BPA redispach motives challenged

Interest groups and fish scientists in the Pacific northwest say the Bonneville Power Administration instituted its environmental redispach policy used during times of regional overgeneration for economic rather than environmental reasons.

Renewables Northwest Project (RNP), a Portland-based non-profit interest group, wants to see increased river spills over hydroelectric dams used as a tool by Bonneville to reduce wind curtailments. RNP has released public data that it says shows environmental redispach is more tightly connected to negative prices than environmental concerns, suggesting Bonneville is using the policy to avoid losses.

But Bonneville cites environmental issues, saying it has consistently observed state water quality standards for total dissolved gases. “The standard is set right now and dictates how we operate,” Bonneville said. The federal power agency said it has never implemented its environmental redispach policy when water quality was within state standards.

Run-of-river projects can either spill water over the top of dams or run that water through electricity generating turbines. When water is spilled over the top it causes total dissolved gases (TDG) in the downstream side of the dam, called the tail race, to increase.

Fish advocates argue that spilling water over a hydroelectric dam is generally good for salmon. More spilling during lower water periods such as those going into summer could improve fish survivals and returns. “We are pretty convinced that the system could spill more and still not have a problem,” said Michelle DeHart, manager of the Fish Passage Center (FPC).

The FPC is funded by Bonneville and was created in 1982 as part of the Northwest Power Planning Council’s fish and wildlife program to monitor and implement programs that would mitigate harmful effects of the region’s hydroelectric system on migrating fish populations.

But at very high levels total dissolved gases in rivers can exceed levels that are safe for salmon and other species. When gas levels increase, fish can dive lower to avoid the gases, but in shallow water they cannot escape and can incur a condition called gas bubble trauma. There is also evidence that prolonged exposure to gases can damage other aquatic life. “Certainly last year I was a little nervous, too when we were seeing TDG levels of 140pc,” Margaret Filardo, biologist for the FPC, said. “At that point, environmental redispach makes sense.”

High water conditions in the spring runoff can result in increased spilling beyond levels that are safe for fish, according to the National Oceanic and Atmospheric Administration (NOAA).

Standards that were set in the early 1990s are outdated, fish scientists contend, and were based on limited historical data. Decades of monitoring have led to new ideas that higher gas levels are safe for fish survival and passage.

The Clean Water Act established a federal standard of 110pc TDG limit in the downstream side of hydroelectric dams. Individual states are given the authority to declare their own standards or waivers to the federal standard. Washington and Oregon have a 120pc limit on the tail race. Washington also has a requirement that TDG in the forebays, or upriver sides of dams, not exceed 115pc. Oregon does not have a forebay standard, but large projects that straddle the state border such as Bonneville and the Dalles must observe the stricter standard.

Conservation and commercial fishing advocacy group Save Our Wild Salmon said that although science supports greater spilling over the dams, Bonneville has been politically resistant to increasing the limits. “Bonneville could have been working over the last few years to support and change the 115pc standard, and [the Department of] Ecology would have done it,” said Rhett Lawrence, policy analyst for the organization. “They have resisted that change every step in the process.”

A coalition of commercial fishing and conservation groups petitioned the Washington state department of ecology in March 2010 to increase the TDG limits, but the petition was denied.