

August 10, 2007

Bonneville Power Administration
Public Affairs Office- DKC-7
PO Box 14428
Portland, OR 97293-4428

Re: Environmental Review of Cascade Wind Interconnection Project

Dear BPA:

Thanks you for the opportunity to provide comment on the impact of the wind project and the impact of the interconnection to BPA transmission lines. I think there are significant concerns that need to be addressed before any approval for this project can be granted.

A few of my concerns follow:

PROPOSED BPA FACILITIES:

BPA needs to evaluate the impact of the new roads, transmission lines and substation on the big game and other wildlife in that area. The facilities will likely require the clear cutting of oak and pine forested area that is habitat for several bird species. Your experts need to look into this carefully and require the developer to take appropriate steps to eliminate any impacts on these resources. The Oregon Department of Fish & Wildlife and the US Department of Fish & Wildlife both have extensive comments in before the EFSC regarding concerns they have for the project.

I have attached a series of documents that address the information above. I would consider them carefully as they suggest significant issues that need to be addressed before the agencies will consider the concerns addressed.

PROPOSED WIND GENERATION FACILITIES:

Visual Aesthetics

I am concerned about the adverse visual impact the turbines will have on the views from my property and dwelling and the general degradation of the views in the Sevenmile area. Many homes including mine have a clear view of Mt Adams, Mt Hood. Having 400 ft tall towers with moving blades and flashing lights will impact the aesthetics of the rural residential area.

Even more important, the wind farm turbines will be visible for miles and will significantly impact recreation and scenic areas of the Columbia Gorge. The map of Cascade Wind Interconnection on the BPA web site shows how close the turbines are to the National Scenic Area, Mayer State Park and other sensitive sites. From a practical stand point, there is really no way to mitigate the visual

impact of this proposed facility. The structures are incompatible with the recreation, residential and scenic areas of this location. Your own publications state there is an “abundance of open, undeveloped areas in the region” east of the NSA where wind farms should be located.

Wetlands

The UPC application indicates that they plan to upgrade Martin Road to gain access for construction and operation of the area northern array of 20 turbines. This road construction will affect the headwaters to the west fork of Rowena Creek, likely reducing or eliminating the water source for surrounding wildlife in the ponds of that tributary. The soil disturbance during construction will cause erosion and sedimentation into this stream. See the topography map showing the location of ponds and the stream north of Martin Road.

Historic/Archaeological Resources

The historic former town of Ortley, OR was originally developed in 1911 when the company sold town lots and small orchard parcels. The town quickly grew to a population of 300 and included a post office, several shops and a hotel. The town was later abandoned but several structures still remain. It is now on private land so there is no public access at this time but the local historical groups would like to have it listed on the National Register of Historic Places. It is listed on the internet as one of the few “ghost towns” in eastern Oregon. Archaeological objects is defined by ORS 358.905(1)(a) to mean objects that are at least 75 years old...and are material remains of past human life or activity” Ortley seems to qualify.

The 20 turbines of the northern array will surround the Ortley townsite and the construction will likely destroy any opportunity to preserve this historic site for the future. I have recently learned, from the great grandson of one of the Native American residents of Ortley, that “There are burial sites at Ortley that no one know about”. The construction is likely to disturb what I assume to be Indian burial sites.

Public Health and Safety

We have some real concerns about safety during construction of the proposed wind farm with increased truck traffic on the steep, narrow roads. How will emergency vehicles get access if needed? There are no provisions for how transportation issues will be handled.

The greatest public health concern is the noise created by the construction and operation of the turbines. Some residences are within ¼ mile of the turbines. My property is less than ¾ of a mile from many of the proposed turbines.

In the Record of Decision for the Big Horn Wind Energy Project, March 2005, BPA states on page 3 “two residences are in the vicinity of the site, approximately ¼ mile to the west” and on page 14 it says “the nearest residence is more than

1,000 ft...no impacts due to noise are expected". This last statement is incorrect and shows BPA has not properly evaluated the noise impact from 1.5 MW wind turbines similar to those that are being proposed.

A recent study of the UPC project, Mars Hill Wind Farm, in Maine measured noise levels of 50 dBA and higher at similar distances from GE 1.5 MW turbines. These noise levels would violate the Oregon DEQ regulations of maximum 50 dBA at night and maximum 10 dBA increase over ambient sound levels. The excess wind turbine noise is a significant health hazard to the surrounding residences. Chronic sleep disturbance is the most common symptom but headaches (especially migraines), dizziness, emotional problems, increased blood pressure and other symptoms have been related to excess noise levels from wind turbines.

Land Use

The proposed 40 wind turbines are located on leased agricultural lands but the abutting lands are largely rural residential and NSA use. The facility is not compatible with adjacent land uses because of noise, visual impacts and other environmental impacts.

