146 FERC ¶ 61,197
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Acting Chairman;
Philip D. Moeller, John R. Norris,
and Tony Clark.

Public Utility District No. 1 of Snohomish County, Washington — Project No. 12690-005

ORDER ISSUING PILOT PROJECT LICENSE
(MINOR PROJECT)

(Issued March 20, 2014)

INTRODUCTION

1. On March 1, 2012, 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 a 10-year license to construct, operate, and maintain its proposed Admiralty Inlet Pilot Tidal Project No. 12690. The 600-kilowatt (kW) project will be located on the east side of Admiralty Inlet in Puget Sound, Washington, about 0.6 mile west of Whidbey Island, entirely within Island County, Washington.[2]

2. As discussed below, this order issues a license for the project.

BACKGROUND

3. On March 1, 2012, Snohomish PUD filed a license application for the Admiralty Inlet Project. Snohomish PUD proposes to install and operate a hydrokinetic turbine over a 10-year period to investigate the tidal energy resources of Puget Sound, Washington in order to determine if commercial development is viable. The temporary, in-water testing of this project will evaluate its performance, cost, and environmental effects. Snohomish

[1] 16 U.S.C. §§ 791a-828c (2012).

[2] Pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2012), the project is required to be licensed because it is located in navigable waters of the United States.

PUD requested a license under the Commission's pilot project licensing process as this process is available to developers seeking to test technologies that propose to study, monitor, and evaluate the environmental, economic, and cultural effects of hydrokinetic energy.

4. On April 23, 2012, the Commission issued a public notice that was published in the *Federal Register* accepting the application, indicating the application was ready for environmental analysis, and soliciting motions to intervene and protests, comments, terms and conditions, recommendations and prescriptions.[3] The Washington State Department of Ecology (Washington Ecology), the Washington State Department of Fish and Wildlife (Washington Fish and Wildlife), the Washington State Department of Natural Resources (Washington Natural Resources), the United States Department of Interior (Interior), and the National Marine Fisheries Service (NMFS) filed timely notices of intervention.[4] The Tulalip Tribes of Washington, Whidbey Environmental Action Network, the Sauk-Suiattle Indian Tribe, PC Landing Corp. (PC Landing),[5] and the Swinomish Indian Tribal Community filed timely motions to intervene.[6] On August 14, 2013, the Orca Conservancy filed a late motion to intervene, which was denied by the Secretary's notice on September 16, 2013. In addition, the Public Safety and Homeland Security Bureau of the Federal Communications Commission (FCC), U.S. Army Corps of Engineers (Corps), GCI Communication Corporation, the Point No Point Treaty Council (Treaty Council),[7] and the U.S. Navy, Naval Facilities Engineering Command filed comments on the application.

[3] 77 *Fed. Reg.* 25,157-01 (April 27, 2012).

[4] Under Rule 214(a)(2) of the Commission's Rules of Practice and Procedure, these entities became parties to the proceeding upon their notices of intervention. 18 C.F.R. § 385.214(c) (2013).

[5] PC Landing's motion to intervene was accompanied by a protest.

[6] Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2013).

[7] The Treaty Council is a tribal organization that provides services to the Jamestown S'Klallam and Port Gamble S'Klallam Tribes.

5. On August 6, 2012, Commission staff held a technical confrence to discuss issues raised by the proximity of the proposed project to a fiber optic communication cable (PC-1 North).

6. On January 15, 2013, Commission staff issued a draft Environmental Assessment (EA), analyzing the potential environmental impacts of the proposed project and alternatives to it.[8] Washington Fish and Wildlife, the North American Submarine Cable Association, Snohomish PUD, Whidbey Environmental Action Network, PC Landing, the Suquamish Tribe, Washington Natural Resources, the Treaty Council, the National Park Service, Tulalip Tribes, Washington State Ferries, Orca Conservancy, the United States Environmental Protection Agency, Congressmen Ed Whitfield and Greg Walden, and the Pacific Whale Watch Association filed comments on the draft EA.

7. On April 18, 2013, Commission staff held a technical conference to discuss issues raised by Snohomish PUD's revised emergency shutdown procedures.

8. On August 9, 2013, Commission staff issued a final EA. The Pacific Whale Watch Association, Orca Conservancy, and PC Landing filed comments on the final EA. Snohomish PUD filed responses to PC Landing's comments. The interventions, comments, and recommendations have been considered in determining whether, and under what conditions, to issue this license for the Admiralty Inlet Project.

PROJECT DESCRIPTION

A. Proposed Project Facilities

9. The Admiralty Inlet Project will consist of: (1) two approximately 19.2-foot-high, 300-kW OpenHydro tidal turbines (Turbine 1 and Turbine 2) each mounted on a triangular subsea base; (2) adaptable monitoring devices attached to each turbine base that include environmental monitoring equipment, vibration monitoring instrumentation, and differential settlement monitoring equipment;[9] (3) two approximately 7,000-foot-long, four-kilovolt (kV) trunk cables, extending from each turbine to an onshore cable termination vault; (4) an approximately 3.9-foot-long, 5.8-foot-wide, 2.9-foot-high onshore cable termination vault; (5) two 40-foot-long conduits to convey the cables from

[8] The U.S. Department of Energy was a cooperating agency on the preparation of the draft and final EAs.

[9] An integrated tilt sensor, or an approved alternate instrument, will be mounted on the turbine subsea base to monitor for any differential settling that might cause the turbine base to tilt.

the cable termination vault to a cable control building; (6) a 24-foot-wide, 30-foot-long onshore cable control building to house power and monitoring equipment; (7) a 17.2-kV step-up transformer located adjacent to the cable control building; (8) a 10-foot-long, buried 7.2-kV transmission line from the transformer to a connection with Puget Sound Energy's electrical distribution system; and (9) appurtenant facilities.

B. Project Area and Boundary

10. The project will be located in Admiralty Inlet in the northwestern portion of Puget Sound between the Olympic Peninsula and Whidbey Island where the northwestern end of Puget Sound meets the Strait of Juan de Fuca. This inlet serves as the main route for shipping traffic for the ports of Everett, Seattle, Tacoma, and Olympia. The project's cable control building will be located on Whidbey Island near Fort Casey State Park. The turbines will be placed approximately one kilometer west-southwest from the shoreline of the state park (Admiralty Head) at a water depth of approximately 58 meters. Peak tidal currents in this area exceed three meters per second.

11. The project boundary will enclose 22.82 acres, including: (1) approximately 22.45 acres of seabed for the turbines and subsea cables; (2) approximately 0.12 acres of tidelands for the two subsea cables; and (3) approximately 0.25 acres of onshore land for the power control and conversion building, transmission vault, conduits, transformer, and transmission line.

C. Proposed Installation and Removal

12. Installation will begin by constructing the onshore cable control building. Next, Snohomish PUD will use horizontal directional drilling to install the conduits that will convey the trunk cables ashore. The cables will be laid by two tugboats directing a cable-laying barge from the turbines' sites to shore. A third tugboat will provide standby assistance. A remotely operated vehicle (ROV) will inspect the laying of the trunk cables on the seafloor. After the cables are laid, they will be pulled through the conduits.

13. The turbines will be installed separately, by the same process, when conditions are optimal. A turbine will be suspended in the center of a turbine installation barge, which will be towed to the installation site by a tugboat. A second tugboat will provide standby assistance. Once at the installation site, each turbine will be lowered to the seafloor, and an ROV will monitor its placement. The installation process for each turbine is expected to take less than one hour.

14. The turbines will be removed by reversing the installation process. The trunk cables will be removed or left in place according to Commission approval after

Snohomish PUD consults with a Marine Aquatic Resource Committee (MARC)[10] and Washington Ecology.

D. Proposed Project Operation

15. The project's OpenHydro System is designed to generate electricity over a range of water flow velocities, within a stationary turbine frame, but with the turbines turning in both ebb and flood tides. The turbines will convert the kinetic energy of water flowing in current from 0.7 meters per second to 3.3 meters per second into rotational motion and deliver that energy through the rotors into the generators. The turbines are expected to rotate about 70 percent of the time.

16. The system will be monitored 24 hours a day, seven days a week by Snohomish PUD personnel via an internet connection. Monitoring equipment will be housed in the onshore control building.

E. Proposed Project Maintenance

17. Snohomish PUD will implement monitoring, inspection, and maintenance measures for the term of the license, including monitoring the project to detect any anomalies in position (e.g., tilt) and function.

18. The licensee will conduct visual inspection of the offshore facilities to assess the overall structural integrity of each turbine and base, biological growth on the turbines and bases, the condition and position of the turbines, blades, and anodes,[11] and the position and condition of the trunk cables.

19. Major maintenance of the turbines is expected to occur five years after deployment. The turbines will be removed and all mechanical and electric parts will be inspected and repaired or replaced, as needed. The adaptable monitoring devices

[10] The MARC will be composed of the following entities: Snohomish PUD, NMFS, U.S. Fish and Wildlife Service, Washington Fish and Wildlife, Washington Ecology, Washington Natural Resources, Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. Additional members can be added by unanimous agreement by the MARC. As is explained further below, Snohomish PUD's monitoring and mitigation plans provide for consultation with the MARC.

[11] Anodes are metal pieces installed to attract the saltwater corrosion process and corrode sacrificially to reduce corrosion of the more important metal components of the turbine and base.

attached to each turbine will be recovered and redeployed every three to six months. Unscheduled maintenance may be triggered by a failure of the environmental monitoring equipment or an operational problem with a turbine. In such an event, Snohomish PUD likely will use an ROV that can be mobilized in a matter of days to inspect the turbine or equipment before deciding how to proceed.

20. If shutdown is required, Snohomish PUD will implement the following procedures in accordance with its Emergency Shutdown Plan: (1) engage a mechanical brake using an ROV during the next viable slack tide, which will lock the turbine rotor in position and cease electrical generation; (2) electrically isolate the subsea systems from the grid; and (3) file a report with the Commission, agencies, and tribes detailing the measures taken during the shutdown. The time between the decision to cease turbine rotation and engaging the mechanical brake is likely to be less than a day and no more than four days. If a turbine must be removed, the process could take up to four weeks to complete. Any marine vessels mobilized as part of a maintenance event will have to comply with the International Rules for Preventing Collisions at Sea and coordinate with the Coast Guard, as outlined in the Navigation Safety Plan.

F. Proposed Safety Plans

21. To address safety concerns with the technology, Snohomish PUD will implement: (1) a Project and Public Safety Plan; (2) a Navigation Safety Plan; (3) an Emergency Shutdown Plan; (4) a Project Removal Plan; and (5) a Hazard Identification and Risk Assessment.

G. Proposed Environmental Measures

22. Snohomish PUD will construct and operate the project with environmental protection, mitigation, and enhancement measures, including implementation of: (1) an Acoustic Monitoring and Mitigation Plan; (2) a Benthic Habitat Monitoring and Mitigation Plan; (3) a Marine Mammal Monitoring and Mitigation Plan; (4) a Near-Turbine Monitoring and Mitigation Plan; (5) a Derelict Gear Monitoring Plan; (6) a Water Quality Monitoring Plan; (7) an Adaptive Management Framework; (8) a Horizontal Directional Drilling Plan; (9) an Interpretation and Education Plan; and (10) measures to minimize the introduction and spread of invasive species. In addition, Snohomish PUD will install project facilities during a Washington Fish and Wildlife approved work window of July 16 to October 14, or outside this window only by agreement with the MARC and after Commission approval.

LICENSE FOR A PILOT PROJECT

23. Commission staff developed hydrokinetic pilot project licensing procedures, based on the Integrated Licensing Process, to facilitate the testing of new hydropower

technologies. For these new technologies, where the environmental effects are not well understood, the risks of adverse environmental impacts can be minimized through monitoring and safeguard plans that ensure the protection of the public and the environment. The goal of the pilot project approach is to allow developers to test new hydrokinetic technologies, determine appropriate sites for these technologies, and study a technology's environmental and other effects without compromising the Commission's oversight of a project or limiting agency and stakeholder input.

24. As outlined in Commission staff's pilot project licensing process white paper,[12] a pilot project should be: (1) small; (2) short term; (3) located in non-sensitive areas based on the Commission's review of the record; (4) removable and able to be shut down on short notice; (5) removed, with the site restored, before the end of the license term (unless a new license is granted); and (6) initiated by a draft application in a form sufficient to support environmental analysis.

25. PC Landing argues that the Admiralty Inlet Project does not meet these criteria.[13] In support, PC Landing states: (1) the project will be located in a "sensitive area" because its use of the seabed conflicts with PC Landing's PC-1 North trans-oceanic international subsea fiber optic cable,[14] which is located about 170 meters from the

[12] *See* FERC, Federal Energy Regulatory Commission Licensing Hydrokinetic Pilot Projects, *available at* http://www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics/pdf/white_paper.pdf (issued April 14, 2008, with modifications by staff February 4, 2009, and February 19, 2010).

[13] Though PC Landing argues the project is not eligible for a pilot project license, it does not take issue, nor does any other party, with the specific waivers Snohomish PUD requested in this proceeding, which includes waivers of portions of sections 4.75 through 5.16, and 5.18(c) of the Commission's regulations. 16 U.S.C. §§ 4.7–5.16, 5.18(c) (2013). Accordingly, because the only regulatory significance of this license being a pilot license as opposed to a standard license is the grant of the reqested waivers, PC Landing's argument on this matter is moot.

[14] PC-1 North is part of the larger PC-1 Landing cable system that runs in a loop between the U.S. and Japan, with two landing stations in Japan, and two landing stations in the U.S. Within Washington State, the PC-1 Landing cable system includes two cables: a north cable (PC-1 North) that links with Japan and an east cable (PC-1 East) that links with a landing site in Grover Beach, California. Both cables traverse Admiralty Inlet and land at Harbour Pointe, in the town of Mukilteo, approximately 20 miles southeast of the proposed turbine installation site. The entire PC-1 Landing cable system

(continued…)

project site;[15] and (2) the project will pose unacceptable risks and significant adverse impacts to the PC-1 North cable. The Tulalip Tribes and the Suquamish Tribe also argue that Admiralty Inlet is a "sensitive area" because of the site's fishery and cultural resources.

26. In this case, it is appropriate to grant the waivers and modifications of our licensing process necessary for the Admiralty Inlet Project. Regarding the pilot project criteria, while we understand the rationale for the criteria set forth in the staff white paper, they are illustrative and not binding on the Commission, and we will, as we do for all pilot projets, examine the facts of individual cases to determine whether and how to accommodate our licensing process. Here, parties have suggested that the proposed project does not qualify for a pilot project license because the proposed location is a sensitive area. While we understand PC Landing's concern for its cable, we do not believe a pilot project's proximity to what might be considered a sensitive resource, (developmental or environmental) equates to an area being "sensitive" unless the project's potential effects on that resource are significant and unmitigable. In this case, as explained below, the license includes safeguards that should adequately protect PC Landing's PC-1 North cable. As to impacts on fish and wildlife species, we understand the Tribes' concern for sensitive fish and wildlife resources. Nonetheless, we conclude that where, as here, the federal and state resource agencies and our staff have determined that the project in question can be constructed and operated without undue impacts to protected species and their habitats, it is appropriate to issue a pilot project license. We also note that the Admiralty Inlet Project has been developed over several years, rather than in the expedited timeframe envisioned in the pilot process whitepaper. Accordingly, it is not necessary to apply strictly here all of the criteria that were designed for a shorter process.

27. Moreover, to minimize the possibility of impacts to the uses and resources of Admiralty Inlet, this license contains adaptive management and monitoring requirements (in which the Tribes will be involved), which will identify potential hazards and specify mitigation, if and when mitigation is needed. In regard to the PC-1 North cable, we are requiring Snohomish PUD to consult with PC Landing and develop specific procedures for installing, maintaining, and removing the project to avoid conflicts with the cable. If

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includes approximately 12,900 miles of subsea cable. PC-1 North is closest to the proposed project site.

[15] Snohomish PUD originally proposed to locate the turbines within 100 meters of PC-1 North, but, because of concerns raised by PC Landing, Snohomish PUD relocated the proposed project site to achieve a minimum separation distance of 170 meters.

unforeseen problems arise that risk public safety or result in unauthorized injury of threatened and endangered species or marine mammals, this license requires Snohomish PUD to implement procedures to shut down the project.

