



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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Mr. Adam Bless
Energy Facility Siting Coordinator
Oregon Department of Energy
625 Marion St. NE
Salem, OR 97301-3737

Subject: Application for a Site Certificate for the Cascade Wind Project, Wasco
County, Oregon

Dear Mr. Bless:

The U.S. Fish and Wildlife Service (Service) has reviewed the Cascade Wind Project (facility) application for a site certificate for a proposed 60 megawatt (MW) wind generation facility. The applicant's (UPC Oregon Wind, LLC) proposed facility includes 40 General Electric (GE) 1.5sle turbines with 253-foot rotor diameters on 263-foot towers. The turbines will be sited along ridgetops in three groupings, referred to as the north, central, and south arrays. The proposal includes: 1) approximately 9.64 miles of new roads and turnaround sites; 2) 4.56 miles of existing roads to be upgraded; 3) two permanent meteorological towers; 4) a system of 34.5 kilovolt electrical collection lines, both underground and overhead; 5) an electrical substation; and 6) an operations and maintenance facility with a shop, control room and maintenance area.

The Service has legal mandate and trust responsibility to maintain healthy, migratory bird populations for the benefit of the American public. We work collaboratively with our partners under conventions, treaties, laws and voluntary programs to ensure the conservation of more than 800 species of migratory birds and their habitats. We appreciate the opportunity to provide comments, and we look forward to working with you on this important project.



The Service's primary concerns are: 1) cumulative impacts of wind energy projects to migratory birds and bat resources within the Columbia River corridor; 2) the potential for project specific mortality to birds and bats based on the project location adjacent to and within oak woodland, and near two ponds and associated wetlands; 3) adequate mitigation measures to offset unavoidable project impacts to biological resources; and 4) the need for a formal standardized monitoring plan.

Migratory Bird Conservation

The Service's "A Blueprint for the Future of Migratory Birds" and the "North American Landbird Conservation Plan" identify the challenges of conservation of migratory birds. These challenges include habitat loss, degradation, and fragmentation, and dispersed mortality factors, not directly related to habitat loss, that accompany the growth of human populations and the advance of technology. Wind energy development, power lines, communication towers, among others, cause ever increasing direct mortality. Collectively, these factors contribute to population declines and with anticipated future losses in habitat, pose a growing threat to birds and bats. Implementation of on-the-ground bird conservation strategies at Federal, State, local and project level will be necessary to address the steady increase in avian mortality factors, and population declines.

Most Oregon songbirds, wading birds, waterfowl and birds of prey are protected under either the Migratory Bird Treaty Act (MBTA) or the Bald and Golden Eagle Protection Act (BGEPA). The MBTA prohibits the taking of migratory birds except when specifically authorized by the Department of Interior (16 U.S.C. 703-712). The BGEPA prohibits the taking of bald eagles and golden eagles except when specifically authorized by the Department of Interior (16 U.S.C. 668-668d). While the MBTA and BGEPA have no provisions for allowing an unauthorized take, it is recognized that some birds may be injured or killed at wind turbines and power transmission features even if all reasonable measures to avoid injury and death are implemented. The Service's Office of Law Enforcement carries out its mission to protect birds under these Acts not only through investigations and enforcement, but also through fostering relationships with individuals and industries that seek to work proactively to mitigate the negative impacts of wind energy projects on protected birds. While it is not possible to absolve individuals, companies, or agencies from liability when they commit, assist, or authorize violations of Federal wildlife laws, the Service's Office of Law Enforcement and U.S. Department of Justice have previously exercised enforcement and prosecutorial discretion with entities that have made good-faith efforts to avoid the take (killing or injuring) of protected birds. We recommend discussions continue between the Service, ODFW, ODOE, and UPC Oregon Wind LLC, to ensure wind energy projects minimize and/or avoid construction and operational effects on protected birds. We further believe, due to the considerable uncertainty regarding the potential fatality rate of bats from wind turbine strikes, that provisions for protection of bat populations also be discussed.

The Service recognizes the local efforts by wind energy developers to minimize the risk to birds and bats from disturbance, habitat loss, and collisions with turbines and power lines. However, as wind energy development continues to expand and concentrate in wind rich areas such as the Columbia River corridor, a strategic approach to assess and offset direct and cumulative impacts to birds and bats should be incorporated into all proposed facilities to establish a consistent

approach to further minimize the take of migratory birds, and to offset the direct mortality to bats.