I appreciate this opportunity to comment.

Sincerely,

Scott C. Hege

Krista A. Kisch
UPC Wind Management, LLC

June 7, 2007

Dear Krista,

The Oregon Department of Energy (ODOE) and other reviewing agencies have done a preliminary review of your Application for Site Certificate for the Cascade Wind Project. We received the application on April 10, 2007. Pursuant to OAR 345-015-0190(1), we are writing to notify you that, as submitted, the application is not complete. Our reasons for this finding are set out below.

On May 30, 2007, you requested, in a letter from Tim McMahan of Stoel Rives LLP, that we suspend the 60 day deadline for this determination. Although we appreciate the request, the Energy Facility Siting Council's (EFSC) rules do not permit the Department to suspend an application, and ODOE is required to meet the deadline set out in OAR 345-015-0190(1).

At this time, our review of the application is preliminary only, and we have not identified all of the additional information required. However, there are several overarching topics that must be addressed more thoroughly, and we are forwarding those concerns to you at this time. We expect further questions due to the high volume of public comments and concerns, the complex terrain, the distance from major roads, higher than usual habitat category and diversity, the site location near residences, and the close proximity to the Columbia Gorge National Scenic Area.

We received nearly 100 letters of comment from the public by our May 25, 2007 deadline. In this letter, we have identified some common themes among the public comments. We forwarded the complete set of all public comments to you, in their original form, on May 30, 2007. The issues named in this letter are not a substitute for reading the actual comments, and we trust that you will review all of the public comments in their entirety.

Under OAR 345-015-0190(4), the Department may specify a date by which an applicant must submit additional information required to complete an application. We understand that you are already aware of many of the issues surrounding this application, and are already working on supplemental information for the application. Because of the large number of questions and issues, and the complexity of some of the issues, we do not know how much time it should reasonably take to assemble the supplemental information; therefore, we are not specifying a date for your response in this letter. Instead, we ask that you provide a proposed schedule for the

application supplement. Please make this estimate of the time you will need as realistic as possible. We would appreciate this estimate by June 20, 2007.

Our comments are arranged by topic. Some of the questions here may already be answered in the application. If so, please provide the appropriate reference.

Completeness Comments on the Cascade Wind Application for Site Certificate

Roads and Transmission lines: The application states that facility construction will require improving some existing roads and construction of some new gravel roads to provide access for construction. As submitted, the application does not state which roads would be improved. It does not include maps showing exactly where new roads would be constructed. Exhibit U states that you are working with local jurisdictions to identify the best routes for transportation of heavy equipment and material during construction. This implies that the actual roads and routes are still not known yet.

Exhibit B states that 9.64 miles of new access roads will be constructed, and 4.56 miles of existing county and farm roads will be improved or maintained. This level of precision suggests that the roads are already identified and mapped.

A complete application will include full details on which roads will be used, where the improvements will be made, where any new roads will be constructed, where the temporary laydown areas are, and would include a map showing the location of road use, lay down and staging areas, road construction and road improvement.

Facilities within the National Scenic Area: From the description in Exhibit B, it appears that some of the roads will be within the Columbia Gorge National Scenic Area (NSA). Wasco County Land Use Planning has advised us that, for facilities or improvements in the NSA, the Columbia Gorge Commission has delegated the implementation of its regulations to Wasco County. Permits for construction or improvement within the NSA are not under Energy Facility Siting Council jurisdiction and application for those permits must be made to Wasco County. .

For these related facilities, the Council will not determine compliance with its standards for developments or improvements in the NSA. However, we still we need the information described in OAR 345-021-0000(7), including the letter from the agency responsible stating that they have received your permit application, and estimating the date when that agency will complete its review.

Organizational Expertise – Many public comments stated that UPC should not rely on its experience in Mars Hill, Maine, because of the negative impacts that facility has had on that community. (for example, comments of Currin, Dooley, Hege, Neikirk, and others). The application should address the concerns raised in those comments.

Land Use – On March 23, 2007, the Wasco County Court provided, in writing, applicable substantive criteria from its acknowledged Land Use plan. We sent the Court's complete documentation of those criteria, including interpretations, to the applicant in a separate mailing.

We have not had a chance to perform a detailed review of Exhibit K against these criteria, but we note that some criteria listed by the County are not addressed in the current submittal. Before determining that the application is complete, the Department will verify, in consultation with Wasco County that the application addresses all of the criteria provided by the County.

Retirement and Financial Assurance – ODOE’s consultant has done a preliminary review of the retirement cost estimate. We note that you used the cost estimation model that ODOE has previously used for other recent facilities including Biglow Canyon and Klondike. We appreciate your use of this familiar methodology. However, ODOE’s consultant has provided specific questions regarding the cost estimate. They are attached.

