

UNITED STATES OF AMERICA 133 FERC ¶ 62,264
FEDERAL ENERGY REGULATORY COMMISSION

Puget Sound Energy, Inc.

P-2150-082

ORDER AMENDING LICENSE

(Issued December 16, 2010)

1. On August 5, 2010, and supplemented on September 16, 2010, Puget Sound Energy, Inc. (licensee) filed an application to amend its license for the Baker River Hydroelectric Project, FERC No. 2150. The licensee is proposing changes to the location of the authorized but unconstructed powerhouse, and the number of generating units in the powerhouse. The project consists of two developments, Upper Baker and Lower Baker, located on the Baker River in Skagit and Whatcom counties, Washington. The project occupies federal lands within the Mt. Baker-Snoqualmie National Forest administered by the U.S. Forest Service.

Background

2. On October 17, 2008, the Commission issued a new 50-year license for the continued operation and maintenance of the existing Baker River Hydroelectric Project.¹ The Baker River Project contains two developments.

3. The Upper Baker development consists of a 312-foot-high, 1,200-foot-long concrete gravity dam, a 115-foot-high, 1,200-foot-long earth and rock-fill dike (West Pass dike), a 9-mile-long reservoir (Baker Lake) having a surface area of about 4,980 acres and a total volume of 274,221 acre-feet at a normal full pool elevation of 727.77 feet above mean sea level (msl), and a 122-foot-long, 59-foot-wide reinforced concrete and structural steel powerhouse at the downstream toe of the dam containing two turbine-generator units with a total installed capacity of 90.70 megawatts (MW).

4. The Lower Baker development consists of a 285-foot-high, 550-foot-long concrete thick arch dam, a 7-mile-long reservoir (Lake Shannon) having a surface area of about 2,278 acres and a total volume of 146,279 acre-feet at a normal full pool elevation of 442.35 feet msl, a 90-foot-long, 66-foot-wide reinforced concrete and structural steel powerhouse (Unit 3 Powerhouse) containing a single turbine-generator unit with an

¹ 125 FERC ¶ 62,064, Order on Offer of Settlement, Issuing New License, and Dismissing Application as Moot.

installed capacity of 79.33 MW, an authorized (but unconstructed) 170-foot-long by 100-foot-wide auxiliary powerhouse (Unit 4 Powerhouse) that would contain two turbine-generator units with a total installed capacity of 30 MW, and an existing 750-foot-long, 115-kilovolt (kV) primary transmission line.

Proposed Amendment

5. In its amendment application, the licensee proposes the following modifications to the Lower Baker development:

- Construct the new Unit 4 Powerhouse approximately 300 feet southwest of its authorized location (adjacent to the existing Unit 3 Powerhouse) in an existing parking area used for the Unit 3 powerhouse;
- Install one turbine-generator unit with a hydraulic capacity of 1,500 cubic feet per second (cfs) and an installed capacity of 30 MW instead of two turbine-generator units with the same combined installed and hydraulic capacities in the Unit 4 Powerhouse;
- Install a 1,500 cfs by-pass valve in the Unit 4 Powerhouse to meet minimum flow and ramping rate requirements in the license when the Unit 4 Powerhouse is offline either due to a mechanical failure or for maintenance;
- Construct a 12-foot diameter, 1,045-foot-long concrete lined tunnel extending from the existing surge tank to the Unit 4 powerhouse;
- Construct a 300-foot-long single circuit 115-kilovolt overhead transmission line to connect the new Unit 4 Powerhouse to the existing Unit 3 Powerhouse;
- Construct a tailrace from the Unit 4 Powerhouse to the Baker River, and;
- Construct two retaining walls to the northwest and southwest of the Unit 4 Powerhouse.

Consultation

6. The licensee consulted with interested stakeholders in accordance with section 3.7 of its Settlement Agreement for the project.² The following entities provided comments on the application: Washington Department of Archaeology and Historic Preservation; U.S. Forest Service; National Marine Fisheries Service; Washington Department of Ecology (Washington Ecology); U.S. Fish and Wildlife Service; Washington Department of Fish and Wildlife; City of Anacortes, Washington; Rocky Mountain Elk Foundation; Skagit County, Washington; Washington Department of Natural Resources; and Robert Helton. None of the above entities objected to the proposed amendment application.

