UNITED STATES OF AMERICA 151 FERC ¶ 62,199
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of Snohomish County, Washington — Project No. 13994-002

ORDER ISSUING ORIGINAL LICENSE

(Issued June 19, 2015)

INTRODUCTION

1. On August 1, 2013, the Public Utility District No. 1 of Snohomish County, Washington (Snohomish PUD) filed, pursuant to Part I of the Federal Power Act (FPA),[1] an application for an original major license to construct, operate, and maintain the proposed Hancock Creek Hydroelectric Project No. 13994 (Hancock Creek Project or project). The 6-megawatt (MW) project will be located on Hancock Creek[2] near the city of North Bend in King County, Washington. The project will not occupy federal land.

2. As discussed below, this order issues an original license for the Hancock Creek Project.

BACKGROUND

3. On April 10, 2014, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, soliciting motions to intervene and protests, indicating the application was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions.[3] The notice set June 9, 2014, as the deadline for filing motions to intervene, comments, recommendations, terms and conditions, and prescriptions.

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[1] 16 U.S.C. §§ 791(a)-825(r) (2012).

[2] Hancock Creek is a tributary of the North Fork of the Snoqualmie River, which, after joining the main stem of the Snoqualmie River, flows northwesterly and joins with the Skykomish River to form the Snohomish River, a navigable waterway which empties into the Puget Sound. Because the project is located on a stream over which Congress has jurisdiction under the Commerce Clause, affects interstate commerce through its connection to an interstate power grid, and will be constructed after 1935, it is required to be licensed pursuant to section 23(b)(1) of the FPA. *See* 16 U.S.C. § 817(1) (2012).

[3] 79 *Fed. Reg.* 21,748 (Apr. 17, 2014).

4. The Washington Department of Fish and Wildlife (Washington DFW) filed a timely notice of intervention.[4] Black Creek Hydro, Inc. filed a timely motion to intervene.[5] The U.S. Department of the Interior filed a letter stating it had no comments on the application.

5. An Environmental Assessment (EA) was prepared by Commission staff and issued on December 11, 2014, analyzing the impacts of the proposed project and alternatives to it.[6] American Rivers and American Whitewater, Snohomish PUD, the Snoqualmie Indian Tribe, the Tulalip Tribes, and the Environmental Protection Agency (EPA) filed comments on the EA.

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

PROJECT DESCRIPTION AND OPERATION

A. Project Area

7. The Hancock Creek Project will be located on Hancock Creek about 7 miles northeast of the city of North Bend and 30 miles east of Seattle, Washington. Hancock Creek originates in the foothills of the Cascade Mountains and drains an estimated 8.4 square miles. Hancock Creek flows for about 1.6 miles from the outlet of Hancock Lake at an elevation of 2,172 feet mean sea level (msl) to the confluence with the North Fork Snoqualmie River at river mile (RM) 6.2 at an elevation of 1,043 feet mean sea level. Topography in the project area is moderately steep, with slopes averaging between 7 percent and 13 percent. The project will be located within an 89,500-acre privately-owned forest (Snoqualmie Forest) managed for timber production.

B. Proposed Project Facilities and Operation

[4] Under Rule 214(a)(2) of the Commission's Rules of Practice and Procedure, Washington DFW became a party to the proceeding upon the filing of its notice of intervention. 18 C.F.R. § 385.214(a) (2014).

[5] Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214 (c) (2014).

[6] On December 12, 2014, the Commission issued an errata notice correcting the title of the December 11, 2014 "Notice of Draft Environmental Assessment," and other references to the "draft" EA. The errata notice corrections clarified that the environmental assessment is a single environmental assessment.

8. As proposed, the Hancock Creek Project will involve the construction of: a new dam[7] across Hancock Creek; a small reservoir; an intake; a penstock; a powerhouse; a tailrace; a transmission line; and access roads.

9. The 107-foot-long dam will impound a 0.65-acre-foot reservoir with a surface area of 0.18 acres and no active storage. The dam will consist of a 15-foot-long cutoff wall embedded into the south riverbank;[8] a 46-foot-long, 6-foot-high spillway section with a crest elevation of 2,172 feet msl; and a 46-foot-long, 12-foot-high wingwall section (with a 4.5-foot-high orifice that directs flow into a sluiceway) connecting to the north riverbank .

10. Water entering the sluiceway will be divided between the penstock intake, sluiceway, a pool-and-weir fishway,[9] and the minimum instream flow weir. Most of the flow will be directed into the penstock for power generation. However, 5 cfs will pass through the fishway and discharge into an entrance pool at the base of the diversion dam, and between 5 and 20 cfs will be directed from the sluiceway through an adjustable weir into the fishway entrance pool to maintain minimum flows in the bypassed reach and improve attraction flows for the fishway. Once annually during a high flow event (greater than 100 cfs), sediment and debris accumulated in the sluiceway will be flushed into the bypassed reach.

11. Flows for generation that enter the penstock will pass through a fish screen to exclude fish from the penstock intake, then travel through the 1.5-mile-long, 39- to 44-inch diameter penstock to the 48-foot wide, 60-foot long, 40-foot tall concrete powerhouse, containing one 6-MW Pelton turbine/generator. Flows exiting the powerhouse will be returned to Hancock Creek through an approximately 100-foot-long riprap-lined tailrace channel. A two-foot-high concrete drop structure will be installed in the tailrace as a fish exclusion barrier.

12. The project's transmission facilities will include a switchyard containing a step-up transformer located adjacent to the powerhouse, and a 0.3-mile-long, 34.5-kilovolt buried transmission line. Snohomish PUD proposes to include two access roads totaling 420 feet in length, and appurtenant facilities.

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[7] In its filings, Snohomish PUD refers to the dam as a "diversion structure." We use the terms "dam" and "diversion structure" interchangeably throughout this order.

[8] The cutoff wall also extends into the channel bottom under the spillway portion of the dam.

[9] The pool-and-weir fishway is a series of small pools separated by weirs to create a stepped channel that fish may use for upstream and downstream passage over the dam.

13. The project will be operated in a run-of-river mode and bypass about 1.5 miles of Hancock Creek. The project will have a maximum hydraulic capacity of 81 cubic feet per second (cfs), and a minimum capacity of 5 cfs. Depending on seasonal minimum instream flow requirements, all flows exceeding 86 to 101 cfs will pass over the spillway, and flows less than 5 cfs will be released into the bypassed reach through the proposed fishway.

14. The project is not expected to operate two and a half to three months during the summer when flows in the creek are below the minimum plant capacity plus minimum instream flows. The project will generate an average of 22,100 megawatt-hours (MWh) annually. A more detailed project description is contained in Ordering Paragraph B.

C. Project Boundary

15. The proposed project boundary encloses the diversion structure, buried penstock, powerhouse, tailrace channel, buried transmission line, and two access roads. The width of the proposed project boundary along the penstock will vary between 25 and 600 feet with the greater width near the diversion dam due to the steep topography, and 10 feet along the buried transmission line.

D. Proposed Environmental Measures

1. Construction-Related Measures

16. To minimize erosion and sedimentation in Hancock Creek, Snohomish PUD proposes to implement a Storm Water Pollution Prevention Plan and an Erosion and Sediment Control Plan (Erosion Control Plan), as filed on February 25, 2014.[10] The plans include the use of site-specific best management practices to control erosion and protect water quality, provide a Certified Erosion and Sediment Control Lead onsite during construction to monitor erosion control measures, and limit in-water work to the July 1 to September 30 timeframe.

17. To provide for public and worker safety and protect the federally listed northern spotted owl during blasting activities, Snohomish PUD proposes to: develop a blasting

[10] Snohomish PUD's February 25, 2014 filing was submitted in response to the Commission's November 27, 2013 deficiency letter notifying Snohomish PUD that its August 1, 2013 license application did not fully conform to the Commission's regulations. *See* Snohomish PUD's February 25, 2014 Final License Application – Deficiency, Additional Information Request, and Supplement, Project No. 13994.

plan for Commission approval, notify the Commission's Portland Regional Office at least 24 hours prior to blasting, and use blast mats and stemming during blasting activities.[11]

18. To protect any cultural resources discovered when constructing the project, Snohomish PUD proposes to implement its Unanticipated Discovery Plan filed with the license application.

2. Project Design and Operation-Related Measures

19. Snohomish PUD proposes to: (1) operate the project in run-of-river mode to protect aquatic resources in the impoundment and downstream in Hancock Creek; (2) release a minimum flow as measured at the diversion structure into the bypassed reach of 20 cfs from June 16 through October 15, and 5 cfs from October 16 through June 15 when the project is operating to protect aquatic resources in the bypassed reach; (3) implement ramping rates of 1 to 2 inches per hour to protect fish and other aquatic resources downstream of the tailrace outlet from stranding during powerhouse start-up and shutdown; (4) install mechanical deflectors on the turbine to direct flows around the turbine during a powerhouse shutdown to provide continuous flows downstream of the powerhouse to avoid fish stranding;[12](5) operate the sluice gate to pass accumulated sediment downstream during high-flow periods to maintain aquatic habitat in the bypassed reach;[13] (6) design, install, and operate a self-cleaning fish screen system using current National Marine Fisheries Service design criteria for salmonids to prevent fish entrainment; (7) construct a pool-and-weir fishway to provide upstream fish passage at the diversion structure; (8) install a tailrace barrier at the confluence of the powerhouse

[11] Blast mats are large sections of material, usually of rubber or metal, placed over blast areas to reduce dispersal of flyrock and other material. Stemming includes packing blast holes with material such as sand, gravel, or clay to absorb sound and prevent flyrock.

[12] Snohomish PUD proposes to operate its flow continuation system according to the following schedule: when inflows exceed the average annual 10 percent exceedance flow, no flow continuation would be required; when inflows are less than 40 cfs, which is the critical flow above which the risk of stranding is negligible, flow continuation would be provided for a minimum of 24 hours; and at all other times, a minimum of six hours of flow continuation would be provided.

[13] Snohomish PUD proposes to restrict sediment sluicing to once-per-year outside of the June 16 through October 15 trout spawning and emergence period and when flows at the diversion exceed 100 cfs. Snohomish PUD proposes to operate the sluice gate for a minimum duration of six consecutive hours per sediment sluicing event to ensure efficient passage of sediment downstream.

tailrace channel and Hancock Creek to prevent fish from entering the tailrace channel; (9) install and maintain a penstock failure detection and rapid shutdown system to close the intake headgate upon detection of a significant drop in penstock pressure to prevent significant soil erosion and sedimentation within the bypassed reach; (10) use exterior colors for the powerhouse and fencing materials that minimize contrast with the surrounding environment; (11) bury the penstock and the transmission line, and use native vegetation and natural topography to reduce the visibility of the project; (12) design the powerhouse to reduce noise from the generating equipment; and (13) install lighting at the powerhouse that will be discretely located to light the facility only and timed to operate only when required.

20. To verify compliance with the flow and water quality requirements in any license issued, Snohomish PUD proposes to implement a Water Quality Monitoring Plan filed with the license application that includes: (1) monitoring water temperature and turbidity for five years following initial project operation; and (2) installing and maintaining streamflow monitoring equipment at the diversion structure and downstream of the powerhouse tailrace.

21. To protect fisheries and aquatic habitat in Hancock Creek, Snohomish PUD proposes to: (1) implement a habitat monitoring plan filed with the license application that includes monitoring fish spawning redds for five years following initial project operation to document the effects of the project on the use and availability of spawning habitat upstream of the diversion; (2) implement a Trout Monitoring Plan filed with the license application that includes conducting snorkel surveys in the bypassed reach during August and September for five years to document trout abundance, size, and age-class structure, and evaluate potential trout population trends tied to project operation; and (3) implement an Instream Flow Adaptive Management Plan filed on April 25, 2014 that includes potentially increasing minimum flows at the diversion structure by an additional 1 to 3 cfs based upon the results of trout population monitoring in the bypassed reach.

22. To protect vegetation and wildlife, Snohomish PUD proposes to implement a Terrestrial Resource Management Plan (Terrestrial Plan) filed with the license application that includes revegetating areas disturbed by project construction, creating preservation areas for the long term protection of upland and wetland habitat in the project area, managing the spread of noxious weeds, and providing cover for small mammals and birds crossing or foraging in the penstock right-of-way.