Currin, Wagner and others commented that leaving much of the concrete footings in place after retirement is not appropriate for this site. The Council has previously approved cost estimates for other wind facilities based on similar retirement plans; however, the Cascade Wind application should document why UPC believes that leaving footings and cables in place is an appropriate level of site restoration for this site, including all three arrays.

Protected Area Standard – Of all the EFSC standards, this one is the subject of the most public comment. (see, for example, comments of Robinson, Barker and others). The application as submitted asserts that visual impacts on Key Viewing Areas will not be significant adverse impacts, without substantially demonstrating that the impacts are not significant or adverse. Tom McCall Point is the closest and may be the most significantly impacted Key Viewing Area, yet there is no visual simulation. The application states that visitors to Rowena Point generally look at the river. However, on a recent site visit, we observed that hikers going to Tom McCall point look towards the hills. Other comments point out that simulations should be taken on a clear day, not a cloudy one. As noted above, all public comments have been forwarded to the applicant. Please address all comments regarding the visual impact on the NSA.

Moreover, one comment (Womble) argues that any related and supporting facilities, including improvement of roads within the NSA, are precluded by the language of OAR 345-022-0040. Please address this comment as well.

Our comments regarding this standard apply to the EFSC Scenic and Recreational Standards as well, and also to applicable substantive land use criteria provided by Wasco County.

Habitat – On May 23, 2007, ODOE conducted a site visit with UPC, Oregon Department of Fish and Wildlife (ODFW) and US Fish and Wildlife Service (USFWS). Attached are comments on the application and the site from ODFW, USFWS, and Pacific Habitat Services, (consultant to ODOE).

The Habitat standard was frequently addressed in public comment. Members of the public stated that Exhibit P is too reliant on literature, on experience with other projects that may not be located in similar habitat, and that the Southern and Central arrays were not studied adequately when compared to the Northern array. Other comments argue that the application does not account for the site’s location in a more important flyway than other projects further East. (see comments of Barker, Columbia Gorge Audubon Society, Walasavage, Swaim, and others)

ODFW's district biologist and several members of the public commented on the effect on Big Game Range. The Big Game Range has implications for the Land Use standard as well because it is an overlay zone. The application should address the comments of Keith Kohl and others.

Public Services – The discussion of fire safety and traffic safety impacts requires more detail. Without knowing what roads will be used, it is difficult to conclude that construction traffic can be controlled to preclude unacceptable impacts on local traffic, particularly school bus and emergency vehicle access. The application does state that UPC would use notices, warnings and signs to alert local residents. However, a more detailed traffic management plan is warranted. We are particularly concerned about the narrowness of the local roads, and the lack of reasonable detours in this hilly terrain. Note comments of the City of Mosier (DeVaney) regarding necessary permits to use local roads. The application does not commit to a maximum traffic delay and does not commit to zero delay for fire, ambulance and police. These conditions appeared in the South Mist Pipeline Extension site certificate and may be appropriate here. The application should also show how UPC has worked with local school districts to ensure no disruption in school bus schedules.

Some commenters described the danger of large fires at the nacelle. One comment included digital photos of a nacelle that caught fire during a lightning storm. The application should discuss the likelihood and consequences of this event and any measures being made to preclude it.

Neikirk commented that at the Southern array, fire protection is the responsibility of the Forest Service. The application should show that fire protection providers in all sections of the site, including roads, have been fully briefed on any potential impacts.

Seismic Standard – On May 11, 2007, the Council adopted a revised standard at OAR 345-022-0020 and companion application requirement at OAR 345-021-0010(1)(h). The new rules do apply to the Cascade Wind project. They require either site specific geotechnical work, or consultation with DOGAMI regarding the extent to which site specific geotechnical work can be deferred until after certification. Please work with Bill Burns or Yumei Wang of DOGAMI to reach agreement on the level of pre-certification work needed to meet the revised standard.

Noise – comments from ODOE's noise consultant are pending at this time. However, many issues were raised in public comment on noise compliance. (see: Bleiler, Yuhas and others) Some comments state that the computer program (CadNA) used to model noise behavior at the Seven Mile Hill site under predicted noise levels at homes near Mars Hill. Dooley and others commented that baseline measurements for the southern array were only taken on one side of the ridge. It may be necessary to take baseline measurements on both sides of the ridge, because of the differences in terrain.

We received many comments on the concern over low-frequency impulse noise, or infrasound. Keith Stelzer cited an epidemiological study from Sweden. EFSC has not seen this issue before, and the DEQ noise standard was written long before this question emerged. The frequently

raised question about shadow flicker is also new to the Council. The Council will need additional information in order to address this issue.

