

NOTICE: **Application for State of Washington Water Quality Certification**

FERC NO.: **P-14795**

APPLICANT: **Shell Energy North America (US), L.P.**

FACILITY: **Hydro Battery Pearl Hill Project**

Shell Energy North America (US), L.P. (Shell Energy) has requested a Section 401 Water Quality Certification (WQC) for final FERC license application for the proposed Hydro Battery Pearl Hill Project (Project) in accordance with the provisions of Chapter 90.48 Revised Code of Washington (RCW), Chapter 173-201A Washington Administrative Code (WAC), and the Federal Clean Water Act.

The proposed Project is located in Douglas County, Washington on the south bank of the Columbia River between river miles 552 and 553. The Project area spans the bank and adjacent uplands at Rufus Woods Lake, a 51-mile long Columbia River main stem impoundment bounded by Chief Joseph Dam at the downstream end and Grand Coulee Dam on the upstream end. The proposed Project is an open-loop pumped storage Project pumping water into the storage reservoir when power demand is low and releasing that water to generate power when demand is high.

Interested persons are invited to submit written comments regarding the application for Section 401 WQC. All comments must be submitted by December 31, 2018, to be considered. Submit comments online at: <http://ws.ecology.commentinput.com/?id=Ebp9F>. E-mail comments should be sent to breean.zimmerman@ecy.wa.gov with “Hydro Battery Pearl Hill 401 Comments” in the subject line. Comments should be sent to:

Breean Zimmerman
Department of Ecology
Central Regional Office
1250 West Alder Street
Union Gap, WA 98903-0009

Any interested party may request a public hearing on the draft Section 401 WQC within 30 days of the publication date of this notice. The request for a hearing shall state the interest of the party and the reasons why a hearing is necessary. The request should be sent to the above address. The Department of Ecology will hold a hearing if it determines there is significant public interest. If a hearing is to be held, public notice will be published at least 30 days in advance of the hearing date. Any party responding to this notice with comments will be mailed a copy of a hearing public notice.

If you require special accommodations or need this public notice in a format for the visually impaired, call Joy Espinoza at (509) 454-7888. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Publication date of this Notice is November 22, 2018, and November 29, 2018.



Shell Energy North America (US), L.P.

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October 26, 2018

Breean Zimmerman
Hydropower Projects Manager
Water Quality Program
Washington State Department of Ecology
Central Regional Office
1250 West Alder Street
Union Gap, WA 98903

Project No. 14795-001--Washington
Hydro Battery Pearl Hill Project
Shell Energy North America (US), L.P.

Re: Resubmital of Clean Water Act Section 401 Water Quality Certification Applications

Dear Ms. Zimmerman,

On November 27, 2017 Shell Energy North America (US), L.P. (Shell Energy) requested a Section 401 Water Quality Certification (WQC) for final FERC license application for the proposed Hydro Battery Pearl Hill Project (Project) in accordance with the provisions of Chapter 90.48 Revised Code of Washington (RCW), Chapter 173-201A Washington Administrative Code (WAC), and the Federal Clean Water Act.

FERC's hydropower regulations require state agency action on an application within one year of receipt of the application. As we are now approaching the end of the one year period, Shell Energy has asked under separate letter to withdraw the November 2017, 401 water quality application without prejudice.

This letter and attached application with reference to the relevant November 2017 Final License Application (FLA) to FERC constitutes our new application to be effective November 27, 2018.

The proposed Project is located in Douglas County, Washington on the south bank of the Columbia River between river miles (RM) 552 and 553 (see Figure 1-1 in Exhibit E of the FLA). The Project area spans the bank and adjacent uplands at Rufus Woods Lake, a 51-mile long Columbia River mainstem impoundment bounded by Chief Joseph Dam at RM 545.1 on the downstream end and Grand Coulee Dam at RM 596.6 on the upstream end.

The Project is described in the November 2017 FLA. In summary, the proposed Hydro Battery Pearl Hill facility is a 30 MW-hr modular pumped storage unit capable of generating at up to 5 MW, and pumping at up to 9 MW. The purpose of the Hydro Battery Pearl Hill facility would be to provide grid energy storage and spinning reserve, which would improve the grid's resiliency to fluctuating energy production and consumption, and increase the potential for further market penetration of renewable energy sources. The proposed Project is an open-loop pumped storage Project pumping water into the storage reservoir when power demand is low and releasing that water to generate power when demand is high. The process is repeated on a cycle of about 6 to 8 hours when the plant is in operation.

The area directly affected by the construction of the Hydro Battery Pearl Hill Project (i.e., the Project "footprint") is depicted in Figure 1-2 of Exhibit E of the FLA. This area includes the area of direct disturbance from construction and operation of the hydroelectric project. Approximately 8 acres of land within the proposed Project boundary would be cleared for construction, and once complete, the above ground Project facilities, including new access road will occupy approximately 5 acres of the 280-acre WDNR parcel. The lands and waters proposed to be within the FERC Project boundary are those deemed necessary for operation and maintenance of the project and for other project purposes including shoreline and waterway protection, and protection of environmental resources.