23. Snohomish PUD proposes to not restrict access to project lands for those with access permits to the forest, except at the intake and powerhouse.[14]

[14] The EA stated that public access to project lands "would continue." In its January 9, 2015 comment letter, Snohomish PUD clarified that its lands in the project *(continued ...)*

SUMMARY OF LICENSE REQUIREMENTS

24. As discussed in more detail below, this license, which authorizes the installation of 6 MW of new, renewable energy generation capacity, generally requires Snohomish PUD's proposed measures described above. This license also requires additional staff-recommended measures to facilitate Commission oversight of the license.

25. To monitor compliance with minimum instream flow, ramping rate, flow continuation, sediment sluicing, and run-of-river operation requirements, this license requires Snohomish PUD to develop an operation compliance monitoring plan.

26. The license requires Snohomish PUD to modify the Terrestrial Plan to: define revegetation failure to include only those plants that do not survive the first, full growing season following installation; limit revegetation monitoring and reporting to only the first five years after the completion of all initial revegetation measures; and file the revegetation and weed control monitoring reports with the Commission.

27. To minimize the visual effects of project construction, operation, and maintenance, the license requires Snohomish PUD to maintain vegetative screening at the powerhouse and intake areas over the term of the license, and to provide photographic evidence of existing or newly installed vegetation to be maintained as a visual screen following project construction.

28. The license requires Snohomish PUD to revise its Exhibit G drawings to enclose within the project boundary the proposed habitat preservation areas and additional private roads that would be used to access and maintain the project.

WATER QUALITY CERTIFICATION

29. Under section 401(a)(1) of the Clean Water Act (CWA),[15] 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)

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area are not currently accessible to the public. Surrounding forest lands include the 89,500-acre Snoqualmie Forest, owned by a private corporation. An extensive network of gated logging roads provides access to these lands for forestry activities and limited recreational use. Public access to project lands would be through private forest lands, which are subject to the existing private permit system.

[15] 33 U.S.C. § 1341(a)(1) (2012).

of the CWA provides that the water quality certification shall become a condition of any federal license that authorizes construction or operation of the project.[16]

30. On October 17, 2013, Snohomish PUD applied to the Washington Department of Ecology (Washington DOE) for water quality certification (certification) for the Hancock Creek Project, which Washington DOE received on October 31, 2013. On October 3, 2014, Snohomish PUD withdrew and refiled its application. On January 16, 2015, Washington DOE issued certification for the Hancock Creek Project that includes conditions, which are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph (D). Minor edits were made to the water quality certification in Appendix A of this order for clarification.

31. The certification includes a number of general conditions setting forth the administrative and legal requirements of the certification.

32. The certification also contains specific conditions to protect water quality and ensure compliance with state water quality standards, including provisions requiring: (1) the minimum instream flows proposed by Snohomish PUD; (2) the ramping rate and flow continuation measures proposed by Snohomish PUD; (3) Snohomish PUD's Trout Monitoring Plan and Instream Flow Adaptive Management Plan until the Commission determines that the prescribed flow regime adequately protects the aquatic resources of Hancock Creek; (4) collection of stream discharge and stage data via an existing gage above the diversion, a calibrated weir at the diversion, and a gage below the powerhouse[17] and reporting any deviations from minimum flow and ramping rate requirements within 10 days of the deviation; (5) a tailrace exclusion barrier to prevent upstream migrating fish from entering the tailrace approved by the Washington DFW; (6) a fish screen in the intake chamber upstream of the penstock inlet; (7) upstream fish passage at the diversion using a pool-and-weir design that is consistent with Snohomish PUD's updated fishway design drawings filed on August 15, 2014; (8) passage downstream of all accumulated sediment and woody debris that is located at the project intake and weir; (9) a water quality protection plan and a full-time, construction-phase pollution control inspector; (10) water quality monitoring, reporting, and adaptive management during construction and operation; (11) temporarily suspending minimum flows or ramping rates due to operational constraints or emergency situations, promptly notifying the applicable agencies, and documenting these incidents in annual water

[16] 33 U.S.C. § 1341(d) (2012).

[17] Condition 4 of the certification also requires that the licensee obtain approval from Washington DOE and Washington DFW on the location of the gage to be installed below the powerhouse.

quality monitoring reports; and (12) a spill prevention, containment, and countermeasure plan (Spill Prevention Plan).

33. Additionally, as discussed in the EA,[18] staff did not recommend that Snohomish PUD install a self-cleaning fish screen on the penstock intake, install a fishway to provide volitional upstream fish passage at the diversion, implement the Trout Monitoring Plan, or implement the Instream Flow Adaptive Management Plan, because the benefits these measures would provide to the resident trout population of Hancock Creek do not justify their collective levelized annual costs ranging from $67,430 to $72,910. However, these measures are included in the license because they are required by Washington DOE's certification, and thus are mandatory conditions under section 401 of the CWA.[19]

34. Condition 8 of the certification requires Snohomish PUD to operate a sluice gate to pass sediment and woody debris accumulated at the diversion downstream into the bypassed reach. As discussed in the EA,[20] staff recommended operating the sluice gate, but with the additional provisions proposed by Snohomish PUD to only operate the sluice gate once-per-year, outside of the June 16 through October 15 trout spawning and emergence period, when inflows exceed 100 cfs, and to conduct each sluicing event for a minimum duration of 6 consecutive hours to minimize the effects of sediment sluicing on fish and aquatic habitat. Article 404 requires these additional sediment sluicing provisions.

COASTAL ZONE MANAGEMENT ACT

35. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[21] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 6 months of its receipt of the applicant's certification.

[18] EA at 138-141.

[19] In comments on the EA, the Snoqualmie and Tulalip Tribes recommended staff reconsider its findings and recommend the installation of the fishway and implementation of the Trout Monitoring Plan and the Instream Flow Adaptive Management Plan.

[20] *Id.* at 71-73, 77-78, and 131.

[21] 16 U.S.C. § 1456(c)(3)(A) (2012).

36. On July 25, 2014, Snohomish PUD submitted, and Washington DOE received, a consistency certificate. By letter filed January 20, 2015, Washington DOE issued Snohomish PUD a determination of consistency with the Washington Coastal Management Program that includes no stipulations.

SECTION 18 FISHWAY PRESCRIPTION

37. Section 18 of the FPA[22] 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.

38. No fishway prescriptions, or requests for reservation of authority to prescribe fishways under section 18 of the FPA, have been filed.

THREATENED AND ENDANGERED SPECIES

39. Section 7(a)(2) of the Endangered Species Act of 1973[23] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

40. Nine federally listed species may occur in the project vicinity: gray wolf, bull trout, Canada lynx, golden paintbrush, grizzly bear, marbled murrelet, northern spotted owl, Oregon spotted frog, and yellow-billed cuckoo. Additionally, critical habitat for bull trout, marbled murrelet, and northern spotted owl is designated in portions of King County. Staff determined in the EA[24] that licensing the project will have no effect on bull trout or its designated critical habitat, Canada lynx, golden paintbrush, gray wolf, grizzly bear, marbled murrelet or its designated critical habitat, northern spotted owl designated critical habitat, Oregon spotted frog, or the yellow-billed cuckoo because of their lack of occurrence and suitable habitat at the project. Therefore, no further action is required for any of these species or critical habitats. Staff also concluded that the project may affect, but is not likely to adversely affect, the northern spotted owl if blasting is conducted outside of the northern spotted owl nesting period (March 1 – July 15) and requested FWS' concurrence.

[22] 16 U.S.C. § 811 (2012).

[23] 16 U.S.C § 1536(a) (2012).

[24] EA at 25-26.

41. In its January 9, 2015 comments on the EA, Snohomish PUD objected to the blasting restrictions because the center of the closest spotted owl pair home range is over two miles from the nearest location where blasting would occur and current FWS threshold distances to protect spotted owls from noise disturbance are 1 mile for a blast from charges of greater than 2 pounds and 120 yards for charges of 2 pounds or less. Snohomish PUD stated the restrictions could result in costly construction delays. In the alternative, Snohomish PUD proposed to restrict blasting between March 1 and July 15 around the intake structure to 2 pounds or less. On January 21, 2015, FWS filed a letter concurring with Commission staff's findings and recommendation for northern spotted owl in the EA.

42. On February 5, 2015, Commission staff held a teleconference with FWS, Snohomish PUD, and Washington DFW to discuss Snohomish PUDs proposed blasting alternative.[25] As a result of the discussion, on February 9, 2015, Snohomish PUD filed a new proposal and supporting analysis to protect northern spotted owls from blasting during construction. The new proposal includes provisions for using blast mats and stemming to minimize the distance that noise would travel during blasting activities. By letter dated February 11, 2015, Commission staff informed FWS that licensing the project under Snohomish PUD's new proposal for using blast mats and stemming in place of the timing restrictions on blasting may affect, but is not likely to adversely affect, northern spotted owls. In the same letter, staff requested concurrence with its findings. The FWS concurred with staff's findings by letter filed on March 12, 2015.

43. Article 302 requires Snohomish PUD to use blast mats and stemming to protect northern spotted owls during blasting activities.

NATIONAL HISTORIC PRESERVATION ACT

44. Under section 106 of the National Historic Preservation Act (NHPA)[26] and its implementing regulations,[27] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing on the National Register of Historic Places (National Register) (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic

[25] A summary of the technical meeting was issued on February 10, 2015.

[26] 54 U.S.C. § 300101 (2012), *et seq*. Pub. L. 113-287, 128 Stat. 3188 (2014). The National Historic Preservation Act was recodified in Title 54 in December 2014.

[27] 36 C.F.R. Part 800 (2014).

Preservation Office (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

45. No cultural resources and no historical resources eligible for listing were found during site investigations. By letter dated November 2, 2011, and filed with the license application, the Washington State Historic Preservation Officer concurred with Snohomish PUD, and staff agreed in the EA, that no historic resources would be affected by the project. If cultural resources are inadvertently discovered during construction or operation of the project, Article 410 requires Snohomish PUD to cease soil-disturbing activities and implement its Unanticipated Discovery Plan.

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

46. Section 10(j)(1) of the FPA[28] requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act[29] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

47. No section 10(j) recommendations were filed for the Hancock Creek Project.

SECTION 10(a)(1) OF THE FPA

48. Section 10(a)(1) of the FPA[30] requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Spawning Habitat Monitoring Plan

49. Snohomish PUD proposes a Plan to Monitor Spawning Habitat Near the Project Impoundment that includes annual trout spawning surveys for a period of five years in Hancock Creek from the project's impoundment upstream to the outlet to Hancock Lake.

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[28] 16 U.S.C. § 803(j)(1) (2012).

[29] 16 U.S.C. §§ 661 *et seq.* (2012).

[30] 16 U.S.C. § 803(a)(1)(2012).

In the EA,[31] staff did not recommend this plan because the area where Snohomish PUD would conduct monitoring is upstream of the project's impoundment and would not be affected by the project. Therefore, the plan is not required by this license.

B. Run-of-River Operation

50. Snohomish PUD proposes to operate the Hancock Creek Project in a run-of-river mode and to return all flows to Hancock Creek to protect aquatic resources downstream of the powerhouse. Staff recommended this mode of operation in the EA,[32] which Article 402 requires.

C. In-Water Construction

51. To protect aquatic resources during construction, Snohomish PUD proposes to conduct all in-water work during the Washington DFW designated in-water work window for Hancock Creek which is July 1 to September 30. Staff recommended the in-water work restrictions in the EA,[33] and Article 403 requires this measure.

D. Operation Compliance Monitoring Plan

52. Condition 4 of Washington DOE's certification requires Snohomish PUD to install a calibrated weir at the project diversion dam to ensure flows and ramping rates are maintained. Condition 4 further requires Snohomish PUD to install a gage in the tailrace to monitor tailrace stage every 15 minutes. However, the certification does not require reporting on compliance with minimum flows, ramping rates, flow continuation, or run-of-river operation.

