BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON

In the Matter of the Application for a Site Certificate for the Klondike III Wind Project	))))	FINAL ORDER ON THE APPLICATION

The Oregon Energy Facility Siting Council

June 30, 2006

KLONDIKE III WIND PROJECT:

FINAL ORDER ON THE APPLICATION

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LIST OF ABBREVIATIONS

AINW	Archaeological Investigations Northwest, Inc.
App	Site Certificate Application as submitted on May 13, 2005
App Supp	Application Supplement submitted on February 6, 2006
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
Council	Energy Facility Siting Council
CRGNSA	Columbia River Gorge National Scenic Area
CRP	Conservation Reserve Program
Department	Oregon Department of Energy
dBA	The "A-weighted" sound pressure level. The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
DEQ	Oregon Department of Environmental Quality
EFU	land zoned for "exclusive farm use"
F-1	Exclusive Farm Use zone under the Sherman County Zoning Ordinance
FAA	Federal Aviation Administration
KIII	Klondike Wind Power III LLC
kV	kilovolt or kilovolts
KWP	Klondike III Wind Project
LCDC	Land Conservation and Development Commission
mph	miles per hour

MW	megawatt or megawatts
m/s	meters per second
O&M	Operations and maintenance
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
Office	Oregon Department of Energy
ONHIC	Oregon Natural Heritage Information Center
RAI	Oregon Department of Energy request for additional information
SCCP	Sherman County Comprehensive Plan
SCZO	Sherman County Zoning Ordinance
USFWS	U.S. Fish and Wildlife Service
WGS	Washington ground squirrel
WRD	Oregon Water Resources Department

KLONDIKE III WIND PROJECT:
FINAL ORDER ON THE APPLICATION

I. INTRODUCTION

This final order addresses the application for a site certificate for the construction and operation of a proposed wind energy facility in Sherman County near Wasco, Oregon. The applicant is Klondike Wind Power III LLC (KIII). The applicant has named the proposed facility the "Klondike III Wind Project" (KWP). The Energy Facility Siting Council (Council) issues this order based on its review of the application and the comments and recommendations on the application by state agencies, local governments, tribal organizations and the public.

ORS 469.320 requires a site certificate from the Council before construction of a "facility." ORS 469.300 defines "facility" as "an energy facility together with any related or supporting facilities." The proposed KWP would be an "energy facility" under the definition in ORS 469.300(11)(a). A "site certificate" is a binding agreement between the State of Oregon and the applicant, authorizing the applicant to construct and operate a facility on an approved site, incorporating all conditions imposed by the Council on the applicant.

It is the public policy of the State of Oregon that "the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state." ORS 469.310. A site certificate issued by the Council binds the state and all counties and cities and political subdivisions of Oregon. Once the Council issues the site certificate, the responsible state agency or local government must issue any necessary permits that are addressed in the site certificate without further proceedings. ORS 469.401(3).

To issue a site certificate for a proposed facility, the Council must determine that "the facility complies with the standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh the damage to the resources protected by the standards that facility does not meet." ORS 469.503(1). The Council, further, must decide whether the proposed facility complies with all other applicable Oregon statutes and administrative rules identified in the project order, excluding requirements governing design or operational issues that do not relate to siting and excluding compliance with requirements of federally delegated programs. ORS 469.401(4) and ORS 469.503(3). In addition, the Council must include in the site certificate "conditions for the protection of the public health and safety, for the time for completion of construction, and to ensure compliance with the standards, statutes and rules described in ORS 469.501 and ORS 469.503." ORS 469.401(2).

In accordance with ORS 469.370(1), the Oregon Department of Energy (Department) issues a draft proposed order on an application. Following the issuance of that draft, the Council must conduct at least one public hearing in the affected area. At the hearing, the Council takes public comment on the application and draft proposed order. ORS 469.370(2). Any issues that may be the basis for a contested case hearing must be raised by the public hearing comment deadline or they are waived and cannot be considered in a contested case. ORS 469.370(3).

After the public hearing and the Council's review of the *draft* proposed order, the Department issues the proposed order recommending approval or rejection of the application. The Department issues a public notice of the proposed order that includes notice that the Council will conduct a contested case hearing on the application. The notice specifies a deadline for requests to participate as a party in the contested case and the date for the initial prehearing conference. ORS 469.370(4). Only those who appeared in person or in writing at the public hearing on the application (described in the preceding paragraph) may request to become parties to the contested case, and only those issues that were raised on the record of the public hearing with sufficient specificity can be considered in the contested case. ORS 469.370(5).

After the conclusion of the contested case proceeding, the Council decides whether to grant a site certificate and issues a final order that either approves or rejects the application based on the standards adopted under ORS 469.501 and any additional state statutes, rules or local government ordinances determined to be applicable to the proposed facility by the project order. ORS 469.370(7).

The Council's final order is subject to judicial review by the Oregon Supreme Court. Only a party to the contested case may request judicial review, and the only issues that may be subject to judicial review are issues that parties to the contested case have raised. A petition for judicial review must be filed with the Supreme Court within 60 days after the date of service of the Council's final order. ORS 469.403.

The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this proposed order.

II. PROCEDURAL HISTORY

1. Request for Expedited Review

On February 17, 2005, KIII, a wholly owned subsidiary of PPM Energy, Inc., submitted a request for expedited review of the proposed KWP. The KWP would have an average electric generating capacity of approximately 91 megawatts. The Department reviewed the request for compliance with OAR 345-015-0300 and determined that the proposed facility satisfied the requirements for expedited review under that rule. Department sent notification of its determination to KIII on March 28, 2005.

In considering whether the KWP met the requirements for expedited review listed in OAR 345-015-0300(2), the Department considered whether the Klondike I and Klondike II wind energy projects should be made subject to the site certificate for the proposed KWP (Klondike III).[1] By themselves, Klondike I and Klondike II are not "energy facilities" under ORS 469.300(11)(a)(J). Klondike I has an average electric generating capacity of 8.3 megawatts; Klondike II, when operational, would have an average electric generating capacity of 25 megawatts. The statutes do not address the question whether adjacent wind energy projects under the same corporate ownership should be considered part of a single "electric power generating plant."

[1] Klondike I is a 24-MW wind project approved by Sherman County. Klondike I began operation in December 2001. Klondike II is a 75-MW wind project approved by Sherman County. Klondike II was under construction at the time of KIII's request for expedited review. PPM Energy owns both Klondike I and II.

The Council's rules do not expressly address this question in the context of a request for expedited review of a proposed energy facility, but the Department considered the following language in OAR 345-024-0010 as relevant guidance:

> *Public Health and Safety Standards for Wind Energy Facilities*
>
> *(1) For the purposes of this rule and OAR 345-024-0015, "wind energy facility" means an energy facility that consists of one or more wind turbines or other such devices and their related or supporting facilities that produce electric power from wind and are:*
>
> *(a) Connected to a common switching station, or*
>
> *(b) Constructed, maintained, or operated as a contiguous group of devices.*

The above language defines a "wind energy facility" for purposes of applying the Council's "Specific Standards for Wind Facilities," OAR 345-024-0010 and OAR 345-024-0015, but the language does not address how the Council would distinguish between two adjacent "facilities" under the same ownership.

The Department developed a list of questions to assess the relationship between the proposed KWP and the locally-permitted Klondike I and II. The Department sent these questions to KIII on March 10, 2005.[2] KIII responded to the questions on March 14, 2005.[3] The Council adopts the Department's recommendation that no single question be considered determinative but that the totality of the information be considered on a case-by-case basis. In the case of the proposed KWP, the Department found the following facts supported its conclusion that the KWP should be considered a facility separate from the Klondike I and II wind projects:

1. Klondike I was purchased from Northwestern Wind Power as an operating asset (after the project was built and operational).
2. No part of the Klondike III "site" (land on which the "facility" is proposed to be located) would be included within the project areas of Klondike I or Klondike II.
3. There would be no shared transmission infrastructure between Klondike III and Klondike I and II. ("Transmission infrastructure" means related or supporting infrastructure, not the proposed new BPA line.)
4. No Klondike III related or supporting facilities would be shared with Klondike I and II, except two new access roads that would extend from existing access roads serving Klondike II turbines.
5. A new control building is being proposed for Klondike III that is distinct from the control building utilized for Klondike I and II.
6. Power output dispatching decisions for Klondike III would be independent of those made for Klondike I and II.

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[2] Email from John White to Jesse Gronner, dated March 10, 2005, regarding "Klondike III: separate facility questions."

[3] Email from Jesse Gronner to John White, dated March 14, 2005, regarding "RE: Klondike III: separate facility questions."

7. The entire output of Klondike I and II is already sold under separate, long-term power purchase agreements.

8. The output from Klondike III is not yet sold but would be sold under its own contract or contracts.

9. Each project would be operated and maintained under its own agreement with local authorities. Each facility also has its own site-specific maintenance practices, and maintains separate warranty provisions with the turbine manufacturer.

10. Klondike III would have its own transmission contract for its output, separate from Klondike I and II.

11. Klondike I and II are electrically interconnected in many ways, including shared transformer and shared transmission line. Klondike I and II utilize shared space within the control room and storage areas. In contrast, Klondike III would be electrically independent and will utilize its own supporting facilities.

12. If Klondike I and II did not exist, Klondike III could be constructed, operated and managed without any of the Klondike I and II facilities in place and without having to construct any of the Klondike I and II facilities, except for the minor overlap in access roads to the two turbine strings noted above.

Based on these facts, the Department concluded that the proposed KWP was eligible for expedited review under OAR 345-015-0300 as "an energy facility with an average electric generating capacity of less than 100 megawatts" separate from the Klondike I and II wind energy projects. The Council finds that the proposed KWP is a separate energy facility.

2. Site Certificate Application

KIII submitted an application for a site certificate on May 13, 2005. The Department issued a project order on July 8, 2005.

On November 7, 2005, the Council appointed John W. Burgess as the Hearing Officer for the public hearing and contested case proceedings for the KWP.

On February 6, 2006, the Department determined that the application was complete based on additional information submitted by the applicant in the time since the application was submitted. As required under OAR 345-021-0055, the applicant prepared a supplement to the application and distributed copies of the supplement to the reviewing agencies and others identified by the Department, together with the notice described in OAR 345-015-0200.

The Department issued public notice of the filing of the application by publishing the notice in *The Dalles Chronicle*, a newspaper of general circulation available in the vicinity of the proposed facility. The Department mailed a notice of filing to the property owners listed in Exhibit F of the application and to persons on the Council's general mailing list and the special mailing list set up for the proposed facility, as described in OAR 345-015-0190.

In response to the notice of filing, the Department received written comments from the following state agencies:

- Oregon Water Resources Department (advising that the proposed source of water for construction purposes was not available for that purpose and suggesting other sources).[4]
- Oregon Parks and Recreation Department (asking that lighting on certain wind turbines that might be visible from the John Day Scenic Waterway be avoided, subject to FAA requirements).[5]
- Oregon Department of Fish and Wildlife (raising multiple concerns about protection of raptor nest locations, threatened and endangered species, wildlife monitoring plan components, habitat mitigation and revegetation of temporarily disturbed areas).[6]
- Oregon Department of Transportation (raising concerns about a proposed direct access to State Highway 206, a permit for the proposed underground transmission cable crossing under Highway 206, and traffic safety near turbines visible from the highway).[7]

In addition, the Department received comments from the Sherman County Planning Director recommending several site certificate conditions related to the county's Conditional Use Permit.[8] The Department also received two letters from interested individuals expressing approval of the proposed wind energy facility. In preparing the draft proposed order, the Department considered all of the comments received.

On April 18, 2006, the Department issued a draft proposed order and a Notice of Public Hearing and Request for Comments in accordance with OAR 345-015-0220. The Department received comments from the applicant. A public hearing was held in Moro, Oregon, on May 11, 2006. There were no public comments made at the public hearing. The deadline for written comments was May 16, 2006. The Department received one written comment from an individual (who was in favor of the project) and written comments from the Oregon Department of Fish and Wildlife (ODFW), which concurred with the wildlife-related sections of the draft proposed order and to proposed revisions that had been discussed with the Department. In addition, the Department received written comments from the applicant raising issues about several proposed site certificate conditions and suggesting revisions.

The Council reviewed the draft proposed order at a meeting on May 19, 2006, in accordance with OAR 345-015-0230. At that time, the Department informed the Council of the comments received by the Department on the draft proposed order. The Council received copies of all written comments. The Department presented to the Council a list of changes to the language of the draft proposed order, based in part on the comments and in part on the Department's own continued review of the proposed facility for compliance with the siting standards. In light of the Council discussion, the Department prepared a proposed order.

On May 31, 2006, the Department issued the proposed order and a Notice of Proposed Order and Contested Case Proceeding that established a deadline of June 14 for interested

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[4] E-mail from Jerry Sauter, WRD, February 13, 2006.
[5] E-mail from Jan Houck, Oregon Parks and Recreation Department, March 7, 2006.
[6] Letter from Rose Owens, ODFW, March 10, 2006
[7] E-mail from Patrick Smith, ODOT, March 15, 2006.
[8] E-mail from Georgia Macnab, Sherman County Planning Director, March 23, 2006.

persons to submit petitions for party or limited party status. At a Council meeting on June 6, 2006, the Council reviewed the draft proposed order for the Biglow Canyon Wind Farm (Biglow). Some members of the Council questioned whether the Wildlife Monitoring and Mitigation Plan proposed for Biglow included sufficient avian monitoring to allow the Council to base mitigation decisions on the "best available science," whether the proposed monitoring would be "meaningful" and whether the proposed plan would allow the Council to use the monitoring information to require additional mitigation in the future. The proposed Biglow plan generally required two years of monitoring and was similar to the monitoring plan proposed for the KWP. A Council member observed that OAR 345-027-0028(4) requires the certificate holder to report any "significant environmental change or impact attributable to the facility" but does not give the Council authority to use the information to require additional mitigation by the certificate holder. As a result of this discussion, Department staff researched the most appropriate long-term monitoring for the Biglow site and proposed additional raptor nest monitoring and a provision allowing the Council to re-assess mitigation for grassland bird displacement based on new information to be reported in the future. In anticipation that the Council might choose to impose similar requirements in a site certificate for the KWP, the Department issued a Supplement to the Proposed Order on June 13, 2006, and a Notice of Supplemental Proposed Order and Contested Case Proceeding. The notice established a revised deadline of June 26 for interested persons to submit petitions for party or limited party status.

On June 28, 2006, the Hearing Officer issued an order stating that there had been no requests for party status as result of contested case notice or the supplemental contested case notice and that the contested case proceeding was therefore closed.

The Council considered the proposed order, including the supplement, and issued this final order at a public meeting in The Dalles, Oregon, on June 30, 2006.

III. GENERAL FINDINGS OF FACT

1. Description of the Proposed Facility

(a) Project Overview

The applicant provided information about the components of the proposed facility in Exhibit B of the application. The proposed KWP is an electric power generating plant that would produce power from wind energy.

The KWP would consist of not more than 165 wind turbines, each with a peak generating capacity of not more than 1.65 megawatts. The combined peak generating capacity of the project would be not more than 272.25 megawatts. Turbines would be mounted on tubular steel towers. The turbine towers would be about 265 feet tall at the turbine hub and would have an overall height of about 400 feet including the radius swept by the turbine blades. The turbines would be spaced 400 to 600 feet apart in approximately twenty-three strings. The facility would be located on private land subject to long-term wind energy leases that KIII has negotiated with the landowners.

(b) The Energy Facility

ORS 469.300(11)(a)(J) defines the "energy facility" in this case as "an electric power generating plant with an average electric generating capacity of 35 megawatts or more if the power is produced from ... wind energy at a single energy facility." The average electric generating capacity of the proposed KWP would be about 91 megawatts.[9] The proposed "electric power generating plant" consists of 165 wind turbine locations, each consisting of a turbine tower and foundation, turbine pad area, nacelle, rotor and blade assembly and generator step-up transformer. Wind turbines would be arranged in strings as shown in the site certificate application.[10]

KIII is requesting a site certificate that would allow the option of using either of two wind turbines: the GE 1.5 MW wind turbine or the Vestas V82 1.65 MW wind turbine. In either case, the turbine towers would be approximately 80 meters (263 feet) high at the rotor hub. The diameter of the rotor-swept area would be up to 82.5 meters depending on the turbine selected.

