



Public Utility District No. 1 of Douglas County

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Susan Braley
WA State Dept. of Ecology
Water Quality Program
PO Box 47600
Olympia, WA 98504-7600

September 26, 2019

Dear Ms. Braley,

Thank you for the opportunity to review and provide feedback on the proposed changes to WAC 173-201A-200(1)(f)(ii). We understand the Washington Department of Ecology (Ecology) is proposing this rule change in hopes of improving juvenile fish passage and survival for salmon and steelhead migrating downstream in the Snake and Columbia rivers. The rule change would amend the total dissolved gas (TDG) limit to allow for greater water flow through spillways and potentially provide improved juvenile salmon survival, while ensuring that TDG limits minimize negative impacts to aquatic life through carefully developed and implemented biological monitoring programs.

Public Utility District No. 1 of Douglas County (Douglas PUD) has a dedicated history of providing safe, timely, and effective passage for anadromous and resident fishes at the Wells Hydroelectric Project (Wells Project). Likewise, Douglas PUD worked closely and collaboratively with Ecology to meet Washington State Water Quality Criteria in order to remain compliant with Clean Water Act Section 401 Water Quality Certification (401 Certification) for the Wells Project including the associated TDG standards for those areas downstream of the Wells Project. Because of our commitment to water quality compliance, Douglas PUD is keenly interested in how the proposed rule change could positively or negatively affect the aquatic resources within the Wells Project and how the proposed rule changes could change how Douglas meets its 401 Certification TDG requirements.

To summarize our understanding of the proposed rule changes, Ecology proposes to amend the existing adjusted TDG criteria during the spring by allowing hydro project operators to choose between using the 12-C high 120% and 115% tailrace and forebay standards or exclusively focus on a 125% standard and accompanied modification to this calculation. According to the proposed rule change, other adjusted standards appear similar to current standards during the summer months, with minor revisions to how the 12-C high calculation is computed. Specifically, the rule would allow hydro project operators to use nearly identical existing adjusted TDG standards (subsection (f)(ii)(A)), or use the new adjusted standard provided operators submit a Gas Abatement Plan and carry out both resident fish and anadromous salmonid biological monitoring. Finally, the rule would require operators to revert back to the TDG standards in subsection (f)(ii)(A), if biological monitoring determines that sampled fish are biologically compromised at or above a proposed gas bubble trauma (GBT) threshold.

Douglas PUD's general comments can be summarized in the context of technical considerations, operational considerations, and policy level considerations, as follows:

Technical Review

- 1) For nearly a decade, Douglas PUD has collected biological data at the Rocky Reach Bypass Facility when TDG concentrations in the Wells Project Tailrace exceed 125%. Data collected to date, and provided to Ecology, indicates that very few anadromous and resident fish show signs of GBT even when the Wells Tailrace TDG concentration approaches 130%. When present, GBT expression in smolts exposed to concentrations between 125% and 130% is generally light and is rarely observed in more than one fin or eye. Further, GBT expression is often found in less than 5% of the fish sampled. Further, our review of smolt monitoring program data at other facilities confirms that field observations of smolts, subject to TDG concentrations between 110% and 125%, exhibit almost no GBT. When TDG is between 125% and 130% we have observed GBT in less than 5% of the fish and the expression is very species specific with steelhead and coho showing the highest sensitivity and both yearling and subyearling Chinook and sockeye showing no signs of GBT in that TDG range. Given the plethora of data that Douglas PUD has collected over the years, coupled with field data collected at other hydroelectric projects, we believe that the proposed adjusted TDG standards should not result in consequential biological impacts to migrating salmonids. Further, having more fish travel through spill routes at U.S. Army Corps and at non-federal projects will likely reduce the percentage of fish that use turbine routes at these facilities. Taken together, the biological information collected to date is supportive of Ecology modifying WAC 173-201A-200(1)(f)(ii) as proposed.
- 2) The proposed adjusted TDG standard will bring an end to the rolling 12-C high standard that was calculated irrespective of calendar day. This has been a long standing concern of Douglas PUD and our colleagues. The new adjusted standard will allow for the computation of a 12-C high during the summer months that will be specific to a calendar day rather than straddling two days when spill occurs in overnight hours. We support this proposed rule change because the biological information collected downstream of the Wells Project supports the proposed standard instead of the current, overly restrictive TDG standard.
- 3) The proposed adjusted TDG standard is written to include the months of April through June but is denoted as a general time frame. We support the use of the word "generally," because the juvenile anadromous fish outmigration at the Wells Project takes place throughout the spring and summer and is a defined operating period outlined in the Wells Anadromous Fish Agreement and Habitat Conservation Plan and in the Juvenile Fish Bypass Operating Plan. Allowing the benefits of additional spill during a later or even earlier outmigration period is important to preserve the intent of the proposed adjusted TDG standard.