Cumulative Impacts

We recommend that an expanded environmental impact analysis include a cumulative effects analysis that incorporates all the bird and bat survey data conducted for existing, planned and reasonably foreseeable future wind power projects in the same vicinity including projects in Klickitat County to the north and Sherman County to the east. The rapid escalation of wind power projects east of the Cascades along the Columbia River has raised concern that the environmental impacts analysis for bird and bat resources may not adequately describe cumulative effects of planned wind power projects in the same vicinity. For example, based on information within the Klondike III/Biglow Canyon wind power project DEIS, a total of 3,134 MW of electricity or approximately 1,740 turbines (assuming an average of 1.8 MW/turbine) are reasonably foreseeable future wind power projects in the vicinity. Using the mortality rate per turbine provided in similar areas, 42 raptors, 1,740 – 3,480 passerines, and 2,610 – 4,350 bat fatalities would be expected each year for the existing, planned and reasonably foreseeable wind projects including the Klondike III/Biglow Canyon projects. Although mortality rates appear to be significant, the population effects to individual species from turbine mortality can be difficult to discern. The number, location, and type of turbine; the number and type of species in an area; species behavior; topography; and weather all affect turbine mortality rates and potential adverse impacts to regional populations of raptors and bats along the Columbia River corridor.

Project location within Oak Woodlands

Approximately one-half of the proposed turbines in this proposed facility pass through or are immediately adjacent to oak woodland habitats. In Oregon, Oregon white oak (*Quercus garryana*) woodlands provide unique habitat for many plant and animal species, but these habitats are rapidly disappearing due to increased urban and agricultural land use and the encroachment of conifers in oak stands. The Oregon Conservation Strategy (2005) identified a Conservation Opportunity Area (i.e., EC-02. Wasco Oaks) which encompasses the majority of the proposed facility project area. Recommended conservation actions have been identified for the Wasco Oaks area to address altered fire regimes, land use conversion and urbanization, and habitat fragmentation.

In the East Cascades, oak woodlands are relatively rare and occur primarily on the north end of the ecoregion. They are located at the transition between ponderosa pine or mixed conifers forests in the mountains, and the shrublands or grasslands to the east. Valuable habitat features of Oregon white oak include its dead branches and cavities, which provide safe places for bird and bat species to rest and raise young, and the production of acorns that are eaten by a variety of wildlife and are particularly important in the winter, when other foods are scarce.

Since no other newer generation wind projects have been developed in comparable oak woodlands avian/turbine interaction data is unavailable. Based on the unique features of oak woodland, the limited amount of this habitat type within the East Cascades Ecoregion, high wildlife value, and the considerable uncertainty of local fatality rates from the facility for bird and bat species known to occupy oak woodland, the Service recommends that wind power development proceed cautiously in oak woodland, and seek to avoid and minimize impacts

through project design (e.g., using turbines with greater generating capacity (greater than 2.0 MW) in order to reduce the total number of turbines), or consideration of an alternate site.

Recommendations for Mitigation and Monitoring

Since considerable uncertainty exists regarding the potential population level impacts to particular bird and bat species, the Service recommends that the proposed facility include the following recommendations to avoid, minimize, mitigate and monitor project impacts on avian and bats species.