Turbines would be mounted on tubular steel towers. Inside each tower would be a controller cabinet at the base and an access ladder to the nacelle. Tower access would be through a locked entry door at ground level. There would be a graveled turbine pad area of approximately 1,000 square feet at the base of each tower.

Tower foundations would be "spread footer" concrete foundations with a subsurface area of approximately 2,000 square feet. Foundation design for each turbine would be determined based on site-specific geotechnical information and structural loading requirements of the selected turbine model. A generator step-up transformer would be installed on a separate foundation at the base of each wind turbine. The purpose of the step-up transformer is to increase the output voltage of the wind turbine to the voltage of the power collection system.

(c) Related or Supporting Facilities

KIII proposes to construct the following related or supporting facilities:

- Power collection system
- Substations and interconnection system
- Meteorological towers
- Operations and maintenance building
- Control system
- Access roads
- Temporary laydown and staging areas

Power Collection System

A power collection system operating at 34.5 kilovolts (kV) would transport the power from each turbine to a collector substation. To the extent practical, the collection system would be installed underground. Approximately 18.3 miles of collector lines would be

[9] ORS 469.300(4) defines the "average electric generating capacity" of a wind energy facility as the peak generating capacity divided by 3.00.

[10] App Figure C-3, incorporated herein by this reference.

installed within existing county road right-of way, and an additional 19.7 miles of collector lines would be installed within the leasehold lands of the project.[11] Underground segments of the collector line would be buried at a depth of at least 36 inches. Where geotechnical conditions or other engineering considerations require, segments of the collector system may be aboveground, but the total length of aboveground segments would not exceed approximately 5.5 miles. The aboveground segments of the collector system would have single or double circuit conductors mounted on monopole support structures (Condition (84)). The aboveground segments would be placed only in developed or agricultural areas at least 200 feet from any existing residence.[12]

Power from the western section of the facility would be routed to a new substation near the existing Bonneville Power Administration (BPA) Klondike Schoolhouse Substation. Power from the eastern section would be routed to a collector substation near Webfoot, where a transformer would step up the voltage to 230 kV. This power would be transmitted to the substation near Schoolhouse on an aboveground power line.[13] The aboveground line would be approximately 3.5 miles in length, supported on single wood or steel poles approximately 110 feet tall spaced approximately 500 to 700 feet apart. To avoid conflicting with possible future expansion of public roads by the County, the aboveground line would be located outside the public right-of-way on right-of-way granted in leases with the property owners.

Substations and Interconnection System

A new project substation would be located on approximately 4 acres of land near the existing BPA Klondike Schoolhouse Substation. In addition, a new collector substation near Webfoot would occupy a portion of the 4-acre parcel on which the O&M building would be located. The substation facilities would conform to all applicable Oregon and BPA regulations and standards.

The power generated by the proposed KWP would connect to the regional transmission grid through the BPA Klondike Schoolhouse Substation. A new BPA transmission line from this substation to the BPA John Day Substation is not considered a related or supporting facility.

Meteorological Towers

KIII proposes to install three permanent meteorological (met) towers. The met towers would be un-guyed steel towers approximately 80 meters in height with a triangular base approximately 25 feet on each side. The location of the met towers would be as shown on Figure C-2 of the application.

Operations and Maintenance Building

An operations and maintenance building would be constructed on Klondike Lane.[14] An on-site well would be constructed to supply water to the O&M facility. Power for the

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[11] App Appendix C-5 and response to the Department's request for additional information (App Supp, Section 1, RAI #2, B6).
[12] E-mail from Dana Siegfried, November 11, 2005, regarding "Response to October 28, 2005 E-mail" (App Supp, Section 1). Revised based on the Department's consideration of the applicant's comments on the draft proposed order and consultation with ODFW.
[13] App Appendix C-1.
[14] App Figure C-2.

O&M facility would be supplied by Wasco Electric Cooperative through a one-mile feeder line from the existing O&M facility that serves the Klondike I and II projects. This power would be carried to the O&M facility on the same poles as the aboveground power collection line described above. The O&M building would be approximately 5,000 square feet in size and occupy part of a 4-acre parcel of land.

Control System

A fiber optic communications network would link the wind turbines to a central computer at the O&M facility, described above. A "supervisory, control and data acquisition" (SCADA) system would collect operating and performance data from each wind turbine and the project as a whole and provide remote operation of the wind turbines. The SCADA software would be provided by the turbine manufacturer or a third party SCADA vendor.

Access Roads

Approximately 19 miles of new roads would be constructed to provide access to the turbine strings. Access roads would connect to graveled turbine turn-out and pad areas at the base of each wind turbine. The roads would be 20 feet wide and constructed with crushed gravel. In addition, approximately 4 miles of existing county road segments would be improved and widened to accommodate two eight-foot travel lanes.

Temporary Laydown and Staging Areas

Nineteen temporary laydown areas would be used to stage construction and store supplies and equipment during construction, including fifteen 2-acre laydown areas and four 4-acre laydown areas.[15] The laydown areas would have a crushed gravel surface. These areas would be restored to their pre-construction conditions following construction.

2. Location of the Proposed Facility

The applicant provided information about the location of the proposed facility in Exhibit C of the application. The proposed facility site is approximately 4 miles east of Wasco, in Sherman County, Oregon, about 5 miles south of the Columbia River. The property is located in Townships 1 and 2 North and Ranges 17, 18 and 19 East Sections. The facility would permanently occupy approximately 64 acres. In addition, construction would temporarily affect approximately 97 acres. The proposed facility site is located on parcels consisting of approximately 14,500 acres owned by several landowners. These parcels have been leased in whole or in part to KIII for the development of the proposed facility.

Figure C-2 in the application illustrates the proposed location of project components. Figure C-2 is incorporated herein by this reference.

There would be no off-site linear facilities. The transmission interconnection would be from leased land adjacent to the BPA Klondike Schoolhouse Substation. The facility would require no pipeline interconnections.

3. Wind Energy Facility Micrositing

The KWP site certificate application as submitted in May 2005 proposed construction of 165 wind turbines in the specific locations shown in Figure C-2. In July 2005, while the

[15] App Figure C-2.

KWP application was under review, the Department received a notice of intent from Orion Energy LLC for the proposed Biglow Canyon Wind Farm. Orion requested flexibility to locate its wind turbines within 500-foot wide "turbine corridors" rather than at specific locations. After internal discussions and discussions with Orion and KIII, the Department agreed that the flexibility to "microsite" wind turbines after issuance of a site certificate would be advantageous to wind energy facility developers and to the Council. Council approval of a corridor for micrositing would reduce the necessity of later amendment proceedings if the proposed specific turbine locations were later discovered to be unsuitable due to geotechnical constraints, site-specific wind resource factors and the desire to reduce conflict with farming practices and reduce impacts to higher-value wildlife habitat.

Council adoption of a micrositing approach in site certificates for wind energy facilities would also accommodate the uncertainties in the market for wind turbines. This approach would give developers the flexibility to propose a range of turbine sizes for site certificate approval, to choose a turbine within that range from those available in the marketplace and then to design the final turbine layout according to the particular turbine selected for the facility.

The Council hereby adopts a policy permitting wind developers to locate turbines within "micrositing corridors" (defined as an area within which a certificate holder may "microsite" turbines and other facility components before construction) as long as the developer has adequately studied the entire corridor and location of a facility components anywhere within the corridor meets the applicable standards. The Department's recommendations regarding micrositing for the proposed KWP reflect the particular circumstances of this application, as discussed below.

KIII initially proposed 300-foot-wide micrositing corridors throughout most of the project area.[16] On October 31, 2005, the Department requested that both KIII and Orion provide more detailed descriptions of their proposed micrositing corridors and estimates of the maximum amount of habitat mitigation that would be needed (assuming the greatest area of habitat impact that could result from adjustments in the location of the turbines based on micrositing considerations).[17] Having an estimate of the maximum habitat impact was essential before the Department could recommend findings of compliance with the Council's Habitat Standard.

On December 9, 2005, KIII proposed 900-foot-wide micrositing corridors centered on the specific turbine locations shown in Figure C-2 of the application. KIII acknowledged that it had not performed on-site survey work for wetlands and other waters of the state or for cultural resources in areas outside of narrower, 300-foot corridors. Nevertheless, KIII requested the 900-foot micrositing corridors, subject to site certificate conditions that would ensure that there would be no impact on cultural resources or jurisdictional wetlands or waters of the state in those areas not previously surveyed.[18]

After further consideration and staff discussion, the Department concluded that it would recommend Council approval of KIII's proposed micrositing corridors, subject to the

[16] Letter from Dana Siegfried, October 19, 2005 (App Supp, Section 1, Response to RAI #2).
[17] E-mail from John White, ODOE, October 31, 2005.
[18] Memo from Dana Siegfried, December 9, 2005 (App Supp, Section 1, "Turbine Corridor Micrositing").

conditions necessary to ensure that those corridors would comply with Council standards.[19] The conditions recommended by the Department in the proposed order included conditions that address protection of cultural resources and jurisdictional waters and wetlands in areas that were not surveyed before the application was filed. The Department's recommendation regarding these conditions reflects the unique circumstances of the KWP application, which was submitted by the applicant before Department consideration of wind turbine micrositing corridors and before Council adoption of that approach. It is the Department's expectation that in the future the full micrositing corridor identified by the applicant will be studied prior to submission of an application for a site certificate and that conditions governing corridor study after the site certificate is issued will not be necessary. Therefore, the Department recommended that the Council find that these special conditions are not intended to establish a regular practice or precedent for future wind energy facilities.

The Council approves KIII's proposed micrositing corridors, subject to the conditions necessary to ensure that those corridors comply with Council standards. The Council finds that these special conditions are not intended to establish a regular practice or precedent for future wind energy facilities.

4. The Site and Site Boundary

For the purpose of analysis in the site certificate application, the "site boundary" is defined under OAR 345-001-0010(53) as "the perimeter of the site of the proposed energy facility, its related or supporting facilities, [and] all temporary laydown and staging areas." The locations of the temporary laydown and staging areas are shown on Figure C-2 of the application.

The applicant requested the flexibility to determine the final turbine locations before construction, but after a site certificate has been issued, based on the turbine type selected for the facility, geotechnical considerations based on site-specific geotechnical investigation, consideration of farm operations and other micrositing factors. The Council approves a site certificate that allows micrositing of turbines and related facilities within micrositing corridors defined as the area within a boundary that is 450 feet in all directions from turbine string centerlines defined by a straight line between the endpoints listed in Table 1 (900-foot-wide micrositing corridors). Turbine location numbers are shown on the Turbine Location Map, which is included in the application as Appendix C-3.

[19] E-mail from John White, March 30, 2006.

Table 1: Micrositing Corridor Endpoints

String	Turbine Location	Turbine Number	Latitude	Longitude
A	Wpt1	1	45.56143104000	-120.66263222000
	Wpt4	4	45.55657671000	-120.66253187000
B	Wpt5	5	45.55399210000	-120.66253144000
	Wpt10	10	45.54668547000	-120.66233485000
C	Wpt11	11	45.54475534000	-120.65828190000
	Wpt17	17	45.53569225000	-120.65793936000
D	Wpt18	18	45.55153273000	-120.63639962000
	Wpt25	25	45.54154988000	-120.63605834000
E	Wpt26	26	45.56082735000	-120.62164462000
	Wpt30	30	45.55487207000	-120.62164402000
F	Wpt31	31	45.55246254000	-120.61348375000
	Wpt37	37	45.54340912000	-120.61299560000
G	Wpt38	38	45.54166556000	-120.60473603000
	Wpt40	40	45.53863962000	-120.60468682000
H	Wpt50	50	45.61811216000	-120.58855202000
	Wpt53	53	45.61346370000	-120.58845450000
I	Wpt54	54	45.62586049000	-120.58014585000
	Wpt57	57	45.62162465000	-120.58004752000
J	Wpt41	41	45.55442228000	-120.57072676000
	Wpt43	43	45.55125879000	-120.57072605000
K	Wpt44	44	45.54888661000	-120.56593824000
	Wpt49	49	45.54170001000	-120.56583954000
L	Wpt58	58	45.62599850000	-120.55320828000
	Wpt71	71	45.60688553000	-120.55306190000
M	Wpt72	72	45.60407109000	-120.55829426000
	Wpt75	75	45.59977288000	-120.55819622000
N	Wpt163	163	45.58210000000	-120.55280000000
	Wpt165	165	45.57781666000	-120.55280000000
O	Wpt85	85	45.60403267000	-120.53060975000
	Wpt94	94	45.59109475000	-120.53060814000
P	Wpt136	136	45.58262994000	-120.52971039000
	Wpt149	149	45.56384286000	-120.52936518000
Q	Wpt150	150	45.56167545000	-120.52340252000
	Wpt156	156	45.55255824000	-120.52325456000
R	Wpt76	76	45.61862522000	-120.51853089000
	Wpt84	84	45.60695245000	-120.51818634000
S	Wpt95	95	45.60224306000	-120.51261574000
	Wpt102	102	45.59192026000	-120.51256887000
T	Wpt126	126	45.58940740000	-120.50693363000
	Wpt129	129	45.58479718000	-120.50693322000
U	Wpt130	130	45.58256088000	-120.50688415000
	Wpt135	135	45.57526711000	-120.50673689000
V	Wpt157	157	45.56580402000	-120.50620288000
	Wpt162	162	45.55861344000	-120.50610626000
W	Wpt103	103	45.60420455000	-120.48533296000
	Wpt116	116	45.58496973000	-120.48513612000
X	Wpt117	117	45.58184026000	-120.48024932000
	Wpt118	118	45.57998215000	-120.48020049000
Y	Wpt119	119	45.58229149000	-120.46256500000
	Wpt125	125	45.57388984000	-120.46261412000

For the purpose of analysis of the site certificate application, the "site boundary" includes the components of the final site, listed below, and the area within the 900-foot micrositing corridors. No permanent facilities or temporary construction disturbance would be permitted outside of the 900-foot micrositing corridors, except for those components of the final site specifically described below.

Before beginning construction of the facility, the certificate holder would determine the final turbine locations and submit a legal description of the facility site to the Department (Condition (2)). OAR 345-001-0010(49) defines the facility "site" as "all land upon which a facility is located or proposed to be located." A "facility" includes the energy facility and its related or supporting facilities (OAR 345-001-0010(19)). The final site of the proposed KWP facility would include the following components:

- Turbine site corridors (final location) – The site includes the area within 369-foot-wide site corridors, centered on the turbine string centerlines defined by the final center-point locations of the turbine towers.
- Meteorological towers and underground data lines from these towers – The site includes the area within 30 feet of the tower locations shown on Figures P-2, P-5 and P-6 (App Supp, Tab P, Item i) and the centerline of underground meteorological tower data lines.
- Collector transmission lines – The site includes the area within 30 feet of the centerline of all underground and aboveground collector lines.
- Access roads – The site includes the area within 30 feet of the centerline of all turbine string access roads.
- KWP substation near Webfoot – The site includes a four-acre parcel that includes the substation and the proposed O&M building as shown on Figure P-4 (App Supp, Tab P, Item i).
- KWP substation near Schoolhouse – The site includes a four-acre parcel as shown on Figure P-4 (App Supp, Tab P, Item i).
- 230-kV transmission line – The site includes the area within 30 feet on all sides of the centerline of the transmission line as shown on Figure P-4 (App Supp, Tab P, Item i).

IV. THE COUNCIL'S SITING STANDARDS: FINDINGS AND CONCLUSIONS

The Council must decide whether the proposed KWP complies with the facility siting standards adopted by the Council. ORS 469.503. In addition, the Council must impose conditions for the protection of the public health and safety, for the time of commencement and completion of construction, and to ensure compliance with the standards, statutes and rules addressed in the project order. ORS 469.401(2).

The Council is not authorized to determine compliance with regulatory programs that have been delegated to another state agency by the federal government. ORS 469.503(3). Nevertheless, the Council may consider these programs in the context of its own standards to ensure public health and safety, resource efficiency and protection of the environment.

The Council has no jurisdiction over design or operational issues that do not relate to siting, such as matters relating to employee health and safety, building code compliance, wage and hour or other labor regulations, or local government fees and charges. ORS 469.401(4).