As described in Exhibit E of the FLA, the Project involves construction of a steel shoreline platform, penstock, and upper reservoir. Preliminary estimates of total excavation quantities in the shoreline area are 1,300 cubic feet for the penstock anchor just above the ordinary high water line and 75 cubic feet in Rufus Woods Lake for the platform footings. The finished shoreline platform is estimated to cover approximately 6,000 feet of water area with an estimated 48 percent light transparency. The shoreline area surrounding the generation platform will be maintained in its current condition as a naturally exposed rock surface. Spoils from the installation will be removed by barge and disposed off site at previously disturbed sites in Douglas or Okanagan counties. Construction will require minimal rock and sediment to be excavated from Waters of the U.S. (WOTUS) (Rufus Woods Lake).

Construction is expected to take between 6 and 9 months to install the tank, penstock, and platform. Permanent facilities on the land surface will include the 20-foot-tall upper steel tank (upper reservoir), approximately 3,400 linear feet of the steel penstock in two above ground sections on rocky surfaces, a 3,855-foot-long access road leading to the tank, and a quarter acre turnaround and parking area adjacent to the tank. After construction, 3 acres cleared for construction will be revegetated and monitored for revegetation success over several years.

Proposed Uses of Water

Section 2.1.1 of Exhibit E of the FLA provides information on Rufus Woods Lake water quantity and uses in the vicinity of the proposed Project. Primary water uses in the area are hydropower and irrigation.

Most of the water rights in the area of the proposed Project have been allocated, as summarized in Section 2.1.1.3. Project operations would use up to approximately 29 AF of water from Rufus Woods Lake that would be temporarily stored in the upper reservoir and then returned to Rufus Woods Lake in the generation mode. This volume of water is minimal compared to available water in Rufus Woods Lake, and a water right for its use is available from Washington State Department of Ecology (Ecology) (Application for Water Right No. S3-30793). Project effects on water use are addressed in Section 2.2.1.

Water Quality Standards and Existing Conditions

Existing water quality concerns in the Columbia River include dissolved gases, temperatures, turbidity, sediment quality, and environmental contaminants that are toxic to fish. Ecology and Confederated Tribes of the Colville (CTCR) water quality criteria are presented in Table 2-3 in Section 2.1.2 of Exhibit E of the FLA. Existing water quality conditions in Rufus Woods Lake are also described in Section 2.1.2. These data are derived from existing data sources and previous studies.

Project-Related Studies and Potential Project Effects on Water Quality

Potential effects of Project construction and operation on water quality are discussed in Section 2.2.2. Golder Associates performed temperature modeling for the Hydro Battery Pearl Hill storage tank to evaluate potential thermal loading from the Project (Attachment A of Exhibit E of the FLA). The storage reservoir was designed with insulation to maintain proper thermal regimes; therefore, thermal changes from the open loop design are not expected to occur in discharge water.

Golder Associates also completed a near-field model using computational fluid dynamics equations and relationships to assess the alterations that the Project may have on the immediate vicinity of the discharge (Attachment B of Exhibit E of the FLA). Results are summarized on pages E2-22 and E2-23 of Exhibit E of the FLA.

In addition, Golder Associates completed a cumulative effects analysis, as referenced in Section 2.2.2.1 of the Exhibit E and detailed in Attachment C. They concluded that cumulative effects will be small and measurable only within the immediate project area.

Water Quality Protection and Mitigation Measures

Section 2.3 of Exhibit E of the FLA outlines protection and mitigation of water use and quality. In summary, Shell Energy intends to prepare a comprehensive sediment and soil erosion control plan, a storm water pollution prevention plan (SWPPP), and to work closely with resource agencies to employ appropriate best management practices. Further water quality mitigation measures related to fish and aquatic resources are provided in Section 3.3. These include design measures, such as design of the discharge manifold to reduce the potential for sediment disturbance and turbidity and gas supersaturation at discharge, and tank insulation to minimize thermal loading. In addition, Shell Energy will prepare an Aquatic Resources Management Plan in consultation with resource agencies and CTCR, as described in Section 3.4. Components of the plan include total dissolved gas (TDG) and temperature monitoring.