28. The ability to shut down the turbines on short notice in order to protect public safety and environmental resources is a fundamental characteristic of a pilot project. Staff held a technical conference on this subject, and determined that the use of a mechanical brake system in concert with the procedures specified in the extensive monitoring plans and adaptive management mitigation measures meet the criterion for shutting down the project on short notice.

SUMMARY OF LICENSE REQUIREMENTS

29. As summarized below, this license, which authorizes 600 kW of renewable energy generating capacity, requires a number of measures to protect and enhance fish, wildlife, cultural, and aesthetic resources at the project.

30. To ensure public safety, the license requires Snohomish PUD to implement: (1) a Project and Public Safety Plan, which includes measures for identifying and responding to emergencies at the project (Article 305); (2) a Navigation Safety Plan, which includes consultation and notification protocols with the U.S. Coast Guard to review project safety and protect navigation (Article 306); (3) a Emergency Shutdown Plan, which includes procedures to shut down the project's turbines within four days in response to emergencies at the project (Article 307); (4) a Project Removal and Site Restoration Plan, which includes procedures to remove project works and restore the affected area (Article 401); and (5) procedures to remove any unreasonable obstructions to navigation identified by the Corps (Article 308).

31. To avoid any adverse effects to fish and marine mammals, the license prohibits Snohomish PUD from constructing the project between October 15 and July 15, unless by agreement with the state and federal agencies and Tribes and with Commission approval (Article 410).

32. To identify and characterize noise radiated by the project, the license requires Snohomish PUD to implement a Acoustic Monitoring and Mitigation Plan, which includes the use of a combination of a drifting noise measurement system and hydrophones mounted on the turbine foundations to measure noise radiating from the project and determine if noise is occurring at levels requiring corrective action to minimize adverse effects on marine mammals (Article 404).

33. To monitor and mitigate for effects the project may have on the local benthic community as well as on sediment accumulation and scour,[16] the license requires Snohomish PUD to implement a Benthic Habitat Monitoring and Mitigation Plan, which includes ROV-conducted visual surveys of the turbine and cable burial route (Article 405).

34. To quantify and address any unanticipated adverse effects of the project on fish, birds, and marine mammals, the license requires Snohomish PUD to implement a Near-Turbine Monitoring and Mitigation Plan (Article 406) and a Marine Mammal Monitoring and Mitigation Plan (Article 407), which contain measures to identify the use of the project area by fish and marine mammals, determine if the project is causing changes in these species' behaviors, and identify the need for corrective actions, including potentially shutting down the turbines.

35. To locate any derelict fishing gear accumulating on the project and to minimize accumulated hazards to marine fish, birds, and mammals, the license requires Snohomish PUD to implement a Derelict Gear Monitoring Plan, which includes the use of periodic ROV surveys and turbine-mounted cameras to inspect the project (Article 409).

36. To educate the public about the project, the potential ocean energy resources in Puget Sound, and the natural and cultural environment of the project area, the license requires Snohomish PUD to develop and implement an Interpretation and Education Plan, which includes installation of an interpretive display at Fort Casey State Park, subject to state approval, or at another appropriate location to be determined in consultation with stakeholders (Article 413).

37. To control the introduction and spread of invasive plants on project lands during site construction and project removal, the license requires Snohomish PUD to develop and implement an Invasive Plant Management Plan, which includes requirements to revegetate disturbed areas with native species and inspect any fill and disturbed areas for invasive plants annually (Article 403).

38. To minimize and control effects to water quality during construction, operation, and removal of the project, the license requires Snohomish PUD to implement a Horizontal Directional Drilling Plan (Article 402) and a Water Quality Monitoring Plan

[16] Scour or erosion is the suspension and subsequent movement of sediments and cobbles from the sea floor resulting from the movement of water.

(ordering paragraph (E), which include procedures to minimize turbidity, limit occurrences of frac-out,[17] and measures to control oil spills.

39. To ensure protection of any cultural resources in the project area, the license requires Snohomish PUD to consult with the Washington State Historical Preservation Office regarding unanticipated discoveries of cultural materials or human remains during construction activities and over the license term (Article 415).

40. To ensure that installation, maintenance, and removal of the project has no effect on the PC-1 North cable, the license requires Snohomish PUD to implement its Hazard Identification and Risk Assessment, which is to be refined by Snohomish PUD in consultation from relevant federal agencies and PC Landing (Article 411).

41. To ensure that installation and removal of the project does not unduely delay or interfere with ferry service for the Port Townsend-Coupeville Ferry route, the license requires Snohomish PUD to create and implement a Ferry Service Operation Coordination Plan, which requires Snohomish PUD to coordinate project installation and removal with the Washington State Ferries Service (Article 417).

WATER QUALITY CERTIFICATION

42. In instances where the Clean Water Act (CWA) applies, section 401(d) of the CWA[18] provides that, where the state water quality certifying agency has issued a water quality certification for a proposed hydroelectric project, the certification shall become a condition of any federal license that authorizes construction or operation of the project.

43. On February 9, 2012, Snohomish PUD submitted an application for certification with Washington Ecology. On February 6, 2013, Snohomish PUD withdrew its application and reapplied for certification. On December 3, 2013, Washington Ecology issued a certification for the Admiralty Inlet Project. The certification contains 57 conditions, which are organized in nine groups. The conditions of the certification are incorporated into this license by Ordering Paragraph E and are attached in Appendix A.

44. The certification requires the licensee to prepare plans and reports for approval by Washington Ecology. To ensure the Commission also receives these plans and reports,

[17] "Frac-out" is a drilling term used to describe a situation where the ground through which a drill is moving fractures and drilling fluid escapes through the fracture to the surface.

[18] 33 U.S.C. § 1341(d) (2012).

Article 401 of this license identifies the plans and reports that must be filed with the Commission for approval in addition to Washington Ecology. In some cases, for efficiency, the applicant is required to submit to the Commission certain plans and reports at times different from those required by Washington Ecology in the certification.

45. Because the certification also contains several conditions that encompass plans and measures that agencies and Commission staff recommended, we do not separately require as license articles these requirements. Specifically, Commission staff recommended in its EA[19] that Snohomish PUD develop and implement a Project Removal Plan, but Condition F2 of the certification requires the submittal of a similar Project Removal Plan. Therefore, we require Snohomish PUD to file the Washington Ecology required Project Removal Plan with the Commission for approval (Article 401). Similarily, Snohomish PUD originally proposed, and agencies recommended, implementation of a Water Quality Monitoring Plan. However, because the certification requires the licensee to implement a similar plan, we do not separately require the filing of the Water Quality Monitoring Plan as a license article.

COASTAL ZONE MANAGEMENT ACT

46. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), 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 six months of its receipt of the applicant's certification.[20]

47. On February 10, 2014, Washington Ecology informed the Commission that it had waived its CZMA certification authority. Therefore, Washington Ecology's concurrence with Snohomish PUD's CZMA certification is conclusively presumed.

SECTION 18 FISHWAY PRESCRIPTION

48. Section 18 of the FPA[21] 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.

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[19] EA at 166.

[20] 16 U.S.C. § 1456(3)(A) (2012).

[21] *Id.* § 811.

49. By letter filed May 23, 2013, Interior requested that the Commission reserve its authority to prescribe fishways. Consistent with Commission policy, Article 412 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Admiralty Inlet Project.

THREATENED AND ENDANGERED SPECIES

50. Section 7(a)(2) of the Endangered Species Act of 1973[22] (ESA) 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.

51. There are existing populations of 13 federally listed species within the Admiralty Inlet Project area.[23] These species include one plant and one bird species: the threatened Golden Paintbrush and the threatened marbled murrelet (respectively). There are two listed marine mammals: the endangered southern resident killer whale and the endangered North Pacific humpback whale. Also, there are nine fish species: (1) the threatened Puget Sound Chinook salmon; (2) the threatened Hood Canal summer-run chum salmon; (3) the threatened Puget Sound steelhead; (4) the threatened bull trout; (5) the threatened green sturgeon; (6) the endangered bocaccio; (7) the threatened canary rockfish; (8) the threatened yelloweye rockfish; and (9) the threatened Pacific eulachon. In addition, critical habitat has been designated for the following species in the project area: Puget Sound Chinook salmon, chum salmon, bull trout, green sturgeon, southern resident killer whale, and marbled murrelet.

52. On April 24, 2012, Commission staff requested the U.S. Fish and Wildlife Service's (FWS) concurrence that licensing the Admiralty Inlet Project is not likely to adversely affect bull trout and the marbled murrelet or to adversely modify their designated critical habitats, and that licensing the project will not affect the golden paintbrush. FWS concurred with Commission staff's finding by letter dated June 7, 2012.

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[22] *Id*. § 1536(a).

[23] Staff's April 23, 2012 letter to NMFS also determined that the project may adversely affect the Steller sea lion. In a December 3, 2013 biological opinion, NMFS informed the Commission that on November 4, 2013, the Eastern Pacific Distinct Population Segment of the Steller sea lion was removed from the List of Endangered and Threatened Wildlife under the ESA. Therefore, it was no longer a subject of consultation.

53. On April 23, 2012, Commission staff requested NMFS's concurrence that licensing the project is not likely to adversely affect Puget Sound Chinook salmon and its designated critical habitat, Hood Canal summer-run chum salmon and its designated critical habitat, Puget Sound steelhead, bull trout, green sturgeon, bocaccio, canary rockfish, yelloweye rockfish, Pacific eulachon, and North Pacific humpback whale, and is not likely to adversely modify designated critical habitat for the southern resident killer whale. Because Commission staff determined in its biological assessment (BA) that licensing the project may adversely affect the southern resident killer whale, Commission staff requested formal consultation with NMFS on this species.

54. On December 3, 2013, NMFS issued a biological opinion (BO) for the project. NMFS concurred with Commission staff's determinations that licensing the project is not likely to adversely affect the green sturgeon and the Pacific eulachon; and that it is not likely to adversely modify designated critical habitat for the Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and southern resident killer whale species. NMFS did not agree that the project was not likely to adversely affect the Puget Sound Chinook salmon, Puget Sound steelhead, Hood Canal summer-run chum salmon, bocaccio, canary rockfish, yelloweye rockfish, and the humpback whale, but concluded that it was not likely to jeopardize these species. NMFS agreed with Commission staff that the project may adversely affect, but would not jeopardize the southern resident killer whale.

55. The BO includes an incidental take statement with three reasonable and prudent measures (as well as six terms and conditions to implement the measures) to minimize the take of Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, Puget Sound steelhead, bocaccio, canary rockfish, and yelloweye rockfish. The reasonable and prudent measures require that the licensee: (1) monitor and evaluate sound levels at the turbine and away from the turbines to a distance at which sound levels drop below 120 dB and mitigate adverse sound effects according to the Acoustic Monitoring and Mitigation Plan; (2) monitor to evaluate the risk of blade strike and mitigate for any effects of blade strike according to the Near-Turbine Monitoring and Mitigation Plan; and (3) monitor and report on level of take.

56. The six terms and conditions are included in Appendix B and made part of this license in ordering paragraph F. The terms and conditions require Snohomish PUD to: (1) cease operating and obtain NMFS approval to resume operations if sound levels exceed 180 dB any distance from the turbines or if sound levels of 120 dB propogate to a distance of 750 meters or more from the turbines; (2) provide the preliminary results on sound level monitoring and sound propagation distances within 120 days of beginning operation; (3) collect data on fish passing through the plane of the turbines sufficient to

identify the number and taxonomic group[24] of at least half of the individuals passing during operation; (4) provide preliminary monitoring results within 14 days if salmon, steelhead, or rockfish are visibly injured, killed, or seen passing between the turbine blades rather than through the hole in the center of the turbine rotor; (5) contact NMFS within 48 hours if it is reasonably foreseeable that the number of fish crossing the plane of the turbines will exceed the number authorized for take in the BO;[25] and (6) obtain documented approval from NMFS for all changes to the Adaptive Management Framework or the monitoring and mitigation plans affecting ESA-listed species.

57. NMFS did not include an incidental take statement for the southern resident killer whale or humpback whale. NMFS states that it has chosen not to issue an incidental take statement for these species at this time because Snohomish PUD has not yet been issued incidental harassment authorizations under the Marine Mammal Protection Act, which are discussed further below. NMFS states that after Snohomish PUD receives these authorizations, it may then decide to issue an incidental take statement for these marine mammals.

MARINE MAMMAL PROTECTION ACT

58. The Marine Mammal Protection Act (MMPA)[26] prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and the high seas. Take means to harass, hunt, capture, or kill any marine mammal.[27] The MMPA includes a mechanism for allowing, upon request, the incidental taking of small numbers of marine mammals by U.S. citizens engaged in a specified activity within a specified geographical region.[28]

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[24] Two species of salmon—Chinook and chum—are grouped by NMFS with the closely related steelhead as "salmon." For clarity, we refer to this group of three salmonid species as "salmon/steelhead."

[25] The incidental take statement authorizes ten adult salmon/steelhead, one adult yelloweye rockfish, one adult canary rockfish, and one adult Bocaccio to swim through the plane of the turbines in a given year. *See* NMFS' December 3, 2013 BO at 109–13. Article 406 of this order separately requires the licensee to notify the Commission of any such related report.

[26] 16 U.S.C. §§ 1361 *et seq.* (2012).

[27] 50 C.F.R. § 216.3 (2013).

[28] 16 U.S.C. § 1371(a)(5) (2012). Any take of marine mammals listed as threatened or endangered under the ESA must be authorized under both the ESA and

(continued…)

Take authorization is granted through either a letter of authorization or conditions contained in an incidental harassment authorization.[29]

59. Based on the analysis in the EA, staff concluded that the project may subject marine mammal species to harassment as defined under the MMPA.[30] These mammals include ESA-listed species including the killer whale and the humpback whale, and non-listed marine mammals, such as the steller sea lion and harbor porpoise. These marine mammals, plus others less common in the project area, may be subjected to Level B harassment[31] associated with noise from operation of the turbines.[32]

60. Unlike the ESA, the MMPA does not require consultation by the federal action agency, but prohibits the actions cited above. Consequently, Snohomish PUD must work with NMFS to satisfy the requirements of the MMPA. With regard to the Commission's responsibilities to protect marine mammals, section 7(a)(2) of the ESA requires federal agencies to consult with NMFS to ensure that any actions these agencies authorize are not likely to jeopardize the continued existence of a listed species. As noted above, NMFS found that licensing the project will not jeopardize these species, but has elected to not issue an incidental take statement for marine mammals at this time. Therefore, to ensure protection of these marine mammals, Article 408 requires the licensee to file an annual

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MMPA; an ESA incidental take statement cannot be issued until the MMPA authorization is completed. *See id.* § 1536(b)(4)(C).

[29] An incidental harassment authorization, valid for one year, is an expedited process to authorize the incidental take of small numbers of marine mammals by harassment, which includes actions that have the potential to disturb a marine mammal by causing disruption of behavioral patterns, including migration, breathing, nursing, breeding, feeding, or sheltering, but which does not have the potential to seriously injure the mammal. 50 C.F.R. § 216.3 (2013). A letter of authorization is valid for five years and authorizes harassment that has the potential to injure a marine mammal.

[30] EA at 9.

[31] Under the 1994 Amendments to the MMPA (50 C.F.R. § 216.3), Level B Harassment is to disturb a marine mammal or marine mammal stock in the wild by causing a disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering, but which does not have the potential to injure a marine mammal or mammal stock in the wild.

[32] EA at 9.

report documenting its consultations with NMFS and provide information as to whether its compliance with the MMPA requires it to modify aspects of the project, including project construction, operation, maintenance, and removal. Article 408 also requires the licensee to seek any needed amendments to its license as a result of these consultations.

ESSENTIAL FISH HABITAT

61. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act[33] (Magnuson-Stevens Act) requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for actions that would adversely affect EFH.[34] Under section 305(b)(4)(B) of the Magnuson-Stevens Act, an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on the EFH.[35]

62. The project area contains EFH for Pacific groundfish, Pacific salmon, and several coastal pelagic species. Commission staff found in the EA that the project would not likely adversely affect EFH for any of these species.[36] On December 3, 2013, NMFS concurred that the project would have no effect on EFH, and it thus did not include any conservation measures.