1. General Standard of Review

OAR 345-022-0000

(1) To issue a site certificate for a proposed facility or to amend a site certificate, the Council shall determine that the preponderance of evidence on the record supports the following conclusions:

(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet as described in section (2);

(b) Except as provided in OAR 345-022-0030 for land use compliance and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility. If the Council finds that applicable Oregon statutes and rules, other than those involving federally delegated programs, would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the council cannot waive any applicable state statute.

* * *

We address the requirements of OAR 345-022-0000 in the findings of fact, reasoning, conditions and conclusions of law discussed in the sections that follow. Upon consideration of all of the evidence in the record, we state our general conclusion regarding the application in Section VIII at page 126.

2. Standards about the Applicant

(a) Organizational Expertise

OAR 345-022-0010

(1) To issue a site certificate, the Council must find that the applicant has the organizational expertise to construct, operate and retire the proposed facility in compliance with Council standards and conditions of the site certificate. To conclude that the applicant has this expertise, the Council must find that the applicant has demonstrated the ability to design, construct and operate the proposed facility in compliance with site certificate conditions and in a manner that protects public health and safety and has demonstrated the ability to restore the site to a useful, non-hazardous condition. The Council may consider the applicant's experience, the applicant's access to technical expertise and the applicant's past performance in constructing, operating and retiring other facilities, including, but not limited to, the number and severity of regulatory citations issued to the applicant.

(2) The Council may base its findings under section (1) on a rebuttable presumption that an applicant has organizational, managerial and technical

expertise, if the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program.

(3) If the applicant does not itself obtain a state or local government permit or approval for which the Council would ordinarily determine compliance but instead relies on a permit or approval issued to a third party, the Council, to issue a site certificate, must find that the third party has, or has a reasonable likelihood of obtaining, the necessary permit or approval, and that the applicant has, or has a reasonable likelihood of entering into, a contractual or other arrangement with the third party for access to the resource or service secured by that permit or approval.

(4) If the applicant relies on a permit or approval issued to a third party and the third party does not have the necessary permit or approval at the time the Council issues the site certificate, the Council may issue the site certificate subject to the condition that the certificate holder shall not commence construction or operation as appropriate until the third party has obtained the necessary permit or approval and the applicant has a contract or other arrangement for access to the resource or service secured by that permit or approval.

Findings of Fact

The applicant provided evidence about its organizational expertise in Exhibit D and about permits needed for construction and operation of the proposed facility in Exhibit E of the application.

A. Applicant's Expertise

The applicant, KIII, is a limited liability company organized in Oregon.[20] KIII is a wholly owned subsidiary of PPM Energy, Inc. (PPM), an Oregon corporation. PPM is a subsidiary of ScottishPower Holdings, Inc. (SPHI), a Delaware corporation with general offices located in Portland, Oregon.[21] PPM is an affiliate of ScottishPower Finance (US), Inc., which is also an SPHI subsidiary. SPHI is a subsidiary of Scottish Power PLC, a public limited corporation organized under the laws of Scotland.

PPM would provide the organizational, managerial and technical expertise to construct and operate the proposed KWP. PPM is an integrated, non-utility energy company that owns, controls, manages or operates nearly 1,614 MW of independent power generation facilities in the western United States, including 831 MW of wind energy generation. PPM successfully developed and constructed the Klamath Cogeneration Project and operates that facility for the City of Klamath Falls subject to a site certificate. The Council has approved site certificates for the Klamath Generation Facility and the Klamath Generation Peakers, developed by other PPM subsidiaries. In addition, PPM owns and operates the existing Klondike I and II wind energy projects.

PPM's key personnel for the development, construction and operation of the proposed energy facility have experience in power project engineering, design, development,

[20] App Appendix A-1.

[21] In March 2006, PacifiCorps Holdings, Inc., changed its name to ScottishPower Holdings, Inc. (e-mail from Jesse Gronner, May 25, 2006).

construction and operation.[22] PPM would hire qualified contractors with substantial experience constructing similar facilities to design and build the KWP facility (Condition (34)).

The applicant relies on mitigation to demonstrate compliance with Council standards. The mitigation actions necessary to demonstrate compliance with these standards are described in the site certificate conditions in Sections VI and VII below. The Council finds that the applicant could successfully complete the mitigation actions, based on evidence provided including past experience with other projects and the qualifications and experience of personnel upon whom the applicant would rely.

B. Third-Party Permits

KIII does not rely on any state or local government permit issued to a third party.

Conclusions of Law

The Council finds that KIII, subject to the conditions stated in this order, has demonstrated that it has the organizational expertise to construct and operate the proposed facility. The Council further finds that no third-party permits would be required for construction or operation of the proposed facility. The Council finds that a site certificate for the facility should include Conditions (15) and (34). Based on these findings and conditions, the Council concludes that the applicant has met the Organizational Expertise Standard.

(b) Retirement and Financial Assurance

OAR 345-022-0050

To issue a site certificate, the Council must find that:

(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.

(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

Findings of Fact

A. Retirement

The wind facility is expected to have a useful life of at least 25 to 30 years. The facility might be "repowered" in the future by upgrading the existing towers with more efficient turbines and by replacing other infrastructure and related equipment. If the facility is repowered in the future, it could have a useful life longer than 30 years.

OAR 345-022-0050(1) ensures that the facility site can be restored to a useful, non-hazardous condition at the end of the facility's useful life. For the purpose of the standard, a "useful, non-hazardous condition" is a condition consistent with the applicable local comprehensive land use plan and land use regulations. The proposed KWP is located on land

[22] A listing of key personnel responsible for the proposed KWP with their qualifications is included in the site certificate application and is incorporated herein by this reference (App pages D-2 through D-4).

zoned Exclusive Farm Use. To satisfy the standard, KIII must show that the site can be restored to a non-hazardous condition suitable for agricultural use.

The certificate holder is obligated to retire the facility upon permanent cessation of construction or operation. Before restoring the site, the certificate holder must submit a final retirement plan for approval by the Council. The retirement plan must describe the activities necessary to restore the site to a useful, non-hazardous condition. After Council approval of the plan, the certificate holder would obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site. In addition, the certificate holder is obligated to maintain a bond or letter of credit to ensure that funds would be available to the Council to restore the site if the certificate holder does not retire the facility as required by Condition (9).

Restoring the site to a useful, non-hazardous condition upon retirement would involve dismantling all aboveground structures, including the wind turbines, meteorological towers, transmission lines, O&M building and substations, removing foundations and grading and replanting the affected area. Nacelles and rotors would be removed, and the turbine towers would be dismantled. Pad-mounted transformers and related above-ground equipment would be removed. Gravel would be removed from adjacent turbine pad areas. Concrete turbine and transformer pads and underground foundations would be removed to a minimum depth of three feet below grade. At a depth of three feet, buried materials are not expected to interfere with farming practices.[23] Aboveground transmission lines and support structures would be removed. Underground transmission lines and communication cables that are at least three feet below grade would be left in place. All excavated areas would be filled with topsoil. The surface would be graded as appropriate for agricultural uses. The affected areas, including areas temporarily disturbed during site restoration activities, would be replanted with native plant seed mixes or agricultural crops, as appropriate, based on the use of surrounding lands.

Facility access roads would be removed. Road areas would be restored with topsoil, graded and replanted with native plant seed mixes or agricultural crops, as appropriate. Alternatively, access roads on private property might be left in place based on landowner preference.

Demolition waste material would be disposed at authorized sites. Turbine towers, nacelles, and pad-mounted transformers are expected to have scrap value, which would offset part of the cost of site restoration.

The proposed facility would not have any underground storage tanks or other on-site bulk storage of hazardous materials. Small quantities of lubricants, vehicle fuel and herbicides might be transported over and across the site during operation, and leaks, spills and improper handling of these materials could occur.[24] Given the small amounts of such materials used on the site, soil contamination is unlikely.[25]

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[23] Letter from Sandy Macnab, OSU Extension Service, Sherman County Crops agent, dated September 29, 2005 (App Supp, Tab V).

[24] Table G-1 in the application lists hazardous materials that could be used on-site (App p. G-4).

[25] Because of the low probability of soil contamination, we have not included an additional cost for site remediation in the estimate of site restoration costs below.

The Council finds that the actions necessary to restore the site are feasible and that restoration of the site to a useful, non-hazardous condition could be achieved.

B. Estimated Cost of Site Restoration

OAR 345-022-0050(2) addresses the possibility that the certificate holder is unable or unwilling to restore the site upon permanent cessation of construction or operation of the facility at any time. A bond or letter of credit provides a site restoration remedy to protect the State of Oregon and its citizens if the certificate holder fails to perform its obligation to restore the site under any circumstances. To provide a fund that is adequate for the State of Oregon to pay site restoration costs if the certificate holder fails to perform its obligation, the Council assumes circumstances under which the restoration cost would be greatest.

The applicant estimated the cost of site restoration to be $7,363,450.[26] The applicant estimated the value of scrap metals to be $5,828,981 and the net site restoration cost to be $1,534,469. The Department obtained an independent cost estimate, based on the estimating procedure outlined in its draft "Facility Retirement Cost Estimating Guide." The Department also obtained an independent estimate of the current value of scrap steel.[27] The Department estimated of the gross cost of site restoration to be $7,098,773 and estimated the scrap value of metals to be $5,418,780.[28] The Council finds that the net cost of site restoration (in 2005 dollars) is $2,201,000, including an offset for the value of scrap metal, as shown in Table 2.

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[26] Revised estimate by Blattner, email from Jesse Gronner, PPM Energy, dated January 9, 2006 (App Supp, Tab W, Item iii).

[27] The Department's estimates were developed by Pacific Energy Systems, which engaged Pinnell Busch Inc. in the preparation of the Facility Retirement Cost Estimating Guide and in the investigation of local scrap steel values.

[28] In making these estimates, the Department assumed that the retirement costs would be substantially the same whether the certificate holder selected the 1.5-MW turbines or the 1.65-MW turbines. As described in the application, the 1.5-MW turbines have a rotor diameter of 77 m to 82 m and a tower hub height of up to 80 m. The 1.65-MW turbines are comparable, having a rotor diameter of 82 m and the same tower hub height. The application did not describe any differences in the foundations. Regardless of the choice of turbines, the maximum number of turbines removed would be the same, the same aboveground transmission and substation infrastructure would be removed, the same amount of access road area would be restored, the same O&M building would be removed and the same amount of temporary disturbance would likely occur during site restoration. In general, the Department made conservative assumptions about each component of the estimate so that any differences due to choice of turbine are not likely to affect the overall estimate significantly.

Table 2: Cost Estimate for Site Restoration

	Quantity	Unit Cost	Extension
Turbines			
Disconnect electrical and ready for disassembly (per turbine)	165	$983	$162,198
Remove turbines, turbine towers and nacelles (per tower)	165	$20,016	$3,302,626
Remove and load pad transformers	165	$2,256	$372,182
Foundation and transformer pad removal, restoration and reseeding	165	$2,417	$398,736
Met Towers			
Dismantle and dispose of met towers (per tower)	3	$7,311	$21,934
Substation and O&M Building			
Dismantle and dispose of substation and O&M building	2	$142,341	$284,682
Transmission Line			
Removal of 230 kV transmission line (per mile)	3.5	$14,486	$50,700
Removal of 34.5 kV aboveground transmission line (per mile)	5.5	$3,189	$17,542
Junction boxes - remove electrical to 4' below grade (each)	20	$1,324	$26,479
Access Roads			
Road removal and grading (per mile)	19	$39,612	$752,627
Reseeding road areas (per acre)	46	$2,780	$127,892
Temporary Areas			
Grading and reseeding area disturbed during restoration work (per acre)	97	$16,301	$1,581,175
Gross Cost			$7,098,773
Less scrap value of steel and other metals (per ton)	36,367.65	($149)	($5,418,780)
Subtotal			$1,679,993
Performance Bond		1%	$16,800
Administration and Project Management		10%	$167,999
Future Developments Contingency		20%	$335,999
Total Site Restoration Cost (rounded to nearest $1,000)			**$2,201,000**

C. Ability of the Applicant to Obtain a Bond or Letter of Credit

The Council finds that the value of the financial assurance bond or letter of credit for restoring the site of the proposed KWP would be $2.201 million in 2005 dollars adjusted annually as described in Condition (32).[29] Condition (8) requires that the certificate holder provide the bond or letter of credit before beginning construction, in accordance with OAR 345-027-0020(8). The bond or letter of credit would remain in force until the certificate holder has fully restored the site. The Council finds that a site certificate for the facility should require construction to begin within three years after the effective date of the site certificate and to be completed within five years after the effective date of the site certificate (Conditions (4), (26) and (27)).

OAR 345-022-0050(2) requires the Council to decide whether the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. KIII provided information about its financial capability in Exhibits D and M of the application. KIII

[29] The adjustment calculation adjusts the gross cost according to the inflation rate and separately adjusts the scrap value based on changes in the Producer Price Index.

proposes to provide a financial assurance bond or letter of credit in a form approved by the Council before beginning construction of the energy facility and to maintain that performance bond or letter of credit in effect until the facility is retired and the site has been restored.

KIII has provided a letter from The Royal Bank of Scotland (Bank) that states that PPM Energy has "sufficient available letter of credit capacity…under its existing uncommitted financing arrangements with the Bank" to support a potential letter of credit in the amount of $2.5 million.[30] The Bank states that there is a "reasonable likelihood" that the Bank would provide an annual letter of credit for the KWP in the amount requested. Though this letter does not constitute a firm commitment from the Bank to issue a bond or letter of credit for $2.201 million with annual adjustments as described herein, it is credible evidence that KIII could obtain the necessary bond or letter of credit.

It is customary for a performance bond to contain provisions allowing the surety to complete construction of a project in order to reduce its potential liability. Oregon law and Council rules require a site certificate to construct or operate an energy facility. ORS 469.320(1); OAR 345-027-0100(1). Accordingly, the Council requires the certificate holder to ensure that the surety has agreed to comply with all applicable statutes, Council rules and site certificate conditions if the surety retains the right to complete construction, operate or retire the energy facility. In addition, the Council requires that the surety seek Council approval before commencing construction, operation or retirement activities. These requirements are included in Condition (33).

Conclusions of Law

The Council finds that the KWP site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. The Council further finds that $2.201 million in 2005 dollars adjusted annually as described in Condition (32) is a reasonable estimate of the cost to restore the site to a useful, non-hazardous condition. The Council finds that KIII, subject to the conditions stated in this order, has demonstrated a reasonable likelihood of obtaining a bond or letter or credit, satisfactory to the Council, in an amount adequate to restore the site to a useful, non-hazardous condition. The Council finds that a site certificate for the facility should include Conditions (26), (27), (32) and (33). Based on these findings and conditions, the Council concludes that the applicant has met the Retirement and Financial Assurance Standard for the proposed KWP.

3. Standards about the Impacts of Construction and Operation

(a) Land Use

OAR 345-022-0030

(1) To issue a site certificate, the Council must find that the proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.

(2) The Council shall find that a proposed facility complies with section (1) if:

[30] Letter from Emily Freedman, Vice President, The Royal Bank of Scotland, May 30, 2006.

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(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and the Council determines that:

(A) The proposed facility complies with applicable substantive criteria as described in section (3) and the facility complies with any Land Conservation and Development Commission administrative rules and goals and any land use statutes directly applicable to the facility under ORS 197.646(3);

(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies with the statewide planning goals or an exception to any applicable statewide planning goal is justified under section (4); or

(C) For a proposed facility that the Council decides, under sections (3) or (6), to evaluate against the statewide planning goals, the proposed facility complies with the applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under section (4).

(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.

(4) The Council may find goal compliance for a proposed facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to the exception process, the Council may take an exception to a goal if the Council finds:

(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(A) Reasons justify why the state policy embodied in the applicable goal should not apply;

(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and

(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

* * *

Findings of Fact

KIII provided information about compliance with the Council's Land Use Standard in Exhibit K of the application and elected to have the Council make the land use determination under OAR 345-022-0030(2)(b). The analysis area for the Land Use standard is the area within the site boundary and one-half mile from the site boundary.

