

Whistling Ridge Energy Project

Draft Environmental Impact Statement

May 2010



Cooperating Agency:
State of Washington, Energy Facility Site Evaluation Council



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DOE/EIS-0419**

***Bonneville Power Administration
Washington Energy Facility Site Evaluation Council***

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Fish Species

Past and present development and other activities have had an adverse impact on fish species, including the alteration and loss of their habitat in the general project vicinity. Negative impacts to fish and other aquatic resources from past and present, as well as reasonably foreseeable future development in the region include the alteration of streams and rivers by the introduction of hydroelectric generation dams, loss of riparian habitat, increased sediment loading, increased stream temperatures, pollution from herbicide and insecticide use, changes in peak and low stream flows, fragmentation of fish habitat, decreases in streambank stability, altered nutrient supply, and stormwater runoff from roads and bridges. The proposed work on the I-84 bridges may cause temporary increases in impacts from construction activities. These impacts are anticipated to continue into the foreseeable future.

Typically, wind energy generation projects in the region tend to be located in upland areas and generally well away from fish habitat, which is also true of the proposed project. Therefore, wind energy projects in the region in general, and the proposed project in particular, would not contribute to direct cumulative impacts to fish species.

Potential indirect cumulative impacts to fish species can occur through a somewhat complex relationship among wind projects interconnected to BPA transmission system, Columbia River hydro operations, and operation of this hydroelectric generation system to meet Clean Water Act (CWA) and ESA requirements for listed fish species. There are currently over 2,000 MW of wind energy connected to the transmission grid within BPA's Balancing Area, and several thousand more MW of wind power are expected to be developed and connected to the grid in the next few years.³⁵ The majority of these projects are concentrated in the geographic area east of the Columbia River Gorge, and the overall amount of wind power on BPA's transmission system largely depends on wind velocities in this particular area. Accordingly, the amount of wind power on BPA's system can fluctuate widely and relatively quickly, depending on whether wind speeds in this area are low (meaning very little wind power is being generated in this area) or high (meaning wind projects in this area are generating close to or at full capacity).

Within BPA's Balancing Area, there must be a match between generation and loads at all times. BPA has historically reserved capability in the hydroelectric system to provide balancing

services for wind power output swings when needed. However, the increasingly large proportional share of wind power on BPA's system and the natural fluctuation of this power have combined to result in large, unscheduled swings in wind generation of up to several hundred megawatts within a single hour that cannot be handled by reserved capability alone. In such situations, BPA must immediately decrease generation in the BPA Balancing Area to maintain the constant balance of generation and load needed to keep the system stable. Using the hydroelectric system to decrease generation in these situations is often not available because: (1) reservoir space at the hydro projects is being maintained for required flood protection (meaning that additional water cannot be stored); and/or (2) additional water cannot be spilled, rather than run through turbines, at the hydro projects due to CWA limits on the level of total dissolved gases in the river and potential impacts on ESA-listed fish species from higher levels of total dissolved gases.

For these reasons, BPA currently is working with wind project developers and operators to develop measures for temporarily reducing sources of wind generation within the BPA Balancing Area when necessary. As part of a comprehensive review of wind project interconnections and their effects that was conducted in winter 2008, BPA has established transmission operation protocols under which BPA's dispatch system automatically instructs wind project operators to reduce their generation to specified levels if necessary for reliability and ESA or CWA compliance. BPA has issued Dispatcher Standing Order (DSO) 216 to document these protocols, and is continuing to refine and clarify this DSO as more is learned about wind project operations relative to BPA's transmission system (visit http://www.transmission.bpa.gov/wind/op_controls/default.cfm for more information). These measures ensure that wind power on BPA's transmission system does not cumulatively impact Columbia River hydro operations necessary for listed fish species.

The proposed project would be subject to DSO 216, which would avoid any contribution from the proposed project to indirect cumulative impacts to fish species. In addition, because the proposed project is located at the west end of the Columbia River Gorge rather than the east end (i.e., approximately 60 miles to the west of the Columbia Plateau wind generation vicinity), wind patterns in the project vicinity can vary significantly at any given point in time from those in the area where the majority of existing and proposed wind projects are located. This difference adds diversity in wind energy production and further reduces the potential for any contribution of the

proposed project to indirect cumulative impacts to fish species during periods of time when generation needs to be decreased to maintain transmission system stability. The added diversity should assist BPA in implementing regulation requirements on the hydro system. Overall, the proposed project would not be expected to contribute, either directly or indirectly, to cumulative impacts to fish species.

³⁵ BPA. *Factsheet: How BPA Supports Wind Power in the Pacific Northwest*. DOE/BP-4002. March 2009