of this amended license and shall complete construction of the project within 4 years from the issuance date of this amended license.

**Article 302. Contract Plans and Specifications.** At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications and a supporting design document to the Commission’s Division of Dam Safety and Inspections (D2SI) – Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal must also include, as part of preconstruction requirements (a) a Quality Control and Inspection Program, (b) a Temporary Construction Emergency Action Plan, and (c) a Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI – Portland Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

**Article 303. Cofferdam Construction Drawings.** Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations, and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI) – Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam construction drawings and specifications and the letters of approval.

**Article 304. As-built Drawings.** Within 90 days of completion of construction of the facilities authorized by this amended license, the licensee shall file for Commission
approval, revised exhibits A, F, and G, as applicable, to describe and show those project
facilities as built. A courtesy copy shall be filed with the Commission’s Division of Dam
Safety and Inspections (D2SI) – Portland Regional Engineer, the Director, D2SI, and the
Director, Division of Hydropower Administration and Compliance.

Article 401. [Deleted.]

Article 402. [Deleted.]

Article 403. Channel Conveyance Capacity. The licensee shall implement the
measures described in this license article as its contribution to regional efforts to enhance
the channel conveyance capacity of the mainstem Skokomish River for the reduction of
risks to human health and welfare from flooding.

1. Skokomish River Basin Ecosystem Restoration and Flood Damage Reduction
General Investigation: The licensee shall annually provide 25 percent of the funds
necessary for the Army Corps of Engineers (Corps) to conduct the Skokomish River
Basin Ecosystem Restoration and Flood Damage Reduction General Investigation
(General Investigation). The licensee’s funding obligations shall not exceed $400,000 in
any year, and shall not exceed $1.2 million in total. The licensee shall implement this
obligation through a cost-sharing agreement with either the Corps or the Skokomish
Indian Tribe, as appropriate.

2. Mainstem Channel Restoration (MCR) Plan: If, by year 15 after issuance of
this amended license, the U.S. Congress has not appropriated sufficient funds to
substantially implement measures that address mainstem Skokomish River channel
capacity, the licensee shall file with the Commission for approval, a Mainstem Channel
Restoration (MCR) Plan.

The MCR Plan shall: (1) identify and prioritize appropriate measures that are
capable of being implemented by the licensee to enhance mainstem channel capacity; (2)
include individual implementation schedules and cost estimates for each measure; and (3)
identify provisions for creating and managing the MCR Account, as described below in
section 3. Any measures identified in the MCR Plan for implementation in a location that
is both: (a) outside the North Fork Skokomish sub-basin and (b) outside of the then
existing project boundary will be limited to actions that do not result in an expansion of
the project boundary.

The licensee shall develop the MCR Plan in consultation with the Fisheries and
Habitat Committee, as required by Article 423, and shall seek approval of the National
Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), and the
Bureau of Indian Affairs (BIA). The licensee shall also seek the comments and
recommendations of the Corps, the Federal Emergency Management Agency (FEMA),
the U.S. Environmental Protection Agency (EPA), and Mason County. The licensee shall allow a minimum of 30 days for comments and recommendations before submitting the MCR Plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members, the Corps, FEMA, EPA, and Mason County are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the MCR Plan with the Commission without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.

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

3. MCR Channel Restoration Account: The licensee shall deposit $600,000 into an interest-bearing account within 30 days after Commission approval of the MCR Plan.

In addition, so long as the U.S. Congress has not appropriated funds to substantially implement measures that address Mainstem Skokomish River channel capacity, the licensee shall deposit $600,000 every 5 years for the term of the amended license and $120,000 for each subsequent annual license to fund priority measures identified in the MCR Plan. The last 5 year payment during the license term shall be reduced based upon a pro rata calculation of the number of years remaining in the license. All funds identified in this section shall be based on 2008 dollars and adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton. The licensee shall use this account to fund projects identified in the MCR Plan. The licensee shall not use the funds provided within this section for its administration and oversight of these projects. The licensee’s obligation to fund measures identified in the MCR Plan shall continue until the U.S. Congress has appropriated funds to substantially implement measures that address Mainstem Skokomish River channel capacity or until the fund is fully expended, whichever comes first.

The licensee shall develop a proposed budget for each project. The licensee shall use the funds provided within this section to implement only those projects specified, budgeted for, and approved by NMFS, BIA, and FWS after consultation with the Fisheries and Habitat Committee. Use of any funds in excess of amounts budgeted for such activities must be approved by NMFS, BIA, and FWS after consultation with the Fisheries and Habitat Committee. Provided, however, the funds shall not be used to cover any additional costs incurred by the licensee in completing the projects developed
pursuant to this article, due to the negligence or other fault of the licensee or the licensee's contractor, unless otherwise approved by the Fisheries and Habitat Committee.

**Article 404.** [Deleted.]

**Article 405. Impoundment Elevations.** Upon approval of the Operational and Flow Monitoring Plan required by Article 406 to monitor surface water elevations, the licensee shall maintain a minimum impoundment elevation (Tacoma Datum) in Lake Cushman of between 735 feet and 738 feet from Memorial Day weekend through Labor Day weekend. The license shall also maintain a minimum impoundment elevation in Lake Cushman of 690 feet from November 1 through March 31.

The purposes of maintaining these minimum elevation levels are to protect and enhance the land-use, recreation, aesthetic, and socio-economic value of Lake Cushman’s shoreline, and to provide for the interests of dam safety and flood mitigation.

In addition, the licensee shall maintain impoundment elevations in Lake Kokanee between 474 feet Tacoma Datum and 480 feet Tacoma Datum at all times, except when different elevations are required for maintenance of the intake or spillway.

These minimum impoundment surface elevations may be temporarily modified if required by operating emergencies beyond the control of the licensee, or upon approval of the Fisheries and Habitat Committee. If the impoundment water surface elevation is so modified, the licensee shall notify the members of the Fisheries and Habitat Committee as soon as possible, but no later than 2 business days after each such incident. The licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Changes to this article’s impoundment surface elevations can be made through the provisions outlined in the Fisheries and Habitat Monitoring Plan and fishery reports required by Article 413. If the information in the fishery reports, prepared pursuant to Article 413, indicates that changes in impoundment levels are needed to protect and enhance the fishery and aquatic habitat in the North Fork of the Skokomish River, the Commission may direct the licensee to file with the Commission an amendment to the license to change the project’s impoundment surface elevation requirements.

**Article 406. Operational and Flow Monitoring Plan.** Within 180 days of issuance of the amended license, the licensee shall file with the Commission, for approval, a comprehensive Operational and Flow Monitoring Plan (OFM Plan). This OFM Plan will document how the licensee shall: (1) monitor impoundment water surface elevations, as required by Article 405; (2) monitor stream flows in the North Fork and mainstem Skokomish Rivers downstream from the project, as required by Article 407; (3) monitor ramping rates as required by Article 411; (4) ensure compliance
with the minimum instream flow requirements; (5) improve mainstem flow and flood forecasting; and (6) address water use issues, specifically from Lake Cushman, when refill, project operations, flow releases and Lake Cushman water surface elevations may conflict.

The OFM Plan shall include, but not be limited to: (1) the use of the three existing North Fork Skokomish River U.S. Geological Survey (USGS) streamflow gages (USGS Gage Nos. 12056500, 12058790 and 12059500) and one mainstem gage (USGS Gage No. 12061500); (2) the use and/or installation of new staff gages, impoundment water surface level monitoring devices, and flow measurement and recording equipment, as needed, to determine instantaneous water surface elevations, flows in the Skokomish River downstream from Cushman Dam No. 2, and to effectively implement the flow regime in Article 407; (3) a provision that describes the priorities in operating the Project when refill, project operations, flow releases and Lake Cushman water surface elevations may conflict; (4) the proposed location, design, and calibration (including methods and schedule) of the monitoring equipment; (5) the extent of manned versus automatic operation of the monitoring equipment; (6) the methods for recording and maintaining flow data; (7) the methods for recording and maintaining surface impoundment elevation data; (8) the mechanism(s) for providing impoundment elevation data and telemetered real-time flow data to the Fisheries and Habitat Committee, Save the Lakes Coalition, and USGS; and (9) a schedule for (i) implementing the OFM Plan, (ii) consulting with the appropriate federal and state agencies regarding the monitoring data, and (iii) filing the data, agency comments, and the licensee’s response to agency comments with the Commission.

The licensee shall develop the OFM Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). In addition, the licensee shall involve a representative of Save the Lakes Coalition in the development of the OFM Plan provisions that describe the priorities in operating the project when refill, project operation, flow releases, and Lake Cushman water surface elevations may conflict. The licensee shall allow a minimum of 30 days for comments and recommendations by Fisheries and Habitat Committee members and Save the Lakes Coalition, before submitting the OFM Plan to NMFS, FWS, and BIA for approval. When filing the plan with the Commission, the licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members and Save the Lakes Coalition are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the OFM Plan with the Commission without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.
The Commission reserves the right to require changes to the OFM Plan. Changes to project operations shall not commence until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

**Article 407. Minimum Flows.** The licensee shall release flows from the Cushman Project into the Lower North Fork of the Skokomish River (“North Fork”), in accordance with all components of the flow regime required by this article. The purposes of this article are: (1) to protect, mitigate, and enhance fish and wildlife resources, riparian vegetation, aesthetic resources, and water quality in the North Fork, (2) to provide safe, timely and effective fish passage in the North Fork; and (3) to improve sediment transport in the North Fork and the Mainstem of the Skokomish River (“Mainstem”). The flow regime required by this article has three components, described as follows:

1. **Component 1** – The licensee shall provide an annual water budget of 160,000 acre-feet for release from the Cushman Project into the Lower North Fork of the Skokomish River. The licensee shall release 115,835 acre-feet of the annual 160,000 acre-foot water budget as instantaneous minimum flows from the Cushman Project, into the Lower North Fork of the Skokomish River, in accordance with the following schedule:

<table>
<thead>
<tr>
<th>Month</th>
<th>Instantaneous Minimum Flow Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>150 cfs</td>
</tr>
<tr>
<td>February</td>
<td>150 cfs</td>
</tr>
<tr>
<td>March</td>
<td>180 cfs</td>
</tr>
<tr>
<td>April</td>
<td>180 cfs</td>
</tr>
<tr>
<td>May</td>
<td>180 cfs</td>
</tr>
<tr>
<td>June</td>
<td>170 cfs</td>
</tr>
<tr>
<td>July</td>
<td>100 cfs</td>
</tr>
<tr>
<td>August</td>
<td>100 cfs</td>
</tr>
<tr>
<td>September</td>
<td>170 cfs</td>
</tr>
<tr>
<td>October</td>
<td>180 cfs</td>
</tr>
<tr>
<td>November</td>
<td>180 cfs</td>
</tr>
<tr>
<td>December</td>
<td>180 cfs</td>
</tr>
</tbody>
</table>

In addition to the instantaneous minimum flow releases described above, the licensee shall release the remaining 44,165 acre-feet of the annual 160,000 acre-feet water budget in accordance with a release schedule developed prior to each water budget year (July 1 – June 30) in consultation with the Fisheries and Habitat Committee. By no later than 90 days prior to the beginning of each water budget year, the licensee shall prepare and distribute to the Fisheries and Habitat Committee a preliminary Flow Report containing a recommended release schedule for the 44,165 acre-feet for the upcoming water budget year. Following consultation with the Fisheries and Habitat Committee, the
licensee shall modify the Flow Report to document the final release schedule determined by the Fisheries and Habitat Committee and shall file the finalized Flow Report with the Commission for informational purposes by no later than 15 days prior to the beginning of each water budget year. The Fisheries and Habitat Committee may change the above schedule to the U.S. Geological Survey (USGS) water year (October 1 – September 30). The licensee shall notify the Commission prior to making such a change.

If, during the course of a water budget year, but not more than once every 90 days unless exceptional circumstances exist, the Fisheries and Habitat Committee determines that the release schedule described in the Flow Report requires interim modification consistent with the purposes of this article, the licensee shall notify the Commission and implement the revised release schedule within 7 days of providing such notice, unless otherwise directed by the Commission. Additionally, during the first three water budget years after license amendment, but not more than once every 30 days, if the Fisheries and Habitat Committee determines that additional interim modifications are necessary for the purposes of this article, the licensee shall notify the Commission and implement the revised schedule within 7 days of providing such notice unless otherwise directed by the Commission.

In the event that the Fisheries and Habitat Committee is unable to reach consensus regarding the release of the 44,165 acre-feet by 15 days prior to the beginning of the water budget year, the following flow regime will be implemented beginning the first day of the water budget year:

<table>
<thead>
<tr>
<th>Month</th>
<th>Default Instantaneous Flow Release:</th>
</tr>
</thead>
<tbody>
<tr>
<td>January:</td>
<td>230 cfs</td>
</tr>
<tr>
<td>February:</td>
<td>215 cfs</td>
</tr>
<tr>
<td>March:</td>
<td>215 cfs</td>
</tr>
<tr>
<td>April:</td>
<td>220 cfs</td>
</tr>
<tr>
<td>May:</td>
<td>240 cfs</td>
</tr>
<tr>
<td>June:</td>
<td>230 cfs</td>
</tr>
<tr>
<td>July:</td>
<td>220 cfs</td>
</tr>
<tr>
<td>August:</td>
<td>200 cfs</td>
</tr>
<tr>
<td>September:</td>
<td>200 cfs</td>
</tr>
<tr>
<td>October:</td>
<td>210 cfs</td>
</tr>
<tr>
<td>November:</td>
<td>225 cfs</td>
</tr>
<tr>
<td>December:</td>
<td>235 cfs</td>
</tr>
</tbody>
</table>

The licensee shall discharge water to the North Fork Skokomish River to meet the scheduled flow releases in this article. Water releases exceeding the planned flows shall not be charged to the water budget.
For compliance purposes, the licensee is allowed temporary fluctuations of up to 5 percent of the scheduled flow release as measured at USGS Gage No. 12058790 to account for monitoring imprecision and release equipment variability.

2. **Component 2** – In addition to the flow releases required by Component 1 of this article, the licensee shall increase flow releases from the Cushman Project, into the Lower North Fork of the Skokomish River to: (a) 500 cfs whenever the daily average flow at the North Fork Skokomish River/Staircase Rapids USGS streamflow Gage No. 12056500 (“Staircase Rapids Gage”) exceeds 3000 cfs; (b) 750 cfs whenever the daily average flow at the Staircase Rapids Gage exceeds 4000 cfs; and (c) 1000 cfs whenever the daily average flow at the Staircase Rapids Gage exceeds 5000 cfs. Commencing in the sixth year after the issuance of the amended license, and every 5 years thereafter, the licensee shall increase the initial flow releases of 500, 750, and 1000 cfs described herein by 5 percent of the previous flow and implement these flows as stated above.

The licensee shall maintain the flow releases provided for in this component for the same duration of time that the flow at the Staircase Rapids Gage exceeds the applicable trigger of 3000, 4000, or 5000 cfs. The licensee may delay the commencement of the flow releases required by this component by up to 7 days after the initial exceedance at the Staircase Rapids Gage if necessary to avoid flood impacts or to allow time for necessary water release notifications.

3. **Component 3** – In addition to the flow releases required by Components 1 and 2 of this article, the licensee shall increase flow releases from the Cushman Project, into the Lower North Fork of the Skokomish River, up to 2,200 cfs for 48 consecutive hours whenever the daily average flow at the Skokomish River/Potlatch USGS streamflow Gage No. 12061500 exceeds 9800 cfs, or 15 percent above flood stage, whichever is greater, between October 1 and February 15 of each year. The purpose of the flows required in this component is to test whether sediment transport is significantly improved in the Mainstem by extending the duration of the high Mainstem flow events at slightly less than bank-full capacity.

If a flood event triggers the flow releases in this Component within 2 days of the Staircase Rapids Gage exceeding the trigger flows described in Component 2, releases described in this Component will eliminate the requirement for Component 2 flows for that flood event.

The licensee shall release the flows required by this Component as soon as practicable after the Mainstem drops below flood stage. Once the release has commenced, the licensee shall continue the flow release for 48 consecutive hours. The licensee shall control the flow release to extend the duration of the high flow event in the Mainstem at or near bank-full capacity in a continuous manner, without exceeding flood stage, until reaching the maximum 2,200 cfs release. If a Component 3 release is
triggered during the delay of a required Component 2 release, the Component 2 flow release will be initiated immediately following completion of the Component 3 release. The licensee shall comply with ramping rates provided for in Article 411 when implementing these flows.

4. Sediment Transport Adaptive Management

Based on the sediment transport studies required by Article 413, in year 5 of this amended license, and every 5 years thereafter, the licensee shall file a Component 3 effectiveness report with the Commission for its approval, after consultation with the Fisheries and Habitat Committee and seeking the approval of the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The report shall evaluate the effectiveness of the flows provided in Component 3 for the purpose of improving sediment transport in the Mainstem Skokomish River. The report shall discuss whether modifications to the flow trigger, the timing of the flows, and the duration of the flows are necessary to improve sediment transport; however, any modification to the quantity of the flow release provided for in this component shall be limited to no more than a 5 percent increase in the total quantity of each Component 3 flow release in each 5-year evaluation period beginning in year 11. The report shall also analyze the impacts to meeting the Article 405 refill requirements and the potential benefit to improving sediment transport in the Mainstem of extending the Component 3 seasonal period through March 31. If the analysis demonstrates that extending the seasonal period does not adversely impact refill and will improve sediment transport, the Fisheries and Habitat Committee may extend the seasonal period through March 31. The licensee shall notify the Commission prior to making any such modification.

5. Component 3 Flow Alternative

5.1 Flood Damage Reduction and Mitigation Plan

If the Fisheries and Habitat Committee determines based on best available information that the flows required by Component 3 are not effective at improving sediment transport in the Mainstem Skokomish River, it may request that the licensee develop and implement a Flood Damage Reduction and Mitigation Plan (FDRM Plan). If so requested, the licensee shall develop this plan and file it with the Commission within 180 days of receiving notice to do so by the Fisheries and Habitat Committee.

The licensee shall develop the FDRM Plan in consultation with the Fisheries and Habitat Committee and shall seek approval of NMFS, FWS, and BIA. The licensee shall allow a minimum of 30 days for comments and recommendations by Fisheries and Habitat Committee members before
submitting the FDRM Plan for approval to the FWS, BIA and NMFS. When filing the FDRM Plan with the Commission, the licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s FDRM Plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on Project-specific information. If the licensee files the Flood Damage Reduction and Mitigation Plan with the Commission without first obtaining the approval of NMFS, FWS, and BIA, the licensee shall include specific reasons for doing so.

The FDRM Plan shall: (1) include the rationale for proposing a cessation of Component 3 flows; (2) identify an initial list of projects in order of priority to be implemented by the licensee over the first 5 years of plan implementation either to enhance channel conveyance capacity or reduce or mitigate flood damage in the Skokomish River Basin; (3) identify provisions for creating a Flood Damage Reduction and Mitigation Fund to cover the costs of plan implementation, consistent with paragraph 5.2 of this article; and (4) include provisions for resuming Component 3 flow releases. The licensee shall update the list of projects every 5 years on the anniversary of the Commission’s approval, following the same procedures discussed above for consultation with the Fisheries and Habitat Committee, seeking approval by NMFS, FWS, and BIA, and filing with the Commission.