The proposed facility would lie entirely on land within the land use jurisdiction of Sherman County. The energy facility and its related or supporting facilities, as well as staging areas needed during construction, would be on privately-owned land zoned Exclusive Farm Use (EFU).[31]

The land use analysis begins with identification of the "applicable substantive criteria" recommended by the Special Advisory Group. On April 8, 2005, the Council appointed the Sherman County Board of Commissioners the Special Advisory Group for this application. The Department requested that the Sherman County Commissioners identify the applicable substantive criteria in effect on the date KIII submitted the application (May 13, 2005).[32] Sherman County identified Article 5 of the Sherman County Zoning Ordinance (SCZO) as applicable to the proposed KWP.[33] The County did not identify any specific sections of the Sherman County Comprehensive Plan (SCCP) as containing applicable substantive criteria; however, compatibility with the SCCP is required under SCZO Section 5.2.1.

The Council's Land Use Standard (OAR 345-022-0030) must be applied in conformance with the requirements of ORS 469.504. The Oregon Supreme Court recently held "under ORS 469.504(1)(b) and (5), the council may choose to determine compliance with statewide planning goals by evaluating a facility under paragraph (A) or (B) or (C), but ... it may not combine elements or methods from more than one paragraph, except to the extent that the chosen paragraph itself permits."[34]

Under ORS 469.504(5), "If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300 or a related or supporting facility that does not pass through more than one local government jurisdiction or more than three zones in any one jurisdiction, the council shall apply the criteria recommended by the special advisory group." In this case, the special advisory group recommended that the applicable substantive criteria are those criteria contained in Article 5 of the SCZO. Accordingly, the Council has applied those criteria.

The Council may find compliance with statewide planning goals under ORS 469.504(1)(b)(A) if the Council finds that the proposed facility "complies with applicable substantive criteria from the affected local government's acknowledged comprehensive plan

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[31] App Supp, Tab K, Item ii.

[32] Letter from John White to Commissioner Gary Thompson, dated March 31, 2005; Request for Comments on Completeness of the Application, dated May 13, 2005.

[33] Letter from Judge Gary Thompson, dated June 16, 2005; letter from Georgia Macnab, Sherman County Planning Director, dated July 7, 2005.

[34] *Save Our Rural Oregon v Energy Facility Siting Council*, 339 Or 353 (2005).

and land use regulations that are required by the statewide planning goals and in effect on the date the application is submitted." For the reasons discussed below, the Council finds that the proposed facility does not comply with all of the applicable substantive criteria.

If the proposed facility does not comply with one or more of the applicable substantive criteria, then the Council must proceed under ORS 469.504(1)(b)(B) and must determine whether the proposed facility "otherwise [complies] with the applicable statewide planning goals." The Court held in *Save Our Rural Oregon* that "paragraph (B) necessarily requires an evaluation of the same applicable substantive criteria as paragraph (A) and, to the extent those criteria are not met, directs the council to consider statewide planning goals." The Council finds that the applicable statewide planning goal is Goal 3 and that an exception to Goal 3 is justified, for the reasons discussed below.

ORS 469.504(1)(b)(C) is not available to the Council, because subsection (5) of the statute does not allow the Council to elect to apply the statewide planning goals directly when, as in this case, the special advisory group has recommended applicable substantive criteria.

The substantive criteria contained in Article 5 of the SCZO are in Sections 5.2 and 5.8 of the ordinance. The other sections of the article are procedural. The Council makes findings regarding these criteria as discussed below.

A. Applicable Substantive Criteria

SCZO Section 5.2: General Criteria

In determining whether or not a Conditional Use proposal shall be approved or denied, it shall be determined that the following criteria are either met or can be met through compliance with specific conditions of approval.

1. *The proposal is compatible with the County Comprehensive Plan and applicable Policies.*
2. *The proposal is in compliance with the requirements set forth by the applicable primary Zone, by any applicable combining zone, and other provisions of this Ordinance that are determined applicable to the subject use.*
3. *That, for a proposal requiring approvals or permits from other local, state and/or federal agencies, evidence of such approval or permit compliance is established or can be assured prior to final approval.*
4. *The proposal is in compliance with specific standards, conditions and limitations set forth for the subject use in this Article and other specific relative standards required by this or other County Ordinance.*
5. *That no approval be granted for any use which is or expected to be found to exceed resource or public facility carrying capacities, or for any use which is found to not be in compliance with air, water, land, and solid waste or noise pollution standards.*
6. *That no approval be granted for any use violation of this Ordinance.*

SCZO Section 5.2.1: Compatibility with the Comprehensive Plan

SCZO Section 5.2.1 requires that the proposal (construction and operation of the KWP) be compatible with the SCCP and applicable policies. SCCP Sections I through X contain an introduction, definitions and procedural directives to the county commissioners. These sections do not contain applicable substantive criteria. Sections XI through XVI articulate the County's substantive land use goals. Several goals address specific resources within the County that would not be affected in any way by the proposed KWP: Goal VII (aggregate resources), Goal IX (BLM lands), Goal XII (use of resources within the Deschutes and John Day Oregon State Scenic Waterways) and Goal XVI (affordable housing). Goal VIII calls for an investigation of ground water resources. The proposed use would not conflict with an investigation of ground water resources, and, for the reasons discussed at page 90, the facility would not have a significant adverse impact on ground water. The proposed facility is compatible with the remaining goals and applicable policies for the reasons discussed in the sections that follow.

(a) Goal V: Quality of the Physical Environment

Goal V: Improve or maintain the existing quality of the physical environment within the County. [SCCP Section XI]

The proposed KWP would maintain the existing quality of the physical environment within the County. The two policies under SCCP Goal V are not applicable to the proposed KWP. Policy I "recognizes...recommendations for a state-wide non-point source pollution control program," and Policy II requires that erosion control provisions be incorporated into the subdivision ordinance.

(b) Goal VI: Natural Hazards

Goal VI: To protect life and property from natural disasters and hazards. [SCCP Section XI]

The proposed KWP would protect life and property from natural disasters and hazards. Policy I under Goal VI requires evaluation of potential natural hazard areas before construction of any permanent structure. We address potential geological hazards in our discussion of the Council's Structural Standard at page 85. To identify and avoid geological hazards, appropriate site-specific geotechnical evaluation would be done before construction of the proposed KWP (Conditions (13), (14) and (53)). Policy II under Goal VI is not applicable because it addresses construction within flood-prone areas, and the site of the KWP is not within a flood-prone area.

(c) Goal X: Landscape

Goal X: Preserve the integrity of the Sherman County Landscape. [SCCP Section XI]

The features of the Sherman County landscape are addressed in SCCP Section XI, Finding XI, which identifies rock outcroppings, trees, the John Day River Canyon and the Deschutes River Canyon as the "all-important features of the County's landscape." The Finding also notes certain segments of I-80, US 97, OR 206 and OR 216 were designated as

"scenic highways."[35] The KWP would preserve the integrity of these landscape features. The single policy under Goal X calls for retaining trees when practical. The proposed KWP would not require the removal of any trees.

(d) Goal XI: Fish and Wildlife

Goal XI: To maintain all species of fish and wildlife at optimum levels and prevent the serious depletion of any indigenous species. [SCCP Section XI]

The proposed KWP is compatible with the goal of maintaining fish and wildlife populations. Policy I under Goal XI calls for implementation of fish and wildlife management policies. We address compliance of the proposed facility with the ODFW habitat mitigation goals and standards in our discussion of the Council's Fish and Wildlife Habitat Standard, beginning at page 72. Approximately 87 percent of the land permanently affected and 84 percent of the land temporarily affected by the proposed KWP is cultivated agricultural land. This land has low potential to become important habitat for wildlife.

Policy II under Goal XI does not apply to the proposed KWP because it addresses range management programs. Policy III calls for consideration of retention of fence rows, ditch banks and brush patches for wildlife use. The proposed KWP would not remove any of these habitats. Policy IV does not apply because it addresses maintenance by ODFW of "existing habitat plantings and water developments constructed for wildlife use," which are not present at the KWP site. Policy V addresses the use of pesticides that have "low toxicity to wildlife, fish and people." Pesticides would not be used during construction and operation of the proposed KWP. Herbicides might be used for weed control, and a weed management plan would be implemented in consultation with the Sherman County Weed District (Condition (89)). Policy VI does not apply because it addresses habitat quality on Rufus Bar and Maryhill Islands. The proposed KWP would not affect these areas.

(e) Goal XIII: Plant and Animal Diversity

Goal XIII: Attempt to maintain the diversity of plan [sic] *and animal species within the County. [SCCP Section XI]*

The two policies under Goal XIII address protection of sites or areas considered "critical habitat," including areas containing threatened or endangered species. The proposed KWP would comply with these policies because such critical habitat areas would be avoided. The proposed KWP is compatible with Goal XIII based on the findings discussed herein regarding the Council's Fish and Wildlife Habitat Standard (discussed at page 72) and Threatened and Endangered Species Standard (discussed at page 68).

(f) Goal XIV: Social Services and Public Facilities

Goal XIV: To improve or maintain the current level of social services available with the County and to assure the provision of public facilities consistent with the intensity of land use. [SCCP Section XII]

There are twenty specific policies under Goal XIV, but only Policies X, XV and XX under Goal XIV are applicable to the proposed KWP. Compliance with the applicable policies is discussed below. The overall concern of Goal XIV is the adequacy of public services in

[35] We address the visual impacts of the proposed facility on the landscape in our discussion of the Council's Scenic and Aesthetic Values Standard at page 53.

Sherman County. We address the effect of the proposed facility on the delivery of public services in the analysis area in our discussion of the Council's Public Services Standard at page 89. Based on the findings in that discussion, the Council finds that the proposed KWP is compatible with this goal.

Policy X requires maintenance and improvement of the County road system "consistent with the needs of the Sherman County citizenry." Two segments of County roads would be improved during construction of the proposed KWP by graveling and grading or would be completely reconstructed and widened. This road work would improve the quality of the roads and have a beneficial impact on traffic safety. The facility would maintain the county road system by repairing any damage that occurs during construction (Condition (40)). Policy XV requires that the Wasco State Airport be retained in State ownership and requires its protection from incompatible land uses. The proposed KWP would be compatible with the Wasco Airport because the nearest turbines would be located at least two miles from the airport and would not interfere with airport operations. The certificate holder would install and maintain aviation warning lights on the turbine strings as required by Federal Aviation Administration (FAA) safety regulations (Condition (100)).

The proposed KWP would be compatible with Policy XX, which contains the County's transportation planning policies.[36] Subsection A.1 does not apply because the KWP is not a public road or highway project. No new public roads would be built for the proposed KWP. Subsection A.3, provides that "maintenance, repair and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated." The applicant proposes to improve segments of existing County roads to meet or exceed County standards because roads will require a more substantial section to bear the weight of the vehicles and turbine components than would usually be constructed by the County (Condition (39)). Subsection B.2 requires County notice to the Oregon Department of Transportation (ODOT) of land use applications and development permits for properties that have direct frontage or direct access onto a state highway. Notice has been provided to ODOT regarding frontage along State Highway 206.

(g) Goal XV: Cultural Resources

Goal XV: To protect historical, cultural and archeological [sic] resources from encroachment by incompatible land uses and vandalism. [SCCP Section XII]

Historic, cultural and archaeological resources would be protected during construction and operation of the proposed facility.[37] Policy I under this goal identifies specific areas and structures considered historically, archaeologically or culturally significant, and Policy II calls for protection of these areas. The proposed KWP is consistent with the county policies because it would not affect any of these significant areas or structures.

(h) Goal XVII: Economic Base and Viability of Agriculture

Goal XVII: Diversify the economic base of the County and maintain the viability of the agricultural sector. [SCCP Section XIV]

[36] The county's "transportation system plan" is incorporated in SCZO Sections 3.1.3(f) and 4.14 (Georgia Macnab, Sherman County Planning Director, personal communication).
[37] We address the impact of the proposed facility on historic, cultural and archaeological resources at page 87.

The five policies under Goal XVII are not directly applicable to the proposed KWP. Policy II, which calls for the adoption of zoning and other necessary ordinances "to assure conservation and retention of agricultural lands in agricultural uses," applies indirectly through the provisions of the SCZO that address protection of agricultural uses (see discussion of SCZO Section 5.8.16 at page 35).

(i) Goal XVIII: Energy Resources

Goal XVIII: Conserve energy resources. [SCCP Section XV]

Policy I under Goal XVIII calls for cooperation in the use and development of renewable resources. The proposed KWP is a renewable resource energy project. Policy II concerns "pumped storage" and is inapplicable to the proposed KWP. Policy III requires "new high voltage electrical transmission lines with nominal voltage in excess of 230 kV" to be constructed within or adjacent to existing electrical transmission line right-of-way. The proposed KWP does not include an electrical transmission line "in excess of 230 kV." Policy IV is inapplicable to the proposed KWP because it concerns integration of transportation services at Biggs Junction.

(j) Goal XIX: Orderly Use of Lands

Goal XIX: To provide an orderly and efficient use of the lands within Sherman County. [SCCP Section XVI]

With the exception of Policy IV, the five policies under Goal XIX are not applicable to the proposed KWP. Policy IV states that "commercial businesses, except those related to agricultural uses, should be located within incorporated cities." The proposed KWP is a "commercial utility facility," which is a use specifically allowable in Sherman County's Exclusive Farm Use Zone.

SCZO Section 5.2.2: Compliance with Zoning Requirements

(a) Applicable Primary Zone and Applicable Combining Zone

Under SCZO Section 5.2.2, the proposed facility must comply with the requirements of the applicable primary zone and any applicable combining zone. The proposed facility would be located entirely within an Exclusive Farm Use zone, which is designated "F-1" under SCZO Section 3.1. There is no applicable combining zone.

Section 3.1.2 lists uses permitted outright in the F-1 zone, and subsection (g) allows "reconstruction or modification of public roads." The proposed KWP would include reconstruction of two small segments of public roads within the facility site.[38]

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[38] Section 3.1.2, which lists permitted uses in the F-1 zone is not entirely consistent with ORS 215.283(1). ORS 215.283(1) lists uses that are permitted under state law and includes "utility facilities necessary for public service" (ORS 215.283(1)(d)) and "reconstruction * * * of public roads, *including the placement of utility facilities overhead and in the subsurface of public roads and highways along the public right of way* * * *" (ORS 215.283(1)(L)(emphasis added)). While SCZO Section 3.1.2(g) contains the introductory language for 215.283(1)(L) permitting "reconstruction or modification of public roads," it does not contain the additional language permitting placement of utilities "along the right-of-way." However, the county cannot narrow the application of uses permitted under ORS 215.283(1). *Brentmar v. Jackson County*, 321 Ore. 481; 900 P.2d 1030; 1995 Ore. LEXIS 93 (1995). Furthermore, ORS 758.010 grants to any person or corporation the right to place utility service lines along public roads. Thus, under ORS 215.283(1)(L), utility facilities such as transmission lines and junction boxes may be placed in the public right-of-way as of right.

Under SCZO Section 3.1.3(e)(17), "operations" conducted for "commercial utility facilities" are an allowed conditional use. SCZO Section 1.4.136 defines a "utility facility" to include "any major structure owned or operated by a...private...electric...company for the generation, transmission, distribution or processing of its products...but excluding local...power distribution lines, and similar minor facilities." The proposed wind turbines and meteorological towers, power collection system (including the aboveground transmission line and the substation near Webfoot), the O&M building and the substation near Schoolhouse are structures that meet this definition.[39]

The conditional uses listed in SCZO Section 3.1.3 and their "accessory uses" are permitted in an F-1 zone "when authorized in accordance with the requirements of Article 5 of this Ordinance and this Section." In context, "this Section" includes the dimensional standards of Section 3.1.4. "Accessory use or structure" is defined in Section 1.4.6 as "a use or structure, or a portion of a structure, the use of which is incidental and subordinate to the main use of the property or structure and located on the same premises as the main or primary use and/or structure."[40] The wind turbines, O&M building, substations, aboveground transmission lines, junction boxes and meteorological towers are "buildings" under the definition in SCZO Section 1.4.20 and are therefore subject to the setback requirements in Section 3.1.4. KIII has provided a site plan for the proposed facility showing the location of these structures and stated that all of the turbines "and other aboveground elements of the facility" would be located at least 50 feet from any property line.[41]

In Condition 42 of the draft proposed order, the Department recommended a 50-foot setback for all aboveground facility structures, based on the applicant's statement in the application. In its comments during the public hearing process, KIII asked that aboveground transmission lines and junction boxes be excluded from the 50-foot setback condition so as not to interfere with farm operations. SCZO Section 3.1.4 requires a setback of 30 feet from the property line, "except that the front yard setback requirement from the right-of-way line of an arterial or major collector road or street shall be 50 feet unless approved otherwise by the Planning Commission." For most of the aboveground structures, the ordinance requires a 30-foot setback.[42] At the Council meeting on the draft proposed order on May 19, 2006, the Department recommended revising Condition 42 to make it consistent with the Sherman County ordinance. Exclusion of the aboveground transmission lines and junction boxes from the setback requirements, as requested by KIII, would conflict with SCZO Section 3.1.4. The

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[39] SCZO Section 3.1.3(e)(17) appears to be modeled on ORS 215.283(2)(g), which conditionally allows "commercial utility facilities for the purpose of generating power for public use by sale." However, the definition of "utility facility" in SCZO Section 1.4.136 is overbroad and includes some utility facilities, such as transmission lines, that are permitted outright under ORS 215.283(1)(d), subject to compliance with ORS 215.275. Thus, under SCZO Section 3.1.3, some uses that are allowed outright under applicable state law are improperly subjected to additional conditions under SCZO Section 3.1.3. *Brentmar v. Jackson County*, 321 Ore. 481; 900 P.2d 1030; 1995 Ore. LEXIS 93 (1995).