Other Public Safety – Some commenters state that the average weather conditions described in the application are for The Dalles, rather than the colder and harsher winter conditions at project elevation. This could increase the hazard from blade throw, or ice throw. The application should include more detail on measures to prevent or mitigate blade throw. The application should indicate what setback from a residence is needed to prevent a human safety hazard from blade throw or ice throw, how that setback was arrived at, and how it compares with setbacks in some other jurisdictions. Please address comments of Swaim and others.

Conclusion

As noted above, the concerns raised in this letter are varied enough and complicated enough that ODOE cannot know how long it will take to adequately address them. Therefore, we encourage you to read the attachments to this letter carefully and provide a realistic time frame for your application supplement.

We encourage you to work individually with reviewing agencies, Wasco County, and the many individuals who commented since the public meeting on May 2, 2007. We encourage you to maintain an open dialogue with ODOE as you gather information for your application supplement.

Sincerely,

Adam Bless
Oregon Department of Energy

Attachment 1: ODFW letter Keith Kohl to Rose Owens, “History of Deer Collaring Project with UPC”, May 29, 2007

Attachment 2: ODFW letter Rose Owens to Adam Bless, “Comments on the Completeness of the Application for a Site Certificate for the Cascade Wind Project”, May 30, 2007

Attachment 3: US Fish & Wildlife Service letter Nancy Gilbert to Adam Bless, “Application for a Site Certificate for the Cascade Wind Project, Wasco County, Oregon”

Attachment 4: letter from Dale Shank, Pacific Habitat Services to Adam Bless “UPC Cascade Wind Project, Comments for Adam Bless” June 5, 2007

Attachment 5: comments of John Larson, Pacific Energy Systems, “Cascade Wind Project First Request for Additional Information” April 30, 2007



MEMORANDUM

OREGON DEPARTMENT OF FISH AND WILDLIFE

INTER DEPARTMENTAL

DATE: May 29, 2007

TO: Rose Owens

FROM: Keith Kohl

SUBJECT: History of Deer Collaring Project with UPC

Jim Torland, former District Biologist, and I met with Keith Avery and Dan Albano of UPC in September 2002 to discuss a wind power project on Government Flat and Seven Mile Hill areas west of The Dalles. We discussed the uniqueness of a wind power project in oak habitats and that area is important winter range for both deer and elk. Besides the one antelope collaring project in Wyoming, there were no known projects on big game that look at the effects of wind power on big game species.

The collaring project was initiated to possibly answer a couple of questions:

1. Did the construction of the wind power project move the deer off of their wintering ground and cause damage to the neighboring agricultural crops and/or cause other problems?
2. If the project did cause movement, then some sort of mitigation would be conducted.
3. If it was found that the collared deer did not move off of the project area during construction or while the project was in operation, then we might be able to conclude that the wind power project did not adversely affect the winter deer population on the project area.

In a September 17, 2003 email from Dan Albano to me, UPC agreed to cooperate on a deer telemetry project with ODFW on the winter deer that occupy the project area and adjoining area. The email stated:

- “1. ODFW will order 15 collars, a receiver and antenna kit with the billing to UPC.
2. UPC will independently contract a seasonal to build traps and check traps and provide a 4X4 for the seasonal.
3. Karen Kronner and her staff will incorporate the radio-tracking of collared animals into their weekly/bi-weekly visits to the project area for the ongoing wildlife/avian baseline study. At

some point this fall we will discuss overall protocol and outline on a map the area that you feel makes the most sense to include in our radio-tracking coverage.

4. In addition to our radio-tracking on the ground, your staff will monitor all collar frequencies from the air during your regular flights in that area. We will then combine all observations and I will write up the results and submit a report to your office. This report, or some variation of it, will also be used as part of our overall wildlife/avian baseline study.”

The project was designed to give information on the possible effects of the wind power project on the wintering deer population. The plan was to have equal collars on deer outside (15 collars) and within (15 collars) the wind power project area and monitor them prior to construction, during construction and post construction. ODFW provided 15 collars, worked up the deer after they were caught in panel traps and monitored their movements with emphasis on migration routes and summer use.

Prior to working with UPC, ODFW placed four collars on deer on the Fulton property in the winter of 2002/03. In the winter of 2003/04, 11 deer were captured and collars attached. The winter of 2004/05, 18 collars were placed on deer with the last eight collars placed using a helicopter net gun on February 25, 2005 which was funded by UPC. This made for 28 active collars at that time. Currently in May, 2007, twelve collars are still active.

In an April 6, 2006 Informational Memorandum from Krista Kisch she states “ In consultation with the Oregon Department of Fish and Wildlife, UPC has funded a deer collaring and monitoring study intended to establish a baseline on migrating deer activity pre- and post-construction. To date, UPC has collared approximately 20 deer and has collected 3 years of data. Spring 2006 data collection will end in May, as recommended by ODFW.”