53. Therefore, Article 405 requires that Snohomish PUD prepare and implement an operation compliance monitoring plan to document compliance with the minimum flow, ramping rate, and flow continuation requirements of this license and file an annual monitoring report until such time that the Commission approves a request to cease such reporting.

E. Deviations from Operational Requirements

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[31] EA at 140.

[32] *Id.* at 131.

[33] *Id.* at 132.

54. In the EA,[34] staff recommended that Snohomish PUD report any deviations from its proposed minimum flow, ramping rate, flow continuation, and run-of-river operating measures within 10 days of any deviation and file a report with the Commission that describes: (a) the cause, severity, and duration of the incident; (b) any observed or reported adverse environmental impacts resulting from the incident; (c) a description of any corrective measures implemented at the time of the incident and the measures implemented or proposed to ensure that similar incidents do not recur; and (d) comments or correspondence, if any, received from interested entities regarding the incident.

55. Specific Conditions 1 and 4 of Washington DOE's certification require the licensee to notify Washington DFW, Washington DOE, and the Commission within 10 business days of any deviations from minimum flow, ramping rate, and flow continuation requirements during project operation. However, these conditions do not require the licensee to provide a report on such incidents, which will allow staff to determine whether further actions are needed to prevent similar incidents in the future. Therefore, Article 406 requires Snohomish PUD to file a report with the Commission within 30 days of the incident containing the information recommended by Commission staff.

F. Terrestrial Resource Management Plan

56. Snohomish PUD's proposed Terrestrial Plan includes measures to revegetate and monitor areas disturbed by construction, manage invasive plants, protect wetland and buffer habitat, and prepare reports to document compliance with the plan requirements. Commission staff recommended the plan in the EA,[35] but with a modification to the revegetation measures to use only native, certified weed-free seed mixes instead of the proposed two seed mixtures to improve wildlife forage.[36] In its comments on the EA, Snohomish PUD stated that it proposed the two seed mixes because the mixes: (1) were developed by the U.S. Forest Service for the region in which the project will be located and are proven to grow in the area; (2) contain non-invasive species; (3) are designed and proven to produce adequate ground cover quickly for erosion control; (4) provide high quality forage for wildlife; and (5) will permit native vegetation to establish over the long term.

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[34] *Id.* at 135.

[35] *Id.* at 135-136.

[36] The Terrestrial Plan proposes two different seed mixes for revegetation. Both seed mixes would consist of non-native but locally-adapted and non-invasive plant species.

57. Based on this new information, Snohomish PUD's seed mix selection appears reasonable and should provide similar forage benefits for wildlife as a native seed mix. Therefore, the recommended Terrestrial Plan modification to use only native, certified weed-free seed mixes instead of the proposed two seed mixtures to improve wildlife forage is no longer necessary.

58. In the EA,[37] Commission staff also recommended that the Terrestrial Plan be modified to: define the criteria for determining revegetative failure; discontinue the proposed revegetation monitoring and reporting after five years because all vegetation should be well established within that time frame; and file all proposed monitoring reports with the Commission so the Commission can monitor compliance. Article 407 approves the plan with these staff-recommended modifications.

G. Temporary Staging and Stockpiling at Raptor Camp

59. Snohomish PUD proposes to use several temporary staging and stockpiling areas located outside the project boundary, one of which encroaches on Hancock Forestry Management Group's Raptor Camp near the powerhouse site. Snohomish PUD proposes measures to mitigate impacts to the camp during project construction, which staff recommended in the EA.[38] Although use of the staging and stockpiling area could affect the quality of the recreation experience for users of the private campground, use of the camp is generally light, effects on it will be temporary, and Snohomish PUD states that access to the campsites will be maintained during project construction. Construction activities will be limited and similar to existing neighboring usage (e.g., truck traffic, equipment operation, and related forestry practices). Therefore, the effects of using the staging and stockpiling area at Raptor Camp during the entire project construction period would be minor, and no measures are being required in this license related to these effects.

H. Aesthetic Resources

60. In the EA,[39] staff recommended Snohomish PUD's proposals to use exterior colors for the powerhouse and fencing materials that minimize contrast with the surrounding environment, and to install lighting at the powerhouse timed to operate only

[37] EA at 136.

[38] *Id.*

[39] *Id.* at 120-121.

when required, directed downward and discretely located. Article 409 requires Snohomish PUD to implement these measures.[40]

EXEMPTION OF THE FERC FORM 80 RECREATION REPORT

61. The FERC Form 80 Recreation Report (Form 80) collects recreation usage data on recreation facilities at projects through the term of their licenses. Because the Hancock Creek project has little or no potential for recreation facilities, the licensee is exempt from filing the Form 80 during the term of its license (Article 408). Although the project does not offer any specific facilities for recreation, Snohomish PUD would allow any permit holder access to project lands, except at the powerhouse and intake.

OTHER ISSUES

A. Clean Water Act Section 404

62. In its comments on the EA filed on January 21, 2015, the EPA requested that the EA be revised to include a discussion of the project's compliance with section 404 of the CWA (Section 404),[41] as it relates to wetland, stream, and other aquatic resource impacts and compensatory mitigation.

63. The issuance of a permit under Section 404 is within the purview of the U.S. Army Corps of Engineers, not the Commission. Further, issuance of a permit under section 404 is not a prerequisite to receiving a Commission license. For these reasons, there is no need to revise the EA to include a discussion on section 404 compliance.

B. Project Boundary Modifications

64. Snohomish PUD proposed in its Terrestrial Plan to mitigate for temporary and permanent project effects on wetlands and buffer habitat by creating 4.08 acres of preservation areas at the Hancock Creek Project. A total of about 2.5 acres of upland buffer habitat and 1.58 acres of wetland habitat would be left undisturbed in its natural state and protected from future logging or development.[42] The proposed 4.08 acres of

[40] Snohomish PUD has proposed to design the powerhouse to reduce noise from the generating equipment. In the EA, staff recommended monitoring to ensure the effectiveness of the project design features. *Id.* at 138. Because it is expected that Snohomish PUD will comply with local ordinances that are not preempted by the Commission's jurisdiction, there is no need to include a specific noise requirement in the license. *See PacifiCorp,* 133 FERC ¶ 61,232, at P 140 (2010).

[41] 33 U.S.C. § 1344 (2014); *see also* 40 C.F.R. § 230 (2014).

[42] EA at 100.

preservation areas are located on three parcels of land 1,575 feet northwest (2.64 acres), 350 feet southeast (0.34 acres), and 570 feet southeast (1.10 acres) of the dam.

65. In the EA,[43] Commission staff recommended that the proposed preservation areas be incorporated into the project boundary. However, in its comments on the EA, Snohomish PUD stated that it would not be necessary to incorporate the preservation areas into the project boundary, as Snohomish PUD and King County had been granted a permanent protective covenant by the landowner to manage the preservation area lands under the King County critical area requirements. Snohomish PUD further stated that, because no management activities would occur over the course of a license and that granting protected status was a one-time action, the preservation areas would not need to be included in the project boundary.

66. The preservation areas would serve the project purpose of mitigating the permanent and temporary loss of 1.13 acres and 37.40 acres, respectively, of wetland and stream, and upland habitat due to project construction,[44] and need to be incorporated into the project boundary for the Commission to ensure their habitat benefits are maintained over the term of the license.[45] In addition, the protective covenant relied on by Snohomish PUD gives the county discretion to revoke the covenant at any time if it determines there has been a change in circumstances warranting termination.[46]

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[43] *Id.* at 135.

[44] *Id.* at 95-96.

[45] *See Boyce Hydro Power, LLC*, 150 FERC ¶ 61,098 (2015). ("As a general rule, all facilities, lands, and waters needed to carry out project purposes should be within the project boundary. The Commission requires a project boundary to include all project recreation. The licensee is free to make arrangements with other entities, including counties and municipalities, to construct, manage, and maintain approved recreational facilities, and the Commission encourages such arrangements in its regulations. However, the licensee remains ultimately responsible for those facilities so that the Commission, through its licensee, retains the ability to obtain compliance with these requirements. If the other entity fails to operate the recreation facility as required by the license, the licensee must ensure that the license condition is satisfied."). *See also FPL Energy Maine Hydro, LLC*, 118 FERC ¶ 61,043 (2007) (rejecting argument that the licensee need not include in its project boundary facilities used to inject oxygen into reservoir because the Maine Department of Environmental Protection independently requires it).

[46] Snohomish County PUD, January 9, 2015 filing, attachment 1. Agreement paragraph 6 states that the Covenant "shall remain in effect in perpetuity, unless the County determines that there has been a change in circumstances warranting termination *(continued ...)*

67. Furthermore, Snohomish PUD proposes to access project facilities through a number of private logging roads. In accordance with Articles 5 and 205 of this license, the licensee, within five years from the date of issuance of the license, will need to acquire title in fee or the right to use in perpetuity all lands necessary or appropriate for the construction, maintenance and operation of the project. This includes rights to any privately-owned or maintained roads that are needed to access project facilities. These roads must provide access to the powerhouse, dam and other project facilities from the nearest publically owned and maintained road, and the Exhibit G map must be revised to reflect the inclusion of these private roads in the project boundary.

68. The proposed Exhibit G also appears to mislabel a private logging road as North Fork County Road.[47] Therefore, Article 203 requires the filing of revised Exhibit G drawings that correctly labels all of the roads it depicts, and that incorporates the proposed preservation areas and necessary private access roads into the project boundary.

C. Cumulative Effects

69. American Rivers and American Whitewater and the Snoqualmie Tribe argue that the geographic scope for cumulative effects in the EA for water quality and fishery resources should be expanded to include the broader Snohomish basin because the project's contribution to elevated water temperatures, in combination with the effects of other proposed hydroelectric projects in the basin, may exacerbate the temperature-impaired Snoqualmie River. Additionally, American Rivers and American Whitewater state that adequate minimum flows are especially critical in light of a changing climate that has reduced snowpack and some stream flows to historic lows, and that this is even more critical here where Hancock Creek provides a much-need source of cold water flow for the temperature-impaired Snoqualmie River basin.

70. As discussed in the EA,[48] staff determined that project effects on water quality and fishery resources would be limited to Hancock Creek to its confluence with the North Fork Snoqualmie River. Information in the project record suggests that the narrower and steeper gradient and increased shading in the bypassed reach results in cooler water temperatures in the bypassed reach compared to areas upstream of the diversion.[49] This,

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of this Covenant."

[47] The Exhibit G designations of roads differ from the roads shown on the Hancock Timber Resources Group's Snoqualmie Forest Recreation Access Map dated February 20, 2015.

[48] EA at 40-41 and 85-88.

[49] As stated in the EA, prior monitoring efforts indicated that as summer

(continued ...)

coupled with the fact that the project will likely not operate during low-flow summer conditions when temperatures are likely to be the highest, will prevent raising temperatures in Hancock Creek below the tailrace. Further, consistent with Washington DOE's water quality certification, this license requires Snohomish PUD to monitor temperatures and take actions to correct temperature exceedances.[50]

71. Additionally, Snoqualmie Falls, located about 10 miles downstream of the confluence of Hancock Creek with the North Fork Snoqualmie River, blocks all upstream migration of anadromous and other migratory fish that may migrate from other areas within the larger Snohomish River basin; therefore, the project would not affect any fish species that originate or migrate from other areas within the larger Snohomish River basin.

72. There are very few changes, operationally, that could occur with the Hancock Creek project if the hydrograph changes over time due to climate changes because the project will be operated run-of-river and has no active storage. Nonetheless, this license includes the Commission's standard reopener provision in Article 15, which can be used as the vehicle for making changes to the license if unforeseen and unanticipated adverse environmental effects occur in the future.

73. For these reasons, staff correctly limited the geographic scope for the cumulative effects analysis to the North Fork Snoqualmie River and its tributaries and concluded that the project would not result in long-term adverse effects on water quality or fish resources in the North Fork Snoqualmie River subbasin.[51]

ADMINISTRATIVE PROVISIONS

A. Annual Charges

74. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA.

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progresses, temperatures in the bypassed reach can be as much as 6.7 degrees Celsius cooler than those measured at the gaging station near the lake outlet. This is due to the gage being located in a slow-moving section of Hancock creek exposed to solar radiation versus downstream where the creek flows over a much steeper and narrower channel that has shading.