Public Notice

7. The Commission issued a public notice of the amendment application soliciting comments, and motions to intervene, and protests on August 27, 2010, with September 27, 2010, as the deadline for responding to the notice. Only one entity filed comments in response to the public notice. The U.S. Department of Interior filed a letter on September 27, 2010, indicating that it had no comments.

Water Quality Certification

8. Under section 401(a)(1) of the Clean Water Act (CWA),³ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d)

² The licensee filed a Settlement Agreement for the project on November 30, 2004, and amended the agreement by errata filed May 10, and July 5, 2005. Parties to the Settlement Agreement include: the licensee; U.S. Forest Service; U.S. Fish and Wildlife Service; National Park Service; National Marine Fisheries Service; Upper Skagit Indian Tribe; Sauk-Suiattle Indian Tribe; Swinomish Indian Tribal Community; Washington Department of Ecology; Washington Department of Fish and Wildlife; Washington Department of Natural Resources; Skagit County, Washington; City of Anacortes, Washington; Town of Concrete, Washington; Public Utility District No. 1 of Skagit County; Interagency Committee for Outdoor Recreation; The Nature Conservancy; North Cascades Conservation Council; North Cascades Institute; Rocky Mountain Elk Foundation; Skagit Fisheries Enhancement Group; Washington Council of Trout Unlimited; Wildcat Steelhead Club; and Bob Helton.

³ 33 U.S.C. § 1341(a)(1) (2000).

of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.⁴

9. In a June 29, 2010 letter, Washington Ecology concluded that the proposed amendments to the project are consistent with the project's existing WQC and the Coastal Zone Management Consistency Determination in all material aspects. Washington Ecology stated that its June 29, 2010 letter serves as its official notice that the existing WQC for the project has been amended (amendment No. 2).⁵

Environmental Review

10. The licensee's proposed amendment application would change the location of the auxiliary powerhouse from the currently authorized site (where the old powerhouse was abandoned) to a gravel parking lot about 300 feet to the southwest of the authorized location. The licensee would install one instead of two turbine-generator units with the same total installed and hydraulic capacities authorized in the license and would construct a new 1,045-foot-long, 12-foot diameter tunnel to connect the auxiliary powerhouse to the existing surge tank.

11. Except for the proposed new tunnel, the licensee's amendment would have the same general effects as those new facilities already authorized in the license and analyzed in Commission staff's final Environmental Impact Statement (EIS) issued for the project.⁶ We incorporate Commission staff's analysis in the final EIS by reference.

12. In general, building the auxiliary powerhouse in the proposed new location and installing one instead of two turbine-generator units would have the same effects to water quantity, water quality, fishery resources, recreation, aesthetics, land uses, and socioeconomic resources as the new facilities authorized in the license. The licensee does not propose changing how the project would operate. In fact, building the auxiliary powerhouse in the proposed new location could result in fewer effects to terrestrial resources because the proposed new site is a disturbed, unvegetated area compared to the authorized site where about one acre of forest has re-grown since the old powerhouse was abandoned. Building the auxiliary powerhouse in the proposed new location would also avoid the slope instability issues at the authorized site which could reduce the amount of soil erosion and erosion control measures needed in the long term. Further, relocating the auxiliary powerhouse would leave the abandoned powerhouse intact, eliminating any

⁴ 33 U.S.C. § 1341(d) (2000).

⁵ Washington Ecology issued the original WQC on May 11, 2007, and Amendment No. 1 on October 19, 2009.

⁶ See Commission staff's final EIS issued September 8, 2006.

hazard associated with excavating and removing the old building and powerhouse equipment.