Permitting

Further coordination with resource agencies will occur post-licensing during the permitting phase when the Joint Aquatic Resource Permit Application (JARPA) process is initiated. This is expected to include the following permits related to water quality:

- A National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit from Ecology may be required for this project if there is a potential for stormwater discharge from a construction site with disturbed ground. The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) is prepared and implemented for all permitted construction sites (see Section 2.3 of Exhibit E of the FLA). These control measures must be able to prevent soil from being carried into surface water by stormwater runoff. All required permit coverages and erosion control measures will be in place prior to any clearing, grading or construction. These control measures will be effective to prevent soil from being carried by stormwater runoff and discharged directly to surface water. Sand, silt, and soil will damage aquatic habitat and are considered pollutants.
- Permits will be required for work along the shoreline of Rufus Woods Lake below the ordinary high water mark (OHWM) during construction and anchoring of the intake facilities platform. Section 404 of the CWA, which is administered by the U.S. Army Corps of Engineers (USACE), regulates the placement of dredged or fill materials into jurisdictional wetlands and other waters of the U.S. For features determined to be jurisdictional by USACE, direct and indirect impacts to these areas would require a Section 404 permit and/or a Rivers and Harbors Act Section 10 permit (see Section 4.3.1 in Exhibit E of the FLA).
- Douglas County has prepared a Regional Shoreline Master Program (SMP) to comply with the requirements of the Washington State Shoreline Management Act (SMA) (see Section 11.1.1.2 in Exhibit E of the FLA). The Columbia River is a shoreline of statewide significance and is regulated under the SMA. The Columbia River designation in the Project area is "Natural." Shell Energy will ensure the proposed Project is consistent with Douglas County Regional SMP.

This list of permitting requirements is not exhaustive and will be refined in consultation with resources agencies during the post-licensing phase of the Project.

Summary

Shell Energy has pursued a pattern of continued and regular engagement with stakeholders over the last year and has planned and developed the Project design and footprint based on input from resource agencies, including Ecology. The design and resource protection measures, as outlined in the FLA, reflect the outcomes of the ongoing engagement. Shell Energy will continue to work closely with Ecology to thoroughly evaluate water quality conditions associated with the proposed Hydro Battery Pearl Hill Project.

If you have any questions, please contact me at (832) 337-1160. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'JT Steenkamp', written in a cursive style.

/s/ JT Steenkamp

Project Manager

Hydro Battery Pearl Hill

ATTACHMENT – SHELL ENERGY NORTH AMERICA (US), L.P. APPLICATION FOR WATER
QUALITY CERTIFICATION



Water Quality Certification Application (401) for Existing Hydropower Dams Form

(For use in Washington State)



Water Quality Certification Hydropower Coordinator Send to:
Water Quality Program
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98501

NOTE: For other permitting and regulatory questions, contact the Office of Regulatory Assistance at 1-800-917-0043, assistance@ora.wa.gov, or www.ora.wa.gov. Use the Joint Aquatic Resources Permit Application (JARPA) for any construction activities.

Please type or print in black ink.

ALSO be sure to complete the Signature Block on page two.

1. Applicant: Shell Energy North America (US), L.P.			
Mailing address: 601 W. 1st Ave., Suite 1700; Spokane, WA 99201			
Work phone: 509-688-6000	E-mail address: brian.johansen@shell.com	Home phone:	FAX #:

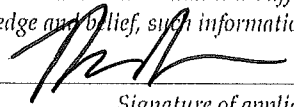
If an agent is acting for the applicant during the permit process, complete #2.

2. Authorized agent: JT Steenkamp			
Mailing address: 400 4th Ave SW, Calgary, AB, T2P 0J4, Canada			
Work phone: +1 403 384 7517	E-mail address: jt.steenkamp@shell.com	Home phone:	FAX #:

3. Waterbody(s) of FERC project: Columbia River at Rufus Woods Lake Is this waterbody on the 303(d) list? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Has, or could, the project contribute to exceedance of any water quality standard? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, what parameter(s)? Website for 303(d) list: http://www.ecy.wa.gov/programs/wq/links/impaired_water.html	Tributary of: Pacific Ocean	WRIA #: 50 Douglas Co. http://www.ecy.wa.gov/services/gis/data/hydro/wria.gif
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4. Attached materials: Pearl Hill Hydroelectric Project Final License Application (submitted in November 2017) Attach a complete list of all applicable studies, research, summaries, and information that is needed for Ecology to conclude that water quality standards will be met for the project.

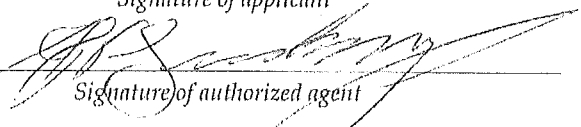
Application is hereby made for a certification that water quality standards will be met. I will make available to Ecology, upon request, any information necessary for Ecology to make a 401 water quality certification decision. I am familiar with the existing information and believe that it is sufficient to show that water quality standards will be met for this project. To the best of my knowledge and belief, such information is true, complete, and accurate.



Signature of applicant

10/29/18

Date

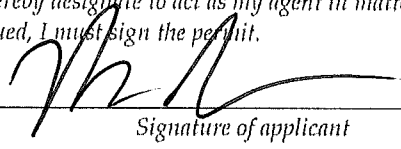


Signature of authorized agent

26 Oct 2018

Date

I hereby designate to act as my agent in matters related to this application for permit(s). I understand that if a federal permit is issued, I must sign the permit.



Signature of applicant

10/29/18

Date

This application must be signed by the applicant and the agent, if an authorized agent is designated.

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