NATIONAL HISTORIC PRESERVATION ACT

[33] 16 U.S.C. § 1855(b)(2) (2012).

[34] *Id.* § 1855(b)(4)(A).

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

[36] EA at 9.

63. Under section 106 of the National Historic Preservation Act (NHPA),[37] and its implementing regulations,[38] federal agencies must take into account the effect of any proposed undertaking on properties listed, or eligible for listing, in the National Register (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This process generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

64. On November 7, 2008, Commission staff designated Snohomish PUD as its non-federal representative for the purposes of conducting section 106 consultation under the NHPA. Pursuant to section 106, and as the Commission's designated non-federal representative, Snohomish PUD consulted with the Washington SHPO to locate and determine the National Register eligibility of any discovered cultural resource and to assess any potential project-related adverse effects to those considered eligible for the National Register. In a March 1, 2012 letter filed with the license application, the Washington SHPO concluded that the project will have no adverse effect on cultural resources. Based on this finding, Commission staff concluded that a programmatic agreement to resolve adverse effects to historic properties was not necessary.[39] However, to ensure the proper treatment of any cultural resources that may be discovered during the course of constructing or developing project works or other facilities at the project, Article 415 requires the licensee to stop all land-clearing and land-disturbing activities in the vicinity of any discovered cultural resources and consult with the Washington SHPO.

RIVERS AND HARBORS ACT

65. Section 10 of the Rivers and Harbors Act prohibits the creation of any unauthorized "obstruction" to the navigable capacity of the waters of the United States, unless the U.S. Army Corps of Engineers (Corps) authorizes such an obstruction.[40] On June 18, 2012, the Corps stated that installation of the project will not have an adverse effect on navigation. Nevertheless, the Corps requested a reservation of authority to require the removal, relocation, or alterations to the project if it becomes an obstruction. Therefore, Article 308 includes a reservation of authority to require the removal,

[37] 16 U.S.C. § 470 (2012).

[38] 36 C.F.R. Part 800 (2013).

[39] EA at 10.

[40] 33 U.S.C. § 403 (2012).

relocation, or alteration to the structural work of the project if the Corps, after approval from the Commission, determines such action is necessary to prevent unreasonable obstructions to navigation.

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

66. Section 10(j)(1) of the FPA[41] 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,[42] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

67. In response to the April 23, 2012 public notice that the project was ready for environmental analysis, NMFS, FWS, and Washington Fish and Wildlife filed a total of nine different recommendations under section 10(j). One recommendation was determined to be outside the scope of section 10(j) and is discussed in the next section. The license includes conditions consistent with the eight remaining recommendations that are within the scope of section 10(j) and require implementation of: (1) the Acoustic Monitoring and Mitigation Plan (Article 404); (2) the Marine Mammal Monitoring and Mitigation Plan (Article 407 and Ordering Paragraph F); (3) the Near-Turbine Monitoring and Mitigation Plan (Article 406 and Ordering Paragraph F); (4) the Benthic Habitat Monitoring and Mitigation Plan (Article 405 and Ordering Paragraphs E and F); (5) the Derelict Gear Monitoring Plan (Article 409 and Ordering Paragraph E); (6) the Water Quality Monitoring Plan (Ordering Paragraph E); (7) the Project Safeguard Plans (Articles 305, 306, 307, and Ordering Paragraph E); and (8) the Horizontal Directional Drilling Plan (Article 402 and Ordering Paragraph E).

SECTION 10(A)(1) OF THE FPA

68. Section 10(a)(1) of the FPA[43] 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,

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[41] 16 U.S.C. § 803(j)(1) (2012).

[42] *Id.* §§ 661 *et seq*.

[43] 16 U.S.C. § 803(a)(1) (2012).

mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Washington Fish and Wildlife's Recommendations

69. Washington Fish and Wildlife made one recommendation under section 10(j)—the establishment of the MARC, which would assist in the creation and review of monitoring and management plans, including adaptive management provisions—that is not a specific measure to protect, mitigate damages to, or enhance fish and wildlife. Consequently, this recommendation is not considered under section 10(j) of the FPA. Instead, this recommendation is considered under the broad public-interest standard of section 10(a)(1).[44]

70. As discussed in the EA,[45] each of Snohomish PUD's monitoring and mitigation plans provides for consultation with the MARC, so the stakeholders clearly contemplate the establishment of that entity. These monitoring and mitigation plans also include adaptive management provisions, which will be implemented in consultation with the MARC. We are requiring implementation of the plans, including the consultation and adaptive management requirements. Therefore, a separate license condition requiring the establishment of the MARC is unnecessary. Further, the Commission lacks authority to require any entity other than the licensee to participate in the MARC. Therefore, we will not include provisons regarding the establishment of the MARC in this license.

B. Safety and Proximity to PC-1 North Undersea Cable

71. PC Landing argues that the installation, operation, and removal of the project's turbines could adversely affect its PC-1 North cable, which is located 170 meters from the Turbine 1 site and 238 meters from the Turbine 2 site. PC Landing's concerns include: (1) the potential of the turbines to cause scour on the seabed potentially exposing PC-1 North, or causing the turbine to topple or tilt, either of which could make the cable vulnerable to damage; (2) potential damage to the cable if a turbine or anchor drops on the cable from vessels installing, monitoring, or performing maintenance activities; and (3) any reduced ability of PC Landing to maintain and repair its PC-1 North cable due to the proximity of the turbines. PC Landing recommends that the Commission follow available guidance established by the International Cable Protection

[44] *Id*.

[45] EA at 173.

Committee (ICPC)[46] and require a minimum separation distance from its PC-1 North cable of 750 meters,[47] or in the alternative, that the Commission deny a license to Snohomish PUD.[48] Short of increasing the separation distance or denying the license, PC Landing recommends that Snohomish PUD's license include additional conditions to protect the safety and integrity of PC-1 North. We address each of these concerns in turn below.

1. Scour-Related Threats

72. PC Landing asserts increased separation between the project and PC-1 North is required because Snohomish PUD does not know what underlies the seabed where the turbines will be placed. It states that if the seabed is underlain by soft materials, a turbine's footings could penetrate the seabed causing the turbine to settle unevenly, resulting in the need for additional maintenance and repair. PC Landing argues that exposure of the soft underlying sediments to currents can cause significant scouring hundreds of meters away, potentially causing the turbines to tilt or topple or undermine PC-1 North and expose it to damage.

73. In the EA, staff determined that relocating the turbines further away from PC-1 North was not necessary because the available data indicates that the potential for scour around the turbine's foundation will be limited, and the rate of erosion will be gradual and unlikely to reach PC-1 North. Further, staff explained that Snohomish PUD will submit to the Commission for approval plans and specifications and a supporting design

[46] The International Cable Protection Committee is a non-profit organization headquartered in the United Kingdom that helps to protect submarine cables from man-made and natural hazards by, among other services, producing and maintaining industry recommendations that define the minimum standards for cable route planning, installation, operation, maintenance, and protection; and facilitating the exchange of technical, environmental, and legal information pertaining to submarine cable systems.

[47] PC Landing's March 23, 2013 Motion to Intervene and Protest at 13-14. In subsequent filings, PC Landing argues, based on ICPC recommendation No. 13, that a minimum of 500 meters and an undefined buffer is needed to provide an adequate separation distance between the turbines and PC-1 North.

[48] PC Landing also argues that Commission staff failed to sufficiently weigh conclusions made by the FCC regarding an appropriate setback distance. We address this argument further below in our section discussing compliance with the National Environmetnal Protection Act.

report confirming that the size of the turbine footings is appropriately designed (Article 303), and that Snohomish PUD will work with the turbine manufacturer to conservatively design the size of the turbine footings to prevent penetration of the cobble-pavement seabed.[49] Staff also found that the use of tilt sensors and monitoring measures included in Snohomish PUD's Project Safeguard Plans[50] and Benthic Habitat Monitoring and Mitigation Plan will ensure that any scouring that may occur around the turbine foundation is measured and monitored, and that if such scour propagates towards the PC-1 North cable, scour protection measures[51] will be implemented to correct the problem before it affects PC-1 North.[52]

74. Nonetheless, to define when corrective actions are required, staff recommended a license condition requiring Snohomish PUD to identify, in consultation with state and federal agencies and PC Landing, specific scour width and depth thresholds that will trigger mitigation measures.[53]

75. Therefore, to facilitate the Commission's oversight of turbine operation, this license requires Snohomish PUD to file a Project Operation and Monitoring Plan with the Commission's regional engineer (Article 309). The Project Operation and Monitoring Plan must specify the normal operating parameters of the turbines; all electrical and mechanical monitoring devices (i.e., turbine-tilt meter, accelerometer, etc.) and the respective threshold levels indicating abnormal operations (e.g., excessive vibration or tilt); response procedures to address mechanical alarm settings; the scour thresholds (i.e., depth and width measurements) requiring implementation of scour protection measures; and a schedule for ROV inspections.[54] Snohomish PUD must consult with PC

[49] EA at 33-34.

[50] Snohomish PUD's Project Safeguard Plans include: (1) Project and Public Safety Plan; (2) Navigation Safety Plan; (3) Project Removal Plan; and the (4) Emergency Shutdown Plan.

[51] Such scour protection measures include installing scour skirts or utilizing scour-resistant materials.

[52] *See* EA at 32-34.

[53] *Id.* at 172.

[54] ROV inspections are to occur at a minmum of: (1) immediately following installation of both turbines; (2) by day 30 of initiation of operation; (3) by day 90 of initiation of operation; (4) by day 180 of initiation of operation; (5) by day 270 of

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Landing in developing the scour thresholds, and the plan must describe how PC Landing's concerns have been addressed. By December 31 of each year, following the start of operations, Snohomish PUD must file a report that describes the results of the project monitoring and operations (Article 309).

76. With the above provisions, relocating the turbines should not be necessary. This license contains measures protecting PC Landing's PC-1 North cable such that any scour produced by the project will be limited, and that for any scour which may occur, the conditions of this license will ensure that such scouring problems are corrected and/or scour protection measures are put into place to safeguard PC-1 North.

2. Project Installation, Maintenance, and Removal Activities

77. PC Landing asserts that there should be a greater separation distance between PC-1 North and the project turbines to mitigate the risk of dropping a turbine or anchor on the cable. To establish an appropriate separation distance, PC Landing argues the Commission should rely on, and not depart from, available guidance from institutions such as the International Cable Protection Committee (ICPC).[55] PC Landing also alleges that beyond the direct impact to PC-1 North, approval of the project would create significant issues for the telecommunication industry as it would create precedent for authorizing turbines at an unsafe distance from major submarine telecommunication cables.

78. As staff acknowledged in the EA, dropping a turbine or an anchor on PC-1 has the potential to damage the cable and increasing the distance between the cable and turbines would provide an increased margin of safety during installation, maintenance and removal activities.[56] However, the EA concluded that implementing measures proposed by Snohomish PUD will adequately minimize such risks without jeopardizing the information to be gained from the project or increasing project costs.[57] These measures

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initiation of operation; (6) by day 365 of initiation of operation; (7) by day 540 of initiation of operation; (8) by day 720 of initiation of operation; and (9) twice annually thereafter until the project is removed.

[55] On August 22, 2013, the North American Submarine Cable Association also asserted that there is an inadequate separation distance between PC-1 North and the turbines.

[56] *See* EA at 170-71.

[57] *Id.* at 129-31, 170-71.

include: (1) installing, removing, and maintaining the turbines under only the most favorable weather and tidal conditions; (2) using "live-boat" techniques, allowing Snohomish PUD to install and remove the turbines without the use of anchors; and (3) developing and implementing a Hazard Identification and Risk Assessment in consultation with the Coast Guard, the Corps, and PC Landing.

79. The Hazard Identification and Risk Assessment, which is discussed further below, will establish criteria for weather and wave conditions that must exist before marine operations can occur throughout deployment or recovery. It will also require the use of industry-approved equipment and include redundancy in the use of equipment and vessels (e.g., back-up tugboat for emergencies). Further, it requires the establishment of criteria for aborting operations in emergency situations, and requires the establishment of a "port of refuge," located at least two kilometers away from PC-1 North, in the event of unanticipated adverse weather or other events.

80. The other guidelines cited by PC Landing, including the ICPC guidelines, contain recommendations transferred from other industries and locations. Though these recommendations assisted Commission staff in assessing the risks to PC-1 North, Commission staff's site-specific analysis of the project's effects provides a thorough basis upon which to evaluate this specific project and establish appropriate license conditions. Because it is Commission policy to analyze proposed projects on a site-specific basis, licensing the Admiralty Inlet Project, under the conditions and terms specific to this project does not necessarily set precedent for the appropriate separation distance for future marine and hydrokinetic project proposals.

81. For these reasons, we find that Commission staff appropriately reviewed industry guidelines when recommending the project, and that given the minimal risks to PC-1 North, especially in light of protection measures included in this license, it is reasonable to issue a license for the Admiralty Inlet Project. Articles 305, 306, and 411 require Snohomish PUD to implement the above-described measures to protect PC Landing's cable.

3. Repair of PC-1

82. PC Landing states, and Snohomish PUD concurs, that if a fault of PC-1 North occurs in the area of the turbines, normal repair of the cable could not be undertaken due to the proximity of the project. PC Landing argues that to repair its cable, an additional 480 meters of slack cable will be required, which could become entangled on the turbine,

threatening the turbine and the cable-repair crew. PC Landing also argues that the EA fails to consider this repair-related impact.[58]

83. As staff described in the EA,[59] if a cable fault occurred near the location of the turbines, a ship would have to make a cut in the cable north of the turbines and a second cut in the cable south of the turbines. The north end of the cable would be hauled to the surface and spliced to a new cable section on board the ship sufficient to span the distance between the north cut and the south cut. The south end of the cable would then be brought to the surface and spliced to the other end of the new cable section. The repaired cable, with the new section installed, would then be relaid on the sea floor or buried, as required. The time required for a repair ship to make the additional cuts, the additional time to repair two spliced ends instead of one, the additional time to relay the longer length of cable on the sea floor, and the cost of the new cable required to span the length of sea floor between the north and south cuts with enough slack to be lowered from the repair ship would all contribute to an increased cost to repair the cable. The additional cuts and repairs would also lengthen the time of cable outage, resulting in lost data transmission for PC Landing's customers.

84. Staff found it highly unlikely that a cable fault would occur at the turbine location for reasons not related to the project.[60] However, Commission staff determined that if such a repair was needed, it could be completed by PC Landing.[61] While the EA did not specifically acknowledge the additional 480 meters of slack cable described by PC Landing, the EA did consider the repairs as described by both PC Landing and Snohomish PUD and concluded that the procedures would not be dissimilar to those used if other obstructions were encountered during a repair. Furthermore, and as Snohomish PUD points out in its March 8, 2013 response to PC Landing Corp's comments, any additional cable needed to conduct a repair of PC-1 North would be laid west of the existing cable route. Since the turbines will be located to the east of PC-1 North, any additional cable needed for a fault repair will be located a considerable distance away from the proposed turbines. Thus, the cables are unlikely to become entangled with the turbines. In sum, because needed repairs to PC-1 North are unlikely, but are not

[58] We address Commission staff's compliance with the National Environmental Policy Act further below.

[59] EA at 130-31.

[60] *Id.* at 130.

[61] *Id.*

prohibited by the installation and operation of the project, we find that staff adequately considered the repair-related effects to PC-1.