[50] *See* Specific Condition 10(b) in Appendix A.

[51] EA at 85-88.

B. Exhibit F and G Drawings

75. The Commission requires licensees to file sets of approved project drawings in electronic file format. Exhibit F drawings filed with the application are being approved, and Article 202 requires the filing of these drawings. The Exhibit G drawing filed with the license application is not approved because it must be revised to include in the project boundary Snohomish PUD's proposed 4.08 acres of preservation areas and all necessary private roads for access to project facilities. Article 203 requires the filing of a revised Exhibit G.

C. Headwater Benefits

76. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

D. Project Land Rights Progress Report

77. The project will occupy 22.74 acres of private land. Exhibit G-1 filed as part of the application for license identifies land that the applicant owns or intends to purchase. Standard Article 5, set forth in Form L-11, requires the licensee to acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project, within five years. In order to monitor compliance with Article 5, Article 205 requires the licensee to file no later than four years after license issuance, a report detailing its progress in acquiring title in fee or the necessary rights to all lands within the project boundary. The report must include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining rights prior to the five-year deadline.

E. Project Financing

78. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 206 requires the licensee to file for Commission approval documentation of project financing for the construction, operation, and maintenance of the project at least 90 days before starting any construction associated with the project.

F. Use and Occupancy of Project Lands and Waters

79. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 411 allows the licensee to grant permission, without prior Commission approval, for the use and

occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

G. Start of Construction

80. Article 301 requires the licensee to commence construction of the project works within two years from the issuance date of the license and complete construction of the project within five years from the issuance date of the license.

H. Review of Final Plans and Specifications

81. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer with final contract drawings and specifications, together with a supporting design report consistent with the Commission's engineering guidelines, and the following plans: a Quality Control and Inspection Program; a Temporary Construction Emergency Action Plan; a Soil Erosion and Sediment Control Plan; and a Blasting Plan that includes provisions for notifying the Commission's D2SI-Portland Regional Engineer 24 hours prior to blasting, and using blast mats and stemming during blasting activities.

82. Article 303 requires the licensee to provide the Commission's D2SI-Portland Regional Engineer with cofferdam construction drawings for approval.

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

84. To enhance the safety of the public at or near the project site, Article 305 requires the licensee to provide to the Commission a Public Safety Plan.

85. Article 306 requires that any permanent or temporary modification which may affect the project works or operations shall be coordinated with the Commission's D2SI-Portland Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements.

I. Commission Approval of Resource Plans, Notification, and Filing of Amendments

86. In Appendix A, the Water Quality Certification, there are certain certification conditions that do not require the licensee to file plans with the Commission, do not require the licensee to file some reports with the Commission that are needed to demonstrate compliance with license requirements, or require temporary or permanent modifications to project operations or facilities as licensed. Therefore, Article 401 requires the licensee to file the plans with the Commission for approval, file reports with

the Commission, notify the Commission of planned and unplanned deviations from license requirements, and file amendment applications, as appropriate.

STATE AND FEDERAL COMPREHENSIVE PLANS

87. Section 10(a)(2)(A) of the FPA[52] requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[53] Under section 10(a)(2)(A), federal and state agencies filed 77 comprehensive plans that address various resources in Washington. Of these, staff identified and reviewed 23 comprehensive plans that are relevant to this project.[54] No conflicts were found.

CONSERVATION EFFORTS

88. Section 10(a)(2)(C) of the FPA[55] requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like Snohomish PUD. Each year, Snohomish PUD completes a 5-year forecast of future load growth and the need for new resources, including customer efficiency programs, to meet its customer demand. Demand-side management actions and goals discussed by Snohomish PUD indicate it promotes demand-side load management practices for both residential and commercial/industrial customers and has undertaken several programs to improve efficiency and promote energy conservation at its own facilities. These programs show that Snohomish PUD is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

89. Staff has reviewed Snohomish PUD's preliminary plans to build the project as described in the license application. The project will be safe when constructed, operated, and maintained in accordance with the Commission's standards and provisions of this license.

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[52] 16 U.S.C. § 803(a)(2)(A) (2012).

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

[54] The list of applicable plans can be found in section 5.4 of the EA for the project.

[55] 16 U.S.C. § 803(a)(2)(C) (2012).

NEED FOR POWER

90. As a result of increasing demand for electricity in the Western Electricity Coordinating Council (WECC) region of the North American Electric Reliability Corporation (NERC), in which the project is located, staff determined in the EA[56] that the Hancock Creek project would provide hydroelectric generation to meet part of Snohomish PUD's power requirements, resource diversity, and capacity needs.

91. To assess the need for power, staff looked at the needs in the operating region in which the project is located. Snohomish PUD serves more than 323,000 retail customer accounts within Snohomish County, including residential, commercial, and industrial customers. Snohomish PUD owns hydroelectric generating plants with a total nameplate capacity of 119.95 MW. Snohomish PUD's load requirements amount to more than 6.8 million MWh annually. In 2012, Snohomish PUD purchased 86 percent of its long-term power supply from the Bonneville Power Administration, with 5.5 percent provided from long-term power supply contracts, 6 percent from hydroelectric projects it owns, and 2.5 percent from wholesale market purchases.

92. Snohomish PUD's 2013 Integrated Resource Plan predicts that its loads will grow by 35.6 percent from 2012 to 2028 with a compound annual growth rate of 2.2 percent per year during that period. It plans to meet this increased demand by using a diverse mix of conservation, renewable power supplies, purchased power contracts, wholesale market purchases, and Snohomish PUD-owned resources.

93. According to NERC's 2013 forecast, winter peak demands and annual energy requirements for the Northwest subregion of the WECC are projected to grow at rates of 0.76 percent and 0.91 percent per year, respectively, from 2014 through 2023. Over the next 10 years, WECC estimates that about 39,223 MW of additional capacity will be brought on line.

94. Power from the Hancock Creek Project will meet Snohomish PUD's customers' growing needs as well as the regional need for power.

95. In their January 9, 2015 joint comment letter on the EA, American Rivers and American Whitewater argue that the project's power is not needed because a substantial portion of the project's power generation will be during the mid- to late spring, when demand is low because of the seasonal peaking of other regional power sources.

96. According to information provided by Snohomish PUD in their license application, while a significant portion of the project's estimated annual generation

[56] EA at 23.

(39.5%) will be during the mid- to late spring (March to May), an approximately equal proportion of the estimated annual generation (35.8%) will be during the winter (December to February),[57] which is the peak demand period for the WECC. Therefore, the project will provide hydroelectric generation to meet part of Snohomish PUD's power requirements, resource diversity, and capacity needs during seasonal periods of peak and off-peak demand. Thus, there is a need for the project's power.

PROJECT ECONOMICS

97. In determining whether to issue a license for a 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.*,[58] the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

98. In applying this analysis to the Hancock Creek Project, two options were considered: Snohomish PUD's proposal and the project as licensed herein. As proposed by Snohomish PUD, the levelized annual cost of operating the project is $3,289,356, or $148.84/MWh. The proposed project would generate an estimated average of 22,100 MWh of energy annually. When staff multiplies its estimate of average generation by the alternative power cost of $29.23/MWh,[59] staff calculates a total value of the project's power of $645,983 in 2014 dollars.[60] To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the

[57] The estimated monthly percentages were derived from Table B.4-3 (Average monthly generation based on average-year hydrology) of Snohomish PUD's August 1, 2013 application.

[58] 72 FERC ¶ 61,027 (1995).

[59] The alternative power cost is based on an assumed natural gas combined-cycle combustion turbine plant, using natural gas energy price data from the Energy Information Administration.

[60] Cost values provided in the license application in 2012 were escalated to 2014 dollars using the Consumer Price Index.

project's power.[61] Therefore, in the first year of operation, the project would cost $2,643,373 or $119.61/MWh, more than the likely alternative cost of power.

99. As licensed herein with the staff measures and mandatory conditions,[62] the levelized annual cost of operating the project would be about $3,291,024, or $148.92/MWh. Based on the same estimated average generation of 22,100 MWh, the project would produce power valued at $645,983 when multiplied by the $29.23/MWh value of the project's power. Therefore, in the first year of operation, project power would cost $2,645,041 or $119.69/MWh, more than the likely cost of alternative power.

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

101. Although our analysis shows that the project 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 license and any financial risk that entails.

102. Although staff does not explicitly 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.

103. In their comments to the EA, both Snohomish PUD and the EPA questioned the validity of the cost of alternative power used in the Commission's economic analysis. Snohomish PUD stated that the alternative power cost used in the EA appears to be low, and that such a cost "overstates the cost [of the Hancock Creek project] as compared to

[61] Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA at 121.

[62] Staff's economic analysis in the EA issued on December 11, 2014 did not include mandatory conditions from Washington DOE's certification because it was issued on January 16, 2015. Therefore, the economic analysis of the staff alternative in the EA is revised herein to include the mandatory conditions from Washington DOE's certification.

alternative power." The EPA requested that additional information and assumptions used in the calculation of the alternative power cost be provided.

104. As noted above, the Commission compares the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation. The alternative power cost used in the Commission's economic analysis is based on an assumed natural gas combined-cycle combustion turbine plant, using natural gas energy price data from the Energy Information Administration. The estimates of alternative power are revised annually to better reflect current market conditions and market outlook forecasts.

COMPREHENSIVE DEVELOPMENT

105. Sections 4(e) and 10(a)(1) of the FPA[63] require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued must be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

106. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Hancock Creek Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

107. Based on an independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the project as licensed herein is selected, and found to be best adapted to a comprehensive plan for improving or developing Hancock Creek.

108. This alternative was selected because: (1) issuance of an original license will serve to provide a beneficial and dependable source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational and aesthetic resources, and historic properties; and (3) the 6.0 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

[63] 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

LICENSE TERM

109. Section 6 of the FPA[64] provides that original licenses for hydropower projects shall be issued for a period not to exceed 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.[65]

110. This license requires an extensive amount of new construction, including: (1) a diversion structure with a spillway; (2) an intake structure; (3) a buried penstock; (4) a powerhouse; (5) a buried transmission line; and (6) access roads. Consequently, a license term of 50 years for the Hancock Creek Project is appropriate.

The Director orders:

(A) This license is issued to the Public Utility District No. 1 of Snohomish County, Washington (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate and maintain the Hancock Creek Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

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

(2) Project works consisting of: (a) an approximately 107-foot-long diversion structure traversing Hancock Creek consisting of: (i) a 15-foot-long cutoff wall embedded into the left channel bank, (ii) a 46-foot-long, 6-foot-high triangular rockfill spillway, and (iii) a 46-foot-long, 12-foot-high right wingwall; (b) a 0.65-acre-foot impoundment; (c) a 25-foot-wide, 16.5-foot-high, 59-foot-long intake equipped with a sluice gate, a self-cleaning trashrack, a 220-square-foot angled fish screen with 0.125-inch-wide openings, and an adjustable minimum instream flow weir; (d) an approximately 60-foot-long, concrete pool-and-weir fishway; (e) a 1.5-mile-long, 39- to 44-inch-diameter buried penstock; (f) a powerhouse containing a single 6-MW two-jet horizontal-shaft Pelton turbine/generator; (g) a 13-foot-wide, 150-foot-long rip-rap-lined

[64] 16 U.S.C. § 799 (2012).

[65] *See City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

tailrace channel with a 2-foot vertical drop and concrete apron; (h) two access roads totaling 420 feet in length; (i) a 0.3-mile-long, 34.5-kilovolt buried transmission line connecting to the existing Black Creek Hydroelectric Project (P-6221) switching vault; and (j) appurtenant facilities.

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

Exhibit A: The following sections of Exhibit A filed on August 1, 2013, and amended on February 25, 2014 and August 15, 2014:

(i) August 1, 2013: Exhibit A, pages A-1 through A-4, A-7 through A-12, A-14 through A-15, and A-17 through A-23, entitled "Exhibit A – Description of Project."

(ii) February 25, 2014: Schedule B, pages 1 through 2, the first two paragraphs of section A.2.2, clarifying the penstock size; Schedule C, page 1, section A.2.4, describing the tailrace design; and Schedule B, page 2, section A.3, describing the project impoundment.