Any measures identified in the FDRM Plan for implementation in a location that is both (a) outside the North Fork Skokomish sub-basin and (b) outside of the then existing project boundary shall be limited to actions that do not result in an expansion of the project boundary. The Commission reserves the right to require changes to the FDRM Plan and the updated project lists. Component 3 flows shall be provided by the licensee until the licensee is notified by the Commission that the FDRM Plan is approved. Upon Commission approval, the licensee shall discontinue Component 3 flows and implement the FDRM Plan, including any changes to the plan required by the Commission.

5.2 Flood Damage Reduction and Mitigation Fund

The licensee shall deposit $150,000 into an interest bearing account within 30 days after Commission approval of the Flood Damage Reduction and Mitigation Plan. In addition, the licensee shall deposit $150,000 into an interest bearing account every year thereafter for the term of the amended
license, and $150,000 for each subsequent annual license, on the anniversary date of the Commission’s approval of the plan. All funds deposited into the Flood Damage Reduction and Mitigation Fund shall be based on 2008 dollars and adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton (CPI-U). The licensee shall use this account to fund projects developed pursuant to this article. The licensee shall not use the funds provided within this paragraph for its administration and oversight of these projects.

The licensee shall develop a proposed budget for each project. The licensee shall use the funds provided within this section to implement only those projects specified, budgeted for, and approved by NMFS, BIA, and FWS after consultation with the Fisheries and Habitat Committee. Use of any funds in excess of amounts budgeted for such activities must be approved by NMFS, BIA, and FWS after consultation with the Fisheries and Habitat Committee. Provided, however, the funds shall not be used to cover any additional costs incurred by the licensee in completing the projects developed pursuant to this article, due to the negligence or other fault of the licensee or the licensee's contractor, unless otherwise approved by the Committee.

6. General Provisions – The licensee shall notify the Skokomish Indian Tribe no less than 24 hours in advance of any increased flow releases provided for in Components 2 and 3 of this article. Flows required by this article may be temporarily modified if required by operating emergencies beyond the control of the licensee. If flows are so modified, the licensee shall notify the members of the Fisheries and Habitat Committee as soon as possible, but no later than 48 hours after each such incident. The licensee shall notify the Commission no later than 10 days after each such incident.

The licensee shall include, in any report prepared pursuant to this article, documentation of its consultation with the Fisheries and Habitat Committee, copies of the comments and recommendations on the report after it has been prepared and provided to the Fisheries and Habitat Committee, and specific descriptions of how the comments and/or recommendations of the Fisheries and Habitat Committee are accommodated by and incorporated into the report. The licensee shall allow a minimum of 30 days for the Fisheries and Habitat Committee members to provide comments and recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information.
Article 408. [Deleted].

Article 409. [Previously deleted.]

Article 410. Water Quality Enhancement Plan. Within 180 days of issuance of the amended license, the licensee shall file with the Commission, for approval, a water quality enhancement plan to protect and enhance water quality, recreation, and aesthetics in the North Fork of the Skokomish River.

The plan shall include, but not be limited to the following provisions:

1. Installing emergency intake shutoff valves on all penstock intakes – The licensee shall provide design drawings, and describe the guidelines under which the valves will be operated, as well as a schedule for installing the valves.

2. Improving Staircase Road in a manner consistent with U.S.D.A. Forest Service (Forest Service) stipulations to protect water quality – The licensee shall include a mechanism and a schedule for contributing an amount not to exceed $750,000 as matching dollars for Federal or other grants, if the Forest Service determines that it will facilitate jurisdiction of Staircase Road (Forest Service Road No. 24) being assumed by a public road management agency. If jurisdiction is not transferred within 3 years after issuance of the amended license and upon the request of the Forest Service, instead of contributing $750,000 (2008 dollars), adjusted annually by the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton (CPI-U), as matching dollars the licensee shall apply a double thickness bituminous surface treatment (BST - asphalt emulsion and chip rock) and additional aggregate base to accommodate anticipated traffic loading from MP 10.1 to MP 14.08. This initial application shall be supplemented with an additional (third) surface course of asphalt and aggregate to be applied within the first 5 years of the original placement, the specific timing to be determined by the Forest Service, to keep the structural integrity of the surface. Subsequent operations, maintenance and treatment activities are to be done pursuant to Article 427.

3. Monitoring total dissolved gases at all powerhouse outfalls and spillways during spill events – The licensee shall describe: (a) all the mechanisms and structures used to monitor dissolved gases; (b) the methods for recording and maintaining data on dissolved gases, and providing relevant data to the Commission and the appropriate agencies for review; and (c) the schedule for implementing the monitoring program. The licensee shall also describe reasonable enhancement measures, developed in consultation with appropriate agencies, to address nitrogen levels that deviate from Washington’s standards due to the operation of the project.
(4) Monitoring water quality in the North Fork of the Skokomish River, in accordance with the water quality certification for the new powerhouse (see Appendix C of this license) – The licensee shall include provisions consistent with those outlined in Conditions 4.3(A), (B), (C), and 4.4 of the certification. The licensee also shall include a provision to file all plans and reports submitted to the Washington Department of Ecology (Washington Ecology), as part of the certification’s requirements, with the Commission.

The licensee shall prepare the water quality enhancement plan after consultation with U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Indian Affairs, National Park Service, Forest Service, Washington Department of Fish and Wildlife, Washington Ecology, and the Skokomish Indian Tribe. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the licensee’s proposed plan after it has been prepared and provided to the agencies and the Tribe, and specific descriptions of how the agencies’ and Tribe’s comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and Tribe 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. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 411. Ramping Rate Conditions. The licensee shall operate the project within the following ramping rate restrictions as measured at North Fork Skokomish River U.S. Geological Survey (USGS) Streamflow Gage No. 12058790.

1. Downramping Rates

Downramping rate refers to the rate of allowable stage decline. The following rates apply to flows less than the critical flow, which is currently estimated to be 500 cubic feet per second (cfs).

<table>
<thead>
<tr>
<th>Time of Year</th>
<th>Daylight Rates</th>
<th>Night Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 16 to June 15</td>
<td>No Ramping</td>
<td>2 inches per hour</td>
</tr>
<tr>
<td>June 16 to October 31</td>
<td>1 inch per hour</td>
<td>1 inch per hour</td>
</tr>
<tr>
<td>November 1 to February 15</td>
<td>2 inches per hour</td>
<td>2 inches per hour</td>
</tr>
</tbody>
</table>

Daylight is defined as one hour before sunrise to one hour after sunset. Night is defined as one hour after sunset to one hour before sunrise.
At flows greater than the critical flow, currently estimated to be 500 cfs, the licensee shall attempt to limit the downramping rate to no more than 0.5 feet per hour unless flows are exacerbating downstream flood conditions that would warrant a more rapid reduction of flows.

The licensee shall modify the critical flow and downramping rate restrictions upon recommendation of the Fisheries and Habitat Committee, and approval by the Commission.

2. **Upramping Rates**

Upramping rate refers to the rate of allowable stage increase. The licensee shall limit the upramping rate to no more than 1 foot per hour unless required by an operating emergency.

These ramping rates may be temporarily modified if required by operating emergencies beyond the control of the licensee, or upon approval of the Fisheries and Habitat Committee. If the ramping rates are so modified, the licensee shall notify the members of the Fisheries and Habitat Committee as soon as possible, but no later than 2 business days after each such incident. The licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

**Article 412. Fish Habitat Enhancement and Restoration Plan.** Within 12 months of issuance of the amended license, the licensee shall file with the Commission for approval a comprehensive Fish Habitat Enhancement and Restoration Plan (FHER Plan) to enhance fish habitat in the North Fork of the Skokomish River Basin. The purpose of the FHER Plan is to guide the implementation of projects designed to enhance aquatic habitat in the North Fork of the Skokomish River and McTaggart Creek and to provide access to spawning habitat in tributaries of Lake Cushman.

The licensee shall develop the FHER Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall also seek the comments and recommendations of the National Park Service (Park Service) when developing the plan. The licensee shall allow a minimum of 30 days for comments and recommendations before submitting the plan for approval to the FWS, BIA and NMFS. When filing the FHER Plan with the Commission, the licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members and the Park Service are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files
the FHER Plan with the Commission without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.

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

The FHER Plan shall consist of the following actions:

(1) **Habitat Restoration Account (HRA)** – The licensee shall deposit $3.5 million into an interest bearing account within 30 days after issuance of the amended license. In addition, starting 5 years after issuance of the amended license and annually for the term of the amended license and any subsequent annual licenses, the licensee shall deposit $300,000 into this account. All funds are based on 2008 dollars and adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton (CPI-U). The licensee shall use this account to fund projects developed pursuant to this article, other than removing the McTaggert Creek Diversion Structure and implementing the threatened species take minimization measures referenced in Paragraph 3 below. The licensee shall not use the funds provided within this section for its administration and oversight of these projects.

The licensee shall develop a proposed budget for each project. The licensee shall use the funds provided within this section to implement only those projects specified, budgeted for, and approved by NMFS, FWS, and BIA, after consultation with the Fisheries and Habitat Committee. Use of any funds in excess of amounts budgeted for such activities must be approved by NMFS, FWS, and BIA, after consultation with the Fisheries and Habitat Committee. Provided, however, that the funds shall not be used to cover any additional costs incurred by the licensee in completing the projects developed pursuant to this article, due to the negligence or other fault of the licensee or the licensee's contractor, unless otherwise approved by the Committee.

(2) **Habitat Enhancement and Restoration Projects** – Throughout the term of the amended license and any subsequent annual licenses, the licensee shall, in consultation with the Fisheries and Habitat Committee and with the approval of NMFS, FWS, and BIA, develop and implement specific HRA-funded aquatic habitat enhancement and restoration projects within and adjacent to the North Fork of the Skokomish River. Such projects shall include, but not be limited to: (a) instream structure enhancements, (b) side channel habitat development, and (c) the removal of existing barriers to upstream migration in upper Big Creek and Dow Creek at River Mile 0 (other than any barrier underlying the state highway). If the monitoring provided in Article 413 indicates that augmenting gravel below Cushman Dam No. 2 is necessary to increase anadromous fish
spawning habitat, the licensee, in consultation with the Fisheries and Habitat Committee, shall implement appropriate gravel augmentation projects.

The licensee, in consultation with the Fisheries and Habitat Committee, shall use funds from the Habitat Restoration Account established in paragraph (1) to implement the types of projects identified in this section. In addition, throughout the term of the amended license, if available funds remain within the account, the licensee shall implement other appropriate aquatic habitat enhancement and restoration projects developed by the Fisheries and Habitat Committee within the Skokomish River Basin; however, any measures identified in the FHER Plan for implementation in a location that is both (a) outside the North Fork Skokomish sub-basin, and (b) outside of the then-existing project boundary, shall be limited to actions that do not result in an expansion of the project boundary.

(3) **Threatened Species Take Minimization Measures** – The licensee shall implement measures to minimize the take of Puget Sound Chinook salmon, Puget Sound Steelhead, Hood Canal summer-run chum, and bull trout associated with in-water work during development of any physical structures and facilities, consistent with the agencies’ incidental take statements attached as Appendices D and E to this amended license. The licensee shall not use funds from the Habitat Restoration Account to implement such measures.

(4) **FHER Plan Implementation Schedule** – The licensee shall include a schedule for implementing the FHER Plan, evaluating the success of the enhancement and restoration projects, and modifying the plan, if needed.

(5) **FHER Report** – The licensee shall file with the Commission by June 30 of each year an annual report fully describing its implementation of the FHER Plan during the previous calendar year and a list of planned projects for the current calendar year. The Fisheries and Habitat Committee shall have at least 30 days to review and comment on the draft report prior to filing with the Commission. The licensee shall provide copies of the annual report to the Fisheries and Habitat Committee.

**Article 413. Fish Habitat and Monitoring Plan.** Within 12 months after issuance of the amended license, the licensee shall file with the Commission for approval a Fish Habitat and Monitoring Plan (FHM Plan) for the North Fork of the Skokomish River (North Fork) and the Mainstem of the Skokomish River below the confluence of the North and South Forks (Mainstem). The licensee shall implement the FHM Plan throughout the term of the amended license and any subsequent annual licenses, in consultation with Fisheries and Habitat Committee.

The licensee shall develop the FHM Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service.
The licensee shall also seek the comments and recommendations of the National Park Service (Park Service) when developing the FHM Plan. The licensee shall allow a minimum of 30 days for comments and recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members and the Park Service are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the FHM Plan with the Commission without first obtaining the approval of NMFS, FWS, and BIA, the licensee shall include specific reasons for doing so.

The purpose of the FHM Plan is to inform the implementation of Articles 407 and 412 and, as appropriate, the adaptive management provisions within Articles 414, 415, and 417. The FHM Plan shall include a schedule for the licensee’s: (1) implementation of the plan consistent with this article; (2) consultation with the Fisheries and Habitat Committee regarding the results of the monitoring and a schedule for providing preliminary monitoring data; and (3) filing of results, comments, and the licensee’s response to these comments with the Commission.

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

The licensee shall file with the Commission, by June 30 of each year, an annual report fully describing the monitoring efforts of the previous calendar year and activities required under the plan for the following year. The Fisheries and Habitat Committee shall have at least 30 days to review and comment on the draft report prior to filing with the Commission. The licensee shall provide copies of the annual report to the Fisheries and Habitat Committee.

As provided below, the Fisheries and Habitat Committee may modify the monitoring program methods and frequencies of data collection and reporting requirements to more effectively meet the specific purpose of a monitoring activity.

The following guidelines shall be used in developing and implementing the FHM Plan: (a) monitoring and studies shall be relevant to the amended license; (b) monitoring and studies shall be chosen and conducted so that they provide useful information for project management decisions or establishing compliance with amended license conditions; and (c) monitoring and studies shall be cost-effective in meeting the specific
purpose of the monitoring activity. The licensee shall notify the Commission prior to making any such modifications.

For purposes of implementing the FHM Plan, each year is defined on a calendar year basis (i.e., January through December). Except as provided in Articles 416, 417, and 418, this plan covers monitoring and studies to be conducted by the licensee during all years through the term of the amended license and in any subsequent annual licenses. Monitoring of Article 412 habitat projects shall be addressed within the plan for such projects. Where years are specified, Year 1 is the first year after the plan is approved.

The FHM Plan shall consist of monitoring the following:

1. Sediment Transport and Channel Morphology in the lower North Fork and Mainstem

The licensee shall monitor channel morphology and substrate composition in the lower North Fork and mainstem Skokomish River to document the effects of the flow regime prescribed in Article 407 on channel shape and substrate composition.

1.1 Purpose

The purpose of sediment transport and channel morphology monitoring is to determine: (a) the magnitude of flows that initiate transport of spawning-sized gravel in the North Fork Skokomish River downstream of Cushman Dam No. 2; (b) the extent to which the high flow releases prescribed in Article 407 (Component 2 and Component 3) result in changes in substrate composition and changes in channel cross sections in the North Fork Skokomish River downstream of Cushman Dam No. 2; and (c) the extent to which high flow releases prescribed in Article 407 result in changes in channel cross sections and channel aggradation in the mainstem Skokomish River downstream of the confluence with the North Fork.

1.2 Method

The licensee shall identify study reaches based on geomorphic channel types.

The licensee shall monitor the North Fork to determine the flows at which gravel is mobilized.

The license shall establish representative cross sections in each study reach, taking advantage of USGS stream gage locations where possible.
The licensee shall collect channel profile and substrate data at each cross section during low flow periods, including channel characteristics, redd scour, and substrate composition.

In the case of mainstem channel modification, the licensee shall modify the plan to provide for additional monitoring.

1.3 Frequency

For Year 1 through Year 5 and every 5 years thereafter, the licensee shall monitor the North Fork transects during the summer low flow period to determine channel shape and bedload composition. In the event that gravel augmentation occurs pursuant to Article 412, the licensee shall resume monitoring on an annual basis for 5 years after such augmentation.

For Year 1 through Year 10, the licensee shall monitor the Mainstem channel during the summer low flow period following any year in which Mainstem Capacity Enhancement Flows are released. Thereafter, the licensee shall resurvey mainstem transects every 5 years during the summer low flow period.

In the case of Mainstem channel modification, the licensee shall modify the FHM Plan to provide for additional monitoring frequency.

2. Fish and Fish Habitat in the North Fork and Mainstem Skokomish River

2.1 Riverine Habitat

2.1.1 Purpose

The purpose of the riverine fish habitat monitoring program is to characterize and quantify habitat types in the lower North Fork and mainstem Skokomish Rivers to determine how habitat restoration efforts and Project operations affect fish habitat conditions over the life of the amended license.

2.1.2 Method

The licensee shall assess the quantity and quality of fish habitat by employing standard Timber, Fish and Wildlife (TFW) Agreement or Oregon Department of Fish and Wildlife (ODFW) methods in both the lower North Fork (below Cushman 2) and the Mainstem Skokomish River. The licensee shall assess habitat units, such as pools, riffles and glides, substrate
composition, gradient, channel exposure, woody debris, bank stability, and riparian vegetation content. The licensee shall use a statistically-valid approach consistent with the TFW or ODFW methods in assessing both the quantity and quality of habitat, and in enabling detection of changes to habitat condition between sampling events. The licensee shall also make photo documentation at permanent photo points.

The licensee shall conduct surveys to assess conditions in late summer, but these are to be augmented by additional surveys during mid-winter (to be associated with representative flows at that time) to assess seasonal side channel and off-channel habitats.

The river channel of interest is to be divided into distinct reaches based on habitat types consistent with existing baseline habitat information. Analysis and data summarization will be performed consistent with these reach boundaries.

2.1.3 Frequency

During Year 1, the licensee shall perform an initial habitat survey. During Year 2 through Year 12, if there is a high flow event or other major events causing change, the licensee shall perform annual habitat surveys. From Year 13 throughout the term of the amended license and any subsequent annual licenses, the licensee shall perform habitat surveys once every 5 years (starting in Year 18) unless the frequency of such surveys is modified by the Fisheries and Habitat Committee.

2.2 Lake Productivity

2.2.1 Purpose

The purpose of assessing productivity of Lake Cushman is to determine the effects of lake productivity on juvenile sockeye survival, growth, age and size at smolt emigration, and smolt carrying capacity.

2.2.2 Method

The licensee shall assess lake productivity by measuring zooplankton abundance (density and biomass by species). Unless modified by the Fisheries and Habitat Committee, the upstream third, the middle third, and the downstream third of the reservoir will be routinely sampled.
Vertical sampling of the water column will occur in each third of the reservoir in such a way as to ensure collection of zooplankton across their entire depth profiles. Samples will be analyzed by species for density and biomass—the latter metric requiring determination of zooplankton size by sample. The licensee shall use standard methods and a statistically valid approach in sampling and sample analysis consistent with Koenings et al. (1987). [Koenings, J. P., J. A. Edmundson, G. B. Kyle, and J. M. Edmundson. 1987. Limnology field and laboratory manual: methods for assessing aquatic production. Alaska Department of Fish and Game, FRED Division Report 71, Juneau.]

Sampling is to occur at three or more sites in each upstream, middle, and downstream third of the reservoir (as discussed above) during the first year. In subsequent years, at least two sites will be sampled in each third of the reservoir.