13. The proposed tunnel to connect the auxiliary powerhouse to the surge tank would be a new construction activity not previously analyzed in the final EIS issued for the project. The licensee proposes to excavate the tunnel using conventional tunneling methods which would include using a roadheader and drill and blast methods. Constructing the tunnel would produce large quantities of rock and soil as tunnel waste. The licensee estimates that up to 14,150 cubic yards of bulked soil and rock would be removed to build the tunnel. Excavated material would be loaded at the tunnel face, hauled to a shaft, and hoisted out of the tunnel for disposal. Up to 420 cubic yards of soil and rock may be temporarily stockpiled in a laydown area just to the south of the tunnel excavation. Removing tunnel waste would require about 12 dump truck trips per day (round trips).

14. The licensee would employ best management practices to control soil erosion during tunnel excavation; during rock and soil storage; and during the transport of tunnel materials to an off-site location. The licensee intends to dispose of all rock and soil at an approved location outside of the project boundary in accordance with permits it would acquire from local jurisdictions which may include the state, county, and the Town of Concrete. The licensee would also coordinate with local jurisdictions for traffic control, signage, dust control, and the removal of any rock and soil from public roads in accordance with its permits. All construction methods would adhere to any special conditions and best management practices in the licensee's shoreline master program permit and all conditions in the project's existing water quality certification and the licensee's approved Water Quality Protection Plan.⁷

15. Regarding cultural resources, the licensee reviewed the amendment application to determine if there would be any adverse effects to known historic and archaeological resources. The licensee determined that there are historic properties within the Area of Potential Effect but that the proposed construction would not affect these resources. Construction activities would occur in an area that is not likely to contain any archaeological resources. The licensee consulted with the State Historic Preservation Officer (SHPO) regarding its amendment application. By letter dated September 20, 2010, the SHPO concurred with the licensee's determination that the amendment application would have no adverse effects to historic properties.

16. In summary, the licensee's amendment application would have the same general effects as that construction authorized in the license and could reduce overall effects to terrestrial resources. Constructing a new tunnel would produce large quantities of rock

⁷ Order Modifying and Approving Water Quality Construction Plans for Phase 1 Construction issued November 4, 2010, at 133 FERC ¶ 62,122.

and soil as tunnel waste but the licensee is implementing measures to ensure this new activity does not result in additional soil erosion and turbidity, as compared to construction already authorized in the license. The licensee's application would not violate its existing water quality certificate, Coastal Zone Management Act Consistency Determination, or any other terms and conditions in its license.

Administrative Conditions

A. Annual Charges

17. The proposed amendment would not change the authorized installed capacity of the project. Therefore, license Article 201 for Administrative Annual Charges remains unchanged.

B. Exhibits

18. In this filing, the licensee included revised Exhibit F drawings but not a revised Exhibit A, reflecting the changes proposed in the amendment application. However, license Article 204 requires the filing of revised Exhibits A and F, as applicable, showing all principal project works necessary for operation and maintenance of the project. The current filing due date for Article 204 is December 31, 2010.⁸ In this order we will extend the due date for the filing of a revised Exhibit A to be 90 days from the issuance date of this order, as shown in ordering paragraph (F).

19. Because of the changes proposed in the amendment application, and to standardize references between Upper and Lower Baker developments, the licensee filed revised and updated exhibit F drawings for the whole project. The licensee also included a revised Exhibit G-1 drawing.

20. Exhibit F-1, Sheet 2, has an error in the reference to the normal reservoir elevation; it should be corrected to 442.35 feet instead of 442.27 feet. In this order, we will delete the seven Exhibit F drawings approved under the order issuing the license and replace them with the revised set. For clarity and consistency in labeling and numbering, we will re-label and approve the revised Exhibit F drawings in a sequential order. As such, the licensee must re-label the approved drawings before preparing them in aperture cards and electronic format, as shown ordering paragraph (E) of this order.

21. Regarding the revised Exhibit G-1 drawing, we are not approving it in this order. We will review the entire set of revised Exhibit G drawings when they are filed in accordance with articles 203 and 304 of the license. The current filing due date for

⁸ See unpublished "Order Granting Extension of Time", issued February 1, 2010.

articles 203 and 304 is December 31, 2010.⁹ In this order we will extend the due date for the filing of a revised Exhibit G to be 90 days from the issuance date of this order, as shown in ordering paragraph (F).