4. Additional Protection Measures

85. PC Landing argues that the Hazard Identification and Risk Assessment is inadequate to protect the safety and integrity of PC-1 North. To provide further protection, PC Landing requests that the Commission require the following additional 12 provisions through a proximity agreement or as commitments in Snohomish PUD's Hazard Identification and Risk Assessment:[62]

(1) Provide PC Landing a minimum of 14-days advance notice and an opportunity to consult on all planned marine operations occurring within 1,000 meters of PC-1 North, and notice as soon as reasonably practicable of any emergency marine operations;
(2) Ensure that any contractor used for the work is suitably qualified and experienced in carrying out the type of work for which it is engaged;
(3) Provide PC Landing the right to have a representative on board the lead vessel for all installation, removal, repair operations within 1,000 meters of PC-1 North at Snohomish PUD's expense, and the right to request, at its own expense, a representative on board the lead vessel for other marine operations. The PC Landing representative may, after consultation with Snohomish PUD's representative, request that the work be suspended if, in the representative's opinion, the actions in carrying out the work are likely to cause or result in damage to PC-1 North or such actions are not in accordance with the Hazard Identification and Risk Assessment or proximity agreement;
(4) Station a cable guard vessel over PC-1 North at Snohomish PUD's expense during all installation, removal, and repair operations;
(5) Provide PC Landing daily progress reports during marine operations, including precise times when equipment enters and leaves the area adjacent to PC-1 North, and a full report on the marine operations following completion of the activity, including a full report of any damages to PC-1 North;
(6) Provide PC Landing real time access to all monitoring data throughout the

[62] PC Landing's September 5, 2013 comment letter at 15-17.

project term;

(7) In the event that scour or uneven settling of the turbines requires additional marine operations, such as installation of scour resistant material or scour skirts, give PC Landing the option to require, at Snohomish PUD's expense, the installation of physical protection measures around PC-1 North;

(8) Require a full indemnification and a surety bond by Snohomish PUD for all marine operations occurring within 1,000 meters of PC-1 North to protect against possible damage to the cable;

(9) Provide PC Landing the opportunity to review and comment on final turbine foundation and footing design before construction is permitted to begin;

(10) Provide PC Landing final as-built drawings of the position of turbines and route of the trunk cables;

(11) As part of the monitoring program, require Snohomish PUD to conduct ROV inspections of PC-1 North adjacent to the turbines for potential physical impacts on the cable;

(12) In the event that repair of PC-1 North is required in the vicinity of the turbines:

- (i) require Snohomish PUD to coordinate with PC Landing on the repair of PC-1North;
- (ii) require Snohomish PUD to shut down the turbines prior to commencement of PC-1 North repair activity;
- (iii) require Snohomish PUD to cease all project marine operations during the PC-1 repair, and except in an emergency, ensure that PC Landing has priority to complete the repair of PC-1 North over repair of the turbines; and
- (iv) ensure that Snohomish PUD will indemnify PC Landing for all additional costs of repair as a result of the proximity of the turbines to PC-1 North.

86. Snohomish PUD opposes the additional conditions and states the measures do not offer any additional protection to PC-1 North as they are redundant to the measures already addressed by the Hazard Identification and Risk Assessment. Unrelated to PC Landing's filing, Snohomish PUD requests clarification that the Hazard Identification and Risk Assessment applies to only in-water construction within 1,000 meters of the PC-1 North cable. Although PC Landing's proposed measures and Snohomish PUD's request for clarification were submitted late in this proceeding, we address each below, including Snohomish PUD's specific arguments why PC Landing's additional measures are not needed.

87. Snohomish PUD argues that PC Landing's request for consultation for marine operations occurring within 1,000 meters of PC-1 North is expressly established through

staff's recommendation to develop the Hazard Identification and Risk Assessment in consultation with PC Landing. Snohomish PUD further argues that to the extent PC Landing desires to be notified of the timing when certain marine operations will take place, it may request such a condition in the development of the Hazard Identification and Risk Assessment. We agree with PC Landing that it should be notified of the timing of marine operations that include the installation, repair, or removal of the turbines taking place within 1,000 meters of PC-1 North. This requested provision is reasonable, is not already provided for in the Hazard Identification and Risk Assessment, and will provide PC Landing with notice of Snohomish PUD's relevant marine operations. Similarly, keeping PC Landing informed as to the progress of turbine installation, maintenance, and removal until such actions are completed is reasonable. The frequency and notification procedures are best left to the process of defining the details of the final Hazard Identification and Risk Assessment. Thus, Article 411 requires that the Hazard Identification and Risk Assessment include such notification procedures.

88. Snohomish PUD asserts that a requirement to provide full indemnification and a surety bond for all marine operations occurring within 1,000 meters of PC-1 North is unnecessary and inappropriate because liability for damage is already addressed by relevant common law and the FPA. We concur. Section 10(c) of the FPA provides that a licensee "shall be liable for all damages occasioned to the property of others by the construction, maintenance, or operation of the project works or the works appurtenant or accessory thereto, constructed under the license . . . ."[63] Because nothing in this license shields the licensee from any damages it may inflict on the property of others, including on property owned by PC Landing, we find this measure unnecessary.

89. Snohomish PUD contends that a requirement to provide PC Landing with final, as-built drawings of the position of the turbines and route of the trunk cables is not necessary because the license already requires the public filing of such drawings. Snohomoish PUD also states that in the event all or part of the revised exhibits must be designated as Critical Energy Infrastructure Information (CEII) or as otherwise protected material, PC Landing can gain access to such material using the Commission's CEII procedures. We find that PC Landing's request for the final, as built drawings of the project is reasonable, is not unduly burdensome to Snohomish PUD, and will enable PC Landing to confirm the location of the project. Therefore, in Article 304 we require Snohomish PUD to send a courtesy copy of the revised Exhibit G to PC Landing.

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[63] 16 U.S.C. § 803(c) (2012). *See also Pacific Gas and Electric Co.*, 78 FERC ¶ 61,094, at 61,337 (1997) (explaining that it is "licensee's fundamental responsibility to keep a project safe and operational.") (citation omitted).

90. Snohomish PUD states that while it is willing to coordinate with PC Landing on necessary repairs to PC-1 North, a mandatory requirement for such coordination, automatic shutdown of the project, cessation of all marine operations, and indemnification for repair costs sought by PC Landing is premature and unnecessary. Snohomish PUD argues that it would be speculation at this point to attempt to set out what conditions might be required or appropriate for a theoretical repair of PC-1 North, including shutdown and cessation of marine operations. Snohomish PUD states that such a decision would require an analysis of the particular facts and circumstances, the anticipated repair plan, and other factors. Further, it states that the Project Safety Plan and the Emergency Shutdown Plan, required by Articles 305 and 307 of this license, already provide that where a hazardous condition arises, including regarding potential issues with PC-1 North repairs, Snohomish PUD will evaluate the condition and current operation parameters and modify or cease turbine operation until the hazard can be circumvented or resolved. We concur with Snohomish PUD that such a measure is speculative and not necessary.

91. In addition, many of PC Landing's proposed measures are not needed because of the scour protection requirements included in this license. These measures include requests by PC Landing for real-time monitoring data, PC Landing's ability to require unspecified physical protection measures around PC-1 North at Snohomish PUD's expense, and the requirement to conduct ROV inspections of PC-1 North adjacent to the turbines. The Project Safety and the Project Operations and Monitoring plans include reporting requirements, will consider the monitoring and mitigation of scour, and require Snohomish PUD to quantify scour, deposition, or other changes to the seabed. Implementation of the Project Safety Plan and Emergency Shutdown Plan will ensure appropriate coordination during any repair to PC-1 North. Likewise, implementation of the Project Operations and Monitoring Plan and providing the Annual Performance Report to PC Landing (Article 310) will ensure PC Landing is timely notified if scour thresholds are exceeded or if the turbines are not performing within their specifications, respectively. In addition, as we have previously discussed, defining the protective measures needed to protect PC-1 North at this time is premature and would be best determined if and when site-specific issues arise. Therefore, we will not require these measures.

92. The remaining proposed conditions, including a requirement for a PC Landing representative to be aboard the lead installation vessel to monitor installation activities and have the authority to request that work be suspended under certain circumstances are also unnecessary. We fully expect Snohomish PUD to use contractors with the necessary experience to install, maintain, and remove the turbines. As staff indicated in the EA, OpenHydro has successfully installed the turbines within an accuracy of a few meters and Snohomish PUD has indicated it intends to use OpenHydro's procedures for installation, maintenance, and removal. Further, the license requires Snohomish PUD to implement the Hazard Identification and Risk Assessment, which will ensure safe installation and

protection of PC-1 North. The need for a guard vessel is also unnecessary because the operators installing, maintaining, and removing the turbines will use the same types of geographic positioning systems to place the turbine as the guard vessel would use to identify the PC-1 North. Consequently, the work vessels will be fully aware of the position of both the turbines and PC-1 North.

93. As to Snohomish PUD's request that the Hazard Identification and Risk Assessment only apply to in-water construction within 1,000 meters of the PC-1 North cable, we deny the request. In the EA,[64] staff recognized that activities associated with the horizontal directional drilling and connection of the trunk cables at the drilling exit will require the use of anchors,[65] and the barges and tugs needed to implement such actions must navigate across PC-1 North before and after such operations begin. Therefore, the Hazard Identification and Risk Assessment should be completed and filed at least 90 days prior to the start of any in-water construction.

C. Tribal Concerns

94. The Suquamish Tribe, Tulalip Tribes, and the Treaty Council (collectively, Tribes) state that they have treaty-reserved fishing rights under the Treaty of Point Elliot,[66] reserving their right to take fish in usual and accustomed fishing areas.[67] These Tribes' state that the site for the proposed Admiralty Inlet Project is located in one of their usual and accustomed fishing areas, and that the project would violate their tribal fishing rights because the potential of fishing gear or anchor lines getting caught in the project's

[64] *See* EA at 127.

[65] Article 411 clarifies that the use of "live boating" techniques will not be required during the horizontal directional drilling and connection of the trunk cables.

[66] *See* 12 Stat. 927 (1855); and *United States v. Washington*, 459 F. Supp. 1020, 1039 (W.D. Wash. 1978).

[67] Article V of the treaty states:

> The right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the Territory, and of erecting temporary houses for the purpose of curing, together with the privilege of hunting and gathering roots and berries on open and unclaimed lands.

See 12 Stat. 927.

turbines would effectively close this area for fishing.[68] The Tribes also express concern that the monitoring plans for the project are not capable of monitoring behavioral changes in fish or observing harm of fish.

95. Pursuant to sections 10(a)(2)(B) and 10(a)(3) of the FPA, the Commission solicits and considers recommendations, including fish and wildlife recommendations, of Indian tribes affected by a proposed project.[69] The Commission has stated that these sections of the FPA give such Indian tribes "a special status of their own" in the licensing process parallel to that of resource agencies.[70] Accordingly, the Commission has given the tribes' comments and recommendations consideration similar to that given those of resource agencies under section 10(a) of the FPA.

96. Though we respect the Tribes' perspective and concerns, we disagree that licensing this project will adversely affect their treaty rights. The known fishing areas in Admiralty Inlet are located several kilometers or more from the proposed turbine sites.[71] The project will be short-term, will occupy an extremely small portion of Admiralty Inlet,[72] and no travel or navigational restrictions on project waters are needed.[73] More importantly, this license contains no prohibitions on the right to fish in and around project waters, and, as explained below, the license contains appropriate conditions to protect tribal fisheries.

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[68] Citing *Muckleshoot v. Hall*, 698 F. Supp. 1504 (W.D. Wash 1988).

[69] "Affected" tribes are those whose legal rights as a tribe may be affected by the project. *See* 18 C.F.R. § 4.30(b)(10) (2012).

[70] Regulations Governing Submittal of Proposed Hydropower License Conditions and Other Matters (Order No. 533), 56 Fed. Reg. 23108-01 (May 20, 1991), FERC Stats. & Regs., Regulations Preambles 1991-1996, ¶ 30,921, at 30,107 (May 8, 1991).

[71] EA at 126.

[72] The project, and installation of various components, would occupy less than 0.05 percent of the horizontal cross section of Admiralty Inlet.

[73] The U.S. Coast Guard is not requiring a Regulated Navigation Area, which would have restricted towing, anchoring, bottom fishing, dredging, or other deep-water activities in the Regulated Navigation Area. *See* Jennifer Harper, FERC, November 27, 2012 Telephone Memorandum in this proceeding.

97. In regard to harm to fish, staff's analysis in the EA revealed little risk to individual fish and almost no risk at a population or fishery scale.[74] Adverse effects from sound are estimated to occur for only short periods of time (less than five percent overall) and only within a short distance of the turbines (10 meters).[75] Staff determined that fish spawning will also be protected with seasonal restrictions on in-water construction (Article 410), and that fish will be protected by the measures required in the Near Turbine Monitoring and Mitigation Plan (Article 406) and the Acoustic Monitoring and Mitigation Plan (Article 404), discussed above and summarized further below.

98. The conditions included in NMFS's BO will provide additional protection for tribal fisheries. As previously discussed, to protect against noise-related effects, the licensee is required to cease operating the project if sound levels of 120 dB extend beyond 750 meters from the turbine or if a sound level of 180 dB is exceeded any distance from the turbines. Also, to protect against turbine strike of fish, the licensee is required to collect data on the fish passing through the plane of the turbine sufficient to identify the number and taxonomic group of at least half of the individuals passing through the turbine during operation, and NMFS's incidental take statement authorizes incidental take of only ten adult salmon or steelhead, one adult yelloweye rockfish, one adult canary rockfish, one adult Bocaccio swimming through the plane of the turbines in a given year. With a low risk of harm to fish combined with these protection measures and the short term of the project, the risk to tribal fisheries is extremely low.

99. In addition, a number of the license articles require Snohomish PUD to consult with the Tribes as to environmental and other project-related matters, and the Tribes will be members of the MARC. Accordingly, there will be multiple fora in which the Tribes' concerns can be raised and addressed during the term of the license.[76]

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[74] EA at B-9.

[75] *Id.* at 76.

[76] Specifically, this license requires Snohomish PUD to consult with the Tulalip Tribes, the Suquamish Tribe, the Swinomish Indian Tribal Community, and the Sauk-Suiattle Tribe on the: (1) Project Removal and Site Restoration Plan (Article 401); (2) Acoustic Monitoring and Mitigation Plan (Article 404); (3) Benthic Monitoring and Mitigation Plan (Article 405); (4) Near-Field Monitoring and Mitigation Plan (Article 406); (5) Marine Mammal Monitoring and Mitigation Plan (Article 407); (6) Derelict Gear Monitoring Plan (Article 409); and (7) In-Water Construction Schedule (Article 410). Among other things, these plans require consultation with the tribes on: the results of studies, possible changes to project monitoring, on changes to the required plans

(continued…)

100. For these reasons, we find that this license will adequately monitor and protect fish, will enable the Commission to require the licensee to stop project operations if it is observed that the project results in inappropriate harm to fish, and in light of the lack of navigational or fishing restrictions on project waters, will not restrict the right of the Tribes to access their treaty-reserved fishing areas.

D. Horizontal Directional Drilling and Construction Noise Abatement

101. To minimize soil disturbance at the seafloor and protect shoreline resources, Snohomish PUD prepared an HDD Plan.[77] The plan defines the techniques and materials needed for the drilling process and provides methods to avoid causing erosion or spills. Because the drilling and construction process will occur near residences, staff recommended that drilling be conducted between 7:00 a.m. and 7:00 p.m. However, once drilling starts, it may not be practicable to stop drilling until the bore hole is completed. Therefore, in the EA,[78] Commission staff recommended provisions to implement noise abatement measures in the event HDD processes extend into nighttime hours. Article 402 requires implementation of the plan with staff's additional provisions.

102. Washington Ecology included several requirements related to protecting water quality during HDD in its Water Quality Certificate. Those measures are discussed above and required by this license (Ordering Paragraph, E, Article 402, and Appedix A).

E. Invasive Species Management and Control

103. To minimize the potential introduction and spread of invasive plants, staff recommended Snohomish PUD use weed-free fill material and native plants and soils to revegetate disturbed areas; regularly inspect disturbed areas for colonizing invasive plants; and promptly take steps to eradicated invasive plants.[79] Article 403 requires implementing these measures.

F. Interpretation and Education Plan

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requested by the licensee, and possible measures to address adverse effects identified by the licensee.

[77] *Id.* at 30-31.

[78] *Id.* at 141-42.

[79] *Id.* at 113.

104. To educate the public about the project, the National Park Service recommended that Snohomish PUD develop and install an interpretive display at the project. Staff recommended[80] Snohomish PUD file a plan for the installation of such a display at a publicly accessible site within view of the turbine locations. Article 413 requries this measure.