(iii) August 15, 2014: Attachment 2, pages 1 through 3, section A.2.1, describing the diversion and intake structure design.

Exhibit F: The following Exhibit F drawings filed on February 25, 2014 (Drawings F-4 through F-6) and August 15, 2014 (Drawings F-2 through F-3):

Exhibit F Drawing	FERC No. 13994-	Description
F-2	1	Diversion and Intake Plan
F-3	2	Diversion and Intake Sections
F-4	3	Penstock Profiles and Sections
F-5	4	Powerhouse Site Plan
F-6	5	Powerhouse Floor Plan and Sections

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

(C) The Exhibits A and F described above are approved and made part of this license. The Exhibit G drawings filed as part of the application for license are not

approved because the project boundary does not enclose an additional 4.08 acres of land necessary for project purposes.

(D) This license is subject to the conditions submitted by the Washington Department of Ecology (Washington DOE) under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1) (2012), as those conditions are set forth in Appendix A to this order.

(E) This license is also subject to the articles set forth in Form L-11 (October, 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting the Interests of Interstate or Foreign Commerce," (*see* 54 F.P.C. 1792 *et seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. *Administrative Annual Charges*. Effective as of the date of commencement of project operation, the licensee must pay the United States an annual charge, as determined in accordance with the provisions of the Commission's regulations in effect from time to time, to reimburse the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 6 megawatts.

Article 202. *Exhibit F Drawings*. Within 45 days of the date of issuance of this license, as directed below, the licensee must file two sets of the approved exhibit drawings in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

Digital images of the approved exhibit drawings must be prepared in electronic format. Prior to preparing each digital image, the FERC Project-Drawing Number (i.e., P-13994-1 through P-13994-6) must be shown in the margin below the title block of the approved drawing. Exhibit F drawings must be segregated from other project exhibits, and identified as Critical Energy Infrastructure Information (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-13994-1, F-1, Description, MM-DD-YYYY.TIF]. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format (TIFF), CCITT Group 4
(also known as T.6 coding scheme)
RESOLUTION – 300 dpi desired, (200 dpi minimum)
DRAWING SIZE FORMAT – 22" x 34" (minimum), 24" x 36" (maximum)
FILE SIZE – less than 1 megabyte desired

Article 203. *Exhibit G Drawings*. Within 90 days of the effective date of the license, the licensee must 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: (1) the additional 4.08 acres of preservation areas located on three parcels of land 1,575 feet northwest (2.64 acres), 350 feet southeast (0.34 acres), and 570 feet southeast (1.10 acres) of the diversion and intake structure, and (2) all private roads necessary to provide unrestricted access from publically owned and maintained roads to the project facilities. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 204. *Headwater Benefits*. If the licensee's project is directly benefited by the construction work of another licensee, a permittee, or of the United States on a storage reservoir or other headwater improvement, the licensee must reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed. The benefits will be assessed in accordance with Subpart B of the Commission's regulations.

Article 205. *Project Land Rights Progress Report.* No later than four years after license issuance, the licensee must file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report must also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) the licensee's plan and schedule for acquiring all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 206. *Documentation of Project Financing.* At least 90 days before starting construction, the licensee must file with the Commission, for approval, the licensee's documentation for project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation, and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The

licensee must not commence any land-disturbing activities associated with the project before the filing is approved.

Article 301. *Start of Construction*. The licensee must commence construction of the project works within two years from the issuance date of the license and must complete construction of the project within five years from the issuance date of the license.

Article 302. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensee must submit one copy of its plans and specifications and 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 must be a courtesy copy to the Director, D2SI). These plans must include all project facilities, including the penstock rupture detection and rapid shutdown system.

The submittal to the D2SI-Portland Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program; a Temporary Construction Emergency Action Plan; a Soil Erosion and Sediment Control Plan; and a Blasting Plan that includes provisions to notify the D2SI-Portland Regional Engineer at least 24 hours prior to any blasting, and to use blast mats and stemming to minimize noise and wildlife disturbance during blasting activities. 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 and Deep Excavation Construction Drawings*. Should construction require cofferdams or deep excavations, the licensee must: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must 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 must be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation 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 license, the licensee must file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy must 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 305. *Public Safety Plan*. At least 60 days prior to the start of construction, the licensee must 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 must be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan must include an evaluation of public safety concerns at the project site, including designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan must include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans, the licensee can review the *Guidelines for Public Safety at Hydropower Projects* on the FERC website.

Article 306. *Project Modification Resulting from Environmental Requirements*. If environmental requirements under this license require modification that may affect the project works or operations, the licensee must consult with the Commission's Division of Dam Safety and Inspections (D2SI)–Portland Regional Engineer. Consultation must allow sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 401. *Commission Approval, Notification, and Filing of Amendments.*

(a) Requirement to File Plans for Commission Approval

The Washington DOE's final section 401 water quality certification (certification) conditions (Appendix A) require the licensee to prepare plans for review or approval by Washington DOE and implement specific measures without prior Commission approval. Each such plan must also be submitted to the Commission for approval. These plans are listed below.

Certification condition(s)	Plan Name	Due Date
Specific Condition 9	Water Quality Protection Plan, including a Stormwater Pollution Prevention Plan and an In-Water-Work Protection Plan	At least 60 days prior to the start of any ground disturbing activities.
Specific Condition 12	Spill Prevention, Containment, and Countermeasure Plan	Within one year of license issuance, or at least 60 days prior to the start of any ground disturbing activities, whichever comes first.

The licensee must include with each plan filed with the Commission documentation that the licensee has submitted the plan to Washington DOE and has received approval from Washington DOE, as appropriate. The Commission reserves the right to make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee must implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(b) Requirement to File Reports

Certain certification conditions require the licensee to file reports with other entities. Because these reports relate to compliance with the requirements of this license, each such report must also be submitted to the Commission. These reports are listed in the following table.

Certification condition(s)	Description	Due date
Specific Condition 3	Trout Monitoring Plan pre-operation survey report	By October 31 of each year following license issuance until commencement of project operation
Specific Condition 3	Trout Monitoring Plan post-operation survey report	By October 31 of each of the first four years following commencement of project operation
Specific Condition 10(a)	Monthly water quality monitoring reports submitted to Washington DOE during construction	By the 14th of each month following commencement of construction until construction is completed
Specific Condition 10(a)	Reports of non-compliance submitted to Washington DOE during construction and operation phases	Within five days of detection or observation of a non-compliance event
Specific Condition 10(b)	Annual comprehensive water quality monitoring reports submitted to Washington DOE	March 31 of each year following commencement of

Certification condition(s)	Description	Due date
		project operation
Specific Condition 10(b)	Reports submitted to Washington DOE's Northwest Regional Office documenting non-compliance with state standards for temperature and turbidity	Within six weeks of obtaining monitoring data for that particular non-compliance event
Specific Condition 12(b)	Spill incident reports	Within two weeks of a spill incident

The licensee must submit to the Commission documentation of any consultation, and copies of any comments and recommendations made by any consulted entity in connection with each report. The Commission reserves the right to require changes to project operations or facilities based on the information contained in the report and any other available information.

(c) Requirement to Notify Commission of Planned and Unplanned Deviations from License Requirements

Specific Condition 11(a) of Washington DOE's certification would allow the licensee to temporarily modify instream flows or ramping rates under certain conditions. The Commission must be notified prior to implementing such modifications, if possible, or in the event of an emergency as specified by Specific Condition 11(b), as soon as possible, but no later than 10 days after each such incident.

(d) Requirement to File Amendment Applications

Certain conditions of Washington Ecology's certification in Appendix A contemplate unspecified long-term changes to project operation or facilities for the purposes of complying with state water quality standards or mitigating environmental impacts (e.g., revise the Water Quality Protection Plan, modify project operation based on water quality monitoring results). Such changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Article 402. *Run-of-River Operation*. The licensee must operate the project in a run-of-river mode for the protection of aquatic resources in Hancock Creek. The licensee must at all times act to minimize the fluctuation of the impoundment surface elevation by

maintaining a discharge from the project so that, at any point in time, the sum of project outflows approximate the sum of inflows to the project.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement among the licensee, Washington Department of Fish and Wildlife, Washington Department of Ecology, and U.S. Fish and Wildlife Service. If the flow is so modified, the licensee must notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. *In-Water Construction.* To protect aquatic resources during construction, the licensee must limit in-water construction activities to the period of July 1 to September 30.

Article 404. *Sluice Gate Operation.* To protect aquatic resources during sediment sluicing operations, the licensee must only operate the sediment sluice gate to pass sediment and woody debris under the following conditions: (1) once per year, (2) during the period from October 16 to June 15, (3) when flows at the diversion exceed 100 cubic feet per second, and (4) for a minimum duration of six consecutive hours per sediment sluicing event.

Article 405. *Operation Compliance Monitoring Plan*. Within one year of license issuance, the licensee must file for Commission approval, an operation compliance monitoring plan that describes how the licensee will document compliance with the operational requirements of this license. The plan shall include, but not be limited to, the following provisions:

(1) a detailed description of how the licensee will document compliance with run-of-river operation as required by Article 402; minimum instream flows, ramping rates, and flow continuation required by Specific Conditions 1 and 2 of Washington Department of Ecology's (Washington DOE) water quality certification in Appendix A of this license; and the sluice gate operation required by Article 404;

(2) a provision to file an operation compliance monitoring report by March 31 of the first complete year following initial project operation and continuing annually by March 31 each year thereafter for five years, and in the fifth year to include recommendations for additional monitoring; and

(3) an implementation schedule.

The plan shall be developed after consultation with Washington DOE, Washington Department of Fish and Wildlife, and U.S. Fish and Wildlife Service. The licensee must

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 must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must 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 must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 406. *Deviations from Operating Requirements*. In the event of any deviations from the run-of-river requirements of Article 402; or instream flow, ramping rate, or flow continuation requirements of Specific Conditions 1 and 2 of Washington Department of Ecology's (Washington DOE) water quality certification in Appendix A of this license, the licensee must: (1) take immediate reasonable action to remediate the deviation; and (2) prepare and file an incident report with the Commission within 30 days of the incident that describes: (a) the cause, severity, and duration of the incident; (b) any observed or reported adverse environmental impacts resulting from the incident; (c) a description of any corrective measures implemented at the time of the incident and the measures implemented or proposed to ensure that similar incidents do not recur; and (d) comments or correspondence, if any, received from Washington DOE, Washington Department of Fish and Wildlife, or U.S. Fish and Wildlife Service regarding the incident.

The Commission reserves the right to require changes to project operations or facilities based on the information contained in the reports and any other available information.

Article 407. *Terrestrial Resource Management Plan.* The Terrestrial Resource Management Plan filed on February 25, 2014, is approved and must be implemented with the following modifications:

(1) all monitoring reports to be provided to the entities listed in the plan must also be filed with the Commission by the due dates for each report specified in the plan, except that section 2.1.2 is modified to only require monitoring and reporting on the revegetation measures for the first five full calendar years following the completion of project construction;

(2) section 2.2.2 is modified to delete the criterion for determining revegetation failure that reads: "The District will replace any plants that are failing, weak,

defective in manner of growth, or dead during this growing season;" and replace it with a new criterion that reads: "The District will replace any plants that do not survive to the end of the first, full growing season following installation."

Article 408. *FERC Form 80 Exemption*. There is little or no potential for recreation facilities within the project boundary. Therefore, upon the effective date of the license, the licensee is exempt from 18 C.F.R. § 8.11, the filing of the FERC Form 80 recreation report, for the Hancock Creek Project.

Article 409. *Visual Resources*. To minimize the visual effects of construction, operation, and maintenance of the project, and reduce the visibility of project facilities, the licensee must: (1) use exterior colors for the powerhouse and fencing materials that minimize contrast with the surrounding environment; (2) install lighting at the powerhouse that will be time-phased to operate only when required, directed downward and discretely located to light the facility only, and where possible, will be energy efficient, shielded, recessed into the ground, or attached to the sides of structures; (3) maintain vegetative screening at the powerhouse and intake for the term of the license; and (4) file with the Commission a report, including photographic evidence, demonstrating compliance with the requirements of this article within six months of completing project construction.