- To mitigate direct and cumulative impact to birds and bats, consider an option to establish a wind energy mitigation fund or fee system to address direct and cumulative effects by protecting and improving habitats in the region. These mitigation funds could be leveraged or combined with other grant programs (e.g., Oregon Watershed Enhancement Board) to offset bird and bat mortalities over the lifespan of the wind energy development.
- Establish a 0.25 mile setback for three turbine locations (1, 11, and 12) from two open water ponds and associated wetlands within the project area. Because ponds serve as a consistently dependable food resource, concentrated foraging and roosting by bird and bat species are expected to occur increasing the fatality rate of nearby turbines. These ponds were identified as an attractant to bird and bat species in the Ecological Baseline Study completed for the project.
- Consider the use of turbines that would have a peak generating capacity greater than 2.0 MW, in order to reduce the total number of turbine within the project area. For example, the proposed facility would need 15 fewer turbines if 2.4 MW turbines were used. This action could significantly reduce bird and bat fatalities within the project area.
- Post-construction mitigation measures should include habitat restoration or preservation of oak woodland habitats. Possible approaches include: 1) Maintain a diversity of tree size and age across the stand, in particular large oak and ponderosa pine trees; 2) remove conifers or small oaks that are competing with larger oaks; 3) maintain snags and create snags from competing conifers to provide cavity habitat; and 4) encourage oak reproduction through planting or protective exclosures (Oregon Conservation Strategy (2005)). Restoration efforts should be developed and implemented in coordination with local and regional experts, and State and Federal agencies.
- For the Pacific Northwest region, the hoary bat (*Lasiurus cinereus*) and silver-haired bat (*Lasionycteris noctivagans*) appear to be at the greatest risk from collision with wind turbines. Overall populations of bats in the region are not well documented. Bat surveys should be completed to determine from a regional perspective the potential risk to these local populations. Surveys should also be completed to determine bat migratory patterns, patterns of local movements through the area, and the response of bats to turbines, individually and collectively.

- Proposed mitigation measures should include a formal monitoring plan and agreement to ensure that mitigation measures are completed and that habitat restoration and revegetation are effective.
- Monitoring standards and guidelines should be developed and implemented in coordination with local and regional experts, and State and Federal agencies. Statistical comparisons of bird mortality are the most common measure of data collected at these facilities. The unknown impact of new generation turbines on bird and bat mortalities increases the urgency to initiate long-term monitoring. Much of the discrepancy in bird collision data comes from two causes; a lack of comparable methodology between studies, and trying to compare disparately situated sites (Tingley 2003). Once estimates, methods, and metrics are comparable, they can be used to share site, design, and management information with other facilities to reduce harm to wildlife and their habitats.
- Monitor raptor-safe configurations in high risk areas and low risk areas. Periodically inspect to identify areas of concern and report on the installation, efficacy of design, and degradation in the field of whatever bird protection devices are employed (according to published literature on avian power line electrocution, field observations indicate a significant number of bird protection devices are incompletely or improperly installed and may degrade in the field).
- A 34.5-kilovolt overhead collection line has been proposed to link the central array with the south array that crosses, and then parallels Chenoweth Creek for approximately 0.5 miles. We recommend the overhead collection line span Chenoweth Creek and maintain a 200 foot minimum buffer to minimize construction and maintenance impacts on sediment, shade, and large wood recruitment.
- The decommissioning process of the proposed project should be addressed. The expected life span of the project and decommissioning process should be included in the analysis of impacts of the facility.

The Service appreciates the opportunity to provide comment on the proposed facility. We would like to work with you to further protect fish and wildlife resources within the project area. If you have any questions regarding the Service's comments, please contact Jerry Cordova or me at the Bend Fish and Wildlife Office at 541-383-7146.

Sincerely,



Nancy Gilbert
Field Supervisor

cc:

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References

Avian Power Interaction Committee. 1994. Mitigating bird collisions with power lines: the state of the art in 1994. Edison Electric Institute, Washington, DC. 78 pp.

Rich, T.D., C.J. Beardmore, H. Berlanga, P.J. Blancher, M.S.W. Bradstreet, G.S. Butcher, D.W. Demarest, E.H. Dunn, W.C. Hunter, E.E. Inigo-Elias, J.A. Kennedy, A.M. Martell, A.O. Panjabi, D.N. Pashley, K.V. Rosenberg, C.M. Rustay, J.S. Wendt, T.C. Will. 2004. Partners in Flight North American Landbird Conservation Plan. Cornell Lab of Ornithology. Ithaca, NY.

Tingley, M.W., 2003. Effects of Offshore Wind Farms on Birds. Harvard University, Cambridge, MA. 117 pp.

Oregon Department of Fish and Wildlife. 2005. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon. 374 pp.

U.S. Department of Energy, Bonneville Power Administration (BPA). April 2006. Klondike III/Biglow Canyon Wind Integration Project: Draft Environmental Impact Statement (DOE/EIS-0374).

U.S. Fish and Wildlife Service. 2003. Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines. 55 pp.

U.S. Fish and Wildlife Service. 2004. A Blueprint for the Future of Migratory Bird. 22 pp.