

**WA Dept. of Ecology's Public Hearing on
Multiple Revisions to WAC 173-201A
Water Quality Standards for Surface Waters of the State of Washington**

**Oral Testimony from Margaret Filardo, Individual
Received 9-16-2019 in Vancouver, WA**

Transcription was provided by PostCAP LLC in Olympia, WA.

Thank you, Lehman. Okay. It looks like next we have Margaret. Margaret?

>> Hi.

>> Please state your name clearly for the record.

>> My name is Margaret Filardo.

Before retiring in 2017 I was employed as a senior fishery biologist for 30 years at the Fish Passage Center in Portland, Oregon. In that capacity I participated in the Technical Team in the development of the original recommendations for total dissolved gas supersaturation standards that were applied during the spring and summer juvenile fish passage periods and also in the development to the biological monitoring program for gas bubble trauma.

During this time I was also a technical member of the Interagency Gas Bubble Trauma Technical Workgroup and the Water Quality Team. In general I want you to know that I found that draft Environmental Impact Statement for the proposed changes to be well written and comprehensive. I realized how much staff time this takes and I applaud you.

I fully agree with the proposed decision for an adjusted tail race criteria of 125% in Alternative 3 except that I have some issues with the proposed calculations met to make this compliance. I have three things I would like to highlight here.

First thing is the issue of the Alternative 3 TDG measurements. This suggests that the total dissolved gas supersaturation criteria be increased to 125%. However, compliance with that criteria is going to be based on the calculation of the two highest hourly TDG measurements in a calendar day.

I applaud that Ecology is going back to the calendar day rather than the rolling average. However, this two-hour criteria presents an issue. There are no technical or biological information that should be used for this -- that can be used to defend this two-hour criteria. The original criteria for water quality standards, as you know, are based on instantaneous values. Recognizing that back in 1994, interagency committees, which included both Ecology and Oregon Department of Environmental Quality, worked together to define a more reasonable way to measure total dissolved gas.

Recognizing that there are a number of physical reasons why dissolved gas measurements change on an hourly basis, including changes in project operation that cannot be predicted, such as tail race elevations and fore bay elevations as well as turbine capacities and marketing

limitations.

In addition, you have some kind of accuracy associated with the measurement of the TDG meters themselves in the range of plus and minus 1%.

Therefore, we went to a 12-hour average to ensure that we were not going to go much out of the target range of 115, 120 the upper standard of the one hour 125% was implemented.

There are no evaluations in the draft EIS as to why you would go to a two-hour average. And it's inconsistent with how TDG has been measured for the past 25 years.

All the biological analyses that were used in CSS and all other studies in the region are based on 12-hour averages. They are used to maximize fish conditions, survival -- under survival benefits, and the adoption of Alternative 3.

An analysis that was conducted by the Fish Passage Center and communicated to you in their September 13th comments on the EIS, the FPC staff summarized the tail race TDG exceedances for the spring of 2019 based on the 12 highest hourly TDG measurements in a calendar day and compared that to what would have happened under the two highest hourly TDG measurements.

The FPC concluded that had spill in 2019 been managed to the proposed two-hour average TDG criteria, there would have been significantly more, that's 51% more tail race TDG exceedances. And consequently that would have led to reduced spill levels.

Again, the adoption of a two-hour average requirement would likely preclude the increase in spill levels needed to improve fish survival rates to a level that was expected to give you a 2 to 6% survival benefit to the adult.

Furthermore, survival under the implementation in the two-hour average TDG criterion jeopardizes the evaluation of the current flex spill populations that was based on analyses of TDG that were measured as 12-hour averages. Use of a two-hour average will result in less spill than you would expect under the 125 flex spill operation.

I think my time is up. But I will leave the rest of the written comments relative to the short monitoring program and the resident fish monitoring.