[40] The proposed meteorological towers and O&M building may alternatively be allowed as "accessory uses" rather than being considered parts of the "utility facility." The power collection system and the substations might also be considered "accessory uses," but we believe that these structures fit more directly within the definition of utility facility structures for "transmission, distribution or processing" of electricity.

[41] App pp. K-8 and K-9 and Appendix C-2.

[42] There are no arterials in the project area and the only "major collector" roads are North Klondike Road south from Hilderbrand Lane and Klondike Lane east from North Klondike Road to Sandon Road. (Georgia Macnab, Sherman County Planning Director, personal communication).

Council finds that the facility does not meet SCZO 3.1.4 if the site certificate condition removes the aboveground transmission lines and junction boxes from the setback requirements.

Under ORS 469.504(1)(b)(B), if a facility does not meet the applicable substantive criteria recommended by the special advisory group pursuant to ORS 469.504(5), the Council may nevertheless approve the facility if it complies with applicable statewide planning goals. The applicable statewide planning goal is Goal 3, which is the state's Agricultural Lands goal. The facility's compliance with Goal 3 is discussed below at page 37.

Goal 3 requires that nonfarm uses within exclusive farm use zones not have significant adverse effect on accepted farm or forest practices. The Council finds that the proposed aboveground transmission lines and junction boxes should be located along property lines and rights-of-way where practicable. The Council modifies proposed Condition 42 by removing aboveground transmission lines and junction boxes from the setback requirements and modifies proposed Condition 43 to require placement of transmission lines and junction boxes along road right-of-way to the extent practicable.

The proposed access roads are "transportation improvements" that are separately allowed as a conditional use under SCZO Section 3.1.3(f).

> *(f) Transportation Improvements. (Ord. No. 22-05-2003)*
>
> *1) Construction, reconstruction, or widening of highways, roads, bridges or other transportation projects that are (1) not improvements designated in the Transportation System Plan; or (2) not designed and constructed as part of a subdivision or planned development subject to site plan and/or conditional use review. Transportation projects shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria.*
>
> *A. The project is designed to be compatible with existing land use and social patterns including noise generation, safety, and zoning.*

The access roads will be compatible with existing land use and social patterns. Farm use characterizes the "existing land use and social patterns." The proposed facility, including the access roads, will be compatible with farm use for the reasons discussed below with respect to SCZO 5.8.16 at page 35. The project would not have a significant adverse effect on traffic safety, for the reasons discussed below at page 91. The project would comply with applicable noise control regulations for the reasons discussed below at page 94.

> *B. The project is designed to minimize unavoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.*

For the reasons discussed herein, the project, including the proposed access roads, would be designed to "minimize unavoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities." Potential impacts to the listed resources are discussed in this draft proposed order in sections beginning at the pages indicated: wetlands (page 100), wildlife habitat (page 72), water quality (page 93)

cultural resources (page 87) and scenic qualities (page 53). The project would not have emissions and therefore would have no adverse effect on air quality. The certificate holder would control dust generated during construction of the roads by standard best management practices in accordance with an Erosion and Sediment Control Plan (Condition (76)).

C. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.

General usage of the public roads from which the proposed facility roads would be accessed is low. The access roads would be designed for efficient access by maintenance personnel to the wind turbines and other parts of the facility. During operation, the use of the access roads by facility maintenance personnel would not have a significant impact on traffic. Therefore, the Council finds that the access roads preserve the safety and function of the facility.

D. The project includes provision for bicycle and pedestrian circulations as consistent with the comprehensive plan and other requirements of this ordinance.

The SCCP and the other requirements of the SCZO do not address bicycle and pedestrian circulation for commercial utility facilities. Accordingly, there are no applicable requirements to be addressed under SCZO 3.1.3(f)(D).

(b) Other Applicable Provisions

In addition to consideration of the requirements of the primary zone and any combining zone, Section 5.2.2 requires consideration of other provisions of the SCZO that are determined "applicable to the subject use." The applicant considered SCZO Sections 4.9, 4.13, 4.14, 11.1, 11.2 and 11.8 as possibly applicable to the proposed facility.

According to Section 11.1, the requirements of SCZO Article 11 apply to "any land division or development and the improvements required, whether by subdivision, partitioning, creation of a street or other right-of-way, zoning approval, or other land development requiring approval pursuant to the provisions of this Ordinance." SCZO Section 1.4.62 defines "land development" as "any subdivision or partition of land, or any other division of land provided for in this Document." The proposed facility would not require any land division or land development. For that reason, the Council finds that Article 11 of the SCZO does not apply to the proposed facility.[43]

Article 4 of the SCZO contains "Supplementary Provisions," and Sections 4.2 and 4.9 are applicable to the proposed use. Section 4.2 prohibits projections from buildings by more than 2 feet into a required yard, and the proposed facility would not have such projections. The proposed facility would comply with Section 4.2 (Condition (42)).

Section 4.9 provides: "Approval of any use or development proposal pursuant to the provisions of this Ordinance shall require compliance with and consideration of all applicable State and Federal agency rules and regulations." This provision is similar to language in the Council's General Standard of Review, which requires a finding that "except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other

[43] The Department confirmed this interpretation of the SCZO with Sherman County Planning Director Georgia Macnab in a personal communication on October 3, 2005.

Oregon statutes and administrative rules identified in the project order." The project order for the proposed KWP identifies all applicable state agency permits, rules and regulations. The Council's findings regarding the General Standard of Review are discussed in Section VIII at page 126 below. Exhibit E of the application identifies the applicable federal agency rules and regulations. Federal agencies having regulations that are potentially applicable are the FAA, the U.S. Army Corps of Engineers (USACOE) and the U.S. Fish and Wildlife Service (USFWS).

The certificate holder will file the required Notice of Proposed Construction or Alteration with the FAA and will notify the Department of the FAA's response as soon as it has been received (Condition (57)). The USACOE administers the Section 404 permit program under the Clean Water Act, which addresses fill activities in of waters of the United States, including wetlands. The permit is not required for the KWP because there would be no fill in any waters of the United States. No formal consultation with the USFWS is needed, because no federal license, permit, or authorization is required for the KWP under the Endangered Species Act. For the reasons discussed above and in Section VIII below, the Council finds that the proposed KWP complies with SCZO Section 4.9.

Sections 4.1 and 4.3 do not apply in an F-1 zone. Sections 4.4, 4.5, 4.6, 4.7, 4.8, 4.11 and 4.12 apply to residential uses, and therefore these sections do not apply to the proposed KWP. Section 4.10 applies to "divisions of land within the F-1 zone." The proposed use does not require a division of land, and therefore Section 4.10 is not applicable.

Section 4.13 contains conditions that the County "may require…for development proposals." The section is a list of discretionary conditions rather than substantive standards. In issuing a Conditional Use Permit for the proposed KWP, the County would be bound by the conditions listed in the site certificate.[44] The Department consulted with the Sherman County Planning Department regarding proposed site certificate conditions and recommended conditions requested by the County.

Section 4.14 contains the county's access management policies and Section 4.15 addresses "pedestrian, bicycle and vehicular circulation consistent with access management standards and the function of affected streets." Section 1.4.5 defines "access management" as "the process of providing and managing access to land development while preserving the flow of traffic in terms of safety, capacity and speed." Section 1.4.62 defines "land development" as "any subdivision or partition of land, or any other division of land provided for in this Document." Because the proposed KWP does not involve a division of land, Sections 4.14 and 4.15 are not applicable.

SCZO Section 5.2.3: Other Local, State and Federal Permits

Section 5.2.3 addresses any required approvals or permits from "other local, state and/or federal agencies" and requires evidence of approval or permit compliance. In context, "other local agencies" means local agencies other than the Sherman County Planning Commission. The certificate holder will obtain a building permit and a local on-site sewage permit, which would be required prior to construction (Conditions (29) and (104)). These are

[44] ORS 469.401(3).

construction-related permits that are not subject to Council approval.[45] The applicant has applied to the Oregon Department of Environmental Quality (DEQ) for the NPDES 1200-C General Construction Storm Water permit, and DEQ has assigned the project to the 1200-C general permit. The project order for the proposed KWP identifies all applicable state agency permits and approvals. The Council's findings regarding applicable state agency permits, rules and regulations are summarized in Section VIII at page 126 below.

SCZO Section 5.2.4: Compliance with Specific Standards, Conditions and Limitations

Section 5.2.4 requires compliance with provisions in Article 5 and "other specific relative standards required by this or other County Ordinance." The substantive criteria contained in Article 5 of the SCZO are in Sections 5.2 and 5.8 of the ordinance. We discuss Sections 5.2.1, 5.2.2 and 5.2.3 above, and we discuss Sections 5.2.5 and 5.2.6 below, followed by a discussion of Section 5.8.

SCZO Section 5.2.5: Resource Carrying Capacity and Pollution Standards

Section 5.2.5 prohibits land use approval if the use exceeds "resource or public facility carrying capacities" or does not comply with "air, water, land, and solid waste or noise pollution standards." The proposed facility would not exceed resource or public facility carrying capacity and would comply with all air, water, land and solid waste or noise pollution standards.

The proposed facility would have no emissions that would result in an adverse impact to air quality. The facility would use a significant amount of water during construction. We discuss the availability of sufficient water and the right to use it for construction purposes at page 101. Water used for construction-related purposes would evaporate or infiltrate into the ground on-site. Wastewater contained in portable toilets would be pumped and disposed of by a licensed contractor. Water would not be discharged to wetlands, lakes, rivers or streams, and there would be no adverse impact on water quality. Water use during operation would be insignificant. The KWP would obtain water for use during operation from an on-site well, and thus there would be no demand on public facilities to supply water during operation. Water used during operation at the O&M building would be disposed of in an approved on-site septic system and would not result in an adverse impact on water quality or affect any public sewer facilities (Condition (104)). To avoid or reduce soil erosion, the certificate holder would comply with the requirements of the NPDES 1200-C stormwater permit and an Erosion and Sediment Control Plan and would implement erosion control measure during construction and operation (Conditions (76) and (82)).

Operation of the facility would consume a small amount of electricity for typical office loads at the O&M building. The power would be supplied by Wasco Electric Cooperative and would not exceed the utility's "carrying capacity."

Compliance with Section 5.2.5 is further supported by the Council's findings under the Council's Public Services Standard, discussed below at page 89. Measures to reduce and properly dispose of solid waste are discussed below at page 92. The facility would comply with applicable noise control regulations, which we discuss at page 94.

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[45] ORS 469.401(4). The Department of Environmental Quality does not require a Water Pollution Control Facility permit for an on-site septic system with a design capacity of less than 2,500 gallons-per-day (E-mail from Richard Nichols, DEQ, dated March 15, 2006).

SCZO Section 5.2.6: Use Violation

Section 5.2.6 prohibits land use approval for "any use violation of this Ordinance." The proposed KWP would not involve any use violations. The proposed principal use is a commercial utility facility, which is a conditional use allowed in an EFU zone under SCZO Section 3.1.3(e)(17). The proposed access roads are "transportation improvements" that are separately allowed as a conditional use under SCZO Section 3.1.3(f). The proposed minor reconstruction of public roads within the site boundary is allowed outright in an EFU zone under Section 3.1.2(g).

SCZO Section 5.8: Standards Governing Specific Conditional Uses

Section 5.8.10 contains standards for "Radio or Television Transmission Tower, Utility Station or Substation." Section 5.8.14 contains standards for "Public Facilities and Services." Section 5.8.16 contains standards for "Non-farm Uses in an F-1 Zone." The other sections of SCZO 5.8 are not applicable to the proposed KWP.

SCZO Section 5.8.10: Radio or Television Transmission Tower, Utility Station or Substation

> *When authorized as a Conditional Use, the following standards and limitations apply:*
>
> *(a) In a residential zone or area, all equipment storage on the site shall be enclosed within a building.*
>
> *(b) The use may be required to be fenced and provided with landscaping*
>
> *(c) Coloring of structures, buildings and other permanent installations shall be of neutral colors or as otherwise required by the Commission or reviewing authority.*

The proposed KWP would include two new substations. "Substation" is not specifically listed as a conditional use in an F-1 zone, but SCZO Section 3.1.3 authorizes the listed conditional uses "and their accessory uses." The Council finds that the proposed substations are authorized as conditional uses in the F-1 zone because they are "accessory uses" related to a "utility facility" (the wind energy facility).

Subsection (a) of SCZO 5.8.10 does not apply because the substations would not be located in a "residential zone or area." Subsection (b) provides that fencing and landscaping of the proposed use "may be required." The substations would be fenced (Condition (58)). The proposed substation buildings would comply with subsection (c) because they would be painted a neutral color (Condition (98)).

SCZO Section 5.8.14: Public Facilities and Services

> *(a) Public facilities including, but not limited to, utility substations, sewage treatment plants, storm water and water lines, water storage tanks, radio and television transmitters, electrical generation and transmission devices, fire stations and other public facilities shall be located so as to best serve the County or area with a minimum impact on neighborhoods, and with consideration for natural or aesthetic values.*
>
> *(b) Structures shall be designed to be as unobtrusive as possible. Wherever feasible, all utility components shall be placed underground.*

(c) Public facilities and services proposed within a wetland or riparian area shall provide findings that: Such a location is required and a public need exists; and Dredge, fill and adverse impacts are avoided or minimized.

Section 5.8.14 applies to "public facilities," including utility substations and electrical generation and transmission devices. The applicability of Section 5.8.14 is "not limited to" the facilities listed in subsection (a). The Council finds that Section 5.8.14 applies to the proposed KWP substations, "electrical generation devices" (wind turbines) and "electrical transmission devices" (transmission lines).

Subsection (a) requires the location of public facilities to "best serve" the County or area, to have "minimum impact" on neighborhoods and to consider "natural and aesthetic values." The wind turbines and associated power collection lines ("electrical generation and transmission devices") would be located take optimal advantage of the wind resource for power generation. To best serve their intended purpose, the substations and transmission lines that would be part of the proposed KWP must be located within the general area of the wind turbines and close to the point of interconnection with the BPA system. The location of these facilities would "best serve" the County or the area because they would use a small fraction of agricultural land (approximately 0.8 percent of the actively farmed acres adjacent to these facilities) to generate significant new tax revenues for the County and income for the landowners of the property leased to the facility. The facilities would have a "minimum impact on neighborhoods" because they would be located on rural land and not within neighborhoods. The location of the facilities would consider "natural and aesthetic values," including threatened or endangered species, wildlife habitat and scenic resources. The facilities would have no significant adverse effect on threatened or endangered species for the reasons discussed under the Council's Threatened and Endangered Species Standard below at page 68. Consideration of wildlife habitat and compliance with the Council's Fish and Wildlife Habitat Standard are discussed below at page 72. We discuss the potential impact of the proposed KWP on important aesthetic or scenic values and compliance with the Council's Scenic and Aesthetic Values Standard below at page 53.

