

146 FERC ¶ 62,217
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of Douglas County,
Washington

Project No. 2149-156

ORDER APPROVING 2014 TOTAL DISSOLVED GAS ABATEMENT PLAN AND
2014 BYPASS OPERATING PLAN

(Issued March 26, 2014)

1. On February 25, 2014, Public Utility District No. 1 of Douglas County, Washington (licensee) filed, for Federal Energy Regulatory Commission (Commission) approval, its 2014 Total Dissolved Gas Abatement Plan and 2014 Bypass Operating Plan pursuant to Article 401(a) of the license for the Wells Hydroelectric Project FERC No. 2419.¹ The project is located on the Columbia River, in Douglas, Okanogan, and Chelan counties, Washington.

LICENSE REQUIREMENTS

2. Various conditions of the license require the licensee to prepare and implement specific plans without prior Commission approval. The plans are to be developed in consultation with various entities and be approved by the Washington State Department of Ecology (Ecology), the U.S. Department of the Interior, or the National Marine Fisheries Service (NMFS). Article 401(a) requires that each such plan also be submitted to the Commission for approval.

2014 Total Dissolved Gas Abatement Plan

3. Article 401(a) requires the licensee to annually prepare a Total Dissolved Gas Abatement Plan, pursuant to Ecology's section 401 Water Quality Certification (WQC) Condition No. 6.7(2)(a) and NMFS's Incidental Take Statement Term and Condition No. 2. The Total Dissolved Gas Abatement Plan is to be developed in consultation with the parties to the Aquatic Settlement Agreement and Habitat Conservation Plan, including the U.S. Fish and Wildlife Service (FWS), the U.S. Bureau of Land Management (BLM), Ecology, NMFS, Washington State Department of Fish and Wildlife (DFW), the Confederated Tribes of the Colville Reservation (CCT), and the Confederated Tribes and

¹ Order Issuing New License. 141 FERC ¶ 62,104 (issued November 9, 2012).

the Bands of the Yakama Nation (YN). The Total Dissolved Gas Abatement Plan must provide details on operational and structural measures to be implemented by the licensee, and the plan is intended to result in compliance with the Washington State water quality standards for allowable total dissolved gas (TDG). The proposed 2014 Total Dissolved Gas Abatement Plan was approved by the NMFS and Ecology.

2014 Bypass Operating Plan

4. Article 401(a) requires the licensee to annually prepare a Bypass Operating Plan, pursuant to Ecology's section 401 WQC Condition No. 6.7(2)(d) and NMFS's Incidental Take Statement Term and Condition No. 2. The Bypass Operating Plan is to provide for the safe spring and summer outmigration of naturally produced juvenile salmonids spawned above Wells Dam. The Bypass Operating Plan was approved by the Habitat Conservation Plan Coordinating Committee, including the FWS, NMFS, and Ecology.

Total Dissolved Gas Abatement Plan / Bypass Operating Plan Coordination

5. Article 401(a) requires the licensee to annually coordinate the Total Dissolved Gas Abatement Plan and the Bypass Operating Plan with the Aquatic Settlement Working Group, using the best available information to minimize the production of TDG during periods of spill. The coordination of the plans is to provide compliance with the Washington State water quality standards for TDG and safe outmigration passage for juvenile salmonids during spill operations. The NMFS and Ecology indicated that the licensee has appropriately coordinated the two plans.

LICENSEE'S PROPOSED PLANS

2014 Total Dissolved Gas Abatement Plan

6. The Wells Hydroelectric Project, consisting of 10 generating units with relative small storage capacity, operates in a "run-of-river" mode, releasing flows in excess of the project's hydraulic capacity over the spillways. Washington State water quality standards require that the TDG not exceed 110 percent in any State water body. However, dam operations are not held to the TDG standards when the river flow exceeds the 7-day, 10-year frequency flood (7Q-10). The 7Q-10 flood flow is the highest calculated flow of a seven consecutive day average, using the daily average flows that may be seen in a 10-year period.

7. The licensee used a two-phase computation fluid dynamics tool to predict the hydrodynamics of the TDG distribution and to identify operational configurations that would minimize TDG production within the Wells Dam tailrace. The licensee develops an annual Spill Playbook to concentrate releases through specific spillways. In an April 2009 report, the model demonstrated that the Wells Dam can be operated to meet TDG criteria during the fish passage season with flows up to the 7Q-10 levels, provided that

the forebay TDG levels are below 115 percent. Compliance was achieved through the use of a concentrated spill pattern through Spillway No. 7 and surplus flow volume through adjacent odd-number spillways in a defined pattern and volume.

