United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, Oregon 97232-2036

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IN REPLY REFER TO:
ER06/0422

Electronically Filed June 19, 2006

Mr. Gary Beck, Project Manager
BPA Public Affairs
BPA – DKC-7
P.O. Box 14428
Portland, Oregon 97293

Dear Mr. Beck:

The U.S. Department of the Interior (Department) has reviewed the Bonneville Power Administration's (BPA) Draft Environmental Impact Statement (DEIS) for the proposed interconnection of up to 300 megawatts of electricity generated from the proposed Klondike III Wind Project (PPM Energy, Inc.), and 400 megawatts from the proposed Biglow Canyon Wind Farm (Portland General Electric), into the Federal Columbia River Transmission System. The following comments are based on the information provided in the DEIS. We reserve the right to provide further comments on any additional information that becomes available.

General Comments

The Department believes that the purpose and need identified in the DEIS, including minimizing environmental impacts of the Proposed Action, would be best achieved by broadening the document's cumulative impacts analysis, and incorporating the modifications recommended in this letter. We look forward to working with the applicant to minimize the project's contribution to cumulative adverse impacts on birds and bats along the Columbia River corridor. Based on our review of the DEIS, we have the following concerns: 1) avian mortalities from collision or electrocution; 2) the need for upgrading or retrofitting existing structures within the project area to minimize man-made attractants (e.g., perches); and 3) the need for the implementation of post-construction avian and bat fatality monitoring.

Any changes in local land use implemented during a projected 20-25 year lifespan of the proposed project will impact wildlife use over broad areas of the landscape. Conversion to

agriculture (e.g., cottonwood farming, crop changes or rotation), habitat fragmentation, livestock grazing, urbanization, and the fire cycle have been identified as large scale management issues in the eastside shrubland and grassland habitats of Oregon and Washington (Johnson and O'Neil 2001). Other species affected by changes in the shrub-steppe landscape due to proposed development are reptiles, amphibians, and small mammals, and the DEIS does not discuss impacts to these resources. The Department recommends that the FEIS discuss the cumulative impacts of the reasonably foreseeable changes in land use and effects on reptiles, amphibians, and small mammals. Also, the DEIS states the number, relative percentage, and species of night migrants (birds and bats) within the proposed Klondike III/Biglow Canyon turbine rotor-blades swept area (RSA) is not known and therefore is not addressed. This information should be collected and analyzed for the FEIS. Further, there has been a rapid escalation of wind power projects east of the Cascade Mountain Range along the Columbia River, and the DEIS's cumulative impacts analysis for avian and bat species should more thoroughly address the cumulative effects of other planned wind power projects in surrounding counties, including Klickitat County to the north.

The proposed installations of transmission lines have the potential to increase raptor perching opportunities within the project area. Perch sites currently available within the project area, both natural and man-made, should be assessed in the FEIS. Man-made perch sites should be considered for removal, if necessary, to reduce the risk of turbine collision. The Department is concerned that, due to the adjacency of the project site to the Columbia and John Day Rivers, resident and wintering bald eagles will be attracted to the new transmission lines and exposed to turbine collision This potential impact should be assessed and analyzed in the FEIS.

The DEIS indicates that as many as 440 turbines are proposed for this project, and that avian and bat species mortalities each would average several hundred per year for this project alone. The document also indicates, throughout Chapter 4 *Environmental Consequences*, that mitigation measures for habitat restoration and re-vegetation, in consultation with the Oregon Department of Fish and Wildlife, appears to be through the use of "seed mixes." There is no mention, however, of the types of seeds, timing of the restoration, or of the expected effects reseeding might have on the bird and bat populations at the project site. The FEIS should include this information. Also, as high mortalities for both birds and bats could be expected, consideration should be given to amelioration of potential losses through some type of adaptive management practice (e.g., reseeding or re-vegetation efforts to attract birds and pollinating insects away from the project turbines). The development and implementation of an adaptive management framework for the project should be included in the FEIS.