Subsection (b) requires that public facilities be designed to be as "unobtrusive as possible" and requires utility components to be placed underground wherever feasible. Wind turbines must be mounted on tall tower structures. Likewise, meteorological towers associated with operation of the facility must be aboveground. The certificate holder would make these facilities as unobtrusive as possible by the use of uniform design and neutral colors (Condition (98)). The facility would not have an adverse impact on significant or important scenic resources, for the reasons discussed under the Council's Scenic and Aesthetic Values Standard below at page 53. To the extent feasible, the transmission collector system would be located underground. The fiber optic communications network linking the wind turbines to a central computer system at the O&M facility would be installed underground.

Subsection (c) applies to public facilities proposed "within a wetland or riparian area." No part of the proposed KWP would be located within a wetland or riparian area. We discuss the analysis of area wetlands and other waters of the state at page 100.

SCZO Section 5.8.16: Non-farm Uses in an F-1 Zone

Non-farm uses, excluding farm related, farm accessory uses or uses conducted in conjunction with a farm as a secondary use thereof, may be approved upon a findings [sic] *that each such use:*

(a) Is compatible with farm uses described in ORS 215.203(2);

(b) Does not interfere seriously with accepted farming practices on adjacent lands devoted to farm use;

(c) Does not materially alter the overall land use pattern of the area;

(d) Is situated upon generally unsuitable land for the production of farm crops and livestock, considering the terrain, adverse soil or land conditions, drainage and flooding, vegetation, location and size of the tract, and the availability of necessary support resources for agriculture;

(e) Complies with other applicable significant resource provisions; and

(f) Complies with such other conditions as deemed necessary.

Although the SCZO allows commercial utility facilities to be located in an F-1 zone, "non-farm uses" must meet the standards contained in SCZO Section 5.8.16. Subsection (a) requires a finding that the proposed use is compatible with farm uses. The Council finds that the construction and operation of the wind energy facility would be compatible with farm use. The placement of the proposed facility would take very little area out of farm use.[46] The area occupied by the facility is a small fraction of the adjacent farmed area (approximately 56 acres, or 0.8 percent, of the 7,150 acres adjacent to the facility that are actively used for farming).[47] The applicant proposes to locate turbines and transmission interconnection lines along the margins of cultivated areas wherever feasible to avoid conflict with farming activities (Condition (43)). Farming activities could continue on cropland within the site boundary adjacent to KWP structures. The certificate holder would implement a weed control plan to mitigate the spread of weeds to cropland (Condition (89)). The landowner would be able to use the new turbine access roads for movement of farm equipment between cultivated fields.

Subsection (b) requires that the proposed use "not interfere seriously with accepted farming practices on adjacent lands." Farming on adjacent land consists predominantly of dry land wheat and barley cultivation with some open range areas for cattle.[48] Accepted farming practices include plowing, aerial fertilizing, sowing, mechanical and hand weeding and grain harvesting. Aerial crop dusting is used in some areas. Winter soil preparation includes burning stubble, spreading of straw or crop residue, discing and harrowing. Some of the farm equipment is large (for example, 28-foot-wide combines and 50-foot-wide rod weeders).

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[46] In its Order on the conditional use permit for Klondike II, the Sherman County Planning Commission found that 57 percent of the land area of the county is agricultural land, which amounts to 303,360 acres. The facility would occupy about 0.02 percent of the agricultural land in the county.

[47] The applicant interviewed the twelve property owners who would be directly affected by the KWP. Based on the information from these interviews, the Department conservatively estimated that there are 7,150 acres of actively farmed land adjacent to the proposed facility.

[48] App Appendix K-2.

The Council finds that the proposed KWP would not seriously interfere with accepted farming practices. During construction, which the applicant expects would take up to ten months, there would be temporary displacement of crops by construction activities. Construction traffic could cause temporary delays to movement of farm equipment and trucks. When construction is complete, farm operators would be able to cultivate the land around the footprint of turbine pads (occupying approximately 1,000 square feet each) and access roads (occupying a width of 20 feet). Individual turbines within strings would be spaced approximately 400 to 600 feet apart, and strings would be located about a mile apart, allowing even the largest farm equipment to be operated around and between the turbines. The location of the turbines and access roads could require farmers to change their previous patterns of harvesting and other mechanical operations on the fields, but those operations could continue and there would be no significant impact on the time needed to perform farming operations. Maneuvering large farm equipment around the tight radius of a wind turbine could result in corners or edges that cannot be cultivated with this equipment and could increase the opportunity for weeds to grow in those spots. Weed control is a major concern that local farmers have, and the applicant would practice weed control measures during construction and operation of the facility to minimize the spread of weeds (Condition (89)). Farmers would have the use of any facility access roads constructed on their property for access to fields or for movement of farm equipment between fields. Segments of public roads in the area would be widened and improved, which would benefit the movement of farm equipment in those areas. The KWP would occupy approximately 56 acres of agricultural land, which is about 0.8 percent of the actively farmed adjacent land.[49] Most of the landowners that were interviewed by the applicant anticipate that the effect of the proposed KWP on farming practices would be insignificant. The applicant also met with crop dusters who operate in the area. They did not anticipate having trouble avoiding the turbines.

Subsection (c) requires a finding that the non-farm use would not materially alter the overall land use pattern of the area. The Council finds that approval of the KWP would not materially alter the overall land use pattern of the area.[50] The area around the proposed facility can be characterized as rural, agricultural land. The area leased for the project lies on parcels consisting of about 14,500 acres, which are owned by 12 property owners. The non-farm use would occur on leased property; farm land would not be sold for non-farm use. Farming on these large parcels would continue to be the predominant land use pattern. The facility would not require any partition or other division of land. The amount of cropland converted to non-farm use would be less than 1 percent of the actively farmed land adjacent to the facility.

Subsection (d) requires a finding that the proposed use is "situated upon generally unsuitable land for the production of farm crops and livestock." The applicant argues that the land that would be occupied by the proposed facility is unsuitable for the production of farm crops and livestock because the soils "do not support a diversity of crops, nor crops that are high value" and because the soils "also do not generally support livestock in the county." The applicant further argues that "there is increasing evidence that maintaining production of

[49] Table P-3, App Supp Tab P, Item ii.

[50] Sherman County has previously approved the Klondike I and II wind energy facilities that are now operating within the same general area as the proposed KWP based in part on finding that the operation of the wind energy facilities would not materially alter the overall land use pattern.

wheat and barley on such lands is becoming uneconomic."[51] The Natural Resources Conservation Service (NRCS) soil survey for Sherman County identifies the soil types within the proposed facility site and classifies soil types into "capability" classes. This classification system shows, in a general way, the suitability of soils for growing field crops, and subclasses identify limitations or hazards affecting suitability for crop production. The land on which permanent KWP structures would be located is not of uniform suitability. Instead, the land is characterized by a mosaic of soil types ranging from Class VIII (soils that have limitations "that nearly preclude their use for commercial crop production") to Class IIc (soils that have moderate limitations "that reduce the choice of plants or that require moderate conservation practices"; the subclass "c" designation indicates soils that are limited by being very cold or very dry). Nevertheless, the proposed KWP would occupy approximately 56 acres of land that is now used for non-irrigated crop production. The fact of such use demonstrates the "general suitability" for the use. Accordingly, the Council finds that the proposed KWP is located on land "generally suitable" for crop production and does not comply with SCZO Section 5.8.16(d).

Subsection (e) of SCZO Section 5.8.16 requires that the proposed non-farm use comply with "other applicable significant resource provisions." The Council finds that the proposed facility would comply with the other SCZO provisions applicable to the EFU zone, for the reasons discussed above. Subsection (f) requires compliance with "such other conditions as deemed necessary." The KWP would be subject to the conditions of the site certificate.

B. Applicable Statewide Planning Goals

For the reasons discussed above, the proposed facility does not comply with SCZO Sections 3.1.4 and 5.8.16(d) and therefore does not comply with all of the applicable substantive criteria from Sherman County. Under ORS 469.504(1)(b)(B), the Council must determine whether the proposed facility "otherwise [complies] with the applicable statewide planning goals." Because the proposed facility complies with all other local criteria except SCZO Sections 3.1.4 and 5.8.16(d) (based on the findings above) and because those sections relate to land uses in the County's F-1 zone, the "applicable statewide planning goal" is Goal 3, which is the state's Agricultural Lands goal. As expressed in *Oregon's Statewide Planning Goals and Guidelines*, Goal 3 is:

> ***To preserve and maintain agricultural lands.***
> *Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700.*

Consistent with Goal 3, Sherman County has identified the "F-1" zone as an "exclusive farm use" zone. Under Goal 3, nonfarm uses are permitted within a farm use zone as provided under ORS 215.283.

To find compliance with ORS 215.283, the Council must determine whether the proposed energy facility and its related or supporting facilities are uses that fit within the scope of the uses permitted in exclusive farm use zones as described in ORS 215.283(1), (2) or (3). The proposed KWP would consist of the energy facility (the wind turbines) and the

[51] App p. K-32.

following related or supporting facilities: the underground and aboveground power collection lines, two substations, three meteorological towers, an O&M building, the control system and access roads.[52]

In the Final Order on Amendment #2 for the Stateline Wind Project, the Council found that a wind energy facility (the "principal use") was a "commercial utility facility for the purpose of generating power for public use by sale" and allowable under ORS 215.283(2)(g). The Council found that the power collector system and meteorological towers were part of the principal use. The Council found that the Stateline substation and the aboveground transmission line connecting the substation with the main power grid were "utility facilities necessary for public service" allowed under ORS 215.283(1)(d). The Council found that the access roads were allowable under ORS 215.283(3).

The Council finds that the KWP energy facility is a "commercial utility facility for the purpose of generating power for public use by sale" and that the power collection system and meteorological towers are part of that principal use. In addition, the Council finds that the KWP control system and O&M building are part of the principal use. The Council finds that the proposed aboveground 230-kV transmission line, as described herein, is part of the KWP power collection system, unlike the aboveground transmission line at Stateline, which was proposed to interconnect the facility with the regional power grid. Therefore, the Council finds that the KWP aboveground transmission line is part of the principal use. Further, the Council finds that the access roads are allowable under ORS 215.283(3).

The applicant proposes two new substations. One of the substations would be located near the BPA Klondike Schoolhouse Substation and would function to step up the power to accommodate interconnection with the BPA system. This substation would be similar in function to the substation at Stateline, which was proposed to step up the power for transmission over a 115-kV or 230-kV line that would interconnect the Stateline facility with the regional power grid in Washington. Because the proposed substation near the BPA Klondike Schoolhouse Substation is necessary to make the power from the KWP available to the public through the BPA system, the Council finds that this substation is a "utility facility necessary for public service."

The second substation proposed for the KWP would be located near Webfoot. The applicant describes the Webfoot substation as part of the power collection system. This substation would collect the power from the eastern section of the project and step up the voltage for transmission to the BPA Klondike Schoolhouse Substation, a distance of 3.5 miles. The Council finds that the proposed Webfoot substation is part of the power collection system and therefore part of the principal use.

The Principal Use

In this case, the principal use is a "commercial utility facility." ORS 215.283(2)(g) authorizes "commercial utility facilities for the purpose of generating power for public use by

[52] Under ORS 469.300, the "energy facility" is "an electric power generating plant." Some facility components, such as the control system, might be considered intrinsic to the "electric power generating plant" and therefore part of the "energy facility" rather than separate, related or supporting facilities. The "related or supporting facilities" listed in the text are treated separately in this discussion, without implying any finding that any given component is separate from the energy facility.

sale" on agricultural land, subject to ORS 215.296. OAR Chapter 660, Division 33, contains the Land Conservation and Development Commission (LCDC) administrative rules for implementing the requirements for agricultural land as defined by Goal 3. OAR 660-033-0120 (Table 1) lists the "commercial utility facility" use as a type "R" use ("use may be approved, after required review") and references the standards found in OAR 660-033-0130(5) and (22) for such a facility if it is proposed to be located on non-high-value farmland.[53] For the reasons discussed below (at page 40), the KWP turbine string access roads are also subject to OAR 660-033-0130(5) and (22). The following discussion addresses both the principal use and the access roads.

OAR 660-033-0130(5) cross-references ORS 215.296, which provides that a use allowed under ORS 215.283(2) may be approved only if the use would not:

(a) Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or

(b) Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

The Council finds that the principal use and the access roads for the KWP would not force a significant change in accepted farm practices on surrounding farm land and would not significantly increase the cost of accepted farm practices. There would be no significant change in accepted farming practices as a result of the proposed KWP for the reasons discussed above with respect to SCZO Section 5.8.16(a), (b) and (c). In summary, accepted farming activities could continue on the farm parcels where the KWP structures would be located. The KWP would occupy less than 1 percent of the actively farmed land adjacent to the facility. Construction and operation of the proposed KWP would be compatible with farm uses and would not seriously interfere with accepted farming practices.

The cost of farming practices in the area could be affected because of the acreage taken out of crop production by placement of permanent facilities, changes in patterns of harvesting and other mechanical operations on the fields, temporary displacement of crops by construction activities and temporary delays to movement of farm equipment and trucks due to construction traffic. The acreage that would become unavailable for crop production due to the principal use and the access roads amounts to 0.8 percent of the actively-farmed area adjacent to the proposed KWP.[54] The location of the turbines and access roads could require farmers to change their previous patterns of harvesting and other mechanical operations on the fields, but there would be no significant impact on the time needed to perform these farming operations and no significant increase in cost. During the ten-month construction period,

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[53] OAR 660-033-0020(8) defines "high value farmland." Non-irrigated farmland is "high value" if the tract is composed predominantly of soils that are classified prime, unique, Class I or II by the NRCS. The soils in the area affected by the principal use are not classified as "prime farmland" by the NRCS, and the soil capability classifications in the area range from Class VIII to Class IIc (a subclass indicating limitation due to soil being very cold or very dry). Sherman County does not consider the affected land to be "high value farmland" (Letter from Georgia Macnab, Sherman County Planning Director, October 19, 2005.)

[54] The total area permanently affected by the KWP is estimated to be about 64 acres. Excluding 4 acres occupied by the proposed substation adjacent to the BPA Schoolhouse substation, the principal use and access roads would occupy 60 acres. Not all 60 acres is currently used for crop production (the 60 acres includes CRP land and grassland not in production. Nevertheless, assuming all 60 acres is potentially available for crop production, this area is only 0.8 percent of the actively-farmed area adjacent to the proposed facility.

approximately 82 acres of agricultural land would be temporarily unavailable for crop production. This amounts to 1.1 percent of the actively farmed area adjacent to the proposed KWP that would be out of production for ten months. Construction traffic could cause temporary delays in the movement of farm equipment and trucks during the ten-month construction period, but these delays, although inconvenient, would not result in a significant increase in the cost of farm practices.

For the reasons discussed above, the Council finds that the principal use and access roads would comply with the standards of ORS 215.296 and OAR 660-033-0130(5). The Council finds that the principal use would not take prime farmland out of production and that adverse impacts to farming practices or the costs of farming practices would be mitigated.

The KWP principal use and access roads are also subject to OAR 660-033-0130(22).

OAR 660-033-0130(22) provides as follows:

> *(22) A power generation facility shall not preclude more than 20 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 004*

In this case, the "power generation facility" consists of the principal use and the turbine string access roads. The area occupied by the power generation facility is shown in Table 3.

Table 3: Area Occupied by the Power Generation Facility[55]

Structure	Acres
Principal use	
Turbine towers, including pad areas and road turnouts	10
Meteorological towers	0.03
Aboveground 34.5 kV collector line	0.05
Aboveground 230-kV transmission line	0.05
O&M building site, including the Webfoot substation	4
Subtotal	14.13
Access roads	46.5
Total	**60.63**

As shown in Table 3, the principal use and access roads would occupy approximately 61 acres within the EFU zone.[56] The Council finds, therefore, that the principal use and access roads would occupy more than 20 acres and that the use would not comply with OAR 660-033-0130(22) and Goal 3. We discuss an exception to Goal 3 below at page 43.