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

22. Article 301 (Start of Construction), Article 302 (Cofferdam & Deep Excavation Construction Drawings), Article 303 (Contract Plans and Specifications), and Article 304 (Revised Exhibits and As-built Drawings) included in the order issuing the license are applicable to the changes proposed in the amendment. Additionally, because the proposed amendment includes construction of a new tunnel, we are adding Article 306 requiring a blasting plan.

Summary

23. Based upon the review of the information provided by the licensee, agency comments, and current and prior assessments, and our independent analysis, we conclude that approving this amendment of license is not a major federal action significantly affecting the quality of the human environment.

24. In this order we will approve the proposed design changes and amend the license accordingly.

The Director orders:

(A) The application to amend the license for the Baker River Project, FERC No. 2150, filed on August 5, 2010, and supplemented September 16, 2010, is approved, effective the day this order is approved.

(B) Items 4, 7 and 8 of the description of the Lower Baker development, under the second paragraph of ordering paragraph (B)(2) of the license, are revised to read as follows:

(4) a 1,410-foot-long pressure tunnel, having a 905-foot-long, 22-foot-diameter concrete-lined section transitioning to a 505-foot-long, 16-foot-diameter steel-lined section to the existing powerhouse, and a 12-foot-diameter, 1,045-foot-long, concrete lined tunnel extending from the existing surge tank to the new auxiliary powerhouse;

(7) a new 170-foot-long by 100-foot-wide auxiliary powerhouse containing a single turbine-generator unit with a total installed capacity of 30.00 MW, a by-

⁹ See two separate unpublished "Order Granting Extension of Time", issued February 1, 2010 (for articles 203 & 204) and May 5, 2010 (for article 304).

pass valve, and a step-up transformer bank containing two single-phase, 17,000-kVA transformers;

(8) a 750-foot-long, 115-kilovolt (kV) primary transmission line and a 300-foot-long 115 kV primary transmission line connecting the new auxiliary powerhouse to the existing powerhouse.

(C) Articles 106 and 401 of the Settlement Agreement included in Appendix A of the license are revised, in part, by replacing any reference to “two new generating units with 750 cfs capacity each”, by “one new generating unit with a capacity of 1,500 cfs, and a 1,500 cfs by-pass valve.”

(D) The following Exhibit F drawings, filed with the amendment application conform to the Commission’s rules and regulations, and are approved and made part of the license, as labeled and numbered below:

EXHIBIT	Licensee’s Exhibit Label	FERC DRAWING No.	Title
F-1	F-1.1	2150-1008	General Site Plan
F-2	F-1.2	2150-1009	General Profiles-Lower Baker
F-3	F-2	2150-1010	Gravity Arch Dam Plan & Details Lower Baker
F-4	F-3.1	2150-1011	Unit 3 Powerhouse Cross Sections Lower Baker
F-5	F-3.2	2150-1012	Unit 4 Powerhouse Cross Sections Lower Baker
F-6	F-4.1	2150-1013	Barrier Dam and Adult Fish Trap Lower Baker
F-7	F-4.2	2150-1014	Adult Fish Trap Sections Lower Baker
F-8	F-5	2150-1015	Plans & Sections Upper Baker Dam
F-9	F-6	2150-1016	West Pass Dike Plan & Sections Upper Baker
F-10	F-7	2150-1017	Powerhouse Cross Sections Upper Baker