2.2.3 Frequency

The licensee shall assess lake productivity for two years prior to the first planned release of sockeye into Lake Cushman and for 12 years after the initial release of sockeye. The sampling frequency following the fourteenth year of sampling will be determined by the Fisheries and Habitat Committee. The Fisheries and Habitat Committee may reduce the number of years sampled based on progress of the program.

Sampling will occur on a bi-weekly (i.e., two times per month) schedule from the beginning of March through the end of October each year.

During the first year of implementation, the licensee shall also sample to determine the diurnal cycles and the depth distributions of zooplankton at each location as part of the above sampling. Unless modified by the Fisheries and Habitat Committee, the licensee shall conduct this more intensive sampling one time per month at each of the three locations between May and September.

2.3 Water Temperature

2.3.1 Purpose

The purpose of water temperature monitoring is to document temperature regimes in the lower North Fork Skokomish River, Lake Cushman and Lake Kokanee, and the upper North Fork. These data are needed to help analyze the biological information collected through separate monitoring efforts
(i.e., spawning timing, emergence timing, juvenile size or growth rates, distribution, habitat utilization, and species interactions).

2.3.2 Method

The licensee shall monitor water temperatures on an hourly basis in the North Fork and Lakes Cushman and Kokanee.

- Lower North Fork
  The licensee shall install, operate, and maintain a thermistor at the base of Cushman Dam No. 2.
  
  The licensee shall install, operate, and maintain a thermistor at USGS Gage No. 12059500 (North Fork near Potlatch) located at approximately River Mile 1.1.

- Lake Cushman
  The licensee shall install, operate, and maintain a vertical thermistor array near the log boom by Cushman Dam No. 1.

- Lake Kokanee
  The licensee shall install, operate, and maintain a vertical thermistor array near the log boom by Cushman Dam No. 2.

- Upper North Fork
  The licensee shall install, operate, and maintain a thermistor at or near USGS Gage No. 12056500 (North Fork Skokomish River below Staircase Rapids) – subject to the approval of the Park Service (if the thermistor is to be installed on Park Service lands).

2.3.3 Frequency

- Lower North Fork
  The licensee shall deploy, operate, and maintain the above-listed thermistors in the Lower North Fork continuously throughout the term of the amended license and any subsequent annual licenses.

- Lake Cushman
  The licensee shall deploy, operate and maintain thermistors continuously in Lake Cushman for the first 3 years.
The licensee shall monitor the location of the thermocline in Lake Cushman throughout the term of the amended license and any subsequent annual licenses.

- **Lake Kokanee**
  The licensee shall deploy, operate, and maintain thermistors for the first 3 years, in addition to any water temperature monitoring required pursuant to Article 417.

- **Upper North Fork**
  The licensee shall deploy, operate, and maintain thermistors in the Upper North Fork continuously throughout the term of the amended license and any subsequent annual licenses.

3. **Fish Populations in the North Fork**

3.1 **Spawner Abundance, Distribution, and Timing**

3.1.1 **Purpose**

The purpose of assessing spawner abundances, distributions, and timing is to evaluate performances of all populations of concern over the term of the amended license and any subsequent annual licenses.

3.1.2 **Method**

The licensee shall conduct surveys using standard methods in the region to assess spawner abundances, spawner distributions, spawning timing, species composition, and sample marked fish for chinook (fall and spring), coho, sockeye, steelhead, and bull trout in both the lower and upper North Fork systems (including tributaries). The licensee shall collect similar information for pink and chum during the course of the chinook (fall and spring), coho, sockeye, steelhead, and bull trout surveys.

Such surveys shall enumerate redds and/or fish (live and dead) depending on species and location within the river. Such surveys shall be conducted using one or more of the following techniques depending on species and location within the river: foot surveys, raft surveys, and snorkel surveys. It is expected that methods and procedures that work best to achieve the purpose will be evaluated during the first several years of the amended license. Once the methods have been evaluated and the most appropriate ones selected, they will be applied consistently over the term of the
amended license and any subsequent annual licenses, unless modified by the Fisheries and Habitat Committee.

The licensee shall use standard methods when conducting carcass sampling and for retrieval and processing of tags.

The licensee shall collect, compile, and report the following: (1) spawner abundance by species, production origin (hatchery versus wild), and location (upper North Fork and lower North Fork); (2) species distribution (by reach or at a finer scale depending on species and issue, such as to address possible interactions between bull trout and coho or sockeye); and (3) spawning timing.

The licensee shall include in the FHM Plan provisions for appropriate and reasonable analysis of data from the above surveys. The licensee shall implement such provisions.

3.1.3 Frequency

The licensee shall conduct assessments annually during the spawning seasons for each species throughout the term of the amended license and any subsequent annual licenses.

The licensee shall conduct surveys once every 7-10 days, weather and river conditions permitting over the entirety of the species-specific periods of spawning, as specified in the plan.

3.2 Juvenile Production, Distribution, and Habitat Utilization in the Lower North Fork

3.2.1 Purpose

The purpose of assessing juvenile production, distribution, and habitat utilization in the lower North Fork is to evaluate performances of populations of concern at the juvenile stage over the term of the amended license and any subsequent annual licenses.

3.2.2 Method

The licensee shall install and operate a juvenile trap in the lower North Fork Skokomish River to assess natural salmonid production in the lower North Fork. Methods of operation and data collection shall follow those methods applied by the Washington Department of Fish and Wildlife (Washington
DFW) in juvenile trap assessments made by that agency. These methods include frequency of operation, fish sampling, and estimation of trap efficiency.

The licensee shall collect, compile, analyze, and report the following juvenile trap data by species and life stages: numbers of fish caught, timing, fish population estimates, hatchery and wild composition, size distribution, and trap efficiency.

Under circumstances defined in the monitoring plan, the licensee shall conduct supplemental assessments using snorkeling and/or backpack electroshocker surveys to evaluate such things as rearing, fish distributions, relative abundance, habitat utilization, size, and life stage survival.

3.2.3 Frequency

The licensee shall operate the juvenile trap to assess juvenile production annually in the North Fork for the term of the amended license and any subsequent annual licenses.

The licensee shall operate the trap during the period that juveniles are expected to emigrate from the North Fork. During Years 1 and 2, the Licensee shall operate the trap beginning January 20 through November 10. Based upon the results obtained during Years 1 and 2, thresholds to reduce sampling days and periods shall be developed by the Fisheries and Habitat Committee for subsequent years. Following two generations of naturally-spawning introduced early-time Chinook, the juvenile trapping period shall be increased to assess the timing of the reintroduced stock.

The licensee shall operate the trap 7 days per week based on the standard procedures employed by Washington DFW, except that the trap shall not be operated during severe flow events. This operation schedule may be adjusted by the Fisheries and Habitat Committee if an alternative sampling schedule produces acceptable data for assessing juvenile production. Also, during periods when few fish are emigrating, such as is expected during late summer, trapping frequency can be reduced to fewer days per week. Exact scheduling will be determined by the Fisheries and Habitat Committee.
3.3 Fish Distribution and Habitat Utilization in the Upper North Fork Watershed

3.3.1 Purpose

The purpose of assessing the distribution, size or age class, and habitat utilization of salmonids in the upper North Fork and tributaries upstream of Cushman Dam No. 1 is to evaluate performance and species interactions of populations of concern as related to available habitat, species composition, hatchery supplementation, and spawner abundances.

3.3.2 Method

The licensee shall assess juvenile and sub-adult fish distributions, relative abundance, habitat utilization, and size (when electrofishing) or age class at representative sites within each designated reach (as delineated for habitat surveys noted below) using snorkeling and/or backpack electroshocker. The principal method of assessment would be snorkeling, following the same procedures used in past years by the Park Service to monitor juvenile fish distribution and habitat utilization.

As part of this work, the licensee shall assess the quantity and quality of fish habitat by employing standard TFW or ODFW methods in the upper North Fork system (including accessible and significant tributaries) and Big Creek. These methods are designed to assess habitat units, such as pools, riffles and glides, substrate composition, gradient, channel exposure, woody debris, bank stability, and riparian vegetation content. The licensee shall use a statistically valid approach consistent with the TFW or ODFW methods in assessing both the quantity and quality of habitat, and in enabling detection of changes to habitat condition between sampling events. The licensee shall also make photo documentation at permanent photo points.

The licensee shall conduct surveys to assess conditions in late summer, and again at moderate fall or winter flows.

3.3.3 Frequency

The licensee shall assess juveniles and sub-adult fish distributions, habitat utilization, and size or age class in late spring, late summer, and mid winter annually beginning 2 years prior to expected presence of re-introduced species in the upper North Fork system, then continuing annually for 12 years after reintroduction, or as specified by the Fisheries and Habitat Committee based on the times of arrival and abundances of introduced species.
The licensee shall assess habitat in the first year of the fish distribution assessment, then at an expected interval of every 3-5 years, depending on changes to habitats in the upper river system due to storm events. The Fisheries and Habitat Committee will periodically evaluate the need for re-assessment of habitat.

3.4 Resident Fish in Lake Kokanee

3.4.1 Purpose

The purpose is to evaluate the contribution of the rainbow trout stocking program to the recreational fishery by monitoring harvest of resident fish in Lake Kokanee.

3.4.2 Method

The licensee shall conduct a creel census at Lake Kokanee to evaluate the contribution of the rainbow trout stocking program to the recreational fishery.

3.4.3 Frequency

The licensee shall monitor for the first 3 years and once every 5 years thereafter.

3.5 Genetic Monitoring of Specific Populations

The licensee shall include in the FHM Plan and shall implement provisions for appropriate and reasonable genetic monitoring of bull trout, steelhead, and Chinook salmon to inform supplementation and fish passage decisions.

Article 414. Downstream Fish Passage. The licensee shall provide safe, timely, and effective downstream fish passage at the Cushman Project for the term of this amended license and any subsequent annual licenses. Such passage facilities shall use attraction flow, guidance, trapping, sorting, handling, holding, and hauling facilities located on Lake Cushman and other operations and facilities as necessary for the project.

The licensee shall develop and implement the downstream fish passage program in consultation with the Fisheries and Habitat Committee.
1. Downstream Fish Passage Plan

Within 180 days after issuance of the amended license, the licensee shall file with the Commission for approval a Downstream Fish Passage Plan (DFP Plan) for the installation, operation, and maintenance of downstream fish passage facilities at the project for juvenile salmon, steelhead smolts and kelts, and bull trout. The DFP Plan shall include, but is not limited to: (1) functional design drawings of the licensee's proposed downstream fish passage facilities; (2) quantification of the flows required to operate the proposed facilities; (3) a preliminary operation and maintenance plan; (4) a schedule for installing the facilities; (5) provisions for short and long-term monitoring, and modifying facilities as needed to meet performance standards, design criteria, and general requirements of safe, timely, and effective passage; and (6) dates for completion of each provision of the plan.

The licensee shall develop the DFP Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall allow a minimum of 30 days for members of the Fisheries and Habitat Committee to comment and make recommendations before submitting the DFP Plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the DFP Plan with the Commission without first obtaining the approval of NMFS, FWS, and BIA, the licensee shall include specific reasons for doing so.

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

2. FSC Requirements

The licensee’s DFP Plan and detailed design for downstream fish passage facilities shall utilize a Floating Surface Collector (FSC). The licensee shall develop the FSC in up to two phases, with the first phase having an attraction flow of 250 cubic feet per second (cfs) and the second phase having an attraction flow of 500 cfs.
3. Floating Surface Collector (FSC) Development

3.1 Phase One – The FSC shall produce a minimum 250-cfs attraction flow. During the Phase One Demonstration Period, the licensee may operate the Phase One FSC for up to 9 demonstration years to satisfy Performance Standards. If, in any of these 9 years, the FSC satisfies either of the Performance Standards, the licensee shall enter a 2-year verification period to verify that the Performance Standard is sustained as described in the paragraph below. If performance is not achieved during a demonstration year or not sustained during a verification period, then the licensee shall make non-attraction-flow improvements in consultation with the Fisheries and Habitat Committee. Phase One includes up to, but no more than, two verification periods. The licensee has a minimum of 9 years to operate the FSC with an attraction flow of 250 cfs, and a maximum of 13 years if the verification periods are triggered. The licensee may opt to move to Phase Two at any time prior to expiration of the time limit for operation within Phase One.

When the FSC demonstrates for one season that a Performance Standard is satisfied, it will begin a Verification Period. The purpose of the Verification Period is to operate the FSC in the same condition for two consecutive years to determine if the FSC’s performance on average, based upon the demonstration year and the two verification years, continues to satisfy that Performance Standard. If, after the first year of verification, it is impossible for the FSC’s performance to satisfy this 3-year performance average, then the FSC reverts to the Demonstration Period. If the FSC’s average performance does not satisfy that Performance Standard after the second year of verification, then FSC reverts to the Demonstration Period. The licensee shall attempt to improve FSC performance during the Demonstration Period through non-attraction-flow measures that are reviewed and approved by the Fisheries and Habitat Committee. Verification shall be measured at a 90 percent confidence level with a standard error of the estimate that shall be not more than plus or minus 5 percent (i.e., 10 percent error), unless otherwise agreed to by the Fisheries and Habitat Committee.

If neither of the Performance Standards are demonstrated and verified within the timeframes provided for the Phase One Demonstration and Verification Periods, Phase One will end. If Phase One ends, the Phase Two FSC will be installed and operational prior to the start of the second fish passage season after Phase One ends. If, however, NMFS, FWS and BIA believe that one or more of the extenuating factors listed below is likely the cause of the FSC not meeting the performance standards, then NMFS, FWS, and BIA may approve continued operation of the collector at 250 cfs until such factors are addressed. Extenuating factors may include: (1) environmental conditions (such as predation or disease mortality) that prevent the collector from attaining System Survival (SS) or Fish Collection Efficiency (FCE); (2) technical issues related to measurement of SS or FCE; or (3) other similar surface collection systems not meeting performance criteria.
If FCE is demonstrated and verified but SS is not demonstrated and verified, the licensee shall continue to operate the Phase One FSC and not develop Phase Two so long as FCE is maintained (see Performance Standard Monitoring, section 7). As long as FCE is maintained, increases in FSC discharge will not be required. However, within 12 months of verifying FCE, the licensee shall develop a plan for determining factors which may be limiting its ability to demonstrate and verify SS, in consultation with the Fisheries and Habitat Committee, and shall implement appropriate measures for improving SS as soon thereafter as possible, after Commission approval.

If SS is demonstrated, verified and maintained but FCE is not, the licensee shall make non-attraction flow modifications to the FSC as determined necessary by the Fisheries and Habitat Committee, after Commission approval.

3.2 Phase Two – The FSC shall be redesigned to produce a 500-cfs attraction flow, unless otherwise agreed to by NMFS, FWS, and BIA, provided the total attraction flow shall not exceed 500 cfs. If the Phase Two FSC does not satisfy Performance Standards, the licensee shall implement appropriate non-attraction flow measures for improving SS and FCE in consultation with the Fisheries and Habitat Committee and based upon the performance monitoring conducted pursuant to Article 416, after Commission approval.

4. Final Design

The licensee shall file the final FSC design with the Commission within 18 months of this amended license. Prior to submitting the design to the Commission, the licensee shall prepare detailed design drawings at the 30 percent (functional design), 50 percent and 90 percent completion stage and consult with the Fisheries and Habitat Committee at each stage. The licensee shall seek approval of the final design from NMFS, FWS, and BIA at least 30 days prior to filing with the Commission. Construction of downstream fish passage facilities shall not begin until the design is approved by the Commission, NMFS, FWS, and BIA and the licensee has obtained all necessary permits. No later than 21 months after Commission approval of the design and obtaining all necessary permits, the licensee shall have completed installation and testing, and shall begin operating the FSC. The Phase One Demonstration Period will begin the following fish passage season. The downstream fish passage facilities shall be shown on the as-built drawings filed pursuant to Article 304.

The design shall conform to the NMFS 2008 Anadromous Salmonid Passage Facility Design, prepared by the NMFS Northwest Region Hydro Division, dated February 8, 2008 (NMFS Design Manual). There may be cases where site constraints or extenuating biological circumstances dictate that certain design features deviate from the NMFS Design Manual. The licensee shall provide compelling evidence in support of any
5. **FSC Requirements**

The licensee’s downstream fishway shall include a system of exclusionary guide nets and five FSC modules, which includes the: (1) Net Transitions Module; (2) Capture Module; (3) Screen Module; (4) Collection Module; and (5) Transport Module. In addition to complying with the NMFS Design Manual, the FSC must meet the following requirements:

5.1. Full exclusionary guide netting and panels (the net) will be installed in the forebay of the Cushman Dam No. 1 reservoir and will extend from shoreline to shoreline and from the water surface to the bottom of the reservoir. The net system will be located within the existing boat barrier on Lake Cushman unless hydraulic modeling or fish migration studies indicate another location is better suited.

The net will be made of a knotless mesh with the mesh size not to exceed ¼ inch clear opening and resistant to rot and ultraviolet degradation. To improve the guidance of fish to the FSC, the net in the upper 30 to 50 feet of the water column may incorporate a knotless mesh with the mesh size not to exceed 3/32 inch or an impermeable membrane.

5.2. **Net Transition Module (NTM)** – The NTM is a modular unit that provides a transitional dimension and velocity gradient from the guide nets to the capture module. Entrance velocity at the face of the NTM shall be the greater of 0.2 feet per second (fps) or 1.1 times the adjacent reservoir ambient velocity at full generation. Based on these criteria the likely initial entrance size shall be approximately 35 ft x 35 ft based on 250 cfs/0.2 fps = 1,250 sq ft. Water that enters the NTM shall gradually accelerate along the length of the module to a capture velocity of 8 fps. Velocity increase through the NTM shall be no more than 0.2 fps/ft, but must be steadily increasing or flat, not decreasing. Centerline velocity at the entrance to the capture module will be 8 fps.

5.3. **Capture Module** – The Capture Module is a modular unit with an initial wetted cross-sectional area of approximately 32 square feet in the 250-cfs attraction flow phase and shall provide 20 linear feet of 8 fps velocity between the NTM and the Screen Module to assure capture.

5.4. **Screen Module** – The Screen Module shall provide dewatering while maintaining near 6 fps velocity. At the downstream end of the Screen Module, approximately 3 cfs shall discharge fish into the Collection Module where fish shall be held for sorting, sampling, and preparation for transfer to a transport vessel. Fish Screens in the Screen Module shall be designed to NMFS screen criteria as described in the NMFS Design Manual, unless otherwise specified below. This shall be accomplished...
using hydraulic modeling to aid the design of the screens, baffles, pump manifold, pump size, and locations.

The Screen Module shall be designed to ensure no failure of the screen structure, and will include an alarm that is triggered by a change in head pressure between the downstream and upstream sides of the screen. The Screen Module shall also be designed such that any debris accumulations are removed before they affect hydraulic design characteristics and potentially compromise fish safety. Unless NMFS and FWS approve otherwise, the Screen Module shall be constructed with a high pressure water jet cleaning system located behind the screen face to provide complete automated backwash cleaning of the entire screen flow through area, with cleaning automatically triggered by timed interval and by head loss through the screen mesh. The Screen Module and cleaning system shall be modified to maintain the hydraulic profile described above as attraction flow is increased.