As of this memo, the only information that I have received is copies of some forms that I gave to the consultants for the visual or general radio observations of deer during April and May of 2004.

May 30, 2007

Mr. Adam Bless
Oregon Department of Energy

RE: Comments on the Completeness of the Application for a Site
Certificate for the Cascade Wind Project

Dear Adam:

Oregon Department of Fish and Wildlife (ODFW) appreciates the opportunity to provide our comments on the completeness of the application for a site certificate for the proposed Cascade Wind Project. Our comments are as follows.

1. Please find below a listing of the most applicable statutes, administrative rules and policies administered by ODFW that would pertain to the siting of this proposed facility. ODFW will review and make recommendations for the proposed project based on the following applicable statutes and rules.

- Oregon Revised Statute (ORS) 496.012 Wildlife Policy
- ORS 496.171 through 496.192 Threatened and Endangered Wildlife Species
- ORS 498.301 through 498.346 Screening and By-pass devices for Water Diversions or Obstructions
- ORS 506.109 Food Fish Management Policy
- ORS 509.140 Placing Explosives in Waters
- ORS 509.580 through 509.910 Fish Passage; Fishways; Screening Devices; Hatcheries Near Dams

- Oregon Administrative Rules (OAR) Chapter 635, Division 043, sections 0023 through 0045 providing authority for issuance of

- scientific take permits for purposes of taking wildlife for scientific study
- OAR Chapter 635, Division 100 providing authority for adoption of the state sensitive species list and the Wildlife Diversity Plan, and containing the state list of threatened and endangered wildlife and fish species
- OAR Chapter 635, Division 415 describing six habitat categories and establishing a mitigation goal for each category. The application for a site certificate must identify the appropriate habitat category for all affected areas of the proposed project and provide the basis for each category selection, subject to ODFW review. Oregon Department of Energy (ODOE) adopted this rule into OAR 345-022-0060 as an energy facility siting standard.
- OAR Chapter 635, Division 425 containing requirements for in-water blasting. In the unlikely event that the project requires in-water blasting, an in-water blasting permit would be required. An application for an in-water blasting permit must include the information necessary to meet the requirements of ORS 509.140 and OAR 635-425-000 through 635-425-0050 and be submitted to ODFW for approval. An application for an in-water blasting permit must be submitted 90 days prior to the date of blasting. An In-water Blasting Permit Application form is available on the ODFW website at:
http://www.dfw.state.or.us/lands/inwater/inwater_app.pdf.

ODFW also provides technical review and recommendations on compliance with Oregon Energy Facility Siting Council rules OAR 345-021-0010(1)(p) and (q) and 345-22-040, 060 and 070.

2. ODFW is asking for the following additional information in the application for a site certificate for clarification purposes or to assure compliance with the above-mentioned statutes and rules.

Exhibit O

ODFW recommends that the applicant include in this exhibit a letter from Chenoweth Water PUD stipulating that the PUD is able to supply the anticipated 8.7 million gallons of water for project construction. The exhibit should include specific information about the Chenoweth Water PUD's water right and how much of that water right is currently being used.

Exhibit P

Pages P-3 – P-7 -- No mention is made of big game use or important big game winter range in the project area. This is important information for the application.

Page P-3, Paragraphs 4 and 5 – The end of paragraph 4 and paragraph 5 state that: some project areas have not yet been reviewed for habitat categorization and a final habitat category map will be prepared in spring of 2007; and, additional details on wildlife use will be completed by late spring 2007. ODFW recommends against finding the application complete until this additional information is made available for review and consideration.

Page P-4, Table P-1 – The table lists CRP lands as habitat category 5. In ODFW's experience on the Klondike III and the Biglow Canyon wind projects, the CRP lands were categorized as habitat category 3. ODFW would like an explanation of why the CRP lands on this project were categorized as category 5. ODFW suggests that perhaps these lands would fit into category 3. The table also lists hay fields and farm/fallow lands as category 6 and these habitats would more appropriately fit into category 5. Category 5 lands have potential for restoration whereas category 6 lands are very urbanized with roads, facilities or structures leaving the areas with little potential for habitat restoration.