The Access Roads

The proposed access roads are allowable on EFU land under ORS 215.283(3). ORS 215.283(3) allows "roads, highways and other transportation facilities and

[55] Figures in this table are based on a memorandum from Dana Siegfried (for KIII), dated December 6, 2005, regarding "Response to 11/22/05 e-mail" and on subsequent e-mail communications from John White (ODOE, 12/8/05), Jesse Gronner (for KIII, 12/13/05), White (12/20/05), Siegfried (12/28/05), Siegfried (1/19/06) and Gronner (3/22/06). The area of the proposed KWP "Schoolhouse" substation is not included in this table.
[56] Of this acreage, approximately 7.5 acres is not currently being used for crop production.

improvements" that are not otherwise allowed under paragraphs (1) and (2) of ORS 215.283 to be established in an EFU zone, subject to:

> *(a) Adoption of an exception to the goal related to agricultural lands and to any other applicable goal with which the facility or improvement does not comply; or*
>
> *(b) ORS 215.296 for those uses identified by rule of the Land Conservation and Development Commission as provided in section 3, chapter 529, Oregon Laws 1993*

The subparagraphs are conjoined by "or" and so either (a) or (b) applies. In this case, subparagraph (b) applies because the KWP access roads are a use that has been identified by the LCDC. OAR 660-033-0120 identifies uses authorized on agricultural lands. OAR 660-033-0120 (Table 1) lists "transportation improvements on rural lands allowed by OAR 660-012-0065" as a type "R" use ("use may be approved, after required review"). OAR 660-033-0120 does not reference any criteria in OAR 660-033-0130 for this use.

OAR 660-012-0065 applies to transportation improvements on rural lands. The proposed KWP access roads fall within the definition of "accessory transportation improvements" in OAR 660-012-0065(2)(d), because they are "transportation improvements that are incidental to a land use to provide safe and efficient access to the use."[57]

Under OAR 660-012-0065(3)(a), "accessory transportation improvements for a use that is allowed or conditionally allowed by ORS...215.283" are consistent with Goal 3, "subject to the requirements of this rule." The proposed access roads are accessory transportation improvements for a "commercial utility facility for the purpose of generating power for public use by sale," which is a use conditionally allowed by ORS 215.283(2)(g). Accordingly, the access roads are consistent with Goal 3, subject to any applicable requirements of OAR 660-012-0065.

The requirements of OAR 660-012-0065(4) are applicable:

> *Accessory transportation improvements required as a condition of development listed in subsection (3)(a) of this rule shall be subject to the same procedures, standards and requirements applicable to the use to which they are accessory.*

The rule language applies specifically to accessory transportation improvements "required as a condition of development." Because the KWP access roads are necessary for the operation and maintenance of the wind energy facility, they are a necessary condition of the development of the commercial utility facility. Accordingly, the access roads are subject to the standards and requirements applicable to the principal use. The applicable standards and requirements are contained in OAR 660-033-0130(5) and (22), and we have discussed the compliance of the principal use and the access roads with these provisions above.

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[57] OAR 660-12-0065(2)(a) defines "access roads" as "low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan." The proposed KWP turbine string access roads are not "access roads" under this definition because they are not public roads.

Substations

The proposed KWP Webfoot substation is part of the power collection system and therefore part of the principal use, which has been discussed above. The proposed KWP "Schoolhouse" substation is needed so that electricity generated by the energy facility can be transmitted over high-voltage lines to the BPA system and ultimately to public customers. For that reason, the "Schoolhouse" substation falls within the scope of ORS 215.283(1)(d), which allows "utility facilities necessary for public service" on EFU land, subject to the provisions of ORS 215.275.

ORS 215.275 lists factors for deciding whether a utility facility is "necessary for public service." The statute provides:

> *(1) A utility facility established under ORS 215.213 (1)(d) or 215.283 (1)(d) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.*
>
> *(2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (1)(d) or 215.283 (1)(d) must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:*
>
> *(a) Technical and engineering feasibility;*
>
> *(b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;*
>
> *(c) Lack of available urban and nonresource lands;*
>
> *(d) Availability of existing rights of way;*
>
> *(e) Public health and safety; and*
>
> *(f) Other requirements of state or federal agencies.*

The proposed "Schoolhouse" substation must be located in an EFU zone because there is no non-EFU land in the vicinity of the BPA Klondike Schoolhouse Substation, which is the point of interconnection with the regional power grid. There are no reasonable alternatives. At least three of the factors listed in ORS 215.275(2) apply. "Technical and engineering feasibility" requires that there be a substation to accommodate interconnection with the BPA system. It is not feasible or technically possible to interconnect with the main transmission grid without a substation. The proposed substation is "locationally dependent." The substation must be located in proximity to the proposed wind turbines, because that is where the power would be generated. It must also be located near the point of interconnection with the BPA system so that the power can be transmitted to customers. There are no urban or nonresource lands available to locate the substation where it could serve its purpose. For these reasons, location of the substation on EFU land is "necessary for public service." The Council finds that the substation is allowable under ORS 215.283(1)(d).

ORS 215.275(4) requires that the owner of a utility facility approved under ORS 215.283(1)(d) be responsible for restoring agricultural land and associated improvements to

their former condition if they are damaged or disturbed by the siting, maintenance, repair or reconstruction of the facility. The proposed "Schoolhouse" substation would be located on a 4-acre parcel of land that would be part of the permanent KWP "footprint." Construction of the substation would not affect agricultural land or associated improvements outside of the 4-acre parcel. Nevertheless, the certificate holder would be responsible for restoring all areas temporarily disturbed during construction of the KWP upon completion of construction. (Conditions (11) and (81)).

ORS 215.275(5) requires the imposition of "clear and objective conditions" on siting a utility facility under 215.283(1)(d) "to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands." Construction of the proposed "Schoolhouse" substation as part of the KWP would not substantially increase the impacts of the principal use and access roads, which would occupy a much larger area of agricultural land than the substation. For the reasons discussed above, the principal use and access roads and would not result in a significant change in accepted farm practices or significantly increase the cost of those practices. The Council finds, therefore, that locating the proposed substation on a 4-acre parcel of agricultural land would not cause a significant change in accepted farm practices or significantly increase the cost of those practices.

C. Goal 3 Exception

The proposed principal use and access roads would occupy more than 20 acres in the EFU zone and would not comply with OAR 660-033-0130(22) and Goal 3. Therefore, to find compliance under ORS 469.504(1)(b)(B), the Council must find "that an exception to any applicable statewide planning goal is justified under subsection (2)" of ORS 469.504. Accordingly, the Council must determine whether an exception to Goal 3 is justified.

ORS 469.504(2)(c) sets out the requirements that must be met for the Council to take an exception to a land use planning goal, as follows:

> *(2) The council may find goal compliance for a facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to an exception process goal, the council may take an exception to a goal if the council finds:*
>
> * * *
>
> *(c) The following standards are met:*
>
> *(A) Reasons justify why the state policy embodied in the applicable goal should not apply;*
>
> *(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the council applicable to the siting of the proposed facility; and*

(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

The Council makes the findings discussed below and concludes that the standards for an exception to Goal 3 under ORS 469.504(2)(c) are met.

Reasons Supporting an Exception

The state policy embodied in Goal 3 is the preservation and maintenance of agricultural land for farm use. Several reasons support an exception to Goal 3.

First, although the proposed facility would occupy more than 20 acres, it would occupy less than 1 percent of the actively farmed land adjacent to the facility. The land that would be occupied by the wind facility would not be in a single, contiguous area within which no farming activities could occur. Rather, the spacing of turbines and turbine strings would preserve most of the land upon which the facility lies for farm use. The total amount of land occupied by wind turbines (including pad areas and access road turn-outs) would be approximately 10 acres; the majority of the area occupied by the KWP would be occupied by the access roads (approximately 46.5 acres). The access roads would be available for use by the landowner in farm operations.

Second, for the reasons discussed above in reference to SCZO 5.8.16 (see page 35), the facility is compatible with farm use, would not seriously interfere with accepted farm practices on adjacent land and would not materially alter the overall land use pattern of the area.

Third, approval of the proposed KWP furthers the state policy embodied in Goal 13 (Energy Conservation). The Guidelines for implementing Goal 13 expressly direct land use planning to utilize renewable energy sources, including wind, "whenever possible." KIII has chosen the project site because "extensive evaluation of wind resources in various areas within Sherman County indicates that the project site has among the best wind resources for the development of wind energy generating facilities."[58] It is not feasible to locate a renewable wind energy facility in the County without affecting agricultural land because the best wind resources are all located on agricultural land.

Fourth, the farmers who own the land where the KWP would be located are willing to enter into land leases to allow the project to be built. In return, the landowners would receive annual lease payments. Lease payments would provide a stable, supplemental income source that would help maintain the land in farm use by increasing the economic viability of the landowners' farm operations. The applicant estimates the total annual lease income to local landowners would amount to approximately $330,000.[59]

Fifth, the project would boost the local economy by creating jobs and contributions to the local tax base. The applicant estimates the number of construction jobs would range will from 100 to 120 during the 9-month construction period. Operation of the facility would

[58] App p. K-39.
[59] App p. K-23.

require 15 to 20 full-time and part-time employees.[60] The facility is expected to provide substantial tax revenues to the County over the life of the project.[61]

Sixth, the proposed location of the facility provides direct access to BPA's upgraded Klondike Schoolhouse substation and new 230-kV transmission line that are being built by BPA as general system upgrades. The new BPA substation and transmission line will be the only transmission facilities in Sherman County with the capacity to carry the project's power and the only point of interconnection to the Federal Columbia River Transmission System. The proposed access roads, collector lines, substations, meteorological towers, O&M building are all necessary to operate the KWP and must be located in the project area. The KWP would use existing roads to the extent possible. New turbine string access roads would be 20-feet wide and would be located to minimize conflict with farm uses on surrounding land.

Environmental, Economic, Social and Energy Consequences

The Council's standards address the environmental consequences of the proposed facility. In our discussion of each of the standards, we identify the potential adverse impacts of the proposed facility and explain how those impacts would be mitigated. We discuss impacts to soils at page 46; to protected areas at page 48: to scenic areas at page 53; to threatened and endangered species at page 68; to wildlife habitat at page 72; to ambient noise levels at page 94; to wetlands at page 100; and to groundwater at page 101. The facility would have no emissions that would adversely affect air or water quality. Upon retirement of the proposed facility, the structures would be removed and the land would be restored to a useful, non-hazardous condition (see discussion of the Council's Retirement and Financial Assurance Standard at page 16).

The proposed facility would have beneficial economic consequences. The facility would offer local employment opportunities by providing up to 120 jobs during construction and up to 20 jobs during operation. Annual lease payments to the landowners in the wind facility lease area would supplement income from other farm operations without significantly reducing the land base available for farming practices. In addition, the proposed facility would provide significant property tax revenue to Sherman County.

The Council's standards address the potential social consequences of the KWP. In our discussion of the standards we explain how any adverse social consequences would be mitigated. The proposed facility would not cause any significant adverse impact on the ability of communities in the local area to provide services such as housing, health care, schools, police and fire protection, water and sewer, solid waste management, transportation and traffic safety (see discussion of the Council's Public Services Standard at page 89). The facility would avoid adverse impact to historic, cultural and archaeological resources (see discussion at page 87). The proposed facility would have no adverse impact on recreational opportunities in the local area (see discussion at page 59). We address public safety issues related to the proposed facility at page 62 (Public Health and Safety Standards for Wind Energy Facilities); at page 65 (restriction of public access to wind turbines); at page 66 (Siting Standards for Transmission Lines); at page 85 (Structural Standard); and at page 102 (Public Health and Safety). During construction and operation of the facility, the certificate holder

[60] App p. U-1
[61] App p. U-9

would minimize the generation of solid waste and wastewater and would properly dispose or recycle waste materials (see discussion at page 92).

The "energy consequences" of the proposed facility would be the generation of approximately 91 megawatts of electricity (average electric generating capacity) that would become available to meet local and regional energy needs. This electricity would be generated from a renewable source, which furthers the state's energy policy "to develop permanently sustainable energy resources" (ORS 469.010). To meet the on-site electrical loads (which would be less than 150 kilowatts), the facility would use electric service from the Wasco Electric Cooperative, which can accommodate the facility's electrical needs.

Compatibility with adjacent uses

For the reasons discussed above in reference to SCZO 5.8.16 (see page 35), the facility is compatible with farm use, would not seriously interfere with accepted farm practices on adjacent land and would not materially alter the overall land use pattern of the area.

Conclusions of Law

Based on the foregoing findings of fact, reasoning, proposed conditions and conclusions, the Council finds that the proposed facility does not comply with SCZO Sections 3.1.4 and 5.8.16(d) and therefore does not comply with the applicable substantive criteria from Sherman County. Accordingly, the Council must proceed with its land use analysis under ORS 469.504(1)(b)(B). The Council finds that the proposed facility does not comply with OAR 660-033-0130(22) and therefore does not comply with the applicable statewide planning goal (Goal 3). The Council finds that an exception to Goal 3 is justified under ORS 469.504(2)(c). The Council finds that a site certificate for the facility should include Conditions (11), (13), (14), (29), (39), (40), (41), (42), (43), (44), (45), (46), (47), (53), (57), (58), (76), (81), (82), (89), (98), (100) and (104).[62] Based on these findings and conditions, the Council concludes that the proposed facility complies with the Land Use Standard.

(b) Soil Protection

OAR 345-022-0022

To issue a site certificate, the Council must find that the design, construction, operation and retirement of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.

Findings of Fact

KIII provided evidence regarding soil impacts in Exhibit I of the application. The analysis area for the Soil Protection standard is the area within the site boundary.

Adverse impacts to soils can affect crop production on adjacent agricultural lands, native vegetation, fish and wildlife habitat and water quality. Construction and operation of the facility could have soil impacts such as erosion, compaction and chemical spills. Because

[62] Conditions 42, 43, 47, 81 and 98 in the proposed order included the Department's recommended revisions to those conditions as stated in the draft proposed order.

a wind facility does not have a cooling tower or liquid effluent, there is no potential for salt deposition.

KIII identified the near surface soils in the analysis area using the U.S. Soil Conservation Service Soil Survey of Sherman County, Oregon. Soil types are listed in Table I-1 of the application. Soils noted for high erosion potential in the analysis area include Anderly silt loams, Kuhl sandy loam and Mikkalo silt loams.[63] Based on a comparison of the soil map (App Figure I-1) with the site boundary map (Figure K-1), it appears that construction at some of the proposed turbine and access road locations would occur in areas of high erosion potential. Much of the land surrounding the project site is cropland, which is subject to erosion from agricultural activities.

A. Impacts during Construction

Wind and water erosion is of concern on both the project site and within temporarily disturbed areas. Construction of the energy facility would include removal of surface vegetation, grading and leveling operations and the use of large cranes and other heavy equipment that would temporarily increase the potential for soil erosion. Installation of underground communications and power collection systems would require trenching that could expose the affected areas to increased erosion risk.

Heavy equipment movement, car and truck traffic and component laydown during construction could cause soil compaction. Soil compaction in relation to this standard is a concern where it could reduce agricultural productivity or interfere with revegetation. During construction, approximately 97 acres would be temporarily disturbed for laydown and staging areas, turbine-string turn-around areas, parking and other construction-related uses.

There is a risk of chemical spills during construction from fuels, oils and grease associated with operation of construction equipment. Federal law (40 CFR 112) requires the operators of facilities that store quantities of oil and engage in refueling operations onsite to develop and implement a Spill Prevention, Control, and Countermeasure Plan during construction and operation.

B. Impacts during Operation

Operation of the facility would have little impact on soils. Precipitation could result in surface water collecting on structures and on concrete or gravel surfaces. Drainage from those areas could erode nearby soils. In addition, repair or maintenance of underground communications or power collection lines could expose soils to increased erosion. Small amounts of chemicals such as lubricating oils and cleaners for the turbines and herbicides for weed control would be used at the facility site and present a risk to soils from accidental spills.

C. Impacts during Retirement

Retirement would cause soil disturbance similar to construction. Use of trucks and heavy equipment could compact soils and temporarily increase the potential for soil erosion during removal of equipment, dismantling turbines, demolishing foundations and grading. Disturbance or removal of vegetation would expose soils to greater risk of wind and water

[63] App Table I-1.

erosion. Site restoration would be carried out subject to the terms of a final retirement plan approved by the Council, which would include measures for protection of the environment during the retirement process.