5.5. Collection Module – The collection module shall include up to 3-cfs dewatering capability, sorting mechanisms to effectively separate adult and juvenile fish, and holding areas. The fish shall then be distributed according to destination and those destined for downstream shall be conveyed in a water-to-water transfer system to a transport vessel. Unless otherwise approved by NMFS and FWS, a minimum of two holding areas sized for 2,500 smolts each shall be provided. NMFS Design Manual and Washington DFW hatchery criteria shall be used in designing the fish handling components.

5.6. Transport Module – The transport module shall have a minimum capacity of 2,500 smolts. The module may be used to transfer fish to a tank truck or trailer for hauling to the release site, or it may be used as a transport tank placed on a truck or trailer for hauling to the release site. If the transport module is used for hauling the fish, it must be equipped with an on-board oxygen supply. If it is used to transfer fish to a tank truck or trailer, it must be equipped with water-to-water transfer fittings. The module shall be sized such that its loading density does not exceed 0.15 ft³ per pound of fish. Fish in the module shall be transported as often as necessary so as not to exceed capacity, but at least one time per day.

5.7. Release Site – The release site for collected fish being transported downstream of the dam shall be immediately downstream of Cushman Dam No. 2, or at an appropriate location to be determined by the Fisheries and Habitat Committee. The licensee shall maintain the release site in a safe and useable condition as determined by the Fisheries and Habitat Committee.

5.8 Phase Two Modifications – The licensee shall modify the modules described in sections 5.2, 5.3 and 5.4 to accommodate increased attraction flow. The licensee shall modify the NTM, Capture Module, and Screen Module to maintain the original design
hydraulic characteristics as attraction flow is increased, unless deviations are approved by NMFS, FWS, and BIA. The licensee shall make modifications to other components of the FSC as determined appropriate by the Fisheries and Habitat Committee and approved by NMFS, FWS, and BIA, after Commission approval.

5.9 Operation Period – The downstream passage fishway shall be capable of operation over the entire range of forebay elevations expected year round. The expected operation period is March 15 through July 31 each year. The Fisheries and Habitat Committee may revise the operation period based on expected fish species occurrence and actual fish collection data. The licensee shall notify the Commission before making any such revision to the operation period.

5.10 Debris and Trash Management – Floating log booms shall be installed in the reservoir upstream of the guide nets in order to provide protection to the fishway.

5.11 Inspection, Operations, and Maintenance Plan – The licensee shall annually inspect and maintain, and allow NMFS and FWS to annually inspect the guide nets, screens, cleaning system, and any other mechanical component subject to wear. The licensee’s plan shall also describe how the guide net system will be protected and maintained during extreme flow events.

6. Performance Standards

The licensee’s operation of the downstream fish passage facilities shall be subject to the following Performance Standards:

6.1 System Survival Standard (SS) – SS is the percentage of a marked group of smolts released near the upstream end of Lake Cushman that is successfully collected by the FSC and safely passed downstream of the Cushman Project. The SS goal is 95 percent, and the minimum compliance standard SS is 75 percent.

6.2 Fish Collection Efficiency Standard (FCE) – FCE is the percentage of a tagged (radio, acoustic, or PIT) group of smolts detected at the log boom (approximately 360 feet upstream of the dam) or at another location in the forebay to be determined by the Fisheries and Habitat Committee and are successfully collected in the FSC and safely passed downstream of the Cushman Project. The FCE standard is 95 percent collection and survival. Success, for the purposes of FSC development, is attained when either of the Performance Standards is demonstrated and verified. Notwithstanding demonstration and verification of FCE being achieved, the licensee shall continue to implement non-attraction flow measures to improve fish passage until the SS Performance Standard is achieved. In addition, throughout the term of the amended license and any subsequent annual licenses, the licensee shall use reasonable efforts to achieve the SS goal of 95 percent, provided those efforts are likely to improve SS.
7. Performance Standard Monitoring

The licensee shall monitor SS performance annually for the term of the amended license and any subsequent annual licenses. The licensee shall monitor FCE annually during Phase One of FSC development. In addition, if the FCE Performance Standard is demonstrated and verified during Phase One of FSC development, the licensee shall monitor FCE performance every 5 years beginning in the fifth year after verification, unless the Fisheries and Habitat Committee determines that monitoring during the fifth year after verification is unnecessary. If FCE monitoring indicates that performance has declined to less than the FCE Performance Standard (95 percent), the licensee shall monitor FCE performance in the following fish passage season. If FCE monitoring verifies that performance is below the FCE Performance Standard, the licensee shall convene the Fisheries and Habitat Committee to develop appropriate measures, which may include increasing attraction flow up to 500 cfs. The licensee shall then implement these measures after Commission notification and approval. The licensee shall monitor FCE every 5 years during Phase Two for the term of the amended license and any subsequent annual licenses.

Performance Standard Monitoring shall use marked groups of surrogate hatchery Coho smolts that are collected and mark-sampled at the FSC or by methods determined by the Fisheries and Habitat Committee.

Article 415. Upstream Fish Passage. The licensee shall provide safe, timely, and effective upstream fish passage at the Cushman Project for the term of the amended license and any subsequent annual licenses. The licensee shall install, operate, maintain and monitor, at its own expense, facilities to: protect and mitigate damages to anadromous fisheries; provide access to historic spawning and rearing habitat; and enhance the restoration of anadromous fish to the Skokomish River Basin.

The licensee shall develop and implement the upstream fish passage program in consultation with the Fisheries and Habitat Committee.

1. Upstream Fish Passage Plan

Within 6 months after issuance of the amended license, the licensee shall file with the Commission, for approval, a plan to install, operate, and maintain upstream trap and haul fish passage facilities at the Cushman Project that includes, but is not limited to: (1) functional design drawings of the licensee’s proposed upstream fish passage facilities; (2) quantification of the flows required to operate the proposed facilities, including a description of the flows needed for in-migration of adult salmonids; (3) a preliminary operation and maintenance plan; (4) a schedule for installing the facilities; (5) provisions for short and long-term monitoring and for modifying the facility as needed to meet criteria and general requirements of safe, timely, and effective passage; and (6) dates for
completion of each provision of the plan. The plan shall be consistent with the National Marine Fisheries Service (NMFS) Design Manual.

The licensee shall develop the Upstream Fish Passage Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of NMFS, the U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall allow a minimum of 30 days for members of the Fisheries and Habitat Committee to comment and make recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the upstream fish passage plan with the Commission without first obtaining the approval of NMFS, FWS, and BIA, the licensee shall include specific reasons for doing so.

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

2. Design Review

The licensee shall file the final design of the upstream fish passage facilities within 18 months after issuance of the amended license. Prior to submitting the final design to the Commission, the licensee shall prepare detailed design drawings at the 30 percent (functional design), 50 percent and 90 percent completion stage and consult with the Fisheries and Habitat Committee at each stage. The licensee shall seek approval of the design from NMFS, FWS, and BIA no less than 30 days prior to filing with the Commission. Construction of upstream fish passage facilities shall not begin until the design is approved by the Commission, NMFS, FWS, and BIA and the licensee has obtained all necessary permits. No later than 15 months after Commission approval of the design and obtaining all necessary permits, the licensee shall have completed installation, and shall begin operating the upstream fishway. The upstream fish passage facilities shall be shown on the as-built drawings filed pursuant to Article 304.

The design shall be consistent with the NMFS Design Manual. There may be cases where site constraints or extenuating biological circumstances dictate that certain design features deviate from the NMFS Design Manual. The licensee shall provide compelling evidence in support of any proposed design features that deviate from the NMFS Design Manual and obtain NMFS and FWS approvals for any deviation.
3. Plan Requirements

The licensee’s upstream fish passage plan and design for upstream fish passage facilities, in addition to complying with the NMFS Design Manual, shall meet the following requirements:

3.1 Fishway Location – The preferred location for the upstream fishway is near the base of Cushman Dam No. 2. If this location is demonstrated not to be feasible, the licensee shall, in consultation with the Fisheries and Habitat Committee, identify an alternate location near the confluence of McTaggert Creek with the North Fork Skokomish River.

3.2 Operational Period – The upstream passage facilities shall be operational year-round except for an annual maintenance period as determined in consultation with the Fisheries and Habitat Committee and subject to the approval of NMFS, FWS, and BIA.

3.3 Upstream Passage Facility Design Flow Range – The licensee shall design the trap and haul facilities to provide safe, timely, and effective fish passage over streamflows between 100 and 300 cubic feet per second (cfs), when upstream migrating fish are normally present at the barrier.

3.4 Barrier Dam – The licensee shall provide a barrier dam to effectively divert upstream migrating fish into the fish trap. Cushman Dam No. 2 may be part of the barrier dam element.

3.5 Trap Holding Pools – The licensee shall provide holding pools of sufficient volume to provide a carrying capacity equal to a projected 1 day peak run of fish (about 1,200 fish). Based upon a minimum holding density of .25 ft³ per pound of fish, the holding pools shall contain a minimum volume of 2,400 ft³ 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 2,400 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. These conditions assume good water quality. If water temperature is greater than 50 degrees Fahrenheit and dissolved oxygen is less than 6 ppm, the licensee shall transport fish more frequently.

3.6 Fish Crowder and Braille Systems – The licensee shall build the upstream passage facilities to include a crowder and braille system in each holding pool as necessary to move fish from the holding pools to the fish lock. When not in use, the crowder shall be stored either against the back wall of the holding pool or out of the water entirely. Likewise, the braille shall be stored recessed in the floor of the holding
pool when not in service. The braille shall be sloped and contoured so that fish are guided toward the entrance to the fish lock. Both the crowder and braille shall 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 shall be adjustable up to 3 feet per minute. Maximum clear opening between bars in the crowder or braille shall be 1/2 inch. When the crowder is in use, a removable barrier shall be installed across the fish ladder exit into the holding pool to prevent fish from entering the holding pool. Fish shall 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 shall 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 shall be measured and a decision as to the permanent spacing of the bars should be determined based on the 50 percent exceedance level.

3.7 Fish Transport and Sorting – The licensee shall transport fish from the fish lock in a transport hopper. Loading density of the transport hopper shall be limited to 0.15 ft³ per pound of fish. The volume of the transport hopper shall be equal to or less than the volume of the transport trucks (to reduce the possibility of overloading the transport trucks).

The transport hopper shall connect via water to water transfer with the fish sorting facility tanks/ponds or the transport trucks/trailers. Transport trucks/trailers shall have provisions to supply oxygen to the transport water. Provisions shall be made at the release point for the transported fish to acclimate to the receiving water if the temperature difference exceeds 5 degrees Celsius.

The fish sorting facility shall provide a receiving pond/tank that accepts full hopper/truck loads of transported fish and sorting/holding pools/pens sufficient to separate each species. The receiving pond/tank shall be equipped with a mechanism capable of forcing fish into the sorting flume and raceways. The licensee will build the receiving pond/tank water supply such that flow will be introduced through a diffuser or series of diffusers located in the floor of the pond/tank. Overflow from the pond/tank 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 sorting and routing to sampling tanks, sorting/holding pools, or re-direct loading to a transport truck.

Provisions for PIT tag interrogation shall be located upstream of any diverter gate. Provisions shall also be included to divert fish to sampling, anesthetic, disease treatment, and recovery tanks; or routed to an appropriate raceway.
Provisions shall be made to guarantee a continuous supply of water to the raceways (such as redundant pumps, backup pumps, emergency generator, etc.) and for the emergency release of fish. The entire adult fishway facility shall provide a means to evacuate fish back to the Skokomish River, Lake Kokanee, or an agency-designated alternative in the event of the loss of power or water supply.

The licensee shall check the adult fishway daily during the adult fish migration periods and shall transport adult fish from the fishway as necessary to prevent overcrowding and harm, as determined by NMFS, FWS, and BIA. At a minimum, when only a few fish are present, fish shall be transported 3 times per week, on Monday, Wednesday, and Friday.

3.8 Sample/Anesthetic/Recovery Tanks – The licensee shall design the sampling, anesthetic, and recovery tanks in consultation with the Fisheries and Habitat Committee subject to the approval of NMFS, FWS, and BIA. The system shall include provisions to move fish to the raceways or return fish to the river after they have fully recovered.

3.9 Auxiliary Power – The licensee shall provide auxiliary power in the event of a power failure. Full operation of the facility shall be restored within 48 hours. 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.

4. Post Construction

4.1 Post Construction Evaluation – Prior to completion of the upstream fish passage facilities, the licensee shall develop, in consultation with the Fisheries and Habitat Committee, a Post Construction Evaluation Plan for approval by NMFS, FWS, and BIA. 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 fish passage. The licensee shall implement this plan upon completion of upstream passage facility construction. Based upon evaluations conducted pursuant to this plan, the licensee shall make appropriate modifications to the upstream passage facilities and their operations to ensure safe, timely, and effective passage throughout the license term as may be determined by the Fisheries and Habitat Committee, after Commission notification and approval.

4.2 Future Modifications – The licensee shall update and modify these facilities as necessary, after Commission notification and approval, based upon long-term monitoring results, changing resource management requirements or as improvements in technology for safe, timely, and effective fish passage becomes available.
4.3 Inspections – The licensee shall provide access to the upstream passage facilities to any fishery agency or the Skokomish Indian Tribe for immediate inspection of fishway operation and maintenance conditions.

5. Fish Passage at Little Falls

If, based upon fish passage monitoring pursuant to Article 416 and other available information, the Fisheries and Habitat Committee determines that modifications to Little Falls are required to achieve safe, timely, and effective fish passage, the licensee shall implement such modifications, pursuant to a schedule developed by the Fisheries and Habitat Committee and subject to Commission approval, as well as obtaining any other necessary regulatory approval(s). The licensee shall not use funds from the Habitat Restoration Account to make modifications to Little Falls.

Article 416. Fish Passage Monitoring Plan. The licensee shall implement the following Fish Passage Monitoring Plan, in consultation with the Fisheries and Habitat Committee. The purposes of this plan are to: (1) measure fish survival through the reservoir, fishways and transport mechanisms; (2) assess compliance with survival and performance standards for effective passage; and (3) inform the implementation of Articles 414 and 415. The licensee shall modify its passage measures based on the information developed pursuant to this plan and on recommendations of the Fisheries and Habitat Committee, after Commission notification and approval. The Fish Passage Monitoring Plan shall include a schedule for implementing the plan consistent with this article and for consulting with the Fisheries and Habitat Committee regarding the monitoring results.

Within 24 months after issuance of the amended license, the licensee shall file with the Commission for approval the Fish Passage Monitoring Plan. The licensee shall develop the plan in consultation with the Fisheries and Habitat Committee, and seek approval of the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall allow a minimum of 30 days for members of the Fisheries and Habitat Committee to comment and make recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the Fish Passage Monitoring Plan without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.
The Commission reserves the right to require changes to the plan. Implementation of the plan shall commence when the licensee is notified by the Commission that the filing is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

The licensee shall file with the Commission, by June 30 of each year, an annual report fully describing the monitoring efforts of the previous calendar year. The Fisheries and Habitat Committee shall have at least 30 days to review and comment on the draft report prior to filing with the Commission. The licensee shall provide copies of the annual report to the Fisheries and Habitat Committee.

The Fisheries and Habitat Committee may modify methods and frequencies of data collection if the Fisheries and Habitat Committee determines that: (a) there is a more appropriate or preferable method or site to use than that described in the individual elements of the Fish Passage Monitoring Plan; or (b) monitoring may be reduced or terminated because the relevant ecological resource objective has been met or no change in resource response is expected. The licensee shall notify the Commission prior to making any such changes.

The following guidelines shall be used in developing and implementing the Fish Passage Monitoring Plan: (a) monitoring and studies shall be relevant to the project license; (b) monitoring and studies shall be chosen and conducted so that they provide useful information for project management decisions or establishing compliance with license conditions; and (c) monitoring and studies shall be cost-effective in meeting the specific purpose of the monitoring activity.

1. **Monitoring methods**

1.1 **Downstream juvenile passage** – The licensee shall measure downstream passage survival through the fishway by releasing marked groups of smolts from a point just upstream of the juvenile fishway (FSC) through the last point of contact, which is either stress relief ponds or a prospective release pond at the base of Cushman Dam No. 2. The licensee shall measure downstream passage survival through the reservoir by releasing marked groups of smolts near the upstream end of Lake Cushman and enumerating their recapture at the FSC. Marks may include, but not be limited to, freeze brands, pit tags, radio tags, and acoustic tags. The licensee shall monitor passage success of each species that is collected at the FSC in numbers large enough to yield statistical significance, as determined by the Fisheries and Habitat Committee.

1.2 **Upstream adult passage** – The licensee shall measure upstream passage survival by marking groups of adult salmonids collected at the base of Cushman Dam No. 2 (or another suitable location as determined by the Fisheries and Habitat Committee) and tracking their survival from a point downstream of Little Falls to their
point of disposition either to hatchery facilities, holding net pens, or release into Lake Cushman. Marks may include, but not be limited to, pit tags, radio tags, and acoustic tags. The size of the marked groups shall include numbers large enough to yield statistical significance, or as determined by the Fisheries and Habitat Committee.

2. **Monitoring frequency**

2.1 The licensee shall monitor downstream passage annually for the term of the amended license using marked groups of juvenile coho salmon. Other species that are numerically sufficient (described above) shall also be monitored, at least twice during the start-up years of the FSC, and then for 2 years every 10 years thereafter. The licensee shall monitor Fish Collection Efficiency (FCE) every 5 years during Phase Two for the duration of the amended license and any subsequent annual licenses.

2.2 The licensee shall monitor upstream passage survival of coho, Chinook, sockeye and steelhead at least three times during the start-up years of the upstream passage fishway, and then for 2 years every 10 years thereafter.

**Article 417. Fish Supplementation Program.** Within 9 months after issuance of the amended license, the licensee shall file with the Commission, for approval, a plan to implement the fish supplementation program. The purposes of the fish supplementation program are to protect, address damages to, and enhance anadromous and resident fisheries. The objectives of the program are: (1) to support the reintroduction, restoration, and long-term maintenance of anadromous fish populations in the North Fork Skokomish watershed; (2) to provide harvest opportunities to treaty Indian and non-treaty fishers; and (3) to provide recreational fishing opportunities.

The licensee shall develop the Fish Supplementation Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall also seek the comments and recommendations of the National Park Service (Park Service). The licensee shall allow a minimum of 30 days for members of the Fisheries and Habitat Committee and the Park Service to comment and make recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members and the Park Service are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the Fish Supplementation Plan with the Commission without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.
The Commission reserves the right to require changes to the fish supplementation program plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

The plan shall incorporate the guiding principles and program elements of the Cushman Project Fish Supplementation Framework included as Appendix 4 in the settlement agreement and consist of the following elements:

1. **Species**

The fish supplementation program shall include five species: sockeye, spring Chinook, steelhead, coho, and rainbow trout.

2. **Facilities**

2.1 **Upstream Fish Passage Facility** – The licensee shall construct, operate and maintain an upstream fish passage facility as described in Article 415. In addition to upstream fish passage, the facility shall be used to collect brood stock for the sockeye, spring Chinook, and coho supplementation programs.