Page P-4, Table P-1 – ODFW recommends that the forested habitat subtypes listed in this table all be classified as category 2 habitat. It is helpful to understand that there are habitat subtypes in the project area consisting of patches of small, medium and large trees with various mixes of Oregon white oak, ponderosa pine and Douglas fir. However, ODFW considers all of these oak and oak-pine woodland areas to be category 2 habitat due to its limited amounts and its high value for an assemblage of species in the East Cascades Ecoregion and the western part of the Columbia Plateau Ecoregion. ODFW refers the applicant to pages 172 through 183 of *The Oregon Conservation Strategy* for more information on the value of oak woodlands in the project vicinity. This document can be found on ODFW's website at: <http://www.dfw.state.or.us/conservationstrategy/>. The applicant may find the discussions in this document on conservation actions and conservation opportunity areas (COAs), particularly COA EC-02 Wasco Oaks (pages 179 – 183), helpful in development of the habitat mitigation plan for the project.

Page P-12, Table P-3a – There is no mention in this table of big game surveys conducted in the project area or any mention whatsoever of the deer collaring project that UPC has cooperated with ODFW on. Discussions between ODFW and UPC on the importance of big game winter range and the concerns with big game issues have been conducted since September 2002. In September 2003, UPC agreed to cooperate on a deer telemetry project with ODFW on the winter deer that occupy the project area and adjoining areas. UPC purchased 15 radio telemetry collars, purchased material to build traps, hired a person to check traps, and paid for a helicopter crew to capture deer in March 2005. The purpose of the deer collaring project was to determine if the activities of the wind power project changed the use patterns of the wintering big game animals in the project

area. The collars were to be out on the deer a year before construction activities, the year during construction and the year after construction. The monitoring of the collared deer on their winter range was supposed to have been conducted by UPC. In March 2005, twenty eight collars were active. Currently, only 11 collars are active. ODFW has monitored the collared deer since the collars were put on the deer. After the time and money that UPC has spent with the collaring, ODFW is surprised that there is no mention of this in the application. ODFW believes the results of this study are important factors for this project and that this information regarding big game use of the project area and big game habitat impacts needs to be addressed in the application. See the enclosed memorandum from Keith Kohl further detailing the deer collaring project.

As a general comment, ODFW expected to see in the application at least draft versions of a habitat mitigation plan and a wildlife monitoring and mitigation plan. Until versions of these various documents are available for review and comment, ODFW recommends against finding the application complete. These are the documents that would address such things as: mitigating for the various habitats that are permanently impacted, and mitigating for unexpectedly high levels of bird and bat fatalities. These are important components of understanding how the applicant will minimize and mitigate for impacts to fish, wildlife and their habitat.

Page P-30, Table P-5b – This table has no mention of impacts to deer, elk or Washington ground squirrels. If there are no Washington ground squirrels in the project vicinity, the application should state that.

Page P-32, Table P-5c and P-5d – These fatality tables are for projects in open habitats. What about rates for wooded environments?

Page P-35 -- Table P-5e is not necessarily relevant to this project since the habitats on the projects listed in the table are so different than this proposed project's habitats.

Page P-39, Lewis' Woodpecker -- The reference here to fatalities at other projects in dissimilar habitats is not relevant to what the fatalities might be for Lewis' woodpecker from this project due to the different habitat types.

Page P-42, Section P.5.2.3, Big Game and Carnivores – This section fails to address winter range or the deer collaring project. The reference to a pronghorn use study doesn't fit for this site. For completeness, the application needs data on deer and elk use, big game habitat that will be affected, and possible big game displacement impacts from the project.

Page P-45, 1st bullet, Supplemental Surveys – These surveys are still needed to add to the completeness of the application. The text states that raptor nest

surveys within 0.50 miles of facilities will be conducted. These surveys should be done out to 2 miles from project facilities, as has been done on other wind projects.

Page P-45, 3rd bullet, Flagging – The text states that raptor and pileated woodpecker nests will be flagged for nest avoidance? There needs to be more discussion in the application, and preferably after discussion with ODFW and ODOE staff, on avoidance of nests and construction activities during nesting.

Page P-46, 4th bullet, Wildlife Mitigation -- A draft list of studies has been prepared? What about the deer collaring project that was started but never completed up to this point? See our comments about this study above. Also, again, ODFW recommends that a draft habitat mitigation plan and a draft wildlife mitigation and monitoring plan be presented for review and comment prior to the application being found complete. These are key parts of the project proposal.

Page P-47, Section P.8 -- Bird and bat fatality monitoring is not spelled out in this section. ODFW recommends that the deer collaring project be continued through construction and post-construction as a part of the wildlife mitigation and monitoring plan. Also, because this proposed project is situated in oak forest habitats (for which there is no precedence in Oregon for estimating wildlife collisions), details for conducting mortality monitoring in this habitat needs to be described in the plan. ODFW recommends that the application not be found complete until a draft of the wildlife mitigation and monitoring plan is available for review and comment.

Appendix P-1, Page 1, 3rd paragraph mentions the 2003 Dan Albano coordination with ODFW on a bird study but fails to mention the deer collaring project that ODFW told Albano to conduct.