G. Project Safety Plans

105. FWS and Washington Fish and Wildlife recommended implementation of the Project Safeguard Plans, which include the Project and Public Safety Plan, the Navigation Safety Plan, the Emergency Shutdown Plan, and the Project Removal Plan. The Project and Public Safety Plan and Navigation Safety Plan are not within the scope of section 10(j) because they are not specific fish and wildlife measures, but are considered under the broad public-interest standard of section 10(a)(1) and are required by Articles 305 and 306, respectively.

COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

106. The draft and final EAs analyze the potential impacts to aquatic resources, terrestrial resources, threatened and endangered species, recreation, land use and aesthetics, cultural resources, other developmental activities such as the PC-1 North cable, and cumulative impacts. In addition to Snohomish PUD's proposal, staff considered two alternatives: (1) Snohomish PUD's proposal with staff modifications; and (2) the no-action alternative, meaning the project would not be constructed and there would be no change to the existing environment.[81]

107. The staff alternative included Snohomish PUD's proposals, with modifications, to implement measures for: (1) removing the project and restoring the site; (2) preventing further turbine interaction during emergency shutdowns (discussed further below); (3) abating noise associated with the HDD processes in nighttime hours; (4) mitigating scour among the turbine footings on the seafloor; (5) installing an interpretive display for public education; (6) preventing damage to archeological or historic properties; (7) preventing unreasonable obstructions the project might have on navigation; and

[80] *Id.* at 121.

[81] *Id*. at 15-23.

(8) coordinating project installation and maintenance with Washington State Ferries to avoid disruptions to scheduled ferry services.[82]

108. As described in the EA, constructing and operating the project would result in minor and short-term effects including: (1) disturbances to the seabed during the HDD process and during installation of the turbines; (2) noise and visual effects during the construction of the onshore facilities; (3) navigability over project waters on fishermen, recreational boaters, and ferry operators during project installation, onsite maintenance, and project removal; and (4) operational noise effects on fish and marine mammals. Commission staff also determined that the environmental monitoring plans proposed by Snohomish PUD and as modified by Commission staff would provide information to confirm such impacts.[83] Based on these findings, staff found that issuance of a license for the Admiralty Inlet Project, with staff's recommended environmental measures, would not constitute a major federal action significantly affecting the quality of the human environment.[84]

A. Analysis of Effects and Mitigation Measures

109. PC Landing argues the EA inadequately analyzes the potential impacts to PC-1 North resulting from new marine operations due to the project's mechanical brake, including the potential risk of increased anchor drops. PC Landing also argues that the EA inadequately evaluates scour impacts because the EA fails to address the uncertainty of the underlying subsurface sediments and turbine footing design. PC Landing states that the EA should identify the specific thresholds at which observed scour will trigger mitigation and require notice to PC Landing, and define the specific mitigation measures that will be put in place.[85]

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[82] *Id*. at 23-24.

[83] *Id*. at 173-74.

[84] *Id.* at 179.

[85] PC Landing (citing *Dine Citizens Against Ruining Our Env't. v. Klein*, states that by not identifying what marine operations will take place to correct scour impacts, Commission staff violated NEPA by deferring analysis of the mitigation. 747 F. Supp. 2d 1234, 1258-59 (D. Colo. 2010) (Dine Citizens)).

110. We disagree. Section 102(2)(E) of NEPA requires agencies to take a "hard look" at the potential environmental consequences of their proposed actions.[86] However, in carrying out their NEPA responsibilities, agencies are governed by a rule of reason.[87] Commission staff determined that the need to cease turbine rotation would likely occur in four situations, including: (1) if a killer whale is injured by the project; (2) if acoustic monitoring indicates noise levels have the potential to injure marine mammals; (3) if monitoring suggests injuries or mortality beyond incidential take limits specified by NMFS; and (4) if vibration or differential settlement in excess of design thresholds are detected. Commission staff explained,[88] and we have summarized in this order, that the probability of any of these conditions occurring is very low.

111. Nevertheless, Commission staff also explained,[89] and we affirm, that the measures proposed by Snohomish PUD will adequately minimize the risk of any anchor drops causing damage to PC-1 North. These measures include: (1) installing, removing, and maintaining the turbines under only the most favorable weather and tidal conditions; (2) using "live-boat" techniques, allowing Snohomish PUD to conduct marine operations without the use of any anchors; and (3) developing and implementing a Hazard Identification and Risk Assessment in consultation with the Coast Guard, the Corps, and PC Landing. These measures apply to Snohomish PUD's mechanical brake operations.

112. In regard to scour, Commission staff found that any scour caused by the project's turbines will likely be minimal and limited to the area surrounding the foundational footings of the turbines.[90] Staff also recommended, and this license requires in Article 304, that Snohomish PUD submit to the Commission plans and specifications to confirm that the size of the footings are appropriately designed. To further ensure that PC-1 North is not affected by any scouring caused by the project, staff recommended,[91]

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[86] *Alabama Power Co.*, 141 FERC ¶ 61,127, at P 80 (citing *Comm. for Auto Responsibility v. Solomon*, 603 F.2d 992, 1002 (D.C. Cir. 1979), *cert. denied*, 445 U.S. 915 (1980)).

[87] *Natural Res. Defense Council v. Morton*, 458 F.2d 827, 834-37 (D.C. Cir. 1972).

[88] EA at 82-84.

[89] *Id.* at 126-31, 170-71.

[90] *Id.* at 32-35.

[91] *See id.* at 32-34.

and this license requires (Article 309), Snohomish PUD to monitor and measure scour, to define scour thresholds triggering mitigation measures in consultation with PC Landing and state and federal agencies, and to implement protection measures to correct scouring that propagates towards PC-1 North.

113. Although PC Landing argues that the scour protection measures should be identified and evaluated prior to licensing, Commission staff determined, and we confirm, that any number of solutions may be implemented to correct scour, including the use of scour skirts or scour-resistant materials, or even project removal. Therefore, it is unreasonable to develop more detailed plans for a problem that is unlikely to occur and best dealt with through the development of problem-specific solutions.

114. Further, there is no requirement that a determination of mitigation plans be made at the time of license issuance.[92] PC Landing cites *Dine Citizens* in its contention that Commission staff violated NEPA by deferring analysis of mitigation.[93] However, in *Dine Citizens* the inadequate EA contained only "vague reference to 'mitigation/data recovery plans'" that were to be prepared.[94] Here, where Commission staff analyzed specific mitigation measures, including monitoring designed to ensure that scouring towards PC-1 North is measured and corrected appropriately, the Commission has satisfied NEPA's requirement to reasonably consider and discuss mitigation measures.[95]

115. For these reasons, we disagree with PC Landing and find that Commission staff thoroughly evaluated the potential impacts to PC-1 North resulting from the project's mechanical brake and thoroughly considered and mitigated the scour-related impacts the project may have on PC-1 North.

B. Analysis of "Worst-Case" Scenarios

[92] *See City of Seattle, Washington, Dep't of Lighting*, 4 FERC ¶ 61,114 (1978); *see also Idaho Power Co.*, 110 FERC ¶ 61,242, at PP 12-18 (2005) (finding that the details of specific mitigation and enhancement measures approved in the license order may be developed in post-license plans).

[93] 747 F. Supp. 2d 1234 (D. Colo. 2010).

[94] *Id.* at 1258.

[95] *Marysville Hydro Partners*, 62 FERC ¶ 61,011, n.52 (1993) ("[T]he Supreme Court has held that NEPA does not require agencies to develop a final mitigation plan prior to a proposed agency action.") (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989)).

116. PC Landing states that although the EA addresses normal installation, removal, and maintenance, it fails to describe or analyze non-standard marine operations or potential hazards to PC-1 North from marine operations in the event of differential settling or scour from turbine failure and efforts to recover a failed turbine. Without such a "worst-case" assessment, PC Landing claims the Commission cannot make a finding that there would be no impacts to PC-1 North resulting from the project.

117. NEPA does not require the precision PC Landing Corp seeks in our NEPA analysis. Concerning speculative and unknown information, "An EIS [or an EA] is required to furnish only such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well[-]nigh impossible."[96] We find that it would be pure speculation as to what a so called "worst-case" scenario may involve, and that such conjecture on the various permutations of non-routine marine operations, as PC Landing requests, is not reasonably foreseeable or needed at this time.

C. Need for an Environmental Impact Statement

118. The Treaty Council asserts that the Admiralty Inlet Project will significantly affect the quality of the human environment and that, therefore, under NEPA's requirements,[97] an Environmental Impact Statement (EIS) rather than an EA is required. PC Landing also contends that because of the substantial unknowns in operational procedures inherent in the experimental project, particularly in regard to the braking system, the Commission should conduct an EIS.

119. The test for determining the need for an EIS is whether an action will have a significant impact on the quality of the human environment.[98] To that end, staff prepared an EA to assist in determining whether to prepare an EIS.[99] As explained throughout this order, in preparing the EA, staff thoroughly considered the potential impacts of licensing the project on all of the potentially effected resources, including impacts to marine mammals, fish, fishing, benthic communities, threatened and endangered species, navigation, submerged cables, terrestrial vegetation, water quality, aquatic species,

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[96] *Natural Res. Def. Council v. Callaway*, 524 F.2d 79, 88 (2nd Cir. 1975).

[97] 42 U.S.C. §§ 4321-4370(f) (2012).

[98] *Id.* § 4332(2)(c).

[99] 40 C.F.R. § 1501.4(c) (2013).

wildlife, and recreation. Although staff identified potential impacts to some resources, these impacts are minor and short term.

120. Included in its analysis of potential impacts, staff analyzed Snohomish PUD's proposal to use a mechanical brake to shut down the turbines,[100] which will require Snohomish PUD to use an ROV to insert a pin through the outer ring of a turbine and into the blade housing. The complete shutdown process is estimated to take up to four days, but is more likely to take less than a day.[101] Snohomish PUD's proposal to employ a mechanical braking system is novel, as the Commission, to date, has only approved tidal and in-river pilot projects with remotely activated, electrical brakes. However, staff held a technical conference on this subject, which PC Landing attended and participated therein. Staff determined that although the need to deploy the mechanical brake is low, the mechanical brake can work within a reasonable timeframe should it be necessary to protect environmental resources, PC-1 North, or public safety.[102]

121. The Council on Environmental Quality's regulations implementing NEPA state that whether a project will have significant impacts on the environment depends on both "context" and "intensity" of the impacts.[103] The context for this project involves a very small portion of Admiralty Inlet for a short-time period, and the intensity of the impacts is low, especially because of the monitoring and adaptive management procedures associated with the project. Therefore, we agree with the analysis and findings in the EA that the anticipated impacts of the project, taken as a whole, are not of sufficient magnitude to significantly affect the human environment.

D. Alternatives Considered

122. PC Landing asserts that the EA did not consider a reasonable range of "alternatives" that it proposed, such as: (1) alternative thresholds of tidal power density necessary for a commercially viable tidal energy project; and (2) alternative sites located west of the proposed turbine location, about 500 to 950 meters from PC-1 North. PC

[100] *See* EA at 80-84.

[101] Snohomish PUD states that its mechanical braking system could be employed within 3–9 hours. *See* Snohomish PUD's May 7, 2013 Supplemental Information Filing at 6.

[102] *See* EA at 84.

[103] 40 C.F.R. § 1508.27(b) (2013).

Landing contends that, in declining to consider these alternatives, the EA does not satisfy the NEPA requirement that a reasonable range of alternatives be defined and considered.[104]

123. The range of alternatives that must be considered under NEPA is within an agency's discretion.[105] The discussion of alternatives need not be exhaustive and need only provide sufficient information to permit a reasoned choice of alternatives, i.e., "reasonable" alternatives.[106] There is also no requirement to examine each proposed mitigation or enhancement measure (or groups of such measures submitted by an entity) as a separate alternative or alternatives.[107]

124. The EA discussed PC Landing's recommendations, comments, and proposed alternative measures as they applied to the particular resources at issue.[108] To the extent the EA did not specifically include in the staff alternative certain measures that PC Landing and others recommended, it discussed the reasons for not adopting those recommendations.[109] Accordingly, the analytical approach taken in the EA considered a reasonable range of alternatives and enabled staff to make informed recommendations concerning the licensing of the Admiralty Inlet Project.

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[104] PC Landing also argues that Commission staff failed to provide analysis in the EA to address many of its concerns, including impacts on PC-1 North because of anchor drops and how to mitigate such impacts; impacts to PC-1 North resulting from turbine failure; and repair-related impacts to PC-1 North.

[105] *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551-52 (1976).

[106] *See* section 102(2)(C)(iii) of NEPA, 42 U.S.C. § 4332(2)(C)(iii); and *North Carolina v. FPC*, 533 F.2d 702, 707 (D.C. Cir. 1976) (citing *Natural Res. Def. Council v. Morton*, 485 F.2d 827 (D.C. Cir. 1972)).

[107] *Idaho Power Co.*, 110 FERC ¶ 61,242, at PP 80-85 (2005).

[108] *See, e.g.*, discussion of impacts related to: anchor drops (*see* EA at 126-31); turbine failure (*see* EA at 126-31); and repairs to PC-1 North (*see* EA at 126-31).

[109] *See, e.g.*, discussion of why the turbine site locations enable Snohomish PUD to gain information to determine if the energy potential for a commercial scale project is feasible without negative impacts to the PC-1 North cable (*see* EA at 126-31); and discussion of why EA did not recommend adopting PC Landing's recommended location for siting of the project's turbines (*see* EA at 170-72, B-6).

E. Cumulative Impacts

125. PC Landing asserts that the EA's cumulative impact analysis is deficient primarily because it does not consider the risks posed by the project in the context of any and all other proposed tidal energy projects located, or planned to be located, adjacent to submarine telecommunication cables. Specifically, PC Landing argues the Commission should consider ORPC Alaska 2, LLC's East Foreland Tidal Energy Project No. 13821, proposed to be located in Nikiski, Alaska, which is currently being studied under a preliminary permit.

126. In the EA, Commission staff analyzed the cumulative impacts the project would have on marine fish and mammals in combination with the other activities that occur within Admiralty Inlet, including commercial fishing and vessel traffic. Commission staff also determined that the installation of additional hydrokinetic devices adjacent to undersea communication cables may be possible in the future, but that their development is not well enough defined to be reasonably foreseeable at this time.[110]

127. We agree with Commission staff's analysis of the cumulative impacts of the project, and find that due to the uncertainty of whether the preliminary permit issued for the East Foreland Tidal Energy Project No. 13821 will ultimately lead to a license application,[111] consideration of that preliminary permit's cumulative effect, if any, is unforeseeable and speculative at this time.

F. Recommendations from the Federal Communications Commission

128. On October 4, 2012, the FCC submitted a letter stating that it does not oppose the Commission's licensing of the Admiralty Inlet Project at a minimum separation distance of 170 meters, "so long as [the Commission] determines that the [p]roject does not present material risk to PC-1 [North]," and if the Commission is able to ensure that Snohomish PUD adheres to the safety and separation distance representations it has made.[112] Subsequently, on April 22, 2013, the FCC invited the Commission to nominate a representative for membership on the Communications Security, Reliability, and Interoperability Council (CSRIC) to encourage the development of guidance in determining appropriate separation distances between hydrokinetic energy projects and

[110] EA at 84.

[111] It is the Commission's experience that preliminary permits infrequently result in the development of a license application.

[112] FCC's October 4, 2012 letter at 3.

undersea communications cables. Towards that end, the FCC stated in its invitation that it believes the Commission's participation in the CSRIC is important because "neither FERC nor the FCC currently has sufficient expert guidance available to resolve the important issue of appropriate separation distance[s] between undersea communications . . . and undersea renewable energy projects . . . ."[113]

129. PC Landing argues that the EA fails to sufficiency weigh the FCC's conclusions, and that further study is needed before a proper separation distance can be established.

130. Snohomish PUD responds that the FCC has not concluded that further study is necessary to determine an appropriate setback distance in this proceeding because the FCC has not changed its view from its October 4, 2012 letter, which states that the FCC does not oppose the project so long as the Commission determines that the project does not pose a material risk to PC-1 North. Snohomish PUD also states that Commission staff fully analyzed appropriate industry guidelines and recommendations in its EA when it recommended approving the location of the project with a separation distance of 170 and 238 meters.