2.2 **Supplementation Facilities**

2.2.1 The licensee shall construct, operate and maintain an adult holding, spawning, egg incubation, and early rearing facility for the sockeye supplementation program that is capable of producing the number of healthy fry shown in Table 1. The facility shall be located at Tacoma’s Saltwater Park property.

<table>
<thead>
<tr>
<th>Species</th>
<th>Type</th>
<th>Number</th>
<th>Fish/Pound</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sockeye</td>
<td>Fed fry (May)</td>
<td>200,000</td>
<td>2,500</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Fed fry (June)</td>
<td>1,000,000</td>
<td>800</td>
<td>1,250</td>
</tr>
<tr>
<td></td>
<td>Fed fry (Sept.)</td>
<td>800,000</td>
<td>150</td>
<td>5,333</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td><strong>2,000,000</strong></td>
<td></td>
<td><strong>6,663</strong></td>
</tr>
</tbody>
</table>

2.2.2 The licensee shall construct, operate and maintain adult holding, spawning, egg incubation, early rearing and net pen rearing facilities for the spring Chinook, steelhead, and coho supplementation programs which are capable of producing the quantity of healthy fish shown in Tables 2, 3 and 4, respectively. These facilities shall be located either at Saltwater Park, in the vicinity of Tacoma’s Cushman No. 2 Powerhouse, on the east shore of Lake Kokanee, or some combination of these locations. Prior to and during
construction, if these sites are determined to be infeasible, the licensee shall locate facilities at an alternate site. The licensee shall determine the specific location of the facilities in consultation with the Fisheries and Habitat Committee. The licensee shall notify the Commission prior to changing the location of the supplementation facilities.

Table 2. Spring Chinook Supplementation Program Production Targets.

<table>
<thead>
<tr>
<th>Species</th>
<th>Type</th>
<th>Number</th>
<th>Fish/Pound</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring Chinook</td>
<td>Fingerling</td>
<td>300,000</td>
<td>50</td>
<td>6,000</td>
</tr>
<tr>
<td></td>
<td>Yearling</td>
<td>75,000</td>
<td>10</td>
<td>7,500</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>375,000</td>
<td></td>
<td>13,500</td>
</tr>
</tbody>
</table>

Table 3. Winter Steelhead Supplementation Program Production Targets.

<table>
<thead>
<tr>
<th>Species</th>
<th>Type</th>
<th>Number</th>
<th>Fish/Pound</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter Steelhead</td>
<td>Smolts</td>
<td>15,000</td>
<td>8</td>
<td>1,875</td>
</tr>
<tr>
<td></td>
<td>Adults</td>
<td>225</td>
<td>0.125</td>
<td>1,800</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>15,225</td>
<td></td>
<td>3,675</td>
</tr>
</tbody>
</table>

Table 4. Coho Supplementation Program Production Targets.

<table>
<thead>
<tr>
<th>Species</th>
<th>Type</th>
<th>Number</th>
<th>Fish/Pound</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coho</td>
<td>Smolts</td>
<td>10,000 – 35,000</td>
<td>15</td>
<td>666 – 2,333</td>
</tr>
</tbody>
</table>

2.3 The licensee shall construct, operate and maintain net pen rearing facilities in Lake Kokanee adjacent to Cushman Dam No. 2 for spring Chinook, coho, steelhead, and rainbow trout. The spring Chinook net pens shall be sized to rear 13,500 pounds of spring Chinook juveniles, as described in Table 2. The winter steelhead net pens shall be sized to rear 1,875 pounds of winter steelhead smolts and 1,800 pounds of winter steelhead adults, as described in Table 3. The coho net pens shall be sized to rear 2,333 pounds of coho smolts, as described in Table 4. The rainbow trout net pens shall be sized to rear 11,667 pounds of catchable rainbow trout.

3. Program Details

3.1 Stock Selection – The licensee shall, in consultation with the Fisheries and Habitat Committee and the Park Service, evaluate potential donor stocks for selection and use in developing hatchery production.

3.2 Fish Health and Genetic Fitness – The licensee shall specify best management practices in the plan and implement these practices to help ensure fish health and maintenance of genetic fitness in all aspects of the supplementation program.
3.3 **Sequencing and Phase-In** – The licensee shall develop a schedule in consultation with the Fisheries and Habitat Committee, which includes sequencing of steps necessary to implement the supplementation program. The schedule shall address when potential donor stocks might be available and when start-up phases for each species can begin. The schedule shall allow for incremental phasing in of the program. Production quantity and schedule changes may be made by the Fisheries and Habitat Committee to accommodate unforeseen circumstances such as donor stock availability.

3.4 **Production and Release Strategies** – The licensee’s supplementation program shall include production and release strategies in an attempt to achieve the production targets for each species in Tables 1-4.

3.4.1 **Sockeye** – The licensee’s program shall be targeted to produce and release the sockeye fry quantities as shown in Table 1. The production quantities and release strategies for the facility may be adjusted by the Fisheries and Habitat Committee within the design production capacity of that facility. The initial production shall be dependent on the availability of donor stock. The licensee shall transport and release juvenile sockeye into Lake Cushman or in the North Fork Skokomish River as determined by the Fisheries and Habitat Committee.

3.4.2 **Spring Chinook** – The licensee’s program shall be targeted to produce and release the spring Chinook fingerling and yearling quantities shown in Table 2. The production quantities and release strategies for those facilities may be adjusted by the Fisheries and Habitat Committee within the design production capacity of those facilities. The licensee shall rear these fingerling and yearling spring Chinook in Lake Kokanee net pens or, if determined infeasible, in another appropriate location, preferably in the North Fork Skokomish River sub-basin. The licensee shall release these fish into the pool at the base of Cushman No. 2 Dam as fingerlings/yearlings.

3.4.3 **Steelhead** – The licensee’s program shall be targeted to produce and release the Winter Steelhead smolt quantities and adult numbers shown in Table 3. The production quantities and release strategies for those facilities may be adjusted by the Fisheries and Habitat Committee within the design production capacity of those facilities. The licensee shall rear these winter steelhead smolts and adults in Lake Kokanee net pens or, if determined infeasible, in another appropriate location, preferably in the North Fork Skokomish River sub-basin. The licensee shall release the winter steelhead smolts into the pool at the base of Cushman No. 2 Dam where they can hold until they are ready to distribute themselves downstream. The licensee shall release winter steelhead adults into the North Fork Skokomish at
locations to be determined by the Fisheries and Habitat Committee that are reasonably accessible by truck.

3.4.4 **Coho** – The licensee’s program shall be targeted to produce and release the quantity of coho smolts shown in Table 4. The production quantities and release strategies for those facilities may be adjusted by the Fisheries and Habitat Committee within the design production capacity of those facilities. Because the effects of the new flow regime on North Fork coho production are unknown, the licensee shall rear between 10,000 and 35,000 coho smolts annually as determined by the Fisheries and Habitat Committee. The licensee shall collect broodstock at the adult collection facility or at an alternate location in the North Fork Skokomish River if necessary and agreed to by the Fisheries and Habitat Committee, and held in a net pen in Lake Kokanee. Egg incubation and early rearing shall occur at the facility described above. After early rearing, the licensee shall rear these coho in Lake Kokanee net pens or, if determined infeasible, in another appropriate location, preferably in the North Fork Skokomish River sub-basin. The licensee shall use a portion of these coho smolts as test fish for evaluating the Lake Cushman downstream migrant collection facility. The licensee shall release the remaining coho smolts into the pool at the base of Cushman No. 2 Dam.

3.4.5 **Rainbow Trout** – The licensee shall annually release between 24,000 and 35,000 rainbow trout (8,000 to 11,667 pounds of rainbow trout) into Lake Kokanee. The licensee shall rear these rainbow trout in Lake Kokanee net pens and release them directly into Lake Kokanee. The licensee shall consult with the Washington Department of Fish and Wildlife in determining the size and number of rainbow trout and the timing of the releases.

3.5 **Hatchery Monitoring Plan** – The licensee shall implement the following Fish Hatchery Monitoring Plan after issuance of the amended license and through the term of the amended license and any subsequent annual licenses, in consultation with the Fisheries and Habitat Committee.

Within 18 months after issuance of the amended license, the licensee shall file with the Commission, for approval, a Hatchery Monitoring Plan. The licensee shall develop the Hatchery Monitoring Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of NMFS, FWS, and BIA. The licensee shall allow a minimum of thirty 30 days for members of the Fisheries and Habitat Committee to comment and make recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific
Project Nos. 460-033, 460-040, and 460-021

The purpose of this plan is to inform implementation of the Hatchery Program. The licensee shall make any necessary changes to hatchery operations based on the monitoring results, subject to Commission notification and approval. The Hatchery Monitoring Plan shall also include a schedule for the licensee’s implementation of the plan consistent with this article, consultation with the Fisheries and Habitat Committee regarding monitoring results, and a schedule for providing preliminary monitoring data.

The Hatchery Monitoring Plan shall describe the following parameters: (1) best management practices for the supplementation facilities; (2) size at release, growth rate, and survival in the hatcheries; (3) disease profile; (4) spawn timing and condition; (5) homing/straying; (6) coded-wire tagging program for smolt to adult return rates; (7) stock inventory; (8) number of fish released; (9) water temperature at facilities; and (10) other water quality monitoring parameters required by permits necessary to operate facilities.

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

The licensee shall file with the Commission, by June 30 of each year, an annual report fully describing the monitoring efforts of the previous calendar year, and activities required under the plan for the following year. The Fisheries and Habitat Committee shall have at least 30 days to review and comment on the draft report prior to filing with the Commission. The licensee shall provide copies of the annual report to the Fisheries and Habitat Committee.

Article 418. Tailrace Monitoring Plan. Within 60 months after issuance of the amended license, the licensee shall file with the Commission, for approval, a plan to monitor migration delay, injury, and/or mortality at the tailrace during the operation of Powerhouse No. 2. The purpose of the plan is to determine the need for any additional fish protection measures.

The tailrace monitoring plan shall include, but not be limited to: (1) the methods used to monitor migration delay, injury, and/or mortality at the Powerhouse No. 2 tailrace; and (2) a schedule for (a) implementation of the tailrace monitoring plan, and
(b) consultation with the Fisheries and Habitat Committee regarding the results of the study and any additional measures needed to protect the fishery resources (i.e., tailrace barrier or other similar device).

The licensee shall develop the Tailrace Monitoring Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and the Bureau of Indian Affairs (BIA). The licensee shall allow a minimum of 30 days for members of the Fisheries and Habitat Committee to comment and make recommendations before submitting the plan for approval to NMFS, FWS, and BIA. When filing the plan with the Commission, the licensee shall include documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the Tailrace Monitoring Plan with the Commission without first obtaining the approval of NMFS, FWS and BIA, the licensee shall include specific reasons for doing so.

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

If tailrace monitoring indicates that changes in project structures or operations are necessary to protect fish resources, including any measures identified by the licensee or the Fisheries and Habitat Committee as a result of the consultation required by this article, the Commission may direct the licensee to modify project structures or operations accordingly.

**Article 419. Reservation of Authority to Construct Fishways.** Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate, pursuant to section 18 of the Federal Power Act.

**Article 420. Terrestrial Plan.** The licensee shall file for Commission approval a Terrestrial Resources Protection Plan (Terrestrial Plan). The Terrestrial Plan shall include two components: (1) a Mitigation Plan that includes measures to minimize adverse impacts on terrestrial resources during project construction; and (2) a Monitoring and Protection Plan that includes monitoring and protective procedures for terrestrial resources during project operation.
The licensee shall prepare the Terrestrial Plan in consultation with the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S.D.A. Forest Service (Forest Service), the Bureau of Indian Affairs, and the Skokomish Indian Tribe (Tribe). The licensee shall allow a minimum of thirty days for the agencies and the Tribe to comment and make recommendations before filing the plan with the Commission. The licensee shall include with the Terrestrial Plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies’ and the Tribe’s comments are accommodated by the licensee’s Terrestrial Plan. If the licensee does not adopt a recommendation, the Terrestrial Plan shall include the licensee’s reasons, based on project-specific information.

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

Construction Mitigation Plan

Within 1 year after issuance of the amended license, but no later than 90 days before the start of any land-clearing or land-disturbing activities at the site, the licensee shall file, with the Commission, a Construction Mitigation Plan identifying measures to minimize disturbance during construction activities to protect native vegetation and wildlife. The plan shall include, but not be limited to:

a. use of measures such as blast mats and construction activity restrictions during the osprey breeding season;

b. on lands disturbed by removing the Dow Creek fish passage barrier, measures to restrict the development of invasive exotic plants and to enhance native tree and shrub development, to be developed after consultation with the aforementioned agencies and the Simpson Timber Company;

c. if lower North Fork fish habitat enhancements are undertaken, mitigation of vegetation disturbance by, avoiding wetlands and other sensitive areas; scarifying and revegetating cleared access roads and skid trails with herbaceous elk forage; covering excavation spoils with cached topsoil and litter; revegetating disturbed wetlands with native wetland plants, revegetating disturbed streambanks with native shrubs, and other measures proposed by the licensee; and in conjunction with the Threatened and Endangered Species Plan required by Article 423, constructing lower North Fork instream fish habitat enhancements between May 15th and December 31st to prevent disturbance of wintering bald eagles;
d. on recreation facility improvement sites on the Dry and Copper Creek trails, along Staircase Road, a prohibition on cutting overstory trees greater than 16 inches diameter breast height (dbh), with the exception of trees that pose a public safety threat;

e. on recreation improvement sites on the Dry and Copper Creek trails, along Staircase Road, and at the Forest Service’s Big Creek Campground, measures such as construction schedule adjustments or other means to prevent disturbance of marbled murrelets and northern spotted owls, in conjunction with the Threatened and Endangered Species Plan; and

f. on Olympic National Park exchange lands, procedures, developed after consultation with the National Park Service (Park Service), to eliminate or control reed canary grass.

Operational Monitoring and Protection Plan

Within 1 year after issuance of the amended license, the licensee shall file a terrestrial resources monitoring and protection plan for Park Service exchange lands, enhancement parcels, lands leased by the licensee to the Lake Cushman Development Corporation, and other project lands to protect plant and wildlife resources during the license period. The plan shall include techniques for monitoring and protecting the plant and wildlife resources on these lands, measures to restrict land use and human use, and procedures to enforce the restrictive use measures. The plan shall include a schedule for implementing and evaluating the monitoring and protection program.

Article 421. Comprehensive Wildlife Habitat Enhancement Plan. Within 1 year after issuance of the amended license, the licensee shall file with the Commission, for approval, a Wildlife Habitat Enhancement Plan (WHE Plan) for the Cushman Project. The WHE Plan shall address this article’s provisions pertaining to (1) Land Acquisition and (2) Enhancement of Habitat and Wildlife Populations.

The licensee shall develop the WHE Plan in consultation with the Skokomish Indian Tribe (Tribe), Washington Department of Fish and Wildlife (Washington DFW), the U.S. Fish and Wildlife Service (FWS), U.S.D.A. Forest Service (Forest Service), and the Bureau of Indian Affairs (BIA). The licensee shall allow a minimum of 30 days for the Washington DFW, FWS, Forest Service, and the Tribe to comment and make recommendations before submitting the plan for approval to FWS, Forest Service, and BIA. The licensee shall include with the WHE Plan documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations are accommodated by the licensee’s WHE Plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the WHE Plan with the Commission
without first obtaining the approval of FWS, Forest Service, and BIA, the licensee shall include specific reasons for doing so.

The WHE Plan shall also be developed in conjunction with the Threatened and Endangered Species Plan required by Article 423.

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

1. **Land Acquisition**

The licensee shall acquire the title to the following parcels for the purpose of enhancing native plants and wildlife populations: (1) the 320-acre Green Diamond-owned site adjacent to Homan Flats (east half of Section 15, Township 22 North, range 5 West, W.M.); and (2) the approximately 430-acre Green Diamond-owned Lake May/Northern Lower North Fork site generally located in the southeast portion of Section 8, western portion of Section 16, eastern portion of Section 17, and northeastern portion of Section 20, Township 22 North, Range 4 West, W.M. and as depicted on the Wildlife Lands map which is attached as Appendix 1 to the proposed license articles included with the Settlement Agreement for the Cushman Project filed on January 21, 2009. The WHE Plan shall contain a description of each parcel and a schedule of dates for acquiring parcels and reporting to the Commission and the agencies on the progress of acquisitions.

The WHE Plan shall also include procedures, including consultation with the agencies and the Tribe, to allow the licensee to acquire appropriate alternative parcels which would provide equivalent or greater habitat benefits as the above described parcels in event that such parcels are identified and available.

2. **Enhancement of Habitat and Wildlife Populations**

Pursuant to the WHE Plan, the licensee shall enhance native plants and wildlife populations on the following lands and waters: (1) the project reservoirs; (2) the Westside, Dow Mountain, Deer Meadow, Brown Creek, Dry Creek, and Homan Flats parcels owned by Tacoma; (3) the approximately 750 acres of Green Diamond acquisition land described above; (4) the Cushman Project transmission line right of way between Cushman Dam No. 1 and Cushman Powerhouse No. 2; and (5) the Tacoma-owned approximately 75-acre non-operational land located in sections 27 and 28, Township 22 North, Range 4 West W.M. above the number 2 powerhouse (See Wildlife Lands Map attached as Appendix 1 to the proposed license articles included with the Settlement Agreement for the Cushman Project filed on January 21, 2009).
The WHE Plan shall include goals, objectives, and standards for all recommended measures. Enhancement measures shall include, but may not be limited to the following:

a. constructing three osprey nesting structures on the project reservoirs;

b. protecting and preserving all suitable bald eagle and osprey perching, roosting, and nesting trees on the Cushman wildlife lands located along the North and South Forks of the Skokomish River and project reservoirs;

c. establishing high density snag areas through creation of 300 snags in conifer-dominated Class 3 forests;

d. scarifying, seeding, planting and other measures needed to successfully remove and revegetate roads not needed for parcel maintenance. Roads needed for maintenance but not for approved recreational access should be gated;

e. improving forage production and tree growth within 200 acres of dense Class 1 or 2 conifer forest through thinning and maintaining target tree densities and forage throughout the term of the license using techniques to be specified in the WHE Plan;

f. installing, maintaining, and monitoring at least 20 wood duck nest boxes at Lake Kokanee, Lake May, and other nearby aquatic areas;

g. installing, maintaining, and monitoring at least 7 bat boxes at Lake Cushman, Lake Kokanee, and Lake May vicinity; and

h. constructing, maintaining, and monitoring up to 200 acres of elk forage fields.

Article 422. [Deleted.]

Article 423. Threatened and Endangered Species Plan. Within one year after issuance of the amended license, the licensee shall develop and file for Commission approval a Threatened and Endangered Species Protection Plan (T&E Plan) for the Cushman Project. The T&E Plan shall include measures to protect the Puget Sound Chinook salmon, Puget Sound Steelhead, Hood Canal summer-run chum salmon, bull trout, peregrine falcon, bald eagle, marbled murrelet, and spotted owl during project construction and operation, including measures to protect critical habitat for these species.