Operational Review

- 1) As we noted earlier, Douglas PUD takes our commitment to complying with the Washington State Water Quality Criteria very seriously. As such, under high flow and incoming TDG conditions Douglas PUD requires power purchasers to generate electricity at the Wells Project in order to prevent unforced spill events that might otherwise lead to the 110% fall/winter and 120% spring/summer TDG exceedances in the Wells Tailrace. Often during these periods of high flows, power market conditions requires Douglas PUD to pay power marketers to accept electricity from Wells to prevent TDG exceedances associated with moderate to high spill events. Allowing the TDG standards to approach 125% rather than 120% in the tailrace and 115% in the forebay of the subsequent hydroelectric project will increase Douglas PUD flexibility to make economically prudent decisions, that also benefit anadromous fish, when it comes time to decide whether to send water through turbines or spillway during low or negative price periods. The proposed change is likely to reduce much of the unnecessary generation that can occur during the juvenile fish outmigration. We welcome the proposed change in the TDG standard because it makes environmental, operational and economic sense.

Policy Review

- 1) Page five and six of the Implementation Plan acknowledges the differences between the regulatory criteria that govern federal and publically owned hydroelectric projects. For example, the federal projects are closely governed by Endangered Species Act (ESA) consultation documents such as Biological Opinions on a federal-to-federal consultation basis. Whereas, publically owned dams are governed by a suite of FERC issued licenses, ESA Biological Opinions, 401 Certifications, Habitat Conservation Plans, and Settlement Agreements. While the Implementation Plan does a good job of explaining and noting these differences, the proposed rule change only acknowledges the federal regulator criteria, "...*(B)(I) In addition to complying with the requirements of this chapter, the tailrace maximum TDG criteria applied at dams operated by the U.S. Army Corps of Engineers must be in accordance with legally valid Endangered Species Act consultation documents on Columbia River system operations, including operations for fish passage,*" and is silent on the need for publicly owned dams to follow their own regulatory criteria. We suggested editing this rule to include similar language for PUD owned projects that is found in the Implementation Plan to the following effect, "...*whereas, publically owned projects such as those owned and operated by public utilities must comply with FERC Licenses, Biological Opinions, Fishway Prescriptions, 401 Water Quality Certifications, Aquatic Settlement Agreements, and Habitat Conservation Plans.*"

In addition to the comments provided above, we offer the following technical considerations to the proposed Implementation Plan:

- 1) Douglas PUD is supportive of monitoring resident fish during the implementation of the new 125% standard. Little data is available on how resident fish are or are not influenced by TDG conditions that are above current water quality criteria.


- 2) Ecology appears to be targeting native resident fish. We support this emphasis since non-native fish have long been documented to predate and disrupt the ecosystems occupied by native fishes of the Columbia River.
- 3) Ecology appears to be targeting shallow water areas for resident fish monitoring. We are supportive of this technical recommendation because fish occupying shallow water will be the most impacted fish because they cannot sound to depth and use the extra water pressure that depth provides to reduce their susceptibility to GBT.

Ecology is requesting sampling of 50 resident fish weekly with the goal of obtaining 10 fish from 3 different native resident fish species. We have concerns with the feasibility of Ecology's proposed request. In spring months, the Columbia River water temperatures remain cool and littoral habitats are dominated by salmonid species in the Wells Project Tailrace. During this time of year, Pikeminnow, Suckers, Whitefish, Redside Shiners, and other native resident fishes are found in very low numbers in these littoral habitats. We expect beach seining and shallow water electrofishing to be rather ineffective at capturing these species at this time of year. These species are more abundant in littoral habitats in the summer when water temperatures are above 15° C. Further, if the current requirement of capturing 10 of 3 different native fish is maintained, biological staff may have to unnecessarily handle thousands of salmonids to meet target species numbers. Doing so, may apply unnecessary stress on migrating salmonids including, potentially, those that are ESA listed. We suggest that Ecology remove the 10 fish of 3 different species requirement and substitute in a more realistic requirement that requires that 50 fish made up of at least three species of resident and/or anadromous fish be sampled during the months of April through June.

Douglas PUD remains committed to providing safe, effective, and timely passage for anadromous salmonids and resident fish alike, while working hard at meeting Washington State Water Quality Criteria. We welcome the opportunity to review the proposed rule change and are generally supportive of the proposal. Our comments and suggests summarized above are designed to improve the suggested rule change and Implementation Plan toward protecting aquatic life above and below the Wells Hydroelectric Project. Thank you for the opportunity to review and provide feedback on the proposed changes to WAC 173-201A-200(1)(f)(ii).

If you have any questions or require further information regarding the enclosed comments, please feel free to contact Shane Bickford at (509) 884-7191 or shaneb@dcpud.org.

Sincerely,



Gary R. Ivory
General Manager