Article 410. *Unanticipated Discovery Plan*. If the licensee discovers previously unidentified cultural resources during the course of constructing, maintaining, or developing project works or other facilities at the project, the licensee must stop all land-clearing and land-disturbing activities in the vicinity of the resource and must implement its Unanticipated Discovery Plan filed with the license application to protect such resources.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places (National Register), the licensee must file for Commission approval a historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the Washington SHPO. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and the Federal Energy Regulatory Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects*, dated May 20, 2002.

The HPMP must include the following items: (1) a description of each discovered property, indicating whether it is listed in or eligible for listing in the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of consultation; and (5) a schedule for implementing mitigation and conducting additional

studies.

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

Article 411. *Use and Occupancy.* (a) In accordance with the provisions of this article, the licensee must 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 must 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 must 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 must require multiple use and occupancy of facilities for access to project lands or waters. The licensee must 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 must: (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 kilovolt 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 must file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

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

Unless the Commission's authorized representative, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

(1) Before conveying the interest, the licensee must 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 must 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 must not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee must take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee must not unduly restrict public access to project waters.

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

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

(F) The licensee must 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.

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

Ann F. Miles
Director
Office of Energy Projects

FORM L-11
(October 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MAJOR PROJECT AFFECTING THE INTERESTS OF INTERSTATE OR FOREIGN COMMERCE

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 exhibit theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed 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.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in

the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations 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 a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any features or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work 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 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 of 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 streamgaging stations for the purpose of determining the state 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 locations of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 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 may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 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 benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures 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 consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, 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. Upon approval of the clearing plan 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 statues and regulations.

Article 21. 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 22. 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 23. 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 Certificate Conditions for the Hancock Creek Hydroelectric Project No. 13994 Issued By the Washington Department of Ecology on January 16, 2015.[66]

SPECIFIC CONDITIONS

S1. Instream Flow

Instream flows shall be maintained in any bypass reach and downstream of the project, in a quantity sufficient to meet water quality and quantity goals and standards for the waterway, as provided in WAC 173 201A and RCW 90.48, RCW 90.54, and RCW 90.22. Continuous flows must be met or exceeded throughout the year as provided in Table 4:

Table 4. Release at diversion weir

Day of Year	Minimum lnstream Flow	Measurement Location
June 16 through October 15	20 cfs or inflow whichever is less	Immediately downstream of the Hancock Creek Intake
October 16 through June 15	5 cfs or inflow, whichever is less	Immediately downstream of the Hancock Creek Intake

If project operation results in excursion of any of the above minimum flow requirements, [the Public Utility District No. 1 of Snohomish County, Washington (Snohomish PUD)] shall notify the commission, [Washington Department of Fish and Wildlife (WDFW)], and [Washington Department of] Ecology [(Ecology)] as soon as possible but no later than 10 business days after such an incident (use the non-compliance notification form provided in Appendix G [to the water quality certificate] for reporting).[67]

S2. Down Ramping and Flow Continuation

The down ramping rate will be consistent with Table 5, and will be implemented for Project startup and shutdown operations.

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[66] Minor changes to this Water Quality Certificate were made for clarification purposes.

[67] A copy of the non-compliance notification form included in Appendix G to the Water Quality Certificate is not included in this license for brevity and because it does not detail any licensing conditions.

Table 5. Down ramping rate criteria for the Hancock Creek Hydroelectric Project downstream of the diversion and powerhouse.

Day of Year	Daylight* Rate (inches/hour)	Nighttime Rate (inches/hour)
November 1 through June 15	2	2
June 16 through October 31	2 (when instream flow is greater than or equal to critical flow); 1 (when instream flow is less than critical flow - critical flow set at 40 cfs)	1
* Daylight is defined as 1 hour before sunrise to 1 hour after sunset.		

The powerhouse shall be equipped with deflector shields designed to allow for the continuation of flow out of the powerhouse when any turbine is wholly or partially taken off-line.

Design and install mechanical deflectors in front of the Pelton turbine, to provide flow continuation past the turbine for emergency situations when the turbine or generator function must be terminated. This flow continuation system will be operated according to the following criteria:

(a) When flows exceed the annual 10% exceedance flow, no flow continuation will be required (Based on actual [U.S. Geological Survey (USGS)] data and synthesized records. Economic Engineering Services 2009);

(b) When flows are less than the critical flow (the flow above which there is no risk of stranding) flow continuation will be maintained for a minimum of 24 hours; and

(c) At all other times, a minimum of six hours of flow continuation will be provided.

S3. Adaptive Flow Management

Snohomish PUD shall implement the Instream Flow Adaptive Management Plan (IFAMP) filed with the Commission on April 25, 2014. The IFAMP documents how the Licensee will implement a program to adaptively manage instream flows based upon the results of resident trout monitoring. The IFAMP was developed with input from WDFW and Ecology.

Snohomish PUD will implement 5-year increment flow-increases to be adjusted if monitoring indicates a decrease in the resident trout population index as described in Table 6 below.

Table 6. lnstream flow adaptive schedule for adjustment based on trout monitoring results

Years of Project Operation	1-5 Years	6-10 Years	11-15 Years	16+ Years
Month	Start Flows in cfs*	Flow Adjustment Schedule in cfs		
		1st	2nd	3rd
October 1-15	20	20	20	20
October 16-31	5	6	7	8
November	5	6	7	8
December	5	6	7	8
January	5	6	7	8
February	5	6	7	8
March	5	6	7	8
April	5	6	7	8
May	5	6	7	8
June 1-15	5	6	7	8
June 16-30	20	20	20	20
July	20	20	20	20
August	20	20	20	20
September	20	20	20	20
* Stated flow level or natural flows, whichever are less.				
** Flow increases to be adjusted only if approved monitoring plan determines a decrease in the resident trout population index occurred. The first adjustment could occur as early as Year 3 if there are two sequential catastrophic declines in the population index.				

Results will be examined following the statistical analyses and decision criteria described in the Trout Monitoring Plan (TMP) after each annual post-project snorkel survey is completed. The Licensee will provide WDFW and Ecology the results of the analyses and the Licensee's recommendations by October 31st of each year as part of the annual reporting under the TMP. WDFW will have 30 days to review the material and provide written comments to the Licensee. If needed, a consultation meeting will be held approximately two weeks after the survey results are submitted to review the status of the statistical evaluation. The intent of this approach is to work interactively with resource agency personnel to ensure proposed flow releases do not harm fisheries resources. Should unexpected events occur, with obvious adverse effects on the results of the evaluation, all parties will take such effects into deliberation.

If results of the monitoring plan determine that increases in flows are warranted (according to criteria defined in the evaluation plan), then the Licensee will increase flows in Hancock Creek bypass reach according to the schedule in Table 6 (above) no later than February 28th of the following year.

The time periods for initial Project operation will also be used to determine the appropriate survey schedule following any FERC-mandated increase in the minimum instream flow release. For instance, if a modification to the minimum flow release is implemented prior to February 28th, the next scheduled snorkel survey will describe conditions under the new flow regime. If a flow adjustment is implemented between March 1 and June 15, the snorkel survey conducted in the following year will be used to evaluate trout abundance under the new flow regime.

The Licensee shall conduct surveys of trout abundance in the Project reach annually in accordance with the TMP and the IFAMP (Appendix H)[68] until the FERC determines the prescribed flow regime adequately protects the aquatic resources of Hancock Creek. Pre-Project baseline snorkel surveys of the eight selected pools in the Project reach were conducted during August and September 1992, 2001, 2010, 2011, 2012, 2013, and 2014 to date. The Licensee shall repeat three surveys between August and September each year until the Project is constructed and continue these surveys for at least five years following power generation. Project construction is expected to start during fall 2016 with Project operation expected in the winter 2017.

Table 7. Trout Monitoring Plan, activities and reporting*

Activities	Frequency	Timing
Conduct Pre-Operation Surveys	Annually, until commencement of operation	August 15-September 15, as conditions allow
Provide Pre-Operation Survey Report (Annual Report) to WDFW for Review	Annually, after conduct of pre-operation survey	October 31
Conduct Post-Operation Surveys	Annually for 5 years after commencement of operation	August 15-September 15, as conditions allow
Provide Post-Operation Survey Report (Annual Report) to WDFW for Review	Annually for years 1-4 after commencement of operation	October 31
Provide Final Post-Operation Survey Report to WDFW for Review	5 year after commencement of operation	December 31
File Final Post-Operation	Once	60 days (by March 1st) after

[68] Washington DOE's Water Quality Certificate contains no Appendix H. The TMP and IFAMP were filed on August 1, 2013 and April 25, 2014, respectively, and are publicly available in the administrative record on the Commission's website.

Survey Report with FERC		providing Final Post-Operation Survey Report to WDFW for review

*** If Project Operations Begins:**	**Then Initial Post Operation Survey Occurs:**
August 16-December, 2016	August 2017
January 1-February 28, 2017	August 2017
March 1-August 2017	August 2018

S4. Flow Measurement and Reporting
Install a calibrated weir at the diversion to ensure that required flows are maintained and ramping rates are in compliance. Calibration procedures for flow measurement shall be in accordance with manufacturers' recommendations and be made available to Ecology upon request.

With approval from WDFW and Ecology, Snohomish PUD shall determine the location of a gage to record tailrace stage in Hancock Creek below the powerhouse. Snohomish PUD shall install, operate, and maintain this stage gage. The gage will record the tailrace stage every 15 minutes for the duration of the Project license. Snohomish PUD will provide the stage data to the agencies and Snoqualmie Tribe within 30 days after the date of the agencies' or tribes' request for the data.

Table 8. lnstream flow monitoring and reporting

Activity	**Frequency**	**Timing**
Operate and maintain previously installed USGS gage 12142300	Continuous	Duration of project
Record and report USGS gage data	15-minute intervals	Year around
Flow recording gage at weir, as required for fish screens (S6)	Continuous	Year around
Determine location of stage gage below powerhouse	Once	By end of March 2016
Record stage below powerhouse	15 minute intervals	Duration of project
Provide stage data to agencies	As needed	Within 30 days after request for data
Notify Ecology, WDFW, and FERC of flow deviation including down ramping	Each occurrence	No later than 10 business days after occurrence

and flow continuation		

S5. Tailrace Fish Exclusion
Snohomish PUD must build a tailrace exclusion barrier to prevent upstream migration of fish into the tailrace. The design of the barrier must be approved by WDFW.

S6. Fish Screen
Snohomish PUD must install self-cleaning, traveling composition fish screens in the intake chamber upstream of the penstock inlet consistent with the previous license (FERC Project No. ~~8864~~[9025], License Article 414).

S7. Upstream Fish Passage
Snohomish PUD shall install volitional passage for resident fish at the project intake facilities consistent with that filed with the FERC on August 15, 2014, and consistent with that provided under existing channel conditions. Passage will be provided using flows no greater than the release of previously licensed[69] minimum instream flow rate of 5 cfs at the Hancock intake.

S8. Sediment and Woody Debris Passage
Snohomish PUD shall pass all accumulation of sediment and woody debris that is located at the project intake and weir to downstream of the project intake and weir.

S9. Construction Activities
Snohomish PUD must prepare and implement a water quality protection plan (WQPP) for all project-related construction, maintenance, and repair work that is in- or near-water that has the potential to impact surface and/or groundwater quality. A full-time Pollution Control Inspector must be made available to supervise implementation of the WQPP. WQPP must include, but not be limited to, the following elements:

a) Stormwater Pollution Prevention Plan (SWPPP) for Upland Construction Work

Snohomish PUD is required to develop a SWPPP for upland construction activities. The SWPPP must specify the Best Management Practices (BMPs) and other control measures to prevent pollutants from entering state's surface water and ground water from upland construction activities. The SWPPP must also specify the management of chemicals, hazardous materials, and petroleum (spill prevention and containment procedures), including refueling procedures, preventive measures in the event of a spill, and reporting and training

[69] The Weyerhaeuser Company previously received a license from the Commission for the Hancock Creek project on June 21, 1993 (FERC Project No. 9025). Construction never commenced, and the license was subsequently surrendered.

requirements. The SWPPP must also specify water quality monitoring protocols and notification requirements.

b) In-Water-Work Protection Plan for In-Water Construction Work

Snohomish PUD is required to develop an In-Water-Work Protection Plan for construction activities that require work within surface waters. This plan must specifically address the BMPs and other control measures to prevent contaminants from entering surface water and ground water. In addition to construction activities, this work includes, but is not limited to, the application of herbicides, pesticides, fungicides, disinfectants, and lake fertilization.

