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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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June 30, 2010

Mr. David Ponganis  
U.S. Army Corps of Engineers  
Northwestern Division  
P.O. Box 2870  
Portland, OR 97208-2870

Dear Mr. Ponganis:

The U.S. Army Corps of Engineers (Corps) requested an adjustment of the total dissolved gas (TDG) criteria to aid fish passage over the Corps-operated dams on the Columbia and Snake Rivers. The requested adjustment is provided under Washington Administrative Code (WAC) 173-201A-200(1)(f)(ii). The criteria adjustment is contingent on the approval of a TDG abatement plan for the Corps dams.

In accordance with the conditions detailed in the Department of Ecology (Ecology) criteria adjustment approval letter dated February 8, 2008, the Corps submitted a TDG abatement plan prior to the 2010 spill season, (*The Total Dissolved Gas Abatement Plan for the Columbia and Lower Snake River Corps Projects, March 2010*). To allow time for Ecology to review this plan, we issued an extension to the February 2008 TDG criteria adjustment in a letter to the Corps on March 29, 2010. Ecology is issuing the following findings and conditions as a result of final review of the TDG abatement plan.

**A. The Washington State Department of Ecology approves the gas abatement plan based on the following findings:**

1. Limiting the allowable spill based on the 110 percent TDG criteria will result in more fish passing through turbines. Mortality is generally higher when fish pass through turbines than when fish passage is available through spill pathways at the Corps dams.
2. Increasing the TDG criteria threshold above 110 percent significantly decreases the mortality of juvenile fish migrating downstream.
3. Monitoring of gas bubble trauma (GBT) by the Fish Passage Center continues to show limited incidence of GBT in salmonids during spill season when the Corps dams are operating under the adjusted TDG criteria.
4. The Corps met the conditions detailed in Ecology's February 2008 criteria adjustment approval letter.
5. The Corps' gas abatement plan details the continuing structural and operational improvements occurring in the Columbia and lower Snake River projects.



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**B. This approval is subject to the following conditions:**

1. This approval shall extend through the end of February 2015 and apply to Corps dams on the Columbia and Snake Rivers in Washington State.
2. This approval allows spill to increase the dissolved gas levels above 110 percent of saturation to aid fish passage, but not to exceed 125 percent of saturation as a one-hour average. Gas saturation may not exceed 120 percent in the tailrace and 115 percent in the forebay of the next downstream dam as measured by the highest twelve-hour, consecutively-averaged value in any one day.
3. The Corps shall provide Ecology with an annual dissolved-gas monitoring report each year for the period of this criteria adjustment. The annual report shall include updated gas bubble trauma monitoring results and an update of the Corps TDG total maximum daily load (TMDL) implementation actions.
4. In the event of a rule revision to WAC 173-201A that is applicable to TDG criteria, conditions of this approval may be subject to change based on the revised criteria.

Application of the conditions of this approval by the Corps constitutes a large part of the implementation of Washington's Lower Columbia River TDG TMDL, the Mid-Columbia River TDG TMDL, and the Snake River TDG TMDL. As Phase II of the TMDLs gets underway, beginning in 2011 and proceeding through 2020, Ecology anticipates that the Corps will be actively involved in the process of reviewing the status of implementation of the TMDLs along with other key representatives involved in the Columbia and Snake River fish spill efforts.

Please contact me at (360) 407-6461 or Chad Brown of my staff at (360) 407-6128 if you have questions about this approval.

Sincerely,



Melissa Gildersleeve

Watershed Management Section Manager