131. In the EA, Commission staff weighed both the FCC's recommendations, industry guidelines, and Snohomish PUD's proposed measures in determining that a setback distance of 170 meters, along with strict conditions under which installation, maintenance, and removal occur, will protect the safety of the PC-1 North cable. As PC Landing points out, the FCC in its April 22, 2013 invitation to join the CSRIC, indicates that future project proposals may benefit by collaboration between CSRIC stakeholders to identify appropriate separation distances between hydrokinetic devices and undersea communications cables. However, the FCC has not disavowed its October 4, 2012 letter, deferring to the Commision whether or not to license the project upon a determination that it does not present a material risk to the cable and that Snohomish PUD will adhere to its safety and seperation representations. With the safety measures discussed and the setback distance of 170 meters, the Admiralty Inlet Project will not pose a material risk to the PC-1 North Cable, and the FCC's concerns are accordingly addressed.

G. Impacts to Killer Whales

132. The ORCA Conservancy and the Pacific Whale Watch Association filed comments on the EA, asserting that the project should not be licensed because, as proposed, it poses unacceptable risks to killer whales. They state that juvenile whales or whales in pursuit of fish could swim into the blades and be injured or killed. They

[113] *Id.* at 2.

question the effectiveness of the emergency shutdown mechanism because of the time it could take to implement it (up to four days). They express concern that the sound generated by the turbines will cause pain for the whales and will cause behavioral displacement or discourage passage through the inlet. They question whether the project can be authorized under section 7 of the ESA, arguing that recent deaths have reduced the southern resident population of killer whales to the point where any take could result in jeopardy to the population. They also request that the project not be authorized without affirmative proof that it will not harm whales.

133. The EA sufficiently considered the project's impacts on marine mammals, including the killer whale, and determined the probability of whale interaction with the turbines as low. Specifically, staff reported that killer whales will primarily be passing through Admiralty Inlet in transit, and that they dive to the depths of the turbines infrequently.[114] Further, staff determined that the noise produced by the turbines will likely cause the whales to avoid the turbines.[115] However, staff also found that should a killer whale be struck by a blade, the animal would likely only be bruised.[116]

134. In regard to turbine noise, the EA concluded that the nature of the noise coming from the relatively slow turbines and passive mechanics was not likely to harm or displace whales or fish.[117] Staff determined that outside of a few hundred meters from the operating turbines, the chance of marine mammals, including killer whales, from distinguishing the turbines from background noise was less than 25 percent.[118]

135. This license contains requirements that will protect killer whales and other marine mammals. The Near Turbine Monitoring and Mitigation Plan requires detection of fish and should provide observation of nearby killer whales. Those observations combined with the hydrophone monitoring required under the Marine Mammal Protection and Mitigation Plan will allow detection and observation of killer whales if they come near the turbines. The adaptive management provisions of the Marine Mammal Protection and Mitigation Plan will also allow adjustments to project operation if potential harm to killer whales is detected or, in the very unlikely event, a whale is injured. In addition, the

[114] EA at 108-09.

[115] NMFS's December 3, 2013 BO at 106.

[116] EA at 108-109.

[117] *Id.* at 78.

[118] *Id.*

Acoustic Monitoring and Mitigation Plan will allow detection of sounds exceeding acceptable thresholds and the Marine Mammal Monitoring and Mitigation Plan will allow detection of behavioral change, including adaptive management strategies permitting adjustments, if necessary.

136. This license also contains noise-related requirements that will ensure the project does not have detrimental effects on killer whale behavior. The Acoustic Monitoring and Mitigation Plan of this license requires that if the sound level from turbine operation exceeds 120 dB[119] at a distance greater than 750 meters from the turbine when the turbine is operating at the 95th percentile of blade rotation velocity, the licensee shall engage the turbine brake until modifications to turbine operations or configuration can be made to reduce the sound level. If the maximum allowable area of 750 meters around the turbines was affected by noise emanating from the project, that affected area would occupy less than 15 percent of the cross section of Admiralty Inlet, leaving the remainder of the inlet available for whale passage or foraging. If killer whales were to respond negatively to noise levels, a behavioral change of this degree will not have a detrimental energy cost to a highly mobile killer whale.[120]

137. Given the very low probability of injury or harm, small project footprint, and short license term, coupled with monitoring to detect possible adverse effects and mitigation available to address such effects, including shutdown options if needed, we find that the risk from this project to the killer whale is small and relatively well understood.

EXEMPTION OF THE FERC FORM 80 RECREATION REPORT

138. The FERC Form 80 Recreation Report (Form 80) collects recreation usage data on recreation facilities at projects through the term of their licenses. Since the Admiralty Inlet 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 414).

ADMINISTRATIVE PROVISIONS

A. Annual Charges

139. 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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[119] A sound level of 120 dB is NMFS's threshold for harassment.

[120] NMFS's December 3, 2013 BO at 75, 107.

Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW, including this project, will not be assessed an annual charge.

B. Exhibit F and G Drawings

140. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of these drawings.

C. Project Financing

To ensure that sufficient funds are available for project construction, operation, maintenance, and removal, Article 203 requires the licensee to file for Commission approval documentation of project financing at least 90 days before starting any construction associated with the project.

D. Project Land Rights Progress Report

141. The project will occupy 0.245 acres. Standard Article 5 set forth in L-Form 14 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 Standard Article 5, Article 204 requires the licensee to file no later than four years after license issuance, a report detailing its progress on acquiring title in fee or the necessary rights to all lands within the project boundary. The report shall 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 land prior to the five-year deadline.

E. Use and Occupancy of Project Lands and Waters

142. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 416 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands and waters 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.

F. L-Form Modification

143. Pursuant to Ordering Paragraph (F), this license is subject to the standard license articles set forth in Form L-14 (October 1975), entitled, "Terms and Conditions of License for Unconstructed Minor Project Affecting Navigable Waters of the United States,"[121] with a modification to Article 11 to include the Secretary of Commerce as a recommending entity.

G. Start of Construction

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

H. Review of Final Plans and Specifications

145. Article 303 requires the licensee to provide the Commission's Division of Dam Safety and Inspection (D2SI), Portland Regional Office with final contract drawings and specifications, a quality control and inspection program, a temporary construction emergency action plan, a soil erosion and sediment control plan, and a supporting design report consistent with the Commission's engineering guidelines.

146. Article 302 requires the licensee to provide design drawings and letters of approval for any cofferdams and deep excavations at least 30 days before the start of any on-site construction authorized by the license.

147. 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.

I. Safeguard Plans

148. The Safeguard Plans in this license include a Project and Public Safety Plan, Navigation Safety Plan, a Project Removal Plan, and an Emergency Shutdown Plan.[122]

[121] L-14 is reprinted at 54 FPC 1876 *et seq.* (1975).

[122] As previously discussed, Snohomish PUD has proposed an Emergency Shutdown Plan under which shutting down the turbines could take up to four days, though it likely will take less than a day. In the event of a need for shutdown, it could be important to keep the area near the turbines clear of unnecessary traffic for public safety

(continued…)

The Project and Public Safety Plan includes measures for identifying and responding to emergencies at the project (Article 305). The Navigation Safety Plan provides strategies for avoiding collisions with and the snagging of the turbines by tow cables and provides for ongoing consultation with the U.S. Coast Guard (Article 306). The Project Removal Plan includes a schedule for project removal, methods for the removal of the project cables, and a plan for restoring the project area to pre-project conditions (Article 401). The Emergency Shutdown Plan includes procedures for the shutdown of the project turbines in response to emergencies at the project (Article 307). Because of the potential delay in installing the mechanical brake, Article 307 requires the filing of a revised Emergency Shutdown Plan to specify additional measures to be taken (such as notification of United States Coast Guard, deployment of buoys or warning devices, etc.) during an emergency to keep the area near the turbines clear of unnecessary traffic and preventing further interaction with the turbine until the shutdown is complete.

149. These plans will work interdependently to ensure that the project is operated and maintained in a safe manner such that the potential for harm to the public and environmental and developmental resources in the project area is minimal. Revisions to these plans may be necessary as experience is gathered with project operations through the term of the license. Therefore, the licensee should submit any revised plans to the Commission's Division of Dam Safety and Inspections for review and comment prior to implementation.

J. Annual Performance Report and Certification

150. Article 310 requires Snohomish PUD to submit a report to the Commission's Division of Dam Safety and Inspections describing the project's performance, including the adequacy of project monitoring and operations, the findings of inspections, and a summary of the major maintenance and repairs performed during the previous year.

STATE AND FEDERAL COMPREHENSIVE PLANS

151. Section 10(a)(2)(A) of the FPA[123] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[124] Under

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and to facilitate the shutdown. Therefore, in Article 307, we have required the licensee to consult with the U.S. Coast Guard to prevent interactions with the turbines or interference with shutdown efforts while a shutdown is ongoing.

[123] 16 U.S.C. § 803(a)(2)(A) (2012).

section 10(a)(2)(A), federal and state agencies filed comprehensive plans that address various resources in Washington. Of these, Commission staff identified and reviewed six comprehensive plans that are relevant to this project.[125] No conflicts were found.

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

152. Staff 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.

NEED FOR POWER

153. The Snohomish PUD is the second-largest publicly owned utility in the Pacific Northwest and the twelfth-largest in the nation in terms of customers served. In 2010, Snohomish PUD received 3,100 requests for new electric service connection, and this growth is expected to continue.[126]

154. The Admiralty Inlet Project is within the Western Electricity Coordinating Council's (WECC) Northwest Power Pool (NWPP) area. WECC's 10-year coordinated plan summary for the period 2010 through 2019 projects an average compound growth rate in summer peak demand of 1.2 percent. Capacity additions of 1,158 MW are planned for the NWPP area over the 10-year period. The 600-kW Admiralty Inlet Project will produce about 244,000 kWh of power annually.

155. While the project will produce a limited amount of energy to serve the customers of Snohomish PUD, the project has value in determining the potential of an emergent

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[124] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2013).

[125] The list of applicable plans can be found in section 5.5 of the EA for the project.

[126] Snohomish PUD's 2010 Annual Report, *available at* http://www.snopud.com/Site/Content/Documents/finance/SnohomishPUDAR-revised426.pdf .

renewable energy industry segment that could bring clean, competitively-priced electricity to commercial and residential consumers in Washington and other states.

PROJECT ECONOMICS

156. In determining whether to issue a license for an original hydrokinetic pilot 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.*,[127] 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.

157. In applying this analysis to the Admiralty Inlet Project, two options have been considered: Snohomish PUD's proposal and the project as licensed herein. As proposed by Snohomish PUD, the levelized annual cost of operating the Admiralty Inlet Project is $1,847,627 or $7,572.24 /MWh. The project will generate an estimated average of 244,000 kWh of energy annually. The annual value of alternative power under Snohomish PUD's proposal will be $7,320 or $30.00/MWh.[128] Therefore, in the first year of operation, project power will cost $1,840,307 or 7,542.24/MWh more than the cost of alternative power.

158. As licensed herein with the staff recommended measures, the levelized annual cost of operating the project will be about $1,848,294 or $7,574.98/MWh. Based on an estimated average generation of 244,000 kWh as licensed, the annual value of alternative power under the staff alternative will be $7,320 or $30.00/MWh. Therefore, in the first year of operation, the project power will cost $1,840,974 or $7,544.98/MWh more than the cost of alternative power.

159. The project has relatively high capital, operation, and maintenance costs with respect to the amount of power produced. Although our analysis shows that the project as licensed herein will cost more to operate than our estimated cost of alternative power,

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[127] 72 FERC ¶ 61,027 (1995).

[128] The alternative power cost is based on the Energy Information Administration's *Annual Energy Outlook 2012, available at* http://www.eia.gov/forecasts/aeo/index.cfm.

it is the applicant who must decide whether to accept this license and any financial risk that it entails.

160. Although staff does not explicitly account for the effects that inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

COMPREHENSIVE DEVELOPMENT

161. Sections 4(e) and 10(a)(1) of the FPA[129] require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

162. 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 Admiralty Inlet 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.

163. Based on an independent review and evaluation of the Admiralty Inlet Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the proposed Admiralty Inlet Project has been selected, with the measures herein, and found to be best adapted to a comprehensive plan for improving or developing Admiralty Inlet.

[129] 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

164. This alternative has been selected because: (1) issuing a license for pilot project will allow Snohomish PUD to test the generating equipment's dependability as a source of electrical energy for the region; (2) the 600 kW of electric energy generated during the 10-year license for pilot project will come from a renewable resource, which will not contribute to atmospheric pollution; (3) the recommended environmental and public safety measures will adequately protect, mitigate, and enhance fish and wildlife and cultural resources, recreation, navigation, and other uses of Admiralty Inlet that could be affected by the project; and (4) the monitoring required for the project will provide an improved understanding of the environmental effects of tidal energy projects that will be instrumental in assessing the potential effects of future projects of this type and identifying measures to minimize adverse environmental effects.

LICENSE TERM

165. We are issuing a 10-year license for the Admiralty Inlet Project. Although we typically set terms of at least 30 years for original licenses, the FPA does not establish a minimum license term for such licenses. Snohomish PUD requested a 10-year license to allow it sufficient time to procure and install the project, operate for five years, and either remove the project or develop a subsequent license application before license expiration. Accordingly, a ten-year license term is appropriate.

The Commission orders:

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

(B) The project consists of:

(1) All lands, to the extent of the licensee’s interests in these lands, enclosed by the project boundary shown by exhibit G filed on October 15, 2012:

Exhibit G Drawing	FERC No. 12690-005	Description
Sheet 1	1	Overall Site & Control - Plan
Sheet 2	2	Project Corridor
Sheet 3	3	Building Site Detail

(2) Project works consisting of: (1) two approximately 19.2-feet-high, 300-kilowatt OpenHydro tidal turbines mounted on a triangular subsea base; (2) adaptable monitoring packages attached to each turbine base containing environmental monitoring equipment, vibration monitoring instrumentation, and differential settlement measurement equipment; (3) two approximately 7,000-foot-long, four-kilovolt (kV) trunk cables, extending from each turbine to the onshore cable termination vault; (4) an approximately 3.9-foot-long, 5.8-foot-wide, 2.9-foot-high onshore cable termination vault; (5) two 40-foot-long conduits to convey the cables from the cable termination vault to a cable control building; (6) a 24-foot-wide, 30-foot-long onshore cable control building that will house power and monitoring equipment; (7) a 17.2-kV step-up transformer located adjacent to the cable control building; (8) a 10-foot-long, buried 7.2-kV transmission line from the transformer to a connection with Puget Sound Energy; and (9) 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 section of exhibit A filed on December 7, 2012:

Section 2, pages A-1 through A-8, entitled “Project Description,” describing the mechanical, electrical, and transmission equipment within the application for license.

Exhibit F: The following exhibit F drawings filed on March 1, 2012:

Exhibit F Drawing	FERC No. 12690-005	Description
Sheet 1	1	Power Conditioning Building Site Plan
Sheet 2	2	Power Conditioning Building Elevations
Sheet 3	3	6 M Gravity Base & Turbine Assembly

(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, F, and G described above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project: 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

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

(F) This licernse is subject to the reasonable and prudent measures and terms and conditions of the Biological Opinion, dated December 3, 2013, by the National

Marine Fisheries Service under section 7 of the Endangered Species Act, as set forth in Appendix B of this order.

(G) This license is also subject to: (a) the articles set forth in Form L-14 (October 1975), entitled, "Terms and Conditions of License for Unconstructed Minor Project Affecting Navigable Waters of the United States" (*see* 54 FPC 1876) with the modification to Article 11 to include the Secretary of Commerce as a recommending entity and (b) the following additional articles:

Article 201. *Administrative Annual Charges*. The licensee shall pay the United States annual charges as determined in accordance with the provisions of the Commission's regulations in effect from time to time, effective as of the date of commencement of project operation, to reimburse the United States for the cost of administration of Part 1 of the Federal Power Act. The authorized installed capacity for that purpose is 600 kilowatts (kW). Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

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

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8")

aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-12690-# through P-12690-#) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

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

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. Exhibit F drawings must be separated from other project exhibits and identified as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113(c) (2012). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-12690-#, G-1, Project Boundary, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specifications:

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

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS geo-referencing the project boundary drawing to the polygon data, and must be based on a standard map coordinate system. The spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be stamped by a registered land surveyor.