The plan must address water quality monitoring provisions for all in-water work, including monitoring outside the area that could be influenced by the work, and at the point of compliance throughout the project. This includes, but is not limited to, construction and maintenance of, or emergencies from, any of the following:

fish collection structures, generation turbines, penstocks, hatcheries, transportation facilities, portable toilets, boat ramps, access roads, transmission corridors, structures, gravel augmentation projects, and staging areas for all project-related activities.

The plan must include the following minimum requirements:

i. Locations of samples

Locations of water quality sampling sites must be identified and described in the plan and on a map of the project area. At a minimum, sampling shall take place at the point of compliance as specified in WAC 173-201A-200(1)(e)(i), which allows temporary area of mixing for turbidity resulting from disturbance of in-place sediments in Hancock Creek. Background samples must be collected outside the area of influence of in-water work. Background samples shall be collected concurrently and at the same frequency as the point of compliance samples.

ii. Number of samples

Number and frequency of water quality samples must be specified in the plan.

iii. Parameter to be sampled

Turbidity, pH, oil and sheen, temperature and dissolved oxygen (DO) must be sampled for this project.

iv. Equipment

Sampling must be done using properly calibrated instruments.

c) Best Management Practices for Construction Work

BMPs used for the upland construction activities must be consistent with the *Stormwater Management Manual for Western Washington* (most recent edition at the time of the issuance of NPDES Construction Stormwater Permit) or equivalent. Snohomish PUD must identify the site-specific BMPs for upland and in-water construction work and list them in the WQPP. Some of the recommended BMPs are listed below.

i. Construction stormwater, sediment, and erosion control best management practices (BMPs) suitable to prevent exceedances of state water quality standards must be in place before starting construction at the site. Sediment and erosion control measures must be inspected and maintained prior to and during project implementation. All reasonable measures must be taken to minimize the impact of construction on waters of the state. Water quality constituents of particular concern are turbidity, dissolved oxygen, temperature, suspended sediment, oil and sheen, and pH.

ii. All necessary measures must be taken to minimize the disturbance of existing riparian, wetland, or upland vegetation. Work in or near the waterway must be done so as to minimize turbidity, erosion, and other water quality impacts.

iii. Snohomish PUD must ensure that any fill materials placed for habitat improvements in any waters of the state do not, by reference to applicable standards, contain toxic materials in toxic amounts.

iv. All construction debris must be properly disposed of on land above the limits of flood water in an approved upland disposal site. Snohomish PUD must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

v. Snohomish PUD must ensure that fill (soil) placed for the proposed project does not contain toxic materials in toxic amounts.

vi. If cast in place, wet concrete/grout must be prevented from entering waters of the state. Forms for any concrete/grout structure must be constructed to prevent leaching of wet concrete/grout. Impervious materials must be placed over any exposed concrete/grout not lined with the forms that will come in contact with state waters. Forms and impervious materials must remain in place until the concrete/grout is cured.

vii. Work in or near the water that may affect fish migration, spawning, or rearing must cease immediately upon a determination by Ecology or WDFW that fisheries resources may be adversely affected.

viii. All equipment must be placed safely so that it cannot accidentally enter a waterway or cause water quality degradation to state waters. Mobile

equipment that enters the water must be maintained such that a visible sheen from petroleum products does not appear.

ix. Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering the water.

x. Prior to blasting the bedrock for the intake structure and penstock, Snohomish PUD must remove overburden from above the rock.

xi. All possible measures, such as blast mats, must be used to prevent rock from entering state waters during blasting.

Snohomish PUD is required to apply for a construction stormwater NPDES permit at least 60 days prior to start of construction.

S10. Water Quality Monitoring, Reporting and Adaptive Management

a) During Construction

Water quality monitoring must be conducted per the WQPP as explained above. WQPP must be submitted to Ecology for review at least two (2) months prior the initiation of any construction related work and all the subsequent modifications to the plan must be submitted to Ecology at least thirty (30) days before implementation. A copy of the WQPP must be in the possession of the on-site construction manager, and the plan must be made available for review by Ecology staff upon request. Results of water quality sampling, as determined by the WQPP, must be submitted to Ecology on a monthly basis during construction.

If any project component has a long-term impact on a regulated water quality parameter, characterization monitoring must be performed for the impacted parameter(s), and a monitoring plan must be outlined in the WQPP. Snohomish PUD must submit all the reports (including monthly discharge monitoring reports, DMRs) and documents required by the construction stormwater NPDES permit in a timely manner.

Any construction related activities resulting in dead or dying fish are not allowed. Any such activity shall cease immediately and Ecology's Water Quality Program, Northwest Regional Office shall be notified immediately by telephone at (425) 649-7000, a 24-hour number.

Notification of noncompliance during construction and operation phases must be made to Ecology within 24 hours of detection or observation of occurrence of the noncompliance followed by a detailed report within five (5) days of detection or observation of the noncompliance. Noncompliance events must be reported on noncompliance notification form (NNF) provided in Appendix G [to the water quality certificate].

Water quality parameters' monitoring frequencies and locations for Hancock Creek Hydroelectric Project during construction are provided in Appendix B, Table 9, Figure 1.

b) Post Construction and During Project Operation

Snohomish PUD must complete a comprehensive Annual Water Quality Monitoring Report for Hancock Creek Hydroelectric facility. The report must include the monitoring data, result analysis, reports of non-compliance events (if any), documentation of actions taken by Snohomish PUD to bring the site in compliance after non-compliance and analysis of project effects on water quality standards. The report must be submitted no later than March 31st of the following year in a format acceptable to Ecology.

Suspension or modification of water quality monitoring as described above may be requested if, after a minimum of five (5) years of complete, reliable data collection following the completion of the project construction, demonstrates that there are no violations of water quality standards.

If exceedances of water quality standards are detected through sampling and monitoring, the applicant must immediately take action to stop, contain, and prevent unauthorized discharges or otherwise stop the violation and correct the problem. Any observed values in excess of the water quality standards for, temperature and turbidity, must be reported to Ecology's Northwest Regional Office within six weeks of obtaining monitoring data for that particular noncompliance event. Noncompliance events must be reported on noncompliance notification form (NNF) provided in Appendix G [to the water quality certificate]. All and any completed noncompliance notification forms must be included in annual water quality monitoring report too.

Ecology may, where necessary to protect water quality, require that Snohomish PUD implement a more rigorous water quality sampling program for the listed or additional parameters in accordance with the amendment of certification process described under general conditions.

Post construction water quality monitoring locations and frequencies are provided in Appendix B, Table 10, Figure 2.

The Snoqualmie River Basin has a TMDL for temperature. Hancock Creek is an important cold water source for Snoqualmie River downstream. During project operation Snohomish PUD is required to monitor the temperature on a continuous basis at four different locations, namely upstream of intake (RM 1.55), downstream of intake (RM 1.45), in bypass reach (RM 0.3), and downstream of the powerhouse (RM 0.1) (Table 10 and Figure2). The Annual Water Quality Monitoring report must include the analysis about the impact of project operation on the water quality temperature in the bypass reach and downstream of powerhouse.

The Hancock Creek Hydroelectric Project is required to meet or exceed the state water quality standards during project operation. If the monitoring data submitted as part of Annual Water Quality Monitoring report indicates that project operation has caused any exceedances of water quality standards, Ecology may require Snohomish PUD, by way of agency order, to limit or modify future project operations as Ecology finds is necessary to assure ongoing compliance.

S11. Temporary and Emergency Modification to Flows and Ramping Rates

a) The instream flow and/or ramping requirements of this Certification may be temporarily suspended and modified if and as necessary to accommodate a temporary operational condition or constraint, when the occurrence of such condition or constraint limits Snohomish PUD's ability to comply with such requirements. In connection with any temporary suspension or modification of such requirements, Snohomish PUD shall: (i) notify the [National Oceanic and Atmospheric Administration (NOAA)] Fisheries, [U.S. Fish and Wildlife Service], Ecology WDFW, and Snoqualmie Tribe thereof and (ii) obtain Ecology's prior approval and (iii) submit a noncompliance notification.

b) In the event that either: (i) a natural event outside of the control of Snohomish PUD, or, (ii) a condition affecting the safety of the project or project works occurs, and under circumstances where such event or condition does not allow for consultation to occur before responding, then the flows and/or ramping rates may be temporarily modified following any consultation with Ecology that is possible given the emergencies of the event. If the flow is so modified, Snohomish PUD shall notify Ecology, FERC, NOAA Fisheries, WDFW, and Snoqualmie Tribe as soon as practicable after the condition is discovered, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency action procedure. Snohomish PUD shall document these events in its Annual Water Quality Monitoring report.

S12. Oil Spill Prevention and Control

[In the context of this section, "spills" will refer to oil, paint, or chemical spills as opposed to the release of water from the Hancock Creek Hydroelectric Project.]

A Spill Prevention, Containment, and Countermeasure (SPCC) Plan must be prepared that covers, as applicable within the Clean Water Act, any petroleum-based equipment to be used at the site, including the powerhouse and any equipment associated with the powerhouse, that holds or contains oil, fuel, or other petroleum products that are potentially detrimental to water quality and the biota. The plan must be kept on site. The plan shall be submitted to Ecology for approval within one (1) year of license issuance. The plan must include, at a minimum, the following BMPs and spill response requirements.

In addition to fulfilling the requirements under the SPCC regulations, the BMPs and spill response procedures listed below will apply.

a) Best Management Practices

i. Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering waters of the state.

ii. Visible floating oils released from any project-related construction or Hancock Creek Hydroelectric Project operation shall be immediately contained and removed from the water.

iii. All oil, fuel, or chemical storage tanks shall be contained and located on impervious surfaces so as to prevent spills from escaping to surface waters or ground waters of the state.

iv. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. Refueling of equipment on land shall occur where there is no potential of spilling fuel into rivers, creeks, wetlands, or other waters of the state. Equipment that requires refueling in-water shall be maintained and operated to prevent any visible sheen from petroleum products from appearing on the water. Proper security shall be maintained to prevent vandalism.

v. Oil and grease usage should be regularly monitored. Observation of significant increase in usage should trigger an investigation for leaks, followed by any required maintenance or corrective action.

vi. No emulsifiers or dispersants are to be used in waters of the state without prior approval from the Department of Ecology, Northwest Regional Office.

vii. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall be contained for proper disposal, and shall not be discharged into state waters.

b) Spill and Release Response

i. In the event of a discharge or release of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.

ii. Samples shall be collected and analyzed to assess the extent of the spill and to assume all contaminants have been thoroughly removed.

iii. Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately or no later than 24 hours after discovery to the Department of Ecology, Northwest Regional Office, at (425) 649-7000 (24-hour phone number). Snohomish PUD shall provide a written follow-up report to Ecology within two (2) weeks of the incident stating what occurred, whether the incident was due to natural events or human-related activities, Snohomish PUD's response, a plan detailing long-term corrective actions and monitoring protocols if needed, any measures Snohomish PUD proposes to reduce future similar occurrences, results of any samples taken, and any additional pertinent information.

Additional BMPs are listed in Appendix A of this Order.

GENERAL CONDITIONS

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.

G1. 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 the Hancock Creek Hydroelectric Project and any attendant agreements, orders, or permits. Ecology will notify Snohomish PUD through an Administrative Order of any such changes or amendments applicable to Hancock Creek Hydroelectric Project.

G2. When a construction project meets the coverage requirements of the NPDES permit and State Waste Discharge General permit for storm water discharges associated with construction activity, Snohomish PUD shall either, at Ecology's discretion, apply for the general permit and comply with the terms and conditions of the permit or apply for and comply with the terms of an individual NPDES permit.

G3. Discharge of any solid or liquid waste to the waters of the state of Washington without approval from Ecology is prohibited.