The T&E Plan shall include, but not be limited to, the following:
a. measures to protect listed salmon stocks and bull trout, consistent with the requisite provisions of Articles 403, 405 through 407, and 410 through 419 of this license;

b. protective measures such as establishment of buffer zones for future logging or land development, precluding construction during breeding seasons, the protection of existing and potential bald eagle roosting and perching trees, particularly along stream shorelines, and maintaining and enhancing food sources for the bald eagle;

c. a schedule for implementing the measures;

d. a description of the method(s) for monitoring the results of the implemented measures;

e. a monitoring schedule; and

f. a schedule for providing the monitoring results to the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), U.S.D.A. Forest Service (Forest Service), Washington Department of Fish and Wildlife (Washington DFW), and the Commission.

If any of the measures prove unsuccessful, the licensee shall prepare a revised plan to include alternative or modified measures, developed in consultation with NMFS, FWS, the Forest Service, and Washington DFW.

The licensee shall develop the T&E Plan in consultation with the Fisheries and Habitat Committee, and shall seek approval of NMFS and FWS. The licensee shall allow the Fisheries and Habitat Committee members a minimum of 30 days to comment and make recommendations before submitting the plan for approval to NMFS and FWS. When filing the T&E Plan with the Commission, the licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the licensee’s T&E Plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based on project-specific information. If the licensee files the T&E Plan with the Commission without first obtaining the approval of NMFS and FWS, the licensee shall include specific reasons for doing so.

The Commission reserves the right to require changes to the T&E Plan. Implementation of the plan, including any land-disturbing activities, shall not begin until the licensee is notified by the Commission that the T&E Plan is approved. Upon
Commission approval the licensee shall implement the T&E Plan, including any changes required by the Commission.

**Article 424. Shoreline Management Plan.** Within 2 years after issuance of the amended license, the licensee shall file with the Commission, for approval, a detailed management plan for the use of shoreline project buffer zone lands. The Shoreline Management Plan, at a minimum, shall include: (1) allowable uses for the buffer zone lands; (2) conditions to be specified for such allowable uses (such as measures to maintain the aesthetic quality of the reservoir); and (3) any proposed permit system (with a sample permit).

The licensee shall prepare the Shoreline Management Plan in consultation with the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S. Forest Service, and Mason County. The licensee shall allow a minimum of 30 days for comment and recommendation of the agencies before filing the plan with the Commission. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies’ comments are accommodated by the licensee’s plan. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons based upon operation and landscape conditions at the site.

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

**Article 425. Recreation Plan.** Within 1 year of issuance of the amended license, the licensee shall file with the Commission for approval a recreation plan detailing measures that the licensee will undertake to protect and enhance area recreational resources. All plan requirements to be implemented outside the current project boundary are one-time actions that shall not include maintenance, management, monitoring, or oversight by the licensee. At a minimum, the plan shall include the following provisions:

1. The licensee shall improve five existing informal shoreline access sites in the Staircase Road Recreation Area by converting existing informal camp sites to day use only sites (as described in Final Environmental Impact Statement (Final EIS) section 4.7.1.2).

2. The licensee shall improve the Lake Cushman Viewpoint by providing picnic sites, kiosks, and a toilet, and improve accessibility (as described in Final EIS section 4.7.1.2).

3. The licensee shall relocate the Dry Creek Trail to bypass the portion of the
current Dry Creek Trail adjacent to the residences situated along Lake Cushman. The Dry Creek Trailhead shall be relocated to join with the Copper Creek Trailhead and provide improvements to that trailhead (as described in the Final EIS sections 4.7.1.2 and 4.7.4.2) or, alternatively, the shall secure legal public access for the U.S.D.A. Forest Service (Forest Service) along the existing Dry Creek trail route or portions thereof. The licensee shall make improvements to the access road to the Mt. Rose Trailhead, and improve and enlarge the Mt. Rose Trailhead parking area (as described in Final EIS section 4.7.1.2).

4. The licensee shall improve the Lake Kokanee boat ramp facilities by installing a boat loading dock, adding new crushed rock to the parking area, delineating parking stalls, and providing picnic tables and kiosks. The licensee shall assume the maintenance of the boat ramp facilities including repairing or replacing broken slabs in the ramp, grading the parking area annually, maintaining the concrete vault toilets, removing garbage and litter, and other general maintenance as necessary.

5. The licensee shall improve the undeveloped portion of Olympic National Forest's Big Creek Campground for organized group overnight and day-use (as described in Final EIS sections 4.7.1.2 and 4.7.4.2). All constructed facilities will be owned by the Forest Service upon completion.

5.1 To the extent feasible given site constraints, the licensee shall work with the Forest Service to add up to 30 group camp RV sites including two kitchen shelters, picnic tables, a group fire circle and two barrier free double vault toilets.

5.2 The licensee shall provide a new entrance sign for the existing campground, a fee station, informational kiosks, a hand pump well, storage building, wastewater disposal sumps, and miscellaneous signage (as described in the Final EIS section 4.7.1.2). The licensee shall also rehabilitate one double vault toilet and one hand pump well.

5.3 In addition to the requirements of section 5.1, the licensee shall construct or reconstruct up to 30 individual campsites (both RV and tent) with picnic tables and fire rings. The licensee shall also construct a camp host site with on-site sewage system and water for filling trailer holding tanks, and install a well, pump, pumphouse, distribution lines, up to 20 faucets, and drains. Until outside power is available at the site, the camp host site, well, pump, and pumphouse shall be powered by a site battery with a recharging system by either hydro, solar, and/or portable generator. The battery system will not be
capable of powering the water distribution lines and thus faucets will not be operable until outside power is available pursuant to section 5.4.

5.4 When outside power is available within one-quarter mile of Big Creek Campground, the licensee shall extend the power into Big Creek Campground, add lighting to existing facilities such as shelters, kiosks, and the host site, and add lighting and fans to the toilets. The licensee also shall extend power to the water distribution system (well, pump, pumphouse, distribution lines, up to 20 faucets, and drains).

5.5 After the distribution line is installed and functional, the licensee shall remove and decommission the existing hand pump wells and well sites.

5.6 The licensee shall provide hard surfacing (using either concrete or Bituminous Surface Treatment) to the entrance area and campground host site, and shall provide 2 inches of new crushed surfacing on existing roadway and parking spurs within the campground upon completion of all subsurface work. The new roadways and parking spurs shall be constructed using up to 4 inches of base material topped with 2 inches of crushed surfacing.

5.7 The licensee shall construct an interpretive trail, approximately one quarter mile in length, at Big Creek Campground.

5.8 The licensee shall provide for a trailer dump station within three miles of the campground.

6. The licensee shall provide for improvements to Bear Gulch Access by providing 5 picnic tables, toilets and parking (up to 20 vehicles) as described in the Final EIS (sections 4.7.1.2, and 4.7.4.2). The licensee shall also repair or replace the existing toilet.

7. The licensee shall include a discussion of how the needs of the disabled were considered in the planning and design of each recreation facility.

8. The licensee shall complete an assessment of the site commonly known as “The Big Rock” in consultation with the U.S. Fish and Wildlife Service (FWS), Washington Department of Natural Resources (Washington DNR), and Mason County Sheriff’s Office to address the continuing incidence of person caused wildfire starts and ensuing investigations in the area and other law enforcement actions attributed to gatherings of people in the area. Such assessment shall include a discussion of options to manage public
activities in this area, which may include but are not limited to methods to limit access, limit parking opportunities in the area, use of traffic revisions or increased signage, and fire prevention patrols.

9. The licensee shall impose campfire and camping restrictions on licensee-owned lands along Staircase Road at the request of the Forest Service.

10. The plan shall include a schedule for completion of items 1, 2, 3, 4, 5, 6, and 8 within 3 construction seasons of issuance of the amended license. The schedule may be modified by agreement with the Forest Service. The designs for the facilities described in items 1, 3, 5, 6, and 8 shall be developed in consultation with and subject to approval of the Forest Service.

The licensee shall prepare the recreation plan after consultation with the Forest Service, National Park Service, Skokomish Indian Tribe, the Bureau of Indian Affairs, Washington Department of Fish and Wildlife, and the Washington DNR. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies and the Tribe, and specific descriptions of how the agencies’ and Tribe’s comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the Tribe to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons, based on project-specific information.

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

Article 426. [Deleted.]

Article 427. Road Management Plan. Within one year of issuance of the amended license, the licensee shall file with the Commission, for approval, a Road Management Plan for U.S. Forest Service (Forest Service) Road Nos. 24 and 2451 that addresses project-related use and protects water quality, recreation, and aesthetic resources as described in the Final Environmental Impact Statement (Final EIS) (sections 4.7.1.2 and 6.4.1).

At a minimum, the Road Management Plan shall include a description of the following components:
1. project-induced impacts relevant to the history of the road’s development and use;

2. projected future use levels;

3. public safety;

4. year-round access needs;

5. winter maintenance; and

6. the objectives for future road standards that may facilitate jurisdiction by public road management agencies.

7. The licensee shall assume a portion of the responsibility, commensurate with project-related use (including recreational use and water quality protection measures), for operation and maintenance activities of Forest Service Road No. 24 from Road Mile 10.1 to 14.08 until road jurisdiction is transferred to others or unless otherwise agreed to by the Forest Service. Operation and maintenance of Forest Service Road No. 24 consists of: (1) cleaning, removing, reconditioning, installing, or replacing the following: drainage structures (such as culverts, ditches, catch basins), riprap armor, headwalls, water bars, cross ditches, erosion control devices, earth berms, and debris racks; (2) surface maintenance including load, haul and place materials, blading, grading, surface rock, asphalt, and bituminous surface treatment (BST) maintenance and treatment, pothole patching or grading, spot rock surfacing, and road condition surveys; (3) signs and traffic control maintenance; (4) reconditioning, installing, or replacing (including graffiti removal) gates, post, signs, guardrail, jersey barriers, barricades, and pavement markers; and (5) vegetation management such as brushing, danger tree removal, logging out trees, establishing vegetation, and seeding and removal of invasive species.

8. The licensee shall assume a portion of the responsibility, commensurate with project-related use (including recreational use and water quality protection measures), for operation and maintenance activities of Forest Service Road No. 2451 from Road Mile 0.00 to Road Mile 1.0 for the duration of the amended license. Notwithstanding, the licensee shall not be responsible for any structural damages to Forest Service Road No. 2451 caused by floods or by project operations. Operation and maintenance of Forest Service Road No. 2451 consists of: (1) cleaning, removing, reconditioning, installing, or replacing drainage structures (such as culverts, ditches, and catch basins), water bars, cross ditches, erosion control
devices, earth berms, and debris racks; (2) surface maintenance including load, haul and place materials, blading, grading, surface rock, pothole patching or grading, spot rock surfacing, slide or rock onto roadway removal and haul, and road condition surveys; (3) signs and traffic control maintenance; (4) reconditioning, installing, or replacing (including graffiti removal) barricades or gates to close bridge, post, bridge signs, guardrail, jersey barriers, graffiti removal, barricades, and pavement markers; (5) vegetation management such as brushing, danger tree removal, logging out trees, establishing vegetation, and seeding and removal of invasive species; and (6) structure maintenance such as bridge guardrail and approach railing maintenance, bridge deck and drain cleaning and maintenance, and patching damaged concrete bridge deck.

The licensee shall prepare the plan after consultation with the Forest Service, National Park Service, Washington State Parks and Recreation Commission, and Washington Department of Natural Resources. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies’ comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons, based on project-specific information.

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

Article 428. Recreational Use Monitoring Plan. Within one year of completion of improvements required by Article 425, the licensee, in consultation with the U.S.D.A. Forest Service (Forest Service), National Park Service, Washington State Parks and Recreation Commission, Washington Department of Fish and Wildlife, and Washington Department of Natural Resources, shall implement a study to determine whether existing recreational facilities are meeting project-related recreational demands. The licensee shall seek approval by the Forest Service of the study plan prior to implementing the study. Reporting of the required information is to be in accordance with the Commission’s regulations at 18 C.F.R. section 8.11, which requires the filing of a Licensed Hydropower Development Recreation Report (Form 80), and the requirements of this article. This report shall include the following components:
1. annual use figures;

2. a discussion of the adequacy of the licensee’s recreational facilities in the project area to meet recreational demand including boating access;

3. a description of the methodology used to collect all study data; and

4. if there is a need for additional recreation facilities, the licensee shall revise its recreation plan, required by Article 425, to accommodate recreational needs in the project area.

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

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

Article 429. Historic Properties Management Plan. Within one year of issuance of the amended license, the licensee shall file with the Commission for approval a historic properties management plan (HPMP) to protect historic, archaeological, and traditional religious and cultural properties that are included or eligible for listing in the National Register of Historic Places (National Register).

The HPMP shall include provisions for:

1. Identifying the area of potential effects (APE) for the Cushman Project and a map that clearly shows the APE in relation to the project boundary, and procedures for modifying the APE to reflect the inclusion or exclusion of lands as necessary for project purposes.

2. Protecting the integrity of the feeling, association, materials, workmanship, location, design, and setting, insofar as each of these is relevant to determining eligibility for inclusion in the National Register for: (a) archaeological sites 45 MS-100 and 45 MS-105; (b) Skokomish Indian Procurement Sites Traditional Cultural Property District, consisting of ethnographic sites 12, 13, 15, 16, 17, 19, 20, 21, 22, 25, 26, and 29; (c) Skokomish Indian Settlement Sites Traditional Cultural Property District, consisting
of ethnographic sites 1, 2, 4, 7, and 10; (d) Skokomish Indian Fishing Sites Traditional Cultural Property District; and (e) Little Falls Site 58 Traditional Cultural Property.

3. Protecting the integrity of the feeling, association, materials, workmanship, location, design, and setting, insofar as each of these is relevant to determining eligibility for inclusion in the National Register for the: (a) Cushman Hydroelectric Development No. 1, consisting of its contributing buildings (a powerhouse and transmission service house), structures (a diversion intake, gatehouse and platform, power diversion tunnel and penstocks, dam, spillway, and tramway), and objects; and (b) Cushman Hydroelectric Development No. 2, consisting of its contributing buildings (a powerhouse), structures (a dam, spillway, headgate/intake structure, tunnel, penstocks, surge tanks, and gatehouse), and objects.

4. A reasonable and good faith effort in the Cushman Project’s APE to determine the eligibility of: (a) archaeological sites 45 MS-51, 45 MS-56, 45 MS-108, and feature 25 of archaeological site 45 MS-100; and (b) a logging railroad and bridges (HS-040) (designated properties HS-041 and HS-042).

5. A reasonable and good faith effort to determine whether any remains of the construction camps (HS-060), identified as Camp A (HS-061) and Camp B (HS-065) within the project’s APE, are eligible for listing in the National Register.

6. A reasonable and good faith effort to identify properties eligible for listing in the National Register in the precise location where proposed recreation improvements at the U.S. Forest Service Dry Creek Trailhead, required in Article 425, may affect such properties, if any exist.

7. A reasonable and good faith effort to identify properties eligible for listing in the National Register if any project-related ground disturbance at the Hood Canal Recreation Area exceeds approximately 3.28 feet in size.

8. Flexibility in implementation of the HPMP that shall include provisions for:

   (a) Monitoring shorelines, including the North Fork and McTaggert Creek shorelines, for effects that may result from additional stream flows, required in Article 407;

   (b) Reviewing the HPMP by the licensee, Washington State Historic Preservation Office (SHPO), the Skokomish Indian Tribe (Tribe), and the Bureau of Indian Affairs (BIA) to ensure that the information continues to assist the licensee in managing historic properties and updating the HPMP based on agency and tribal consultations;
(c) Affording the Washington SHPO, the Tribe, and the BIA reasonable opportunities to object to any of the licensee’s actions as well as failures to act under this license in its protection of properties included in or eligible for inclusion in the National Register; and ensuring that such objections are fairly heard and considered; and

(d) Applying the National Register criteria to properties that may be subject to project-related effects and have not been previously evaluated for National Register eligibility; assessing the likelihood of project-related effects that diminishes the integrity of the characteristics that make the property eligible for inclusion in the National Register; and considering a reasonable alternative to adversely affecting a property that is eligible for inclusion in the National Register or for mitigating such effects.

9. Where, in the above, the licensee is required to include adequate provisions for making a reasonable and good faith effort in the APE, it is understood that a convincing demonstration on the part of the licensee that the area or property in question is clearly not subject to project-related effects shall be deemed sufficient to void the requirement.

10. Treatment and disposition of human remains that may be discovered, taking into account any applicable State laws and the Advisory Council’s “Policy Statement regarding Treatment of Burial Sites, Human Remains, and Funerary Objects,” dated February 23, 2007; compliance with the Native American Graves Protection and Repatriation Act (25 U.S.C. section 3001), if tribal or federal lands are within the project boundary; and the curation of project-relevant archaeological collections, notes, maps, and other documentation, in a facility that meets the requirements of 36 C.F.R. Part 79, in the State of Washington.

11. Addressing any effects associated with the ongoing operation and maintenance of the Cushman Project, including the new project features at the Cushman Dam No. 2 (e.g., new powerhouse and fish passage facility).

The HPMP shall be developed after consultation with the Washington SHPO, the Tribe, and the BIA. The licensee shall include with the plan an implementation schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities’ comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations 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 HPMP at any time during the term of the license. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Pending the Commission’s approval of the licensee’s HPMP, the licensee shall implement the following interim procedures for protecting properties included in or eligible for inclusion in the National Register:

1. The licensee shall consult with the Washington SHPO, the Tribe, and BIA regarding the effects of project recreation measures that require ground-disturbance; new construction, demolition, or rehabilitation of project facilities; and erosion of archeological sites that may be due to project operations.

2. The licensee shall consult with the Washington SHPO, in accordance with 36 C.F.R. sections 800.4 and 800.5 and in so doing, shall act as the Agency Official. If the licensee and the Washington SHPO agree that the activity will not adversely affect a property included in or eligible for inclusion in the National Register, the licensee shall proceed in accordance with any agreed-upon treatment measures or conditions.

3. If either the licensee or the Washington SHPO determines that the activity will have an adverse effect on a property included in or eligible for inclusion in the National Register, and the affected property is a National Historic Landmark, the licensee shall submit the matter to the Commission, which shall initiate the process set forth at 36 C.F.R. section 800.6. Otherwise, the licensee and the Washington SHPO shall consult to develop a strategy for avoiding or mitigating such adverse effects. If the licensee and the Washington SHPO agree, the licensee shall implement the agreed-upon strategy. If they disagree, the licensee shall submit the matter to the Commission, which shall initiate the process set forth at 36 C.F.R. sections 800.6 and 800.7(a) through (c)(3).

4. Before transferring Camp Cushman, a Civilian Conservation Corp camp (HS-030) with its associated road, bridges, and cabins (designated properties HS-031 through HS-035), to the Tribe, the licensee shall consult with the Washington SHPO, the Tribe, and BIA to apply the National Register criteria to Camp Cushman, as well as any identified archaeological or ethnographic sites located on the property to be transferred, to determine whether any property may be eligible for listing in the National Register. If any property is found eligible, Tacoma must document the property before transferring it to the Tribe.

Article 430. [Deleted.]
Article 431. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article.

If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements.

Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline.

To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the
licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment.

No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must 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.