(c) The licensee shall file two separate sets of the project boundary data in a geo-referenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format) with the Secretary of the Commission, ATTN: OEP/DHAC. The filing shall include both polygon data and all reference points shown on the individual project boundary drawings. An electronic boundary polygon data file(s) is required for each project development. Depending on the electronic file format,

the polygon and point data can be included in a single file with multiple layers. The geo-referenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-12690, boundary polygon/or point data, MM-DD-YYYY.SHP]. The data must be accompanied by a separate text file describing the spatial reference for the geo-referenced data: map projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-12690, project boundary metadata, MM-DD-YYYY.TXT].

Article 203. *Documentation of Project Financing*. At least 90 days before starting construction, the licensee shall file with the Commission, for approval, the licensee's documentation for the project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds necessary to construct and operate 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, maintenance and removal 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 shall not commence construction associated with the project before the filing is approved.

Article 204. *Project Land Rights Progress Report*. No later than four years after license issuance, the licensee shall 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 shall 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 301. *Start of Construction*. The licensee shall commence construction of the project works within two years from the issuance date of the license and shall complete construction of the project within five years from the issuance date of the license.

Article 302. *Cofferdam and Deep Excavation Construction Drawings*. Should construction require cofferdams or deep excavations, the licensee shall: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) shall 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 shall submit one copy of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval, to the Commission's Division of Dam Safety and Inspections (D2SI Portland Regional Engineer) and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI).

Article 303. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI) Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The supporting design report and specifications shall include, but not be limited to, a foundation report sufficient to confirm the design of the turbine footings.

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 the Horizontal Directional Drilling Work Plan and Frac-Out and Surface Spill Contingency Plan required by Washington Department of Ecology water quality certification (Appendix A, conditions D7 and D8, respectively).

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

Article 305. *Project and Public Safety Plan*. Upon license issuance, the licensee shall implement the Project and Public Safety Plan, filed February 14, 2013. This plan may not be amended without prior Commission approval.

Article 306. *Navigation Safety Plan*. Upon license issuance, the licensee shall implement the *Navigation Safety Plan*, filed February 14, 2013. This plan may not be amended without prior Commission approval.

Article 307. *Emergency Shutdown Plan.* At least 60 days before starting construction, the licensee shall file with the Commission for approval a revised Emergency Shutdown Plan. The plan shall be based on the Emergency Shutdown Plan filed with Commission on February 14, 2013, and shall include additional measures (such as notification of United States Coast Guard, deployment of buoys or warning devices, etc.) during an emergency for keeping the area near the turbines clear of unnecessary traffic and preventing interaction with the turbine until the shutdown is completed. The licensee shall prepare the plan after consultation with the United States Coast Guard. The licensee shall allow a minimum of 30 days for the U.S. Coast Guard to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information.

Article 308. *Removal of Obstructions to Navigation*. If the U.S. Army Corps of Engineers determines that the project presents an unreasonable obstruction to the free navigation of navigable waters, the licensee shall, upon due notice from the Corps and upon Commission approval, remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States.

Article 309. *Project Operations and Monitoring Plan*. At least 60 days before starting project operations, the licensee shall submit one copy of a Project Operations and Monitoring Plan to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The plan shall define the normal operating parameters of the turbines; describe all electrical and mechanical monitoring devices (i.e. tilt meter, accelerometer, etc.) and the respective threshold levels indicating abnormal operations (e.g., excessive vibration or tilt); define response procedures to address the mechanical alarm settings; define the scour thresholds (i.e., depth and width measurements) requiring implementation of scour protection measures; and specify the schedule for remote operated vehicle (ROV) inspections. ROV inspections shall occur at a minimum of: (1) immediately following installation of both turbines; (2) by day 30 of initiation of operation; (3) by day 90 of initiation of operation; (4) by day 180 of initiation of operation; (5) by day 270 of initiation of operation; (6) by day 365 of initiation of operation; (7) by day 540 of initiation of operation; (8) by day 720 of initiation of operation; and (9) twice annually thereafter until the project is removed.

Snohomish PUD shall consult with PC Landing Corp. in developing the scour thresholds and the notification procedures if the scouring threshholds are exceeded. The plan shall describe how PC Landing's concerns have been addressed.

The licensee shall not install the turbines until the D2SI-Regional Engineer approves the plan.

Article 310. *Annual Performance Report and Certification*. Following start of operations and by December 31 of each year thereafter, the licensee shall submit one copy of a report describing the project's performance to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The report shall include: (1) the adequacy of project monitoring and operations; (2) the findings of inspections; and (3) a summary of the major maintenance and repairs performed during the previous year. The report shall certify that the project features are being operated, monitored, inspected, and maintained in accordance with the license and approved plans. A copy of the report shall also be provided to PC Landing Corp. by December 31 of each year.

Article 401. *Commission Approval, Notification, and Filing of Amendments*. Various conditions of the Washington Department of Ecology's (Washington Ecology) Water Quality Certification (WQC) require the licensee to prepare plans and reports for approval by Washington Ecology (Appendix A), but do not require Commission review and approval. For the plans and reports listed below, the licensee shall submit such plan or report to the Commission by the date shown for Commission approval.

(a) Requirement to file plans

Each of the following plans required by the Washington Ecology as part of its WQC shall be submitted to the Commission for approval:

WQC Condition No.	*Plan Name*	*Due Date to Commission*
F1	Project Removal and Site Restoration Plan	Six months before license expiration or 60 days before project removal, whichever comes first
G1	Spill Prevention and Containment Plan	Within six months of license issuance or 90 days before the start of project installation, whichever come first

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

In addition, the Project Removal and Site Restoration Plan shall be developed after consultation with National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall include copies of comments and recommendations on the plan made by these entities and licensee's specific descriptions of how the entities' comments are accommodated by the revised plan.

(b) Requirement to File Reports

Each of the following reports required by Washington Ecology as part of its WQC shall be submitted to the Commission for approval:

WQC Condition No.	*Description*	*Due date to Commission*
I3	Status report if construction is not completed within 13 months of issuance of WQC	January 3, 2015, and every 12 months thereafter until construction is completed
B8	Exceedances detected through water quality sampling	File a report on the nature of exceedance, turbidity results, and other pertinent information within 10 days of the exceedance.
G4c and d	Any work out of compliance with the WQC, particularly relating to spills or	Notify the Commission within 24 hours, and within 10 days file a report on the nature of the event, corrective

	distressed or dying fish	action taken, and measures to be taken to prevent reoccurrence.

The licensee shall 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.

Article 402. *Horizontal Directional Drilling Plan.* Upon license issuance, the licensee shall implement the Horizontal Directional Drilling Plan, filed March 1, 2012, with the following modification.

Horizontal directional drilling operations shall be conducted between the hours of 7:00 a.m. and 7:00 p.m. to minimize disturbance to nearby residences. In the event that horizontal directional drilling must occur outside of the defined work hours, the licensee shall implement noise abatement contingency measures, such as the placement of a temporary sound barrier (or appropriate alternative), to reduce noise impacts on neighboring residences. Contingency measures must be readily available to maintain sound levels below 55 decibels at both the east and west property boundaries of the HDD drill site. Any implementation of contingency measures shall be reported within 48 hours to the Commission's Division of Dam Safety and Inspections (D2SI) – Portland Regional Engineer.

Article 403. *Invasive Plant Management Plan*. To control the introduction and spread of invasive plants on project lands during construction and project removal, the licensee shall: (1) use gravel, rock, or other fill material from a weed free source; (2) revegetate disturbed areas with species native to Keystone Spit, with the source material (seeds or cuttings) collected from Keystone Spit; (3) ensure that no imported soil, fertilizer, or tackifiers will be used in revegetating disturbed areas; and (4) inspect any fill and disturbed areas for invasive plants annually, between early and mid-June and again in August, and eradicate any detected invasive plants promptly. Within six months of completing site revegetation efforts, the licensee shall file a report documenting compliance with the above provisions and annually thereafter until the native vegetation has become established and is free of invasive plants.

Article 404. *Acoustic Monitoring and Mitigation Plan.* Upon license issuance, the licensee shall implement the Acoustic Monitoring and Mitigation Plan, filed on February 14, 2013. This plan may not be amended without prior Commission approval. Any proposed modifications shall be approved by NMFS before submittal to the Commission for approval. Any such submittal shall also include documentation of

consulation with NMFS, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall include copies of comments and recommendations on the proposed modifications to the plan made by these entities and licensee's specific descriptions of how the entities' comments are accommodated by the revised plan. The Commission reserves the right to require changes to the licensee's proposed modifications. Upon Commission approval, the licensee shall implement modifications, including any changes required by the Commission.

Article 405. *Benthic Habitat Monitoring and Mitigation Plan.* Upon license issuance, the licensee shall implement the Benthic Habitat Monitoring and Mitigation Plan filed on November 16, 2012, with the following modification: by March 31 of each calendar year the licensee shall file a report with the Commission describing changes from the previous calendar year to colonization of the subsea base, power cables, and drill hole exit point and changes to the seabed benthic habitat around the subsea base, including sediment scour and deposition.

Prior to filing the report with the Commission, the licensee shall provide the report to Washington Department of Ecology (Washington Ecology) and allow them 30 days to review and comment on the report. The report filed with the Commission shall include copies of, and address any comments and recommendations received from Washington Ecology. If the licensee does not adopt a recommendation, the licensee shall include its reasons based on project-specific information.

This plan may not be amended without prior Commission approval. Any proposed modifications to the plan shall be approved by Washington Ecology and NMFS before submittal to the Commission for approval. Any such submittal shall include documentation of consultation with National Marine Fisheries Service, U.S. Fish and Wildlife Service (FWS), Washington Department of Fish and Wildlife, Washington Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall also include copies of comments and recommendations on the proposed modifications to the plan made by these consulted entities, and specific descriptions of how the entities' comments are accommodated by the revised plan.

The Commission reserves the right to require changes to the licensee's modifications. Upon Commission approval, the licensee shall implement modifications, including any changes required by the Commission.

Article 406. *Near-Turbine Monitoring and Mitigation Plan.* Upon license issuance, the licensee shall implement the Near-Turbine Monitoring and Mitigation Plan, filed November 16, 2012, with the following modification to address the National Marine

Fisheries Service's (NMFS) incidental take condition 5 in Appendix B: if it is reasonably foreseeable that the number of individual salmon, steelhead, or rockfish crossing the plane of the turbine blades and not through the open center of the rotor will exceed ten adult salmon or steelhead (Chinook, chum, or steelhead); one adult yelloweye rockfish; one adult canary rockfish; or one adult Bocaccio in a year, the licensee shall contact NMFS and the Commission within 48 hours.

This plan may not be amended without prior Commission approval. Any proposed modifications to the plan shall be approved by NMFS before submittal to the Commission for approval. Any such submittal shall include documentation of consultation with NMFS, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall also include copies of comments and recommendations on the proposed modifications to the plan made by these consulted entities, and specific descriptions of how the entities' comments are accommodated by the revised plan.

The Commission reserves the right to require changes to the licensee's modifications. Upon Commission approval, the licensee shall implement modifications, including any changes required by the Commission.

Article 407. *Marine Mammal Monitoring and Mitigation Plan.* Upon license issuance, the licensee shall implement the Marine Mammal Monitoring and Mitigation Plan, filed November 16, 2012. This plan may not be amended without prior Commission approval. Any such submittal shall include documentation of consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall also include copies of comments and recommendations on the proposed modifications to the plan made by these consulted entities, and specific descriptions of how the entities' comments are accommodated by the revised plan.

The Commission reserves the right to require changes to the licensee's modifications. Upon Commission approval, the licensee shall implement modifications, including any changes required by the Commission.

Article 408. *Marine Mammal Protection Act Report*. The licensee shall file with the Commission an annual report documenting its consultations with the National Marine Fisheries Service under the Marine Mammal Protection Act (Act), starting January 1, 2015, and annually therafter until such time as it completes its responsibilities under the Act. Licensee's report must update the Commission on the status of its consultations,

include information as to whether its compliance with the Act requires it to modify aspects of project construction, operation, maintenance, or removal, and include information detailing how the licensee will initiate any required modifications to the project. If compliance with the Act requires an amendment to license, licensee must seek Commission approval before implementing the measures.

Article 409. *Derelict Gear Monitoring Plan.* Upon license issuance, the licensee shall implement the Derelict Gear Monitoring Plan, filed December 7, 2012. This plan may not be amended without prior Commission approval. Any such submittal shall include documentation of consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. The submittal shall also include copies of comments and recommendations on the proposed modifications to the plan made by these consulted entities, and specific descriptions of how the entities' comments are accommodated by the revised plan.

The Commission reserves the right to require changes to the licensee's modifications. Upon Commission approval, the licensee shall implement modifications, including any changes required by the Commission.

Article 410. *In-water Construction Schedule*. All in-water construction shall be conducted during a work window of July 16 to October 14, or outside of this work window only by agreement with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Washington Department of Natural Resources, the Tulalip Tribes, Suquamish Tribe, Swinomish Indian Tribal Community, and Sauk-Suiattle Tribe. If in consultation with the above entities, the work window changes or is inconsistent with the water quality certificate, the licensee shall notify the Commission and file an application to amend the license accordingly.

Article 411. *Hazard Identification and Risk Assessment*. At least 90 days prior to the start of in-water construction, the licensee shall file with the Commission for approval a Hazard Identification and Risk Assessment (HIRA) to minimize potential hazards to PC-1 North, PC Landing Corp.'s subsea, fiber optic cable. This assessment shall include and describe: (a) operational procedures for installing, maintaining, and removing the project turbines, including using "live boat" techniques for all marine operations, except during the horizontal directional drilling and connection of the trunk cables at the horizontal directional drilling exit; (b) criteria for weather and wave conditions that must exist before marine operations can occur; (c) redundancy in the use of equipment and/or vessels; (d) criteria for aborting the operations; and (e) the establishment of a "port of refuge," located at least two kilometers away from the PC-1 North cable, in the event of unanticipated adverse weather or other event.

In addition, the HIRA shall include procedures and a schedule for notifying PC Landing Corp. before conducting marine operations associated with installing, removing, or repairing the turbines within 1,000 meters of PC-1 North. The HIRA shall also include procedures for providing PC Landing Corp. progress reports during these marine operations and a full report on the marine operations following completion of these activities.

The licensee shall include with the assessment documentation of consultation with the U.S. Coast Guard, the U.S. Army Corps of Engineers, and PC Landing Corp.; copies of comments and recommendations on the completed assessment after it has been prepared and provided to the consulted entities; and specific descriptions of how the entities' comments are accommodated by the assessment. The licensee shall allow a minimum of 30 days for consulted entities to comment and make recommendations before filing the assessment with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information.

The Commission reserves the right to require changes to the assessment. In-water construction shall not begin until the assessment is approved by the Commission. Upon Commission approval, the licensee shall implement the procedures contained in the assessment, including any changes required by the Commission.

Article 412. *Reservation of Authority to Prescribe Fishways*. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 413. *Interpretation and Education Plan.* Within six months of license issuance, the licensee shall develop and file for Commission approval an Interpretation and Education Plan for the installation of an interpretive display at a publicly accessible site within view of the turbine locations at Fort Casey State Park, subject to state approval, that describes the project, the potential ocean energy resource in Puget Sound, and the natural and cultural environment of the project area. If a suitable site at the park is not available, another appropriate location may be proposed.

The licensee shall include with the plan documentation of consultation with the U.S. National Park Service, Washington State Parks and Recreation Commission, Washington Department of Fish and Wildlife, Ebey's Landing Historical Reserve Trust Board, and Island County Marine Resources Committee; copies of comments and recommendations on the completed plan after it has been prepared and provided to the consulted entities; and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for consulted

entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information.

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

Article 414. *FERC Form 80 Exemption*. There is little or no potential for recreation facilities within the project boundary. Therefore, upon the issuance date of the license, the licensee is exempt from 18 § C.F.R. 8.11, which requires the filing of the FERC Form 80 recreation report for the Admiralty Inlet Project.