Appendix P-4, Draft Revegetation Plan, Section III Revegetation Methods, subsection 1.(b) Drilling Methods – The text states that drilling of seed would occur at 70% of the recommended application rate. Why seed at only 70% of recommended rate? Why not 100%? ODFW has the same question for subsection 3.(b) regarding drilling at 70% of the recommended application rate.

ODFW understands that the Revegetation Plan is for temporarily disturbed areas. The application should also include a draft plan for habitat mitigation proposed for permanently impacted areas, as well as a draft wildlife mitigation and monitoring plan before the application is deemed complete.

ODFW requests that the applicant provide in the application additional information on density of passerine birds and bat species nesting and foraging in the oak woodland habitats in the project area. This information will be necessary

Mr. Adam Bless
May 30, 2007
Page 6

to determine any displacement effects from operation of the turbines. The application only provides a species list. ODFW highly recommends that a wildlife displacement study for birds and big game be conducted for this project given the quality of habitats in the project area.

ODFW recommends that turbines be sited no closer than a quarter mile from permanent or seasonal wetlands in the oak woodland forested habitats. These woodland habitats combined with permanent or seasonal wetlands attract greater avian and bat species which, in turn, increases the risk of potential strikes with the turbines. Information does not exist on potential wildlife collisions in this habitat configuration and these habitats are sensitive wildlife areas that should be avoided to the extent possible.

The application needs additional information on bat use of the project area. Which species are resident breeders and which are migratory? Which species of bat may fly through or forage in the turbine rotor swept area?

In order for the applicant to draft a habitat mitigation plan, the application will first need to include a table estimating the impacted habitat categories by acres. This information could then be used to calculate the amount of mitigation acreage that will be needed to offset the acreage amounts for the five impacted habitat categories. For example, ODFW looked for in the application, but could not find an estimation of the number of trees or acres of oak habitat to be removed for the power line connecting the southern section with the middle section.

Thank you for the opportunity to provide our comments on the completeness of the Cascade Wind Project's application for a site certificate. If you have any questions regarding these comments, please feel free to call me at

Sincerely,

Rose Owens
Habitat Special Projects Coordinator

Enclosure

cc: Keith Kohl, The Dalles
Chris Carey, Bend



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Bend Field Office
20310 Empire Ave, Ste A-100
Bend, Oregon 97701
(541) 383-7146 FAX: (541) 383-7638

Reply To: 6320.0005 (07)
File Name: Wind Cascade Wind App Cmts.doc
Tracking Number: 07-1417
TAILS: 13420-2007-FA-0132

June 1, 2007

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:

Mike Green, USFWS Region 1, Portland, OR.
Estyn Mead, USFWS Region 1, Portland, OR.
Doug Young, USFWS OFWO, Portland, OR.
Chris Carey, ODFW, Bend, OR
Keith Kohl, ODFW, The Dalles, OR
Rose Owens, ODFW, Salem, OR

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.

UPC Cascade Wind Project

Comments for Adam Bless
prepared by Pacific Habitat Services, Inc.
June 5, 2007

The following items describe issues that UPC needs to address prior to having its application deemed complete.

Comparative Sites

Throughout the application, and in Exhibit P in particular, comparisons are made between this site and other wind projects throughout the United States. These comparisons are used as a base line for determining potential impacts to various kinds of wildlife. However, none of the referenced sites match this site very closely in terms of habitat types and physiographic settings. The application should address these issues and explain in detail how each of the referenced sites can be used as an appropriate comparison to this site.

Habitat

The application should include more detailed site-specific habitat category delineations, which include the results of the referenced Spring 2007 studies, as well as all previous studies. The application should provide consistent descriptions of all habitats within the study area, and these descriptions should include discussions of plant community associations, wildlife species (particularly sensitive species) known or expected to occur within the habitat types, and rationale supporting inclusion of the habitats within specific habitat categories. Because the oak woodlands east of the Cascades have been identified by the Oregon Department of Fish and Wildlife (ODFW) and various conservation organizations as important habitats, additional evaluation of the oak habitats within the study area should be included in the discussion of habitat types. This information is needed to accurately assess impacts to wildlife associated with the direct loss of each of the habitat types within the project area. In addition to the direct loss of habitat associated with the construction of the facility, the evaluation of habitat impacts should include the secondary effects of forest fragmentation on wildlife as well as the cumulative effects associated with the loss of habitat.