G4. Snohomish PUD shall obtain Ecology review and approval before undertaking any change to the Hancock Creek Hydroelectric Project or its operations that might significantly and adversely affect the water quality or compliance with any applicable water quality standard (including designated uses) or other appropriate requirement of state law.

G5. The [WDFW] requires a Hydraulic Project Approval (HPA) (under RCW 77.55) for in water work that will use, divert, obstruct, or change the natural flow or bed of state waters. All in-water construction or performance of work that will use, divert, obstruct, or change the natural flow or bed of Hancock Creek within the project boundaries and scope of Hancock Creek Hydroelectric Project shall obtain HPA coverage as required by WDFW prior to commencing work.

G6. Ecology retains the right, by further Order, to modify schedules or deadlines provided under this Order or provisions it incorporates.

G7. Ecology retains the right, by further Order, to amend this Order if it determines that its provisions are no longer adequate to provide reasonable assurance of compliance with applicable water quality standards or other appropriate requirements of state law that are related to protection of water quality or aquatic resources. Amendments of this certification shall take effect immediately upon issuance, unless otherwise provided in the order of amendment, and shall be appealable to the Pollution Control Hearings Board pursuant to RCW 43.21B. Ecology shall transmit such amending orders to FERC to update FERC's records as to the current certification conditions.

G8. This Order does not exempt, and is provisional upon, compliance with other statutes and codes administered by federal, state, and local agencies, including the state's Coastal Zone Management Act.

G9. Ecology reserves the right to issue orders, assess or seek penalties, and to initiate legal actions in any court or forum of competent jurisdiction for the purposes of enforcing the requirements of this Order. Failure 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.

G10. The conditions of this Order shall not be construed to prevent or prohibit Snohomish PUD from either voluntarily or in response to legal requirements imposed by a court, 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.

G11. Copies of this Order and associated permits, licenses, approvals, and other documents shall be kept on the Hancock Creek Hydroelectric Project site and made readily available for reference by Snohomish PUD, its contractors and consultants.

G12. Snohomish PUD shall allow Ecology access to inspect the Hancock Creek Hydroelectric Project and project records required by this Order for the purpose of monitoring and compliance with its conditions. Access shall occur after reasonable notice, except in emergency circumstances.

G13. Snohomish PUD shall, upon request by Ecology, fully respond to all reasonable requests for materials to assist Ecology in making determinations under this Order and any resulting rulemaking or other process.

G14. Any work that is out of compliance with the provisions of this Order, or project operation 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.

APPENDIX A (TO THE WATER QUALITY CERTIFICATE)

RECOMMENDED SPCC PLAN BMPS FOR HANCOCK CREEK HYDROELECTRIC PROJECT*

Spill Response

a) Establish in agreement with the Department of Ecology, site oil spill cleanup material inventory and include an inventory list at each site. Hancock Creek Hydroelectric Project operators and any staff required to respond to an oil spill must have input on the inventory levels, type, product brand, and quality of the oil spill cleanup supplies maintained on-site. Purchase good quality spill cleanup supplies.

b) In the event of an oil spill, properly dispose of used/contaminated materials and oil, and as soon as possible restock new supplies. Include records of proper disposal in the oil consumption records and keep copies of disposal records of contaminated cleanup supplies at the District's office for inspection; provide these records to Ecology immediately upon request.

c) If applicable, ensure that operational work boats and trained boat operators are available at the project. Install mechanisms as appropriate to safely launch or lower work boats into areas where work boats would be deployed in the event of an oil spill.

d) Install stair cases, permanent ladders, etc. as applicable allowing for oil spill response staff to safely reach areas anticipated that could, in the event of an oil spill, need to be accessed to deploy sorbent pads and boom materials.

Oil-Water Separators (OWS)

a) Have a maintenance plan for the OWS. This maintenance plan must include a process to periodically inspect and ensure quality assurance that they will work as designed.

b) OWS shall not include rain or other water run-off, except as designed.

c) Perform periodic and appropriate maintenance and inspection on a schedule to include cleaning of sediment.

d) Clean and service the OWS in the event of an oil spill incident where oil is

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***** Ecology recommends implementing only those BMPs (or equivalents) that are applicable to this project.

introduced into the OWS.

e) Evaluate each OWS for inflows to account for a total transformer container failure during a major rain event to ensure that oil would not be "washed through" the OWS during such an event.

Transformers

a) Transformer deck containment area surfaces must be impervious. Conduct periodic inspections and resurfaced areas, fill cracks, caulk metal plate footings, or otherwise ensure that containment areas will contain all spill fluids.

b) Obtain pre-approval from Ecology before breaching containment areas for reasons other than containment area maintenance.

c) Remove oil from transformers prior to moving them from the transformer containment area, unless the transformer is continuously monitored during the move. If transformers are moved with oil, keep spill containment equipment handy.

Sumps

a) Locate oil sensors on the surface of the water in each sump, in addition to the oil sensors located at the bottom of each pumping cycle. Inspect and test these sensors annually or sooner if needed to ensure that they will work as designed. Include in the inspection provisions to verify that the oil sensors located at the bottom of each pumping cycle are properly placed at the proper level. Visually inspect these areas each week if oil is suspected to be present, such as in the event of an oil sensor alarm or the observance of an oil or grease spill in the turbine pit of sufficient volume to reach the sump. Any oil detected in the sumps requires immediate Ecology (425-649-7000) and NRC notification and cleanup.

b) Immediately repair those oil leaks in the turbine pit that are of sufficient volume that can reach the sump and that cannot be placed under a containment pan.

c) Install handrails and mechanisms so the sump covers can be removed for a visual inspection of the sump. Provide waterproof lighting in the sumps or spotlights adequate to view the surface water in the sumps. Provide a mechanism to satisfactorily deploy and recover sorbent boom in the sumps at each project.

Oil, fuel, and chemical storage containers, containment areas, and conveyance systems

a) Provide proper containment around each storage container (including transformers) or around a combination of storage containers as appropriate and agreed upon by Ecology. Proper containment equals the volume of the container

plus 10 per cent.

b) Recalculate required containment areas to ensure proper containment still exists after major equipment changes. For example, when converting from water cooled transformer to an air cooled unit, re-calculate oil volume and compare to containment area. Calculate containment volumes from *maximum* storage volumes, not normal oil level volumes.

c) Provide external oil level gauges for governor oil tanks, transformers, and other oil tanks that contain over 100 gallons of oil. Provide appropriate level markings for these gauges.

d) Regularly check all fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc, for drips or leaks. Maintain and properly store them to prevent spills into state waters.

e) Do not refuel equipment within 50 feet of rivers, creeks, wetlands, or other waters of the state.

f) When working on transformers and other equipment that might spill or drip oil, provide full oil spill containment capacity plus 10 per cent.

g) Inspect containers once per week. Maintain container inspection sheets to include maximum container volume and an exact reading recording of the oil level by the staff/operator conducting the inspection. Weekly inspection reading must be consistent; provide training to the staff/operator to ensure consistent and accurate readings.

h) Keep oil consumption records maintained at the District office; provide these records to Ecology immediately upon request.

i) In the event that any Hancock Project modifies the oil transfer operation to include hard-plumbing to reservoirs such as the governor oil tank from the oil tank room, or other extensive modifications, Ecology notification and approval of such modification should be conducted.

j) Contain wash water containing oils, grease, or other hazardous materials resulting from wash-down of equipment or working areas for proper disposal, and do not discharge this water into state waters.

Other

a) Identify and map floor drains. Post these maps at the Hancock Project in a conspicuous location for use by operators and other personnel in the event of an oil spill. Seal floor drains that are no longer needed.

b) Maintain site security at each Hancock Project site to reduce chance of oil spills.

c) Keep SPCC Plans as required and historical spill records on-site. Provide

these to Ecology immediately upon request.

APPENDIX B (TO THE WATER QUALITY CERTIFICATE)

WATER QUALITY MONITORING – MAPS AND GRAPHS

Table 9. Hancock Creek Hydroelectric Project – During construction water quality parameters' monitoring frequencies and locations

	Parameter	Work window	Frequency of monitoring
Monitoring location: Approximately River Mile 1.55 (Upstream of weir, baseline monitoring)			
1	Temperature	during construction	Once per week
2	DO	during construction	Once per week
3	Turbidity	during construction	Once per week
4	pH	during construction	Once per week
Monitoring location: Approximately River Mile 1.45 (In bypass reach)			
1	Temperature	during construction	Once per week
2	DO	during construction	Once per week
3	Turbidity	during no in-water work	Once per week
4	Turbidity	during in-water work	Once daily
5	pH	during no in-water work	Once per week
6	pH	during in-water work	Once daily
Monitoring location: Approximately River Mile 0.1 (Downstream of powerhouse)			
1	Temperature	during construction	Once per week
2	DO	during construction	Once per week
3	Turbidity	during no in-water work	Once per week
4	Turbidity	during in-water work	Once daily
5	pH	during no in-water work	Once per week
6	pH	during in-water work	Once daily

Figure 1. Hancock Creek Hydroelectric Project – Map showing construction water quality parameters' monitoring locations

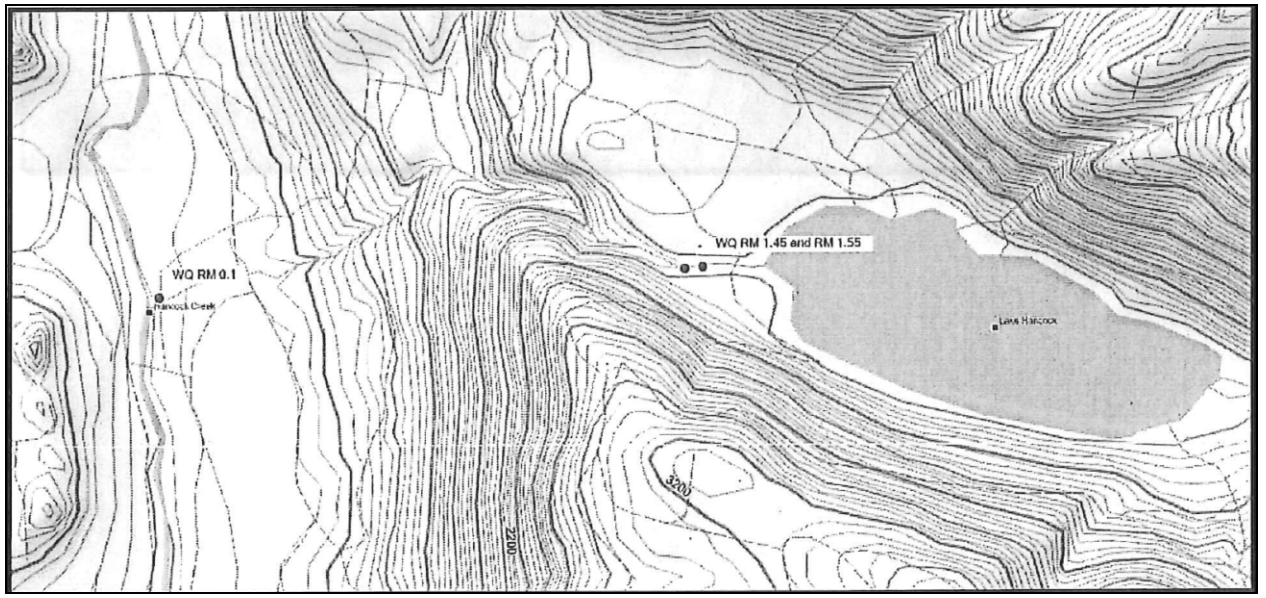

Table 10. Hancock Creek Hydroelectric Project – Post construction water quality monitoring locations and frequencies

Parameter	Upstream of Intake (RM 1.55)	Downstream of Intake (RM 1.45)	Upstream of Powerhouse in bypass reach (RM 0.3)	Downstream of Powerhouse (RM 0.1)	Frequency
Temperature	X	X	X	X	Continuous
Turbidity			X		Continuous during December and January
Flow & stage		X	X		Real time and continuous
Stage only				X	Real time and continuous
-RM stands for river mile.					

Figure 2. Hancock Creek Hydroelectric Project – Map showing post construction water quality monitoring locations