Article 415. *Cultural Resources.* Prior to beginning any land-clearing or land-disturbing activities within the project boundary, other than those specifically authorized in this license, the licensee shall consult with the Washington State Historic Preservation Officer (SHPO). If the licensee discovers previously unidentified archeological or historic properties during the course of constructing, maintaining, or removing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the Washington SHPO.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places, the licensee shall file for Commission approval a historic properties management plan. The plan shall be prepared by a qualified cultural resource specialist after having consulted with the SHPO. The plan shall include the following items:

(1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places;

(2) a description of the potential effect on each discovered property;

(3) proposed measures for avoiding or mitigating effects;

(4) documentation of the nature and extent of consultation; and

(5) a schedule for mitigating effects and conducting additional studies.

The Commission may require changes to the plan. The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a property discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 416. *Use and Occupancy*. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

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

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

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 417. *Ferry Service Operation Coordination Plan*. Within six months of license issuance or at least 60 days prior to the start of in-water construction, whichever comes first, the licensee shall file for Commission approval a plan to coordinate the installation and removal (if required) of the trunk cables in or across the regular route of the Port Townsend-Coupeville Ferry to minimize any disruptions in ferry service. The plan shall describe the timing and procedures, including notification requirements, to be followed to minimize disruption of ferry service operations. The licensee shall notify the

Commission within 10 days of when installation and removal (if required) of the trunk cables is complete and disruptions to ferry service is no longer a potential problem.

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

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

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

(I) 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 (2013). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Form L-14
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MINOR PROJECT AFFECTING NAVIGABLE WATERS OF THE UNITED STATES

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

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

Article 3. The project 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. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may 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 7. 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 8. 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 9. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and 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 Secretary of the Army may prescribe in the interest of navigation, and 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 Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 10. 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 11. 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, Secretary of Commerce, 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 12. 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 13. 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 14. 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 the 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 15. 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 16. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to

reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 17. 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 18. 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 19. 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 Admiralty Inlet Project Issued By the Washington Department of Ecology on December 3, 2013

A. General Conditions:

A1. For purposes of this Order, the term "Applicant" shall mean Snohomish County PUD No. 1 and its agents, assignees and contractors.

A2. For purposes of this Order, all submittals required by its conditions shall be sent to Ecology's Northwest Regional Office, Attn: 401/CZM Federal Project Manager, 3190 160th Avenue SE, Bellevue, WA 98008-5452. Any submittals shall reference Order #9337 and FERC Project #12690.

A3. Work authorized by this Order is limited to the work described in the JARPA received by Ecology on February 9, 2012. The Applicant will be out of compliance with this Order and must reapply with an updated application if the information contained in the JARPA is voided by subsequent changes to the project not authorized by this Order.

A4. Within 30 days of receipt of an updated JARPA, Ecology will determine if the revised project requires a new water quality certification and public notice or if a modification to this Order is required.

A5. Copies of this Order shall be kept on the job site and readily available for reference by Ecology personnel, the construction superintendent, construction managers and lead workers, and state and local government inspectors.

A6. The Applicant shall provide access to the project site and all mitigation sites upon request by Ecology personnel for site inspections, monitoring, necessary data collection, and/or to ensure that conditions of this Order are being met.

A7. Nothing in this Order waives Ecology's authority to issue additional orders if Ecology determines that further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project construction or operation are identified (e.g., violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect water quality.

A8. The Applicant shall ensure that all appropriate project engineers and contractors at the project site have read and understand relevant conditions of this Order and all permits, approvals, and documents referenced in this Order. The Applicant shall provide Ecology a signed statement (see Attachment A for an example) from each project engineer and contractor that they have read and understand the conditions of this Order and the above-referenced permits, plans, documents and approvals. These statements shall be provided to Ecology before construction begins at the project or mitigation sites.

A9. This Order shall be rescinded if the Federal Energy Regulatory Commission does not issue authorization for the project.

A10. This Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the state or related aquatic resources, except as specifically provided for in conditions of this Order.

A11. Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce its terms.

B. <u>Water Quality Conditions</u>:

B1. Admiralty Inlet is classified as "Extraordinary Quality" and the criteria of that class apply except as specifically modified by this Order. This Order does not authorize temporary exceedances of water quality standards beyond the limits established in WAC 173-201A-210(1)(e)(i).

B2. The Applicant shall conduct water quality sampling and monitoring as described in *Water Quality Monitoring Plan*, for the Admiralty Inlet Pilot Tidal Project, dated February 29, 2012, revised December 5, 2012, or as modified by this Order or revised and approved by Ecology.

B3. Water quality monitoring for turbidity shall be conducted during horizontal directional drilling (HDD) activity. Divers may conduct underwater visual monitoring or physical monitoring from a boat shall be conducted.

B4. Water quality monitoring for turbidity shall be conducted during cable removal, unless otherwise approved in writing by Ecology.

B5. Sampling for pH shall be conducted immediately if a frac-out or other release of grout material occurs during HDD activity.

B6. Oil sheen shall be visually monitored during all installation, maintenance, and removal activities.

B7. Reporting: If no exceedances are detected, results of water quality sampling, as determined by the Plan, shall be forwarded to Ecology on a monthly basis in accordance to Condition A2.

B8. Notification of exceedances: Notification of exceedances that are detected through water quality sampling shall be made to Ecology within 24 hours of occurrence. Notification shall be made with reference to Order #9337, Attn: 401/CZM Federal Project Manager, by telephone at (425) 649-7129 or (425) 649-7000, or by fax to (425) 649-7098. The Applicant shall, at a minimum, provide Ecology with the following information:

a. A description of the nature and cause of exceedance.
b. The period of non-compliance, including exact dates, duration, and times and/or the anticipated time when the Applicant will return to compliance.
c. The steps taken, or to be taken, to reduce, eliminate, and prevent recurrence of the non-compliance.
d. In addition, within five (5) days after notification of an exceedance, the Applicant shall submit a written report to Ecology that describes the nature of the exceedance, turbidity results and location, photographs, and any other pertinent information.

C. Conditions for Construction Activities:

General Conditions:

C1. Construction stormwater, sediment, and erosion control best management practices (BMPs; e.g., filter fences, etc.) suitable to prevent exceedances of state water quality standards shall be in place before starting construction at the site.

C2. Sediment and erosion control measures shall be inspected and maintained prior to and during project implementation.

C3. All construction debris shall be properly disposed of on land so that it cannot enter a waterway or cause water quality degradation to state waters.

C4. Machinery and equipment used during construction shall be serviced, fueled, and maintained upland, unless otherwise approved by Ecology, in order to prevent contamination to any surface water.

C5. 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 or storm drains.

In-Water Conditions:

C6. Work in or near the water that may affect fish migration, spawning, or rearing shall cease immediately upon a determination by Ecology that fisheries resources may be adversely affected.

C7. Project activities shall be conducted to minimize siltation of the beach area and bed.

C8. The Applicant shall operate the barge(s) and tug in deep water so as to minimize nearshore propeller wash impacts such as suspension of nearshore sediments.

C9. Barges shall not be allowed to ground-out during construction.

C10. Transmission cables shall be laid on the seafloor from the horizontal directional drilling (HDD) exit point to the turbines. Cables shall not be buried in this segment, and trenching of the cable route may not be used for this project.

C11. Aquatic vegetation (eelgrass and kelp) shall be observed for presence prior to construction. If eelgrass and/or kelp are present, the boundaries shall be marked with floats, buoys, or other means as appropriate in order to restrict access and anchoring during construction.

C12. In-water work barges shall not be allowed to anchor in areas where aquatic vegetation is present.

D. Horizontal Directional Drilling Conditions

D1. The Applicant shall conduct HDD activity as described in *Preliminary Horizontal Directional Drilling Plan, Snohomish County Public Utility District No. 1 Tidal Project*, prepared by Sound & Sea Technology, Inc., dated August 29, 2011, or as modified by this Order or revised and approved by Ecology.

D2. Monitoring of pressure and volume shall be conducted in order to minimize the occurrence of a “fracout.”

D3. If a fracout occurs, the Applicant shall stop or slow down HDD operations in order to allow the mud to seal the fracout.

D4. All HDD solids and drill tailings shall be placed into plastic-lined dumpsters or hoppers on the uplands and trucked off site to an approved upland disposal facility.

D5. HDD wastewater shall not be allowed to flow back into marine waters.

D6. Prior to reaching the exit point on the ocean floor, the drill string shall be flushed with freshwater and the drilling fluid changed from bentonite to freshwater.

D7. The Applicant shall submit an HDD Work Plan to Ecology per Condition A2 at least 30 days prior to start of horizontal directional drilling activity. The HDD Work Plan shall include drawings and a written description identifying construction detail methods and sequencing.

D8. The Applicant shall submit a Frac-Out and Surface Spill Contingency Plan (hereafter referred to as the 'Contingency Plan') to Ecology per Condition A2 at least 30 days prior to start of horizontal directional drilling activity. The Contingency Plan shall include:

a. Description of procedures for preventing drilling fluid losses or spills into the marine environment and fluid returns to the surface
b. Description of containment and cleanup procedures.

E. <u>Operational Conditions</u>:

E1. No oils, grease, or lubricants shall be utilized for the turbine, and no fluid or oil-filled equipment shall be located underwater.

E2. The use of antifouling paint on the turbines shall be minimized to the extent practicable, and antifouling paint shall be non-flaking.

E3. Coatings and paints shall be approved for use in the marine environment.

E4. All maintenance of the turbines or other in-water components shall be conducted out of the water and appropriate BMPs shall be implemented in order to protect water quality.

E5. If derelict gear is removed during the operation of the turbines, then removal of this gear shall be conducted in such a way as to minimize turbidity.

E6. Benthic habitat at the turbine site and along the cable route shall be monitored according to the *Benthic Habitat Monitoring and Mitigation Plan, Admiralty Inlet*

Tidal Energy Demonstration Project, Federal Energy Regulatory Commission Project No. 12690, dated June 14, 2012 or as modified by this Order or revised and approved by Ecology.

a. Written reports shall be provided annually to Ecology per Condition A2 by March 31 for the prior calendar year of operation. The reports shall describe:
    i. Changes to colonization of the subsea base, power cables, and drill hole exit point.
    ii. Changes to seabed benthic habitat around the subsea base, including sediment scour and deposition.
b. If surveys indicate significant erosion at the contact points between the subsea base and seabed, Ecology shall be consulted to determine if project modifications are necessary.

E7. At the conclusion of the pilot, or prior to the expiration of the FERC Pilot License, the two turbines and two transmission cables shall be removed from Admiralty Inlet, unless otherwise approved by Ecology.

F. <u>Plan Submittal Conditions</u>:

F1. The Applicant shall develop and implement a Project Removal Plan for removal of the turbines and transmission cables. The Project Removal Plan shall be submitted to Ecology per Condition A2 for review and approval at least 60 days prior to removal and include the following:

a. Project removal timing and sequencing
b. <u>Cable Removal</u>: Method of cable removal, best management practices that will be implemented to protect water quality, and water quality monitoring for cable removal.
c. A plan for restoring the project area to pre-project conditions. This plan shall address the horizontal directional exit hole, as well as any erosion/sedimentation impacts caused by the cables.

F2. If the Applicant proposes leave the cables in place at the completion of the project, details of such proposal shall be included in the Project Removal Plan per F1.

G. <u>Emergency/Contingency Measures</u>:

G1. The Applicant shall develop and implement a Spill Prevention and Containment Plan for all aspects of this project.

G2. The Applicant shall have adequate and appropriate spill response materials on hand to respond to emergency release of petroleum products or any other material into waters of the state.

G3. 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.

G4. Any work that is out of compliance with the provisions of this Order, or conditions causing distressed or dying fish, or any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited. If these occur, the Applicant shall immediately take the following actions:

a. Cease operations at the location of the violation or spill.
b. Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
c. Notify Ecology of the failure to comply. All oil spills shall be reported immediately to Ecology's 24-Hour Spill Response Team at 1-800-258-5990, **and** within 24 hours of spills or other events to Ecology's 401/CZM Federal Project Manager at (425) 649-7129 or (425) 649-7000.
d. Submit a detailed written report to Ecology within five (5) days that describes the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.

Compliance with this condition does not relieve the Applicant from responsibility to maintain continuous compliance with the terms and conditions of this Order or the resulting liability from failure to comply.

H. Timing Requirements

H1. All in-water work shall be completed by the work window identified in the most current Hydraulic Project Approval (HPA) issued for this project. Any project change that requires a new or revised HPA should also be sent to Ecology for review.

H2. This Order is valid for a period of 10 years from the date of the FERC Pilot License.

I. Reporting and Notification Requirement Conditions

I1. The Applicant shall provide to Ecology's 401/CZM Federal Permit Manager a copy of the FERC license within 2 weeks of receipt of the license. A copy shall be submitted per condition A2 above.

I2. Applicant shall provide notice to Ecology per Condition A2 for the following activities:

- At least 10 days prior to the pre-construction meeting.
- At least three (3) days prior to the start of construction
- Within 14 days after completion of construction at the project site.
- At least 10 days prior to any maintenance activity.
- At least 10 days prior to removal of the turbines and cables.

I3. If the project construction is not completed within 13 months of issuance of this Order, the Applicant shall submit per Condition A2 a written construction status report and submit status reports every 12 months until construction is complete.

APPENDIX B

Incidental Take Statement Reasonable and Prudent Measures and Terms and Conditions for the Admiralty Inlet Project Issued by the National Marine Fisheries Service on December 3, 2013

Reasonable and Prudent Measures (RPM)

1. FERC will ensure that the licensee will monitor sound produced by the turbines to collect necessary data to evaluate 1) the broadband sound levels at the source (1 meter from the center of the turbine location) over the full range of flow conditions occurring during project operations; and 2) the distance from the center of the turbines where broadband sound levels from operating turbines exceed 120 decibels re: 1 µPa, including an evaluation of levels out to distance of up to 3 kilometers from the center of the turbine location. The licensee will mitigate for adverse effects of sound according to the Acoustics Monitoring and Mitigation Plan.

2. FERC will ensure that the licensee will monitor and collect data necessary to evaluate the risk of blade strike from turbine operations by determining the number of individuals that pass through the turbine plane and reporting any observed injury or direct strike observed. The Licensee will mitigate for any effects of blade strike according to the Near-turbine Monitoring and Mitigation Plan.

3. FERC will ensure that the licensee will complete a monitoring and reporting program to confirm that the incidental take exemption for the proposed action is not exceeded, and that the terms and conditions in the incidental take statement are effective in minimizing incidental take.

Terms and Conditions

1. To implement RPM 1, the licensee monitors and measures sound levels at the turbine location to determine source levels. If sound from the turbine operation 1) exceeds 180 decibels re: 1 µPa at any distance from the turbines; or 2) is propagated at a level of 120 decibels re: 1 µPa at a distance beyond 750 meters when operating at the 95th percentile; the licensee will engage the turbine brake until modifications to turbine operations or configuration to reduce the sound

below this level are complete. NMFS approval must be obtained prior to resuming operations.

2. To implement RPM 1, the licensee will provide the preliminary results of monitoring for sound source levels and propagation distances within 120 days.

3. To implement RPM 2, use methods to collect data on the number of individuals passing through the plane of the turbine that are sufficient to identify the number and species category (salmon, steelhead, rockfish) of the individual adults passing within 5 meters of the turbines at least 50 percent of the time during turbine operations.

4. To implement RPM 2, the licensee will provide the preliminary results of the monitoring within 14 days if individual salmon, steelhead or rockfishes are visibly injured or killed or are recorded crossing through the turbine blades and not through the open center of the rotor.

5. To implement RPM 2, and 3, the licensee will contact NMFS within 48 hours, (and before the limit is exceeded) if it is reasonably foreseeable that the number of individuals crossing the plane of the turbines will exceed the level authorized in this opinion.[130]

6. To implement RPM 1, 2, and 3, the licensee will obtain documented approval from NMFS for all changes to the Adaptive Management Framework and Monitoring and Mitigation plans that affect ESA-listed species or NMFS authorities; and for approval of implementation of mitigation measures, based on adaptive management. The licensee will file all changes with FERC after approval by NMFS.

[130] The incidental take statement authorizes ten adult salmon/steelhead, one adult yelloweye rockfish, one adult canary rockfish, and one adult Bocaccio to swim through the plane of the turbines in a given year.

Document Content(s)