Migratory Birds and Bats

This application should include a more thorough analysis of the proposed project's impacts to migratory birds and bats. Impacts to raptors, nocturnal migrant passerines, and bats have been documented at other wind energy facilities, but those facilities are located in different habitat types and/or physiographic settings, making comparisons to those facilities of little use in predicting impacts at the proposed project site. This application should include more detailed studies to document the migratory patterns of

raptors, passerines and bats through the project area. These studies should be designed to document the primary routes used by migrants, the locations of features that might concentrate migrants through specific corridors in the project area, and the altitudes at which the migrants fly, as well as the species and numbers of individuals involved. The results of these studies should then be used to evaluate the potential project-specific risks to migratory birds and bats.

Impact Assessment

The application should include more specific detail about the short- and long-term impacts. The study corridors surveys should be detailed enough to assess specific microsite disturbances at any location for roads, towers, staging, etc. A site-specific impact inventory protocol should be created to describe all trees, shrubs and herbaceous plants that will be removed or disturbed. This “impact inventory” should be used to identify the scope and design of the required mitigation.

Mitigation Details

The application should include a detailed mitigation plan that addresses short- and long-term impacts to vegetation and wildlife. The mitigation plan should include rationales for predicting success of the proposed actions; references to similar sites and revegetation projects; success criteria to be used; remedial strategies that would be undertaken if the mitigation does not function as intended; ownership and location of the proposed mitigation sites; and a discussion of how the mitigation sites will be protected into perpetuity. The proposed mitigation should be consistent with the goals and objectives of local and regional conservation actions, such as those described in the ODFW’s Oregon Conservation Strategy.

Monitoring

The application should include a detailed monitoring plan that identifies specific survey locations and techniques to be used. It should include surveys of wildlife and plant species and populations. The monitoring plan should describe in detail what action will be taken, and where, if the mitigation does not function as intended.

ODFW and USFWS Recommendations

The May 30, 2007 letter to Adam Bless from Rose Owens, ODFW Habitat Specialist Project Coordinator, and the June 1, 2007 letter to Adam Bless from Nancy Gilbert, USFWS Field Supervisor, provide more detailed comments aimed at specific concerns related to each of the topics discussed above. The application should address all issues discussed in those letters.

Cascade Wind Project

First Request for Additional Information (RAI#1) – April 24, 2007

Request Number	Page Reference	Request for Additional Information
Exhibit B: Description of Proposed Facility		
B1	Exhibit B, Pages B-2 and B-3	Describe the configuration of the turbine foundations and the amount of concrete in the turbine foundations above ground level and to a depth of 3 feet below ground level. The retirement cost estimate included in Exhibit W presumes the amount of concrete subject to removal in the course of site restoration would be 11.4 cubic yards per turbine. Prior experience suggests this number would be about 54 cubic yards per turbine.
B2	Exhibit B, Page B-4	Describe the total number of wires and fiber optic cables that would be installed on the aboveground segments of the collection and data acquisition systems. This information is a factor in completing the retirement cost estimate.
B3	Exhibit B, Page B-4	Describe the total number of junction boxes that would be included in the collection system. This information is a factor in completing the retirement cost estimate.
B4	Exhibit B, Page B-4	Describe the size and configuration of the substation and substation site. According to Exhibit C, the substation site would measure 98 feet by 98 feet. Describe how much of the site would be occupied by the substation and how the remainder would be surfaced. This information is a factor in completing the retirement cost estimate.
B5	Exhibit B, Page B-4	Describe the size and configuration of the interconnection facility and interconnection facility site. According to Exhibit C, the interconnection facility site would measure 98 feet by 98 feet. Describe how much of the site would be occupied by the interconnection facility and how the remainder would be surfaced. This information is a factor in completing the retirement cost estimate.
B6	Exhibit B, Page B-4	Describe the size and configuration of the O&M building and O&M facility site. According to Exhibit C, the O&M facility site would measure 197 feet by 197 feet. Describe how much of the site would be occupied by the O&M building and how the remainder would be surfaced. This information is a factor in completing the retirement cost estimate.
Exhibit C: Location of Proposed Facility		
C1	Exhibit C, Page C-1 and Table C-1	Describe the size and surfacing of turbine turnouts from access roads. This information is a factor in completing the retirement cost estimate.
C2	Exhibit C, Table C-2	Describe the amount of temporary disturbance at each turbine location associated with assembly (and disassembly) of the turbines and towers. This information is a factor in completing the retirement cost estimate.
Exhibit W: Facility Retirement and Site Restoration		
W1	Exhibit W, Appendix W-1	By reference to Exhibits B and G, it appears that each turbine and tower would encompass about 185 net tons of steel (plus 2 net tons for ladders and platforms), resulting in a total of 7,480 net tons of steel for the proposed facility. In Appendix W-1, the Steel Wrecking and Scrap Credit calculations address a total of 2,816 net tons of steel, and the Load & Haul calculation addresses a total of 6,835 net tons of steel. What accounts for the difference? This information is a factor in completing the retirement cost estimate.