8. Based on the TDG performance associated with implementation of the 2013 Spill Playbook, similar operating principles will be implemented for the 2014 fish passage (spill) season. The 2013 flows were lower than in previous years. This allowed the licensee to reduce spill volumes and maintain normal, rather than 7Q-10, bypass operations for longer periods of time than in 2011 or 2012. Resulting flows were largely compliant with the TDG criteria. As such, the licensee does not propose modifying its Spill Playbook or existing structures for the 2014 fish passage season.

9. In addition to minimizing involuntary spill through implementation of the 2013 Spill Playbook, the licensee will manage spill toward meeting Washington State water quality criteria for TDG during all flows below 7Q-10, as follows:

- a. minimize voluntary spill through operations including to the extent practicable, by scheduling maintenance based on predicted flows;
- b. avoid spill by continuing to coordinate operations with upstream users, to the extent that it reduces TDG;
- c. maximize powerhouse discharge, especially during periods of high river flows; and
- d. during fish passage season, manage voluntary spill levels in real time in an effort to continue to meet TDG numeric criteria.

2014 Bypass Operating Plan

10. The 2014 spring and summer outmigration of naturally produced juvenile salmonids will consist of adults that spawned above Wells Dam during brood years 2012 and 2013. The spring migration will include juvenile spring Chinook, Coho, sockeye, and steelhead. Summer/fall Chinook sub-yearlings will migrate during both spring and summer bypass operations.

11. Operation of the bypass system throughout the 2014 season will follow criteria contained in the Wells Dam Juvenile Dam Passage Survival Plan in the Habitat Conservation Plan. One of the main goals of the plan is to provide bypass operations for at least 95 percent of both the spring and summer migration of juvenile salmonids. Upon completion of the 2013 bypass season, the updated analysis determined that the adjusted dates of bypass operations (commenced at 00:00 hours on April 9 and ceased at 24:00 hours on August 19) at Wells Dam provided bypass passage for 98 to 100 percent of each migrating species covered under the plan. Based on the exceedance of the 95 percent bypass passage criteria, the licensee proposes to commence operations of the bypass

system at 00:00 hours on April 9, 2014, and to cease operations at 24:00 hours on August 19, 2014.

Total Dissolved Gas Abatement Plan / Bypass Operating Plan Coordination

12. Seasonal bypass operations generally coincide with the spring freshet, an event during which hydroelectric operations must often manage flows exceeding the project's hydraulic capacity. When this happens, water must be passed via spillways. These spills increase the concentration of atmospheric gases in the water downstream of the project, and can result in excess levels of TDG that may injure or kill fish. The licensee's annual Spill Playbook outlines measures to minimize such results.

13. The 2014 Spill Playbook specifies the optimal releases and operation of the spillways at the Wells Dam to achieve compliance with Washington State water quality standards for TDG in the project tailrace. The licensee has determined that concentrating spill through the middle of the spillway and supporting that concentrated spill with turbine discharge results in the most effective minimization of TDG in the tailrace.

14. The licensee would report its results under both plans to the Commission by February 28, 2015. The report, including approval from the consulting agencies, would summarize all relevant activities conducted throughout 2014, including TDG compliance outside of the fish passage season, pursuant to the 401 Certification Section 6.7(2)(c)(iii).

CONSULTATION

15. The licensee developed the 2014 Total Dissolved Gas Abatement Plan and the 2014 Bypass Operating Plan in consultation with the parties to the Aquatic Settlement Agreement and the Habitat Conservation Plan. The licensee provided its draft plans to the Aquatic Settlement Working Group, including the FWS, NMFS, and Ecology, on January 16, 2014. The FWS, NMFS, and Ecology approved the plans on January 16, January 30, and February 14, respectively.

CONCLUSIONS

16. The licensee's 2014 Total Dissolved Gas Abatement Plan and 2014 Bypass Operating Plan fulfill the requirements of license Article 401(a) and Section 401 WQC requirements, and provide guidelines for compliance with Washington State water quality standards for TDG and safe downstream fish passage migration. Accordingly, the plans should be approved.

17. The Commission should reserve the right to require changes to the plans based on staff's review of the annual plans, annual reports, and agency recommendations.

The Director orders:

(A) Public Utility District No. 1 of Douglas County, Washington's (licensee) 2014 Total Dissolved Gas Abatement Plan, filed February 25, 2014, for the Wells Hydroelectric Project (FERC No. 2149) is approved.

(B) The licensee's 2014 Bypass Operating Plan, filed February 25, 2014, for the Wells Hydroelectric Project (FERC No. 2149) is approved.

(C) The Commission reserves the right to require changes to the plans based on staff's review of the annual plans, annual reports, and agency recommendations.

(D) 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 (2012), and the Commission's regulations at 18 CFR § 385.713 (2013). The filing of a request for hearing 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.

Thomas J. LoVullo
Chief, Aquatic Resources Branch
Division of Hydropower Administration
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Document Content(s)

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