EXHIBIT	Licensee's Exhibit Label	FERC DRAWING No.	Title
F-11	F-8.3	2150-1018	Unit 4 Powerhouse Site Plan Lower Baker
F-12	F-13	2150-1019	Floating Surface Collector Upper Baker
F-13	F-14	2150-1020	Floating Surface Collector Plan Upper Baker
F-14	F-15	2150-1021	Floating Surface Collector Elevation Upper Baker
F-15	F-16.1	2150-1022	Downstream Fish Collection Facilities Lower Baker
F-16	F-16.2	2150-1023	Downstream Fish Collection Facilities Lower Baker
F-17	F-17.1	2150-1024	Fish Hatchery Upper Baker, Plan View
F-18	F-17.2	2150-1025	Fish Hatchery-Spawning Beach Profile A Upper Baker
F-19	F-17.3	2150-1026	Fish Hatchery-Spawning Beach Profile B Upper Baker
F-20	F-17.4	2150-1027	Fish Hatchery Building Plan, Foundation Plan Upper Baker
F-21	F-17.5	2150-1028	Fish Hatchery Building Sections A, B, C Upper Baker
F-22	F-17.6	2150-1029	Fish Hatchery Building Sections D, E, F Upper Baker

The seven drawings that were approved in the license order are deleted from the license.

(E) Within 45 days of the date of issuance of this order, the licensee shall file the approved exhibit drawing in aperture card and electronic file formats. The normal reservoir elevation on Exhibit F-2 drawing must be corrected to 442.35 ft before preparing the drawings in aperture card and electronic formats.

a) Three sets of the approved exhibit drawing 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- 2150-1008) 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-1.1), Drawing Title, and date of this order shall be typed on the upper left corner of each aperture card. See Figure 1.

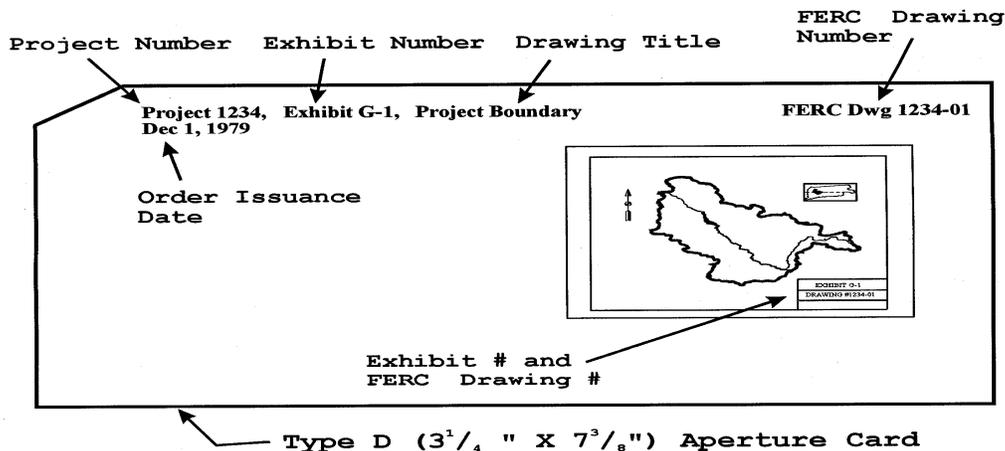


Figure 1. Sample Aperture Card Format

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 drawing 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.

c) The licensee shall file two separate sets of the project boundary data in a georeferenced 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. A single electronic boundary polygon data file is required for the project boundary. Depending on the electronic file format, the polygon and point data can be included in a single file with multiple layers. The georeferenced 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-2150, 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 georeferenced 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-2150, project boundary metadata, MM-DD-YYYY.TXT].

(F) The due date for filing revised Exhibit A pursuant to Article 204, and revised Exhibit G drawings pursuant to Article 203 and Article 304, is extended to be within 90 days from the date of issuance of this order.

(G) The following article is added to the license:

Article 306 – *Blasting Plan*. At least 60 days prior to start of construction, the licensee shall submit one copy of its blasting 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 licensee may not begin construction until the D2SI – Portland Regional Engineer has reviewed and commented on the blasting plan, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

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(H) 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 Federal Power Act, 16 U.S.C. § 8251 (2006), and the Commission's regulations 18 C.F.R. § 385.713 (2010). The filing of a request for rehearing does not operate as a stay of the effective date of this order, 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.

M. Joseph Fayyad
Engineering Team Lead
Division of Hydropower Administration
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Document Content(s)

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