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

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

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.
Article 432. Fisheries and Habitat Committee. Within 3 months after issuance of the amended license, the licensee shall establish and convene a Fisheries and Habitat Committee (FHC) for the purpose of consultation with the licensee as expressly provided in specific license articles and settlement agreement Appendix 3. In addition to the entities identified in the settlement agreement, the licensee shall also invite the National Park Service to participate on the Fisheries and Habitat Committee.

The licensee shall arrange, administer, and chair all meetings. Upon request of the other parties, the licensee shall provide a meeting facilitator. The licensee, or the facilitator, shall provide no fewer than 10 days’ prior notice of any meeting, unless otherwise agreed to by the FHC or required in order to meet a license deadline or other emergency circumstance.

The licensee or the facilitator shall provide draft meeting minutes for concurrence by the FHC prior to final distribution. Meeting minutes shall include FHC action items, a summary of issues discussed, decisions reached, and member concerns.

The licensee shall bear all costs associated with conducting meetings.

For purposes of the amended license, consultation or consult means that the licensee shall obtain the views of and attempt to reach consensus among the specified parties or specified committee whenever the amended license requires the licensee to consult. Consultation shall not mean consultation under section 7 of the Endangered Species Act or other federal laws specifically requiring consultation unless specifically provided.

Article 433. U.S.D.A. Forest Service Reservation of Authority. The U.S.D.A. Forest Service (Forest Service) reserves its authority under section 4(e) of the Federal Power Act as provided in Section 10.5 of the Cushman Off-license Agreement Between Tacoma and the Forest Service, dated January 12, 2009, to require the inclusion of conditions in the license for Project No. 460, described in Sections 3 and 7 of the Cushman Off-license Agreement Between Tacoma and the Forest Service, even if the Cushman Off-license Agreement between Tacoma and the Forest Service terminates.

Article 434. Department of Interior Reservation of Authority. The licensee shall implement, upon order by the Commission, such additional measures as may be identified by the Secretary of the Interior pursuant to authority provided in section 4(e) of the Federal Power Act, as necessary to ensure adequate protection and utilization of the Skokomish Indian Reservation.

Article 435. New Powerhouse Memorandum of Agreement. The licensee shall implement the “Memorandum of Agreement Between the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer for Managing
Historic Properties Affected by Construction of a New Powerhouse at the Cushman Hydroelectric Project in Mason County, Washington (Project No. 460-040)” executed on May 13, 2010, including but not limited to the Treatment Plan for the project. Within 3 months of issuance of the amended license, the licensee shall file for Commission approval a Treatment Plan, as provided in the Memorandum of Agreement. The Commission reserves the right to require changes to the Treatment Plan. If the Memorandum of Agreement is terminated prior to Commission approval of the Treatment Plan, the licensee shall obtain approval from the Commission, the Washington State Historic Preservation Office, the Skokomish Indian Tribe, and the Bureau of Indian Affairs before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project’s area of potential effects.

(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 constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission’s regulations, 18 C.F.R. § 385.713 (2010). The filing of a request for rehearing does not operate as a stay of the effective date of this license, or of any other date specified in this order. The licensee’s failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission. Commissioner LaFleur voting present.

( S E A L )

Kimberly D. Bose,
Secretary.
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.

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

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

**Article 6.** 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 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 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 benefitting 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 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 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 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.

**Article 29.** The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 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 and 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.
APPENDIX A

Water Quality Certification Conditions for the Cushman Hydroelectric Project
Issued by the Washington Department of Ecology on December 30, 1987

These conditions from the Washington Department of Ecology are in response to the City of Tacoma’s request for a revised water quality certification for the Cushman Dam Hydroelectric Project (FERC No. 460), and pursuant to the terms of a settlement agreement between the City of Tacoma and the Department of Ecology pertaining to Pollution Control Hearing Board Case No. 85-99.

Certification is hereby granted pursuant to Section 401 of the Federal Clean Water Act, provided that an interim instream flow in the North Fork of the Skokomish River, of at least 30 cubic feet per second (cfs), with periodic flushing flows, is maintained by the City until the Commission issues a license authorizing operation of the facility. The 30 cfs interim instream flow is a minimum and is not meant, in any way, to prohibit the Commission from imposing higher flow conditions as a part of the license for the project.

Please note this certification does not exempt the project from compliance with other statutes and codes administered by the state and local agencies. Failure to comply with the conditions described above may result in revocation of this water certification and issuance of civil penalties in accordance with the enforcement policies and guidelines of the Department of Ecology.
APPENDIX B

U.S. Forest Service Revised Conditions Filed March 16, 2010, as Clarified on June 16, 2010, Pursuant to Section 4(e) of The Federal Power Act

Conditions 1 – 5 of the Forest Service’s revised section 4(e) conditions are identical to license articles 410(2), 425, 427, 428, and 433 of this amended license. Conditions 6 – 9 of the Forest Service’s revised section 4(e) conditions are set forth below:

Condition No. 6 - Requirement to Obtain a Forest Service Special-Use Authorization.

If long term occupancy of National Forest System (NFS) lands is required for Project-related purposes and such occupancy is not authorized by including such lands within the Federal Energy Regulatory Commission (Commission) Project boundary, the Licensee shall obtain a special-use authorization for occupancy and use of such NFS lands from the USDA Forest Service. Before conducting any habitat or ground-disturbing activities on such NFS lands, the Licensee shall obtain from the USDA Forest Service and file with the Commission a special-use authorization for occupancy and use of NFS 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 NFS. The terms and conditions of the USDA Forest Service special-use authorization are enforceable by the USDA Forest Service under the laws, rules, and regulations applicable to the NFS. Should additional NFS lands be needed for this Project over the License term and such lands not included within the Commission’s Project Boundary, the special-use authorization shall be amended to include any additional NFS lands.

Condition No. 7 – Forest Service Approval of Final Design.

The Licensee shall prepare site-specific plans subject to review and approval by the USDA Forest Service for habitat and ground-disturbing activities on NFS lands required by the License, including activities contained within resource management plans required by the License prepared subsequent to License issuance. The Licensee shall prepare site-specific plans for activities one year in advance of implementation dates required by the License or as otherwise agreed to by USDA Forest Service and the Licensee.

Site-specific plans shall include:
1. A map depicting the location of the proposed activity and GPS coordinates.
2. A description of the USDA Forest Service 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. Draft biological evaluations or assessments including survey data as required by regulations applicable to habitat or ground-disturbing activities on NFS lands in existence at the time the plan is prepared.

5. An environmental analysis of the proposed action consistent with the USDA Forest Service policy and regulations for implementation of the National Environmental Policy Act (NEPA) in existence at the time the plan is prepared. This analysis may incorporate as appropriate any environmental analysis completed by FERC.

**Condition No. 8 – Approval of Changes After Initial Construction.**

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

**Condition No. 9 – Consultation.**

Each year during the 60 days preceding the anniversary date of the license, the Licensee shall consult with the USDA Forest Service with regard to measures needed to ensure protection and development of the natural resource values of the project area. Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the USDA Forest Service. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the project and its operation that may be necessary to accomplish natural resource protection.
APPENDIX C

Water Quality Certification Conditions for the New Powerhouse at the Base of Cushman Dam No. 2 Issued by the Washington Department of Ecology on April 19, 2010

DEPARTMENT OF ECOLOGY

IN THE MATTER OF GRANTING A ) CERTIFICATION-ORDER
WATER QUALITY CERTIFICATION TO: ) NO. 7158
Tacoma Power ) Licensing of the Cushman Non-
In accordance with 33 U.S.C. § 1341 ) Capacity Amendment for the North Fork Powerhouse
FWPCA § 401, RCW 90.48.120, RCW 90.48.260 ) Hydroelectric Project (FERC No.460)
And WAC 173-201A; and RCW 90.54 ) Mason County, Washington

3.0 General Conditions

Through issuance of this Order, Ecology certifies that it has reasonable assurance that the activity as proposed and conditioned will be conducted in a manner that will comply with applicable water quality standards and other appropriate requirements of state law. In view of the foregoing and in accordance with 33 U.S.C. § 1341, RCW 90.48.120, RCW 90.48.260, Chapter 173-200 WAC and Chapter 173-201A WAC, including WAC 173-201A-300 through WAC 173-201A-330, water quality certification is granted to the Licensee for construction and operation of the NF Powerhouse subject to the conditions within this Order.

A. Certification of this proposal does not authorize the Licensee to exceed applicable state water quality standards approved by the Environmental Protection Agency (currently codified in Chapter 173-201A WAC), ground water quality standards (currently codified in Chapter 173-200 WAC), and sediment quality standards (currently codified in Chapter 173-204 WAC), and other appropriate requirements of state law. Furthermore, nothing in this Order absolves the Licensee from liability for contamination and any subsequent cleanup of surface waters, ground waters, or sediments occurring as a result of activities associated with Project operations and FERC license conditions.

B. In the event of changes or amendments to the state water quality, ground water quality, 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 Clean Water Act, such provisions, standards, criteria, or requirements shall apply to this project and any attendant agreements, orders, or permits. Ecology will notify the Licensee through an Administrative Order of any such changes or amendments applicable to its project.
C. Discharge of any solid or liquid waste to the waters of the state of Washington without prior approval from Ecology is prohibited.

D. The Licensee shall obtain Ecology review and approval before undertaking any change to the project or project operations that might violate water quality or affect compliance with any applicable water quality standard (including designated uses) or other appropriate requirement of state law.

E. This Order does not exempt the Licensee from compliance with other statutes and codes administered by other federal, state, and local agencies.

F. Nothing in this Order waives Ecology’s authority to issue additional orders if Ecology determines that further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project operations are identified (e.g., violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect water quality.

G. The conditions of this Order shall not be construed to prevent or prohibit the Licensee 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.

H. Copies of this Order and associated permits, licenses, approvals, and other documents shall be kept on the Project site and made readily available for reference by the Licensee, its employees, contractors and consultants, and by Ecology.

I. The Licensee shall allow Ecology access to inspect the Project and Project records required by this Order for the purpose of monitoring compliance with its conditions. Access shall occur after reasonable notice, except in emergency circumstance.

J. The Licensee shall, upon request by Ecology, fully respond to requests for materials to assist Ecology in making determinations under this Order and any resulting rulemaking or other process.

K. Any work that is out of compliance with the provisions of this order, or 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; or violation of turbidity criteria is prohibited. If these conditions occur, the Licensee shall immediately take the following actions:

1. Cease operations at the location of the violation to the extent such operations may reasonably be causing or contributing to the problem.
2. Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
3. Notify Ecology of the failure to comply with water quality standards. Oil or chemical spill events must be reported immediately within one hour to the Division of Emergency Management (EMD) at 800-258-5990. Other non-compliance events must be reported to Ecology’s Federal Permit Manager at 800-424-8802.
4. Submit a detailed written report to Ecology within five (5) days describing the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.
5. Observed violations at the project must be highlighted in the annual monitoring report.

L. Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

Compliance with these requirements does not relieve the Licensee from responsibility to maintain continuous compliance with the terms and conditions of this Order or the resulting liability from failure to comply.

4.0 Specific Conditions

4.1 Compliance with standards

The Licensee shall comply with all applicable water quality standards. Waters of the state are assigned designated uses under WAC 173-201A. Designated uses for this section of the North Fork Skokomish River and tributary streams include, but are not limited to, the uses described in Table 4-1 below.

For aquatic life uses, it is also required that all indigenous fish and non-fish aquatic species be protected in waters of the state in addition to the key species described below (WAC 173-201A – 200(1)).
Table 4-1. Designated Uses.

<table>
<thead>
<tr>
<th>River Reach Description</th>
<th>Designated Uses</th>
</tr>
</thead>
</table>
| North Fork Skokomish and tributaries | Aquatic Life Uses – Core summer salmonid habitat.  
   The Key identifying characteristics of this use are summer (June 15 – September 15) salmonid spawning or emergence, or adult holding; use as important summer rearing habitat by one or more salmonids; or foraging by adult and sub-adult native char.
   Other common characteristic aquatic life uses for waters in this category include spawning outside of summer season, rearing, and migration by salmonids.
   Recreation – Extraordinary primary contact.

Numeric criteria that help protect the designated uses are found in WAC 173-201A – 200. These include criteria for TDG, pH, dissolved oxygen (DO), fecal coliform, turbidity, and temperature. Criteria for these parameters specific to the North Fork Skokomish may be found in Table 4-2, below.

Table 4-2. Criteria for North Fork Skokomish.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Criteria</th>
</tr>
</thead>
</table>
| Temperature                | A. 16°C year round immediately below the dam.  
   B. The next point of compliance is approximately five miles below dam at Lat. 47.36574, Long. -123.22985. The following criteria for Spawning/Incubation apply: 13°C from September 15 – July 1; 16°C from July 2 – September 14. |
| Dissolved Oxygen           | 9.5 mg/L Lowest 1-Day minimum. |
| Turbidity                  | Shall not exceed 5 NTU over background when the background is 50 NTU or less; or a 10 percent increase in turbidity when the background turbidity is more than 50 NTU. |
| Total Dissolved Gas (TDG)  | Shall not exceed 110 percent of saturation at any point of sample collection. |
| pH                         | Within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units. |

Other numeric criteria or narrative standards may apply to the North Fork Skokomish River, in addition to the criteria listed in Table 4-2.
4.2 Flows

The Licensee shall manage flows in the North Fork Skokomish River as described in the January 12, 2009, Settlement Agreement, in Articles 406, 407, and 411. The Licensee shall also comply with the ramping rates set forth in Article 411 – *Ramping Rate Conditions of the Settlement Agreement*. These Articles are found in Appendix A [not included in this appendix to the license].

4.3 Total Dissolved Gas (TDG)

A. General Conditions

The project must not cause any exceedance of the TDG water quality criteria, as specified in WAC 173-201A – 200(1)(f). The Licensee shall manage spill and power production to limit TDG production to 110% or less saturation.

The Licensee shall implement Amended License Article 410. A copy of Amended License Article 410 is attached in Appendix A [not included in this appendix to the license]. Ecology requires that the Article 410 water quality enhancement plan include the provision provided in Section 4.3.B and Section 4.3.C of this Order and requires that the plan be implemented consistent with the schedule provided in those Sections.

The Washington State water quality criterion for TDG (Chapter 173-201A WAC) applies to the percent saturation of atmospheric gas, instead of a measure of nitrogen which is described in the Settlement Agreement, Article 410. Discharges from the NF Powerhouse Project shall comply with the water quality criterion for TDG, as shown below in Table 4-3.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent Saturation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Char Spawning and Rearing</td>
<td>Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.</td>
</tr>
<tr>
<td>Core Summer Salmonid Habitat</td>
<td>Same as above.</td>
</tr>
<tr>
<td>Salmonid Spawning, rearing, and Migration</td>
<td>Same as above.</td>
</tr>
<tr>
<td>Salmonid Rearing Migration Only</td>
<td>Same as above.</td>
</tr>
<tr>
<td>Non-anadromous Interior Redband Trout</td>
<td>Same as above.</td>
</tr>
<tr>
<td>Indigenous Warm Water Species</td>
<td>Same as above.</td>
</tr>
</tbody>
</table>

If there are operational or construction modifications to the dam, the Licensee shall collect TDG data for four (4) years following such modification to evaluate whether or
not the modifications have affected prior TDG findings. As provided in Section 3.0(f), the TDG monitoring plan may be amended to address additional data collection.

B. 7Q10 Exceedance Flow

Provided that all reasonable and feasible operational efforts to minimize TDG exceedances are made, compliance with the 110% TDG criterion does not apply when flows exceed the rate equivalent to the 7Q10 flows, as defined in WAC 173-201A – 200(1)(f)(i). The 7Q10 exceedance flow for the North Fork Skokomish River has not been determined. Ecology set an interim value of 1,907 cfs, above which the 110% TDG criterion does not apply. This value is based on the flow from USGS station 12059500 from 1944 to the present. The Licensee shall accept this value or establish a new 7Q10 value to be measured at this site. If the Licensee establishes a new value, a report shall be submitted for Ecology review and approval within six (6) months of the issuance of this Order. This report shall describe the new value for the 7Q10 and how the new value was determined.

C. Determining Compliance for TDG

Monitoring is required to determine whether or not TDG is generated by the operation of the NF Powerhouse. The Licensee shall provide a TDG Monitoring Plan for Ecology review and approval within six (6) months of the issuance of this Order. The TDG Monitoring Plan shall include a quality assurance section which includes a description of TDG compliance monitoring locations, proposed analysis of the TDG monitoring results, monitoring data to be provided, a monitoring schedule, and schedule for submittal of analysis and monitoring results to Ecology.

Data shall be collected for ten (10) years of for three (3) qualifying spill events that do not result in TDG standards violations, whichever is sooner, and submitted annually to Ecology’s SWRO FERC Coordinator. If no TDG is measured during three (3) qualifying spill events using an Ecology-approved monitoring plan, and there are no subsequent operational or construction changes to the dam, no additional monitoring for TDG from Qualifying spill events will be required.

Turbine Monitoring: Upon issuance of this Order, the Licensee shall monitor TDG in the forebay, generation plumes during normal operation, ramp up and ramp down, and in the North Fork Skokomish River below the spillway near the end of the aerated zone (the area of bubble entrainment and dissipation) of Cushman Dam No. 2. A TDG monitoring probe must be placed at the compensation depth and in a location where bubbles from the aerated discharge do not form on the probe membrane. Monitoring shall include ramping up and ramping down, operating one and/or both turbines at different flows from zero to maximum throughput, and normal operations. Spill events must also be identified in the monitoring plan.
Spill Events: Higher flows are most likely to create TDG exceedance conditions during spill events. If flows from the NF Powerhouse being built at Cushman Dam No. 2, plus spill from base of the dam exceed 500 cfs at Cushman Dam No. 2, the dam spillway, or 500 cfs at the North Fork Skokomish gage (USGS 1205880), then TDG monitoring is required during the high flow spill events. Monitoring shall include the forebay and immediately below the aerated zone in the tailrace.

Water Quality Attainment Plan: If Cushman No. 2 Powerhouse is creating TDG greater than 110 %, the Licensee shall develop a compliance schedule. Within six (6) months of the discovery of any exceedance of the 110 % TDG criterion caused by spill, the Licensee shall submit a TDG Water Quality Attainment Plan (TDG WQAP) to Ecology for review and approval that is consistent with WAC 510(5). The TDG WQAP plan shall include:

1. A description of standard Dam operations that minimize TDG associated with spills;
2. A description of how the Licensee will minimize all spills that produce TDG exceedances at the Dam;
3. An evaluation of all reasonable and feasible potential and preferred structural and/or operational improvements to minimize TDG production;
4. A schedule showing when operational adjustments will occur;
5. A schedule for construction, if appropriate; and
6. Monitoring plans to further evaluate TDG production and to test effectiveness of gas abatement controls at the Dam.

The Licensee shall operate the Project according to the approved TDG WQAP with the objective of eliminating TDG exceedances. When the TDG WQAP has been approved, the Licensee shall immediately implement the TDG WQAP to address TDG criteria exceedances.

If monitoring to test the effectiveness of gas abatement controls implemented through the TDG WQAP shows that such efforts are not successful in eliminating exceedances, the Licensee shall propose an alternative action to achieve compliance with the TDG standards and update the WQAP accordingly.