Table 4-1 of the DEIS identifies the reasonably foreseeable future wind power projects in the vicinity (adjacent counties) of the Klondike III/Biglow Canyon wind power project totaling 3,134 MW of electricity or approximately 1,740 turbines (assuming an average of 1.8 MW/turbine). Using the mortality rate per turbine provided in the DEIS, 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 Klondike III/Biglow Canyon. These projected fatality rates pose a significant threat to wildlife. Since considerable uncertainty exists regarding the relationship between newer turbine technologies and bird deaths created by large-scale wind farms, the Department recommends that the FEIS better address avian and bat mortalities as well as effectiveness monitoring to permit accurate, future assessments about the proposed projects' level of impact on avian and bats species. The Department also recommends that the FEIS include the following modifications and additions to the mitigation measures discussed in "Chapter 4 – Environmental Consequences", sections 4.6 (Fish and Wildlife) and 4.7 (Vegetation):

- The current *Cumulative Impacts* section analysis only addresses Klondike I, II, III and Biglow Canyon wind projects. The FEIS should include an analysis of the impacts to birds and bats for all wind power projects listed in Table 4-1.
- The monitoring program should include long-term injury/fatality monitoring to address the assumptions included in the *Cumulative Impacts* analysis. The Department recommends that a formal long-term monitoring plan and agreement be developed between the U.S. Fish and Wildlife Service (Service), Oregon Department of Fish and Wildlife, BPA, PPM Energy, Inc., and Portland General Electric to assess the cumulative effect of this and other wind power projects in vicinity (see Table 4-1).
- 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.
- 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. Bat impacts from new generation large scale wind projects are relatively unknown. Bat surveys should be completed for the Klondike III/Biglow Canyon wind project to determine from a regional perspective the potential risk to these local populations. Studies 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.
- To reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.
- Where feasible, existing guy wires should be marked with recommended bird deterrent devices (Avian Power Line Interaction Committee 1994).
- Buried transmission lines, electric lines, and other cables should be co-located on the access road when practical.
- Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site. Previous reports indicate that several bird species

have been killed when attracted to wind energy sites by the lighting associated with nearby transformer substations (or other buildings and ancillary structures) during low-lying fog or heavy mist events. Lighting of these sites should only be used when necessary for required maintenance, and light fixtures should be directionally located to illuminate only those areas on the ground necessary for maintenance.

- Turbine construction should be encouraged to occur outside the breeding season for migratory birds when practical.
- Turbines should be sited as close to existing roads as practical. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight. All infrastructures should be capable of withstanding periodic burning of vegetation, as natural fires or controlled burns are necessary for maintaining grassland habitats.
- Identify within the project area where pole configuration(s) present a current electrocution risk. Describe specific steps that have been taken, or are planned to reduce or remove the threat of electrocution to raptors in high and low risk areas. Describe existing opportunities to further reduce the risk of raptor electrocutions, in order to reduce the cost of prevention; (e.g. using routine inspection and maintenance visits to install raptor protection devices on low and high risk configuration poles.
- 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).
- Monitoring standards and guidelines should be established in the FEIS. Statistical comparisons of bird mortality are the most common measure of data collected at these facilities. 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. Guidance should be provided in the FEIS for site-specific proposals to determine whether conservation objectives are being met.
- Within the DEIS no references are made to the decommissioning process of the proposed project(s). In other readings, the expected lifespan of wind farm projects has been estimated at 20-25 years. The expected life span of the project, and decommissioning process, should be included for the proposed wind farm developments.
- There is no mention in the DEIS of a fire plan, fire control, fire abatement, or the effects of fire on wildlife and wildlife habitat within the project area. Since fire can be a major agent of change in shrub-steppe habitats, and affect both plant and animal populations in a variety of ways, it should be addressed in the FEIS.

If it is determined that any of these recommended measures can not be implemented, then the FEIS should provide a justification for that determination. In addition, information on the final location and specifications of the proposed towers, including notification of which of the conservation measures recommended above for the protection of migratory birds and bats were implemented, should be provided to the Service. Consultation and technical assistance requests, information, questions, comments, documents, and required progress reports should be directed to Mr. Kemper McMaster, Supervisor, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, Oregon 97266, at (503) 231-6179.

We appreciate the opportunity to comment and we look forward to working with the applicant to further protect fish and wildlife resources within the project area during the life of the project.

Sincerely,

Preston Sleeger
Regional Environmental Officer

cc: OEPC, Washington, DC (Rai)
RSOL, Portland, OR (Shishido)
FWS/DNRC, Portland, OR (Mead)
FWS/MBHP, Portland, OR (Green)
FWS, Portland, OR (McMaster)
FWS, Bend, OR (Gilbert)

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.

Johnson , D.H. and T.A. O'Neil. 2001. Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press. 736 pages.

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

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