

To: ODEQ and WDOE
From: Bonneville Power Administration
Date: August 21, 2008
RE: Comments on July 10, 2008 letter from ODFW to AMT.

On July 10, 2008, the Oregon Department of Fish and Wildlife (ODFW) sent a letter to the Oregon Department of Environmental Quality (ODEQ) and Washington Department of Ecology (WDOE) commenting on the use of forebay monitors as a means of complying with Oregon's total dissolved gas TMDL along with comments on Federal agency modeling using HYDSIM and COMPASS to estimate changes in spill volumes and fish survival with and without the 115% TDG forebay limit in place. In the beginning of the letter ODFW asserts that the forebay monitors are typically located at the pier noses or other portions of the hydro projects near turbine intakes or spillways. The letter identifies concerns about the forebay monitors because they are "influenced by certain environmental factors" as described in a January 31, 2007 letter to ODEQ. These concerns fail to recognize that while forebay gages were formerly influenced to some degree by several environmental factors, these issues have already been addressed in response to RPA 132 of the 2000 FCRPS BiOp. Fixed Monitoring Stations (FMS) forebay gages are now typically located 1,000 feet away from the FCRPS project dam faces, and are at depths of about 50 feet. Thus they are no longer easily subject to influences of downwelling by turbines or spillways, or surface wind and air temperatures.

The quality of data from the forebay gages has been demonstrated to be highly reliable, with QA/QC levels of 98% or better. This has been documented extensively by USGS on the Water Quality Team web page, at the 2005 Lower Columbia River TDG year-end review, and in the Corps' subsequent annual TDG presentations to the WQT.

As participants in the RPA 132 Water Quality Team subgroup, both ODEQ and WDOE are well informed about these developments. For a summary of this action, please see the Water Quality Plan for Total Dissolved Gas and Water Temperature in the Mainstem Columbia and Snake Rivers Interim Update of the 2004 Plan, dated November 30, 2006, at pages 22-24. While the forebay gages are less susceptible to environmental factors, it is recognized that these factors may influence readings from the Camas-Washougal gage; however, because of the importance of ascertaining TDG levels in shallow water environments, we believe it is important to continue use of this monitor to have adequate information on the effects of FCRPS operations on all aquatic biota.

While States often utilize a single compliance point for monitoring water quality standard attainment, multiple FMS have been used in the FCRPS for years to present a more comprehensive picture of the water quality characteristics of the Columbia and Snake rivers. In large hydraulically complex rivers there are no ideal compliance monitoring locations under the CWA, only locations that are adequate for compliance purposes in the judgment of the regulatory agencies. ODFW's proposal to remove the forebay FMS would not help to better monitor and manage TDG in the river, it simply decreases the number of TDG monitoring points leading to a reduction in data points and information concerning TDG levels. This seems contrary to common sense which dictates gathering ample information concerning the water quality within a water body.

ODFW also complained that HYDSIM modeling of the hydro system operation includes excess generation spill based on existing power market and existing transmission system conditions. They assert there is no way of knowing whether the power market

will remain stable in the future, or will increase and so excess generation spill should not be relied upon for fish protection.

The HYDSIM model does include an assumed limit on the amount of power that can be generated and used within the power system. This properly reflects the reality of the hydro system. At times, the hydro system can produce more energy than can be safely transmitted to serve load in the region or distant power markets. In addition, there are times when the hydro system can generate power in excess of demand. It would be irresponsible for these realities to be ignored and would distort the results.

We do not share ODFW's concern that the power market may not remain stable for the foreseeable future for a number of reasons. First, load growth in the region is expected to be limited due to increased efforts to reduce energy consumption through conservation. Second, it is anticipated that there will be significant increases in energy production from the development of new generating sources, such as wind power, that will be available to help meet the region's power needs. Third, any bulk sales of power outside of the region are limited by the existing bulk power transmission system. Any construction of additional transmission lines to accommodate load growth or access other power markets involves a complicated, public process that takes years to complete. Rather than speculate about how all these efforts might ultimately impact the west coast energy market in the future, we believe it is more reasonable to assume the current market levels will continue for the near-term and that this will result in excess generation spill in most water years.

ODFW also seemed to suggest that use of the 2008 BiOp spill regime may have been inappropriate. The 2008 BiOp spill regime is the best information available regarding the spill regimes that will be implemented. Our intent to use the 2008 BiOp spill operations was openly discussed during the AMT process. We understood that the AMT group reached consensus that our analysis should be consistent with the FCRPS BiOp.

ODFW also states that when excess generation spill is included in the calculations and the 2008 BiOp spill regime is used, the additional volume of spill that would result from operating without the 115% forebay criteria is small. They state this smaller volume was then used by COE and NOAA for input to the COMPASS model.

The COMPASS modeling of the effects of operating without the 115% forebay gages was not based on the input of a small volume of spill as described by ODFW. The modeling of effects on fish was done by comparing their survival in two spill scenarios. In one scenario, HYDSIM and COMPASS were used to model the FCRPS BiOp operations with forebay gages, and in the second scenario, FCRPS BiOp operations were modeled without forebay gages. Spill caps derived from the Corps' SYSTDG model were used for both model runs. Both scenarios contained large volumes of spill. The fact that removing forebay spill gages would not significantly increase spill volumes simply reflects that the spill levels are predominantly controlled by spill regimes and other constraints, rather than forebay spill caps. This finding is not a valid basis to suggest that we should use an alternative modeling methodology that does not reflect the reality of excess generation spill.

This response has been coordinated with the U.S. Army Corps of Engineers. NOAA Fisheries is providing a separate response to the ODFW comments on application of the COMPASS model.