If, at the end of the ten-year compliance period, the TDG abatement measures identified in the WQAP and subsequently employed are not successful in meeting the TDG water

---

188 If the maximum powerhouse flow is 240 cfs, and the flow being spilled from the jet-valve is 260 cfs, and there is no flow from the spillway, the flow downstream would be 500 cfs, presuming there is no flow released from the butterfly valve.
quality criteria, and the Licensee is unable to meet water quality standards after evaluating all reasonable and feasible alternatives under WAC 173-201A – 510(5)(g), the Licensee shall propose an alternative action to achieve compliance with the TDG standards, such as:

1. new reasonable and feasible technologies;
2. other options to achieve compliance with the standards;
3. a new compliance schedule; and
4. other alternatives, as allowed by WAC 173-201/a – 510.

### 4.4 Additional Water Quality Monitoring

The Licensee shall implement the monitoring provisions in Amended License Article 410. A copy of Amended License Article 410 is attached in Appendix A [not included in this appendix to the license].

In addition to the TDG monitoring requirements in Section 4.3 of this Order, the Licensee shall monitor pH, temperature, dissolved oxygen, and turbidity to determine the project’s impacts on water quality. Within six (6) months of the date of this Order, the Licensee shall submit a proposed monitoring plan for these parameters to Ecology for review and approval. This monitoring plan may be combined with the TDG Monitoring Plan required by Section 4.3 of this Order.

As provided in Section 3.0(f), the water quality monitoring provisions may be amended to address additional data collection.

### 4.5 Construction Projects, Miscellaneous Discharges, and Habitat Modifications

The following conditions apply to all over-water or near-water work related to the Project that can impact surface or ground water quality. This include, but is not limited to, construction, operation, and maintenance of fish collection structures, generation turbines, penstocks, transportation facilities, portable toilets, boat ramps, transmission corridors, structures, and staging areas. This also includes emergencies for all activities related to Project operation.

A. A Water Quality Protection Plan (WQPP) shall be prepared and followed for all Project-related work that is in or near water that has the potential to impact surface and/or ground water quality. The WQPP must be submitted to Ecology for review and approval at least three (3) months prior to Project initiation and a copy of the WQPP must be in the possession of the on-site construction manager and available for review by Ecology staff whenever construction work is under way. The WQPP 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) procedures for monitoring water quality; (2) actions to
implement should water quality exceedances occur; and (3) procedures for reporting any water quality violations to Ecology.

B. The Licensee shall apply for a National Pollutant discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities (Construction Stormwater Permit), if applicable. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared that specifies the Best Management Practices (BMPs) and other control measures to prevent contaminants entering the Project’s surface water and groundwaters.

C. Best Management Practices

1. Work in or near Lake Kokanee, water within the intake structure, the North Fork Skokomish River, the NF Powerhouse, the tailrace, or any wetlands shall be conducted to include all reasonable measures to minimize the impacts of construction activity on waters of the State. Water quality constituents of particular concern are turbidity, suspended sediment, settleable solids, oil and grease, and pH. These measures include use of BMPs to control erosion and sedimentation, proper use of chemicals, oil and chemical spill prevention and control, and clean up of surplus construction supplies and other sold wastes.

2. During construction, all necessary measures shall be taken to minimize the disturbance of existing riparian, wetland, or upland vegetation.

3. All construction debris shall be properly disposed of on land so that the debris cannot enter a waterway or cause water quality degradation to waters of the State. Retention areas or swales shall be used to prevent discharging of water from construction placement areas.

4. The Licensee shall ensure that any fill materials that are placed for the proposed habitat improvements in any waters of the State do not contain toxic materials in toxic amounts.

5. The casting of concrete in water can greatly increase pH. The Licensee shall install a temporary fabric dam to dewater the area of construction. In order to ensure that the pH water quality standard is not violated, concrete used in construction of the concrete powerhouse and the grouting of the powerhouse into the rock below the powerhouse at the face of the dam shall cure for a minimum of seven (7) days prior to contact with water. The Licensee shall monitor the tailwater to ensure that the turbidity and pH standards are not violated.

Alternatively, the Licensee may propose an alternative plan to protect water quality during construction. Such plans are subject to review and approval by Ecology, and must be submitted for review 60 days prior to the start date of construction.
D. Maintaining Turbidity Standards During In-water Work

Certification of this Project does not authorize the Licensee to exceed the turbidity standard beyond the area of mixing described below.

The turbidity criteria established under WAC 173-201A – 210(1)(e) shall be modified, without specific written authorization from Ecology, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the constraints of WAC 173-201A – 400(4) and (6), and can occur only after the activity has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices to avoid or minimize disturbance of in-place sediments and exceedances of the turbidity criteria. A temporary area of mixing shall be as follows:

1. For waters up to 10 cfs flow at the time of construction, the point of compliance must be limited to 100 feet downstream from the activity causing the turbidity exceedance.
2. For waters above 10 cfs to 100 cfs flow at the time of construction, the point of compliance must be limited to 200 feet downstream from the activity causing the turbidity exceedance.
3. For waters above 100 cfs flow at the time of construction, the point of compliance must be limited to 300 feet downstream from the activity causing the turbidity exceedance.
4. For projects in and around Lake Kokanee and Cushman Dam No. 2 and associated wetlands, the point of compliance must be limited to a radius of one hundred fifty (150) feet from the activity causing the turbidity exceedance.

4.6 Spills

A. General Oil Spill Prevention & Control Conditions

1. The Licensee shall not discharge oil, fuel or chemicals into waters of the State, or onto land with a potential for entry into waters of the State as prohibited by Chapter 90.56 RCW and Chapter 90.48 RCW.
2. The Licensee shall contain wash water with oils, grease or other hazardous materials resulting from wash down of equipment or working areas for proper disposal, and shall not discharge these contaminated waters into waters of the State.
3. Any visible floating oils released from Project operation, maintenance activities or construction shall be contained and removed from the water.

4. The Licensee shall immediately begin and complete containment and clean-up efforts in the event of a discharge of oil, fuel or chemicals in waters of the State, or onto land with a potential for entry into waters of the State. Cleanup work shall take precedence over normal work and shall include proper disposal of any spilled material and use clean-up materials.

5. Spills into waters of the State and spills onto land with a potential for entry into waters of the State, or other significant water quality impacts, must be reported immediately (within one hour) to the Department of Ecology, Southwest Regional Office at 360-407-6300 (24-hour phone number).

6. The Licensee shall participate in the Incident Command System (ICS) whenever a Unified Command is established in response to a spill incident that involves or potentially impacts one or more Projects.

7. The Licensee shall not use emulsifiers or dispersants in waters of the State, including water contained in sumps or other areas that discharge to sumps, the intake structure, the North Fork Skokomish or the tailwaters.

8. Project Operators shall be familiar with and trained on use of oil spill cleanup materials. In the event of a spill, properly dispose of use/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 and available for inspection by Ecology.

9. The Licensee shall install, or have on-site to deploy, staircases, ladders, harnesses, etc., which will allow oil spill response personnel to safely reach areas that could in the event of an oil spill, need to be accessed to deploy sorbent pads, boom material or other cleanup equipment.

10. Following all spills into waters of the State, or onto land with a potential for discharge to waters of the State, the Licensee shall provide a written follow-up report to Ecology’s Southwest Regional Office within 15 days of the incident. The report shall include a completed copy of the Spill Report Form, a description of the incident, response actions taken and any spill prevention measures taken or recommended to prevent similar spills.

11. The Licensee shall identify and map floor drains in the Project. Post these maps at the Project in a conspicuous location for use by Operators and other personnel in the event of a spill. Floor drains that are not needed shall be blocked or sealed.

12. Within 180 days, the Licensee shall provide Ecology with oil inventory lists and diagrams noting location of containers and oil-filled operating equipment.
holding more than 55-gallons of oil. The Project-specific oil inventories shall include location, type of container, number of containers, volume per container, total shell volume, spill potential, type of oil, PCB content and direction of flow in the event of a spill. Project-specific diagrams should note the location of these containers and oil-filled equipment and general oil spill flow direction.

13. The Licensee shall keep records of the amounts of oil used on-site for all project equipment containing or using oil. These records shall be kept on-site and available for inspection by Ecology.

14. The Licensee shall provide proper containment around each storage container (including transformers) or around a combination of storage containers as appropriate. Proper containment equals the volume of the largest container plus 10 percent.

15. The Licensee shall provide appropriate level markings for all oil gauges (including sight-glass gauges) to ensure Project Operators and maintenance personnel can easily identify an unusual condition.

16. The Licensee shall conduct checks during daily rounds of all fuel and lubrication hoses, oil drums, oil or fuel transfer valves and fittings, etc., for drips and leaks. Maintain and properly store them to prevent spills into state waters.

17. The Licensee shall daily inspect equipment containing oil and view oil-level gauges.

B. Turbine Pits

The Licensee shall make every effort to keep oil and grease from discharging to the turbine pits.

1. Sorbent material deployed in the turbine pits should be removed and properly disposed of whenever oil or grease is observed on the material.

2. Any oil on areas leading directly to the turbine pits shall be removed immediately. Water leaking into the turbine pit areas should be stopped immediately or contained in a manner to prevent it from flushing oil or oil residue into turbine pits.

C. Sumps

1. The Licensee shall visually inspect sumps weekly or immediately if an oil leak is suspected, such as in the event of any oil sump high level alarm or other visual indications that oil could reach the sump. Oil detected in the sumps
requires immediate cleanup and Emergency Management Division (EMD) notification. Immediately repair oil leaks that are of sufficient volume to reach the sump and that cannot be contained by placing a container underneath the leak.

2. The Licensee shall provide water-proof lighting in the sump or spotlights adequate to observe oil sheens on the surface of the water in the sumps.

3. The Licensee shall initiate cleaning of the sump to remove all oil and oil residue from walls, piping and other structures in contact with sump water as necessary based on the results of weekly inspections and the volume of effluent in the sump. Oil cleanup and removal of effluent shall follow the procedure defined in the site SPCC.

D. Transformers

1. The Licensee shall verify that transformer containment areas are impervious and fill cracks, caulk pipe penetrations or otherwise ensure that containment areas will contain spills.

2. The Licensee shall inspect the transformer containment areas during routine plant rounds and immediately following large rain events.

3. The Licensee shall obtain prior approval from Ecology before breaching containment areas for reasons other than containment area maintenance.

4. The Licensee shall conform to industry standards, use BMPs or utilize other control measures for protecting water quality and preventing and containing oil spills when conducting in-place maintenance work on transformers, transporting transformers and transferring transformer oil.

E. Stormwater Pollution Prevention and Containment Area Management

1. The Licensee shall use BMPs or other control measures to prevent any oil-contaminated stormwater on the Project site from entering state waters.

2. Stormwater in transformer and oil-filled operating equipment containment areas shall be monitored for the presence of oil. If oil is present, the oil shall be removed and properly disposed of prior to draining the containment area.

3. Discharge of non-contaminated stormwater from containment areas shall be recorded. Records of all stormwater removed or discharged from containment areas shall be kept on-site and available for inspection by Ecology.

4. Snowy or icy conditions require through and at least daily in section of containment areas and containment drains. Remove any observed stormwater pooling in containment areas and dispose of such water appropriately.
F. Other

1. The Licensee shall maintain site security at the Project to reduce chance of oil spills.
2. The Licensee shall coordinate spill response planning and response efforts with other oil-handling facilities and spill response agencies on the Skokomish River.
3. Compliance with these conditions does not relieve the Licensee from responsibility to maintain continuous compliance with terms and conditions of this Order, or resulting liability from further failure to comply.
APPENDIX D

Terms and Conditions of U.S. Fish and Wildlife Service’s Incidental Take Statement included as Part of the Revised Biological Opinion Filed April 26, 2010

Reasonable and Prudent Measures

The reasonable and prudent measures (RPM) included in the 2004 Biological Opinion (BO) are included herein, with the changes noted below. The Service believes the following reasonable and prudent measures (RPM) are necessary and appropriate to minimize the incidental take of bull trout.

1. Minimize the take of bull trout from stocking – No longer stipulated as a RPM, because RPM is part of the Proposed Action.

2. Minimize the take of bull trout from elevated sediment levels.

3. Minimize the take of bull trout from entrainment at Cushman Dam No. 2.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the (agency) must comply with the following terms and conditions, which implement the reasonable and prudent measures described above, and outline required reporting/monitoring requirements.

Many of the terms and conditions required in the 2004 BO were incorporated into Proposed License Articles, and some are no longer applicable to the Proposed Action. The terms and conditions included in the 2004 BO are included herein, with the changes noted below.

1. The terms and conditions required to implement RPM 1 are no longer applicable because they were incorporated into the Settlement, and need not be referenced as separate terms and conditions.

2. The terms and conditions required to implement RPM 2, as outlined below, are applicable and should apply to all instream habitat projects that may be implemented under the Settlement.
a. The licensee shall monitor the downstream turbidity levels in the North Fork during sediment-generating construction activities related to the construction of side channels and large woody debris clusters.

- Monitoring will occur 600 feet downstream from the project site.
- Monitoring will occur at 15-minute intervals during all sediment generating activities.

b. The licensee shall establish background turbidity levels at a location just upstream of the project. Background turbidity levels shall be measured every three hours while in-water work is occurring.

c. If project-induced sediment levels exceed background by the amounts and durations listed below, then the amount of take authorized by the Incidental Take Statement will have been exceeded. Sediment generating activities must cease. The licensee shall immediately inform the Commission of the exceedance. The licensee will contact the Service’s consulting biologist at the Western Washington Fish and Wildlife Office in Lacey, Washington at (360) 753-9440, and will review with the Service and the Commission the need to reinitiate consultation.

- 74 NTUs above background at any time, or
- 27 NTUs above background for more than one hour, cumulatively, over an 8-hour workday, or
- 10 NTUs above background for more than 3 hours, cumulatively, over an 8-hour workday.

d. If the turbidity levels begin to approach these limits, or if turbidity limitations established by the Washington State Department of Ecology’s Water Quality Certification for these projects are exceeded, the Commission (and the licensee) will contact the Service’s consulting biologist to discuss means of assuring that the authorized amount of incidental take is not exceeded.

3. The terms and conditions required to implement RPM 3 are as follows:

a. The licensee shall determine whether suitable spawning gravel and cold enough water temperatures between October and April occur within tributaries to Lake Kokanee for successful bull trout reproduction. Since site specific information is lacking for bull trout that reside in lake Kokanee, the Service has assumed that the conditions that are needed for successful bull trout reproduction include both the dropping of water
temperatures to less than 9 degrees Celsius within the October to December period to initiate spawning and then for the water temperatures to remain between 2 and 8 degrees Celsius for at least the next 120 days for incubation.

b. The licensee shall develop and implement a plan to salvage bull trout from Lake Kokanee if suitable conditions for bull trout spawning and incubation are lacking.

c. The licensee shall develop the salvage plan in coordination with the Service.

The Service expects that take of bull trout from the South Fork/Lower North Fork and Lake Cushman Upper North Fork subpopulations will occur. The action area is within the Skokomish River Basin, and the Skokomish Estuary includes bull trout foraging, spawning, rearing, migratory, and overwintering habitat. 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 RPMs provided. The licensee must immediately provide to the Service and the commission an explanation of the causes of the taking, and review with the Service and the Commission the need for possible modification of the RPMs.

**Reporting Requirements**

This section of the 2004 BO is included below, except that Tacoma is responsible for reporting.

The licensee shall notify the Service within three (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 at (425) 883-8122. In addition, the licensee must notify the Service’s Western Washington Fish and Wildlife Office at (360) 753-9440. 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. 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.

In order to monitor the effectiveness and impacts of implementing the reasonable and prudent measures, the licensee shall prepare an annual report describing its progress in implementing the permit’s terms and conditions. (50 C.F.R. § 402.14(i)(3)). The
report shall be submitted to the Western Washington Fish and Wildlife Office prior to June 1 of each year of the license term. The report shall summarize the licensee’s compliance with the RPMs and whether the level of exempted incidental take was exceeded during the implementation of the project.
APPENDIX E

Terms and Conditions of the National Marine Fisheries Service’s Incidental Take Statement included as Part of the Revised Biological Opinion Filed March 31, 2010

Reasonable and Prudent Measures

1. Minimize incidental take from the operation of the Project by following all the actions described in the proposed license articles of the Cushman Settlement Agreement that relate to Puget Sound Chinook, Hood Canal summer chum, and Puget Sound steelhead.

2. Minimize incidental take during monitoring of listed species when handling juvenile and/or adult anadromous fish during fish passage and fish propagation facility operations and when surveying.

3. Minimize incidental take from construction activities in or near watercourses.

Terms and Conditions

To be exempt from the prohibitions of Section 9 of the ESA, FERC must ensure that the Licensee fully implements the conservation measures in the License, and include in the License the following terms and conditions that implement the reasonable and prudent measures described above. Partial compliance with these terms and conditions may result in more take than anticipated, and will invalidate this take exemption. All the terms and conditions are not in the existing license; therefore, FERC must amend the license to include them. These terms and conditions are consistent with the basic design of the proposed action (FWS and NMFS, 1998). Though requiring some minor modifications in operations and equipment, the terms and conditions will not substantially interfere with the Project’s capacity to provide electric energy to help meet regional energy demands.

FERC should amend the existing license to:

1. Include and enforce all the proposed license articles included in the Settlement Agreement for the Cushman Project, filed January 21, 2009, in a revised project license.

2. Require the Licensee to monitor fish populations and habitat and passage and juvenile fish stranding index gravel bars, as described in the appropriate license articles. The Licensee must report all incidental take that occurs during monitoring activities to NMFS. The Licensee must report the results of monitoring of fish and water quality annually to NMFS. This may be concurrent with the annual Project reports to FERC. Listed fish must be handled with extreme care and kept in water, with adequate circulation, to the maximum extent possible during sampling and monitoring. When a mix of species are captured or collected, ESA-listed fish must be processed first, to the extent possible, to minimize stress. Listed fish must be transferred using a sanctuary net (which holds water during transfer) whenever practical to prevent the added stress of being dewatered. Require the Licensee to monitor juvenile and adult mortality to ensure that incidental take levels are not exceeded. The Licensee must monitor the effectiveness conditions of the guide and barrier nets that are part of the proposed juvenile fish passage system in Lake Cushman, reporting gaps and holes, their size, and duration until repaired to estimate juvenile salmonid escape and vulnerability to entrainment. The Licensee must comply with fish passage performance standards. The Licensee must develop the monitoring measures in conjunction with NMFS, and receive their approval of the monitoring plan.

Incidental take should be reported to:

National Marine Fisheries Service  
Hydro Division, FERC and Water Diversion  
Attention: Keith Kirkendall, Branch Chief  
1201 NE Lloyd Blvd., Suite 1100  
Portland, OR 97232

3. Require the Licensee to use best management practices in all construction work, including adhering to certain timing restrictions. Spill control equipment must be on site and in quantities sufficient to effectively contain and recover accidental release of chemicals. Project personnel must be familiar with spill control equipment operation and procedures prior to the initiation of work. Instream work shall be conducted according to BMPs, consistent with WDFW’s hydraulic Code (RCW 77-55) by conforming to a Hydraulic Project Approval (WAC 220-110) obtained from WDFW. In the event that the
regulations are significantly modified or repealed during the license term, the
terms in effect in 2010 shall continue in force for the term of the license to
protect fish and their habitat.