D. Control and Impact Mitigation Measures

The KWP would be subject to the requirements of the NPDES Storm Water Discharge General Permit (1200-C) and associated Erosion and Sediment Control Plan (Condition (76)). The Erosion and Sediment Control Plan would describe best management practices for erosion and sediment control and would be subject to DEQ approval. Construction truck traffic would be limited to existing and improved road surfaces to avoid soil compaction (Condition (77)). Gravel or other non-erosive covering would be spread on turbine pad areas immediately after soil exposure during construction (Condition (78)). All areas of temporary disturbance would be restored upon completion of construction (Condition (81)). During operation, facility staff would regularly inspect all project areas for signs of erosion or sedimentation and, as necessary, maintain or repair erosion control measures (Condition (82)). Measures would be taken to avoid accidental spills of hazardous materials and to remedy any spills that occur as discussed at page 92.

Conclusions of Law

The Council finds that the design, construction, operation and retirement of the proposed facility, taking into account mitigation and subject to the conditions stated in this order, are not likely to result in a significant adverse impact to soils. The Council finds that a site certificate for the facility should include Conditions (76), (77), (78), (81) and (82). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Soil Protection Standard.

(c) Protected Areas

OAR 345-022-0040

(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. Cross-references in this rule to federal or state statutes or regulations are to the version of the statutes or regulations in effect as of August 28, 2003:

(a) National parks, including but not limited to Crater Lake National Park and Fort Clatsop National Memorial;

(b) National monuments, including but not limited to John Day Fossil Bed National Monument, Newberry National Volcanic Monument and Oregon Caves National Monument;

(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782;

(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath, Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper Klamath, and William L. Finley;

(e) National coordination areas, including but not limited to Government Island, Ochoco and Summer Lake;

(f) National and state fish hatcheries, including but not limited to Eagle Creek and Warm Springs;

(g) National recreation and scenic areas, including but not limited to Oregon Dunes National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon Cascades Recreation Area, and Columbia River Gorge National Scenic Area;

(h) State parks and waysides as listed by the Oregon Department of Parks and Recreation and the Willamette River Greenway;

(i) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;

(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine Sanctuary, OAR Chapter 142;

(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;

(L) Experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site, the Starkey site and the Union site;

(m) Agricultural experimental stations established by the College of Agriculture, Oregon State University, including but not limited to:
Coastal Oregon Marine Experiment Station, Astoria
Mid-Columbia Agriculture Research and Extension Center, Hood River
Agriculture Research and Extension Center, Hermiston
Columbia Basin Agriculture Research Center, Pendleton
Columbia Basin Agriculture Research Center, Moro
North Willamette Research and Extension Center, Aurora
East Oregon Agriculture Research Center, Union
Malheur Experiment Station, Ontario
Eastern Oregon Agriculture Research Center, Burns
Eastern Oregon Agriculture Research Center, Squaw Butte
Central Oregon Experiment Station, Madras
Central Oregon Experiment Station, Powell Butte
Central Oregon Experiment Station, Redmond
Central Station, Corvallis
Coastal Oregon Marine Experiment Station, Newport
Southern Oregon Experiment Station, Medford

Klamath Experiment Station, Klamath Falls;

(n) Research forests established by the College of Forestry, Oregon State University, including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel Tract;

(o) Bureau of Land Management areas of critical environmental concern, outstanding natural areas and research natural areas;

(p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.

Findings of Fact

KIII provided evidence about potential impacts to protected areas in Exhibit L of the application. The analysis area for the Protected Areas Standard is the area within the site boundary and 20 miles from the site boundary, including areas outside the state.

The proposed facility would not be located within any protected area designated under OAR 345-022-0040(1). The applicant identified 15 federal and state management areas within 20 miles of the proposed facility site.[64] Of the 15 areas identified by the applicant, 11 are protected areas according to the list in OAR 345-022-0040.[65] The following table shows the 11 protected areas, a reference to the applicable subparagraph of OAR 345-022-0040(1), the approximate distance and direction of each protected area from the proposed facility site and the state in which the area is located:

[64] Table L-1, App Supp Tab L, p. L-2.

[65] The applicant's list included Goldendale Observatory State Park, Maryhill State Park and Badger Gulch Natural Area Preserve, which are state parks and natural areas in Washington that are not listed in OAR 345-022-0040. The applicant also included the JS Burres State Recreation Site, which is owned by the State of Oregon but managed by the BLM as the "Cottonwood Recreation Site." It therefore is neither an Oregon State Park (OAR 345-022-0040(h)) nor a BLM protected area (OAR 345-022-0040(o)).

Table 4: Protected Areas within 20 Miles

Protected Area	Rule Reference	Distance (Miles)	Direction from KWP	State
Columbia River Gorge National Scenic Area	(g)	12.2	NW	Oregon Washington
Deschutes River State Recreation Area	(h)	12.9	NW	Oregon
Heritage Landing Day Use Area	(h)	13.5	NW	Oregon
Deschutes Federal Wild and Scenic River	(k)	8.0	W	Oregon
Deschutes State Scenic Waterway (Pelton Dam to Columbia River)	(k)	8.1	W	Oregon
Lower Deschutes Wildlife Area	(p)	7.4	W	Oregon
John Day Wildlife Refuge	(d)	0.8	E	Oregon
John Day Federal Wild and Scenic River	(k)	1.0	E	Oregon
John Day State Scenic Waterway (Parrish Creek to Tumwater Falls)	(k)	1.1	E	Oregon
Columbia Basin Agriculture Research Center (Moro)	(m)	5.0	SW	Oregon
Horn Butte Area of Critical Environmental Concern	(o)	19.3	E/NE	Oregon

A. Noise

Construction activities are likely to produce short-duration noise levels ranging from approximately 70 dBA to 98 dBA at a distance of 50 feet from the noise source.[66] At the closest point, construction noise sources would be at least 0.8 miles from the boundary of the John Day Wildlife Refuge. At this distance, the loudest construction activity (98 dBA at 50 feet) would produce noise levels of no more than 59 dBA. With the attenuation effects of intervening topography, the noise level is likely to be lower, in the range of 39 dBA to 49 dBA. It is unlikely that this level of noise would cause significant disturbance to wildlife in the Refuge.[67]

B. Traffic

Construction traffic would access the site along US 97 from Biggs Junction at I-84 and from the south. From US 97, construction-related vehicles would follow OR 206 to reach Wasco and would use local Sherman County roads to reach the site. Facility construction is anticipated to take about nine months and employ an estimated 100 to 120 workers at peak construction periods. In addition to travel by construction workers, construction traffic would include deliveries of heavy equipment, building materials and turbine components. KIII anticipates that construction traffic could cause traffic delays on US 97 and local roads that might adversely affect access on these routes to the protected areas along the John Day River corridor (John Day Wildlife Refuge, John Day Federal Wild and Scenic River and John Day State Scenic Waterway). Access to other protected areas would not be affected by construction traffic. The Council finds that traffic delays affecting access to protected areas

[66] App Appendix X-1, p. 11.
[67] Memorandum from Dana Siegfried, David Evans and Associates, dated November 11, 2005.

along the John Day River would not result in a significant adverse impact on those areas and that access to other protected areas would be unaffected by construction-related traffic.

During operation, the proposed facility would employ 15 to 20 people. Road use by employees, combined with road use for deliveries and other facility-related purposes, is not likely to have a significant impact on local road traffic. The Council finds that local facility-related road use during operation of the proposed facility would not result in a significant adverse impact on any protected area.

C. Water Use and Wastewater Disposal

Construction and operation of the proposed facility would not result in a significant adverse impact on water quantity or water quality within any protected area. During construction, water would be used primarily for dust suppression and for mixing concrete. An estimated 18 million gallons of water would be used during construction. The water would be acquired by a contractor and trucked in from offsite sources that would not require a new or transferred water right. All water used during construction would be lost on or very near the site, primarily through evaporation. No water used on the site would be discharged into wetlands, lakes, rivers or streams. There would be no impact on any protected area.

During the operations phase, water would be used for sanitary purposes at the O&M facility and possibly for turbine blade-washing. Water for these purposes would be supplied from an on-site well. Sanitary wastewater would be discharged to an on-site septic system. Water used for blade-washing would evaporate on site. There would be no impact on any protected area.

The Council finds that water use and disposal during construction and operation of the proposed facility would not result in a significant adverse impact on water quantity or water quality within any protected area.

D. Visual Impacts

Wind energy facilities have no emissions to affect air quality or visibility. Visual impacts would result from the visibility of wind turbine structures from locations within a protected area that might adversely affect a visual resource for which the area is designated as protected. In evaluating the visual impact of wind turbines on protected areas near the Stateline Wind Project, the Council found that the view of the turbines would not be significant at distances of five miles or more from the site (Final Order for the Stateline Wind Project, p. 48). Although the turbine towers for the proposed KWP are taller than those in operation at Stateline (approximately 80 meters at hub height compared to 50 meters for the Stateline turbines), the difference would not be significant when viewed from a distance of five miles or more.

Portions of the areas identified in Table 4 that lie along the John Day River are within five miles from the site. Portions of the John Day Wildlife Refuge are within five miles of the proposed facility, but the wildlife refuge area is protected because it provides wildlife habitat, and it is not managed primarily for its scenic views. The John Day Federal Wild and Scenic River and the John Day State Scenic Waterway are managed, in part, for outstanding scenic quality. KIII used computer modeling to determine what parts of the KWP would be visible from the John Day River. The applicant found that the tops of some turbine towers would be "intermittently visible" from the river between river miles 15.2 and 16.8. More of the project

would be visible from higher locations on the river canyon walls with the highest likelihood of project visibility occurring downstream of the McDonald Crossing (river mile 20.7).

The Council finds that although parts of the KWP might be visible from some locations within protected areas along the John Day River, the visual impact of the facility would not result in a significant adverse impact to these protected areas. In addition, the Council finds that the visual impact of the proposed facility, if it is visible at all, would be insignificant in protected areas located five miles or more from the facility.

Conclusions of Law

The Council finds that the proposed facility is not located in a protected area as listed in OAR 345-022-0040 and that the design, construction and operation of the proposed facility, taking into account mitigation and subject to the conditions stated in this order, are not likely to result in significant adverse impact to any protected area. The Council finds that a site certificate for the facility should include Conditions (98), (99) and (100). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Protected Areas Standard.

(d) Scenic and Aesthetic Values

OAR 345-022-0080

(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction, operation and retirement of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic and aesthetic values identified as significant or important in applicable federal land management plans or in local land use plans in the analysis area described in the project order.

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Findings of Fact

KIII provided evidence about potential impacts to scenic and aesthetic values in Exhibit R of the application.[68] The analysis area for the Scenic and Aesthetic Values Standard is the area within the site boundary and 30 miles from the site boundary, including areas outside the state. In applying this standard, the Council focuses on the effects of facility structures on "scenic and aesthetic values identified as significant or important in applicable federal land management plans or in local land use plans in the analysis area."

The tallest structures that would be part of the proposed KWP are the turbine towers, and these structures, therefore, are the visual elements of the facility more likely to be visible from a distance. In evaluating the visual impact of wind turbines on protected areas near the Stateline Wind Project, the Council found that the view of the turbines would not be significant at distances of five miles or more from the site (Final Order for the Stateline Wind Project, p. 48). Although the turbine towers for the proposed KWP are taller than those in operation at Stateline (approximately 80 meters at hub height compared to 50 meters for the Stateline turbines), the difference would not be significant when viewed from a distance of five miles or more.

[68] Exhibit R (Revised September 16, 2005), App Supp, Tab R.

A. Visual Features of the Site and the Proposed Facility

The proposed KWP site occupies an overall area of approximately 23 square miles. Within that area, up to 165 wind turbine towers and tower pad areas, approximately 19 miles of new access roads, an O&M building, two new substations and up to nine miles of aboveground transmission line would be constructed on approximately 64 acres of land. Turbines would be arrayed in "strings" spaced about a mile apart. The turbine towers would be approximately 80 meters (263 feet) tall at the turbine hub, with an overall height of 121 meters (397 feet) including the length of the turbine blades. The towers would be smooth, tubular steel structures painted a neutral gray or white color, and other facility structures would be painted in a neutral color to blend with the surrounding landscape (Conditions (98) and (99)). Turbine tower lighting required by the FAA would make the facility visible at night.[69] In addition, three meteorological towers would be built. The meteorological towers would be non-guyed steel towers, approximately 80 meters tall.

A proposed 3.5-mile, 230-kV transmission line would be supported on wood or steel poles approximately 110 feet tall, and up to 5.5 miles of aboveground collector line would be supported on shorter wood or steel poles. The O&M building would cover approximately 5,000 square feet. The proposed substation near Schoolhouse would occupy approximately 4 acres of land, and the proposed substation near Webfoot would occupy a portion of a 4-acre parcel on which the O&M building would be located.

B. Effect on Identified Scenic Values

KIII considered the following managed areas within the analysis area for potential scenic values:[70]

[69] The FAA has recently issued guidance regarding daytime and nighttime visibility of wind energy facilities. James W. Patterson, Jr., *Development of Obstruction Lighting Standards for Wind Turbine Farms* (FAA, November 2005).

[70] OAR 345-022-0080 requires consideration of "applicable federal land management plans," which would include areas such as National Forests or National Wildlife Refuges, and "local land use plans," which would include tribal lands, state lands, counties and incorporated cities in the analysis area.

Table 5: Land Management Areas

Area	Management	Location
Columbia River Gorge	Federal	Oregon Washington
John Day River	Federal/State	Oregon
Oregon National Historic Trail	Federal	Oregon
Lower Deschutes River	Federal/State	Oregon
Lower Klickitat River Wild and Scenic River	Federal	Washington
Spokane District (BLM)	Federal	Washington
Journey Through Time Scenic Byway	State	Oregon
Sherman County	County	Oregon
Wasco County	County	Oregon
Gilliam County	County	Oregon
Morrow County	County	Oregon
Klickitat County	County	Washington
Yakima County	County	Washington

Columbia River Gorge

The Columbia River Gorge National Scenic Area (CRGNSA) is a federally managed area. The management plan describes the area as "world renowned for its outstanding scenic beauty."[71] The plan identifies "key viewing areas" as areas that "are important public vantage points from which Gorge landscapes are viewed" and emphasizes protection of these areas. The plan further identifies areas of "landscape significance" as areas that are "both visually diverse and seen from important viewpoints."

The applicant listed the following "key viewing areas" in the Scenic Area and within the analysis area for the KWP: Interstate 84 (I-84), Historic Columbia River Highway, Washington State Route 14 (SR-14), the Columbia River and the Rowena Plateau. The applicant listed the following Scenic Travel Corridors within the analysis area: I-84, Historic Columbia River Highway, SR-14 and Washington State Route 142.

The applicant's visibility analysis indicated that some portion of the proposed facility might be visible from the CRGNSA but that "almost without exception, topography or vegetation would screen the proposed facility from view." Although it is possible that parts of the facility would be visible in the distant background from some areas, the visual impact of the facility would be a subordinate element of the landscape. The nearest boundary of the CRGNSA lies more than ten miles from the proposed KWP site. For these reasons, the Council finds that the proposed facility is not likely to result in a significant adverse impact to the important scenic values of the CRGNSA.

John Day River

The Bureau of Land Management (BLM) manages the John Day River Canyon as an "area of high visual quality" and has designated the area as a Visual Resource Management Class II resource.[72] The main stem of the river from its mouth at the Columbia River to river

[71] App Supp, Tab R, Appendix R-2, *Management Plan for the Columbia River Gorge National Scenic Area.*
[72] App Supp, Tab R, Appendix R-2, *John Day River Proposed Management Plan* (June 2000), p. 58.

mile 89 lies within the analysis area. This area is also a designated State Scenic Waterway. Two sites along the John Day River within the analysis area are identified as Special Management Areas: the Oregon Train Historic Sites at Fourmile Canyon and McDonald Crossing and the John Day River Canyon.

The applicant described the potential visual impact of the proposed facility on the John Day River area using computer modeling and visibility analyses, field investigation, interviews with local, state and federal agency staff and visual simulations. Portions of the proposed facility would be visible from the river within the John Day River Canyon between river mile 15 and 17 and from areas near McDonald Crossing. Regarding protection of visual resources of the John Day and Deschutes river canyons, the BLM prioritizes areas "normally seen from these rivers."[73] Portions of the facility would be visible from many vantage points at higher elevation along the canyon walls, but these areas have limited access. The Oregon Parks and Recreation Department administers the state's Scenic Waterways Act, and its regulations are aimed at maintaining the scenic qualities as seen from the river.[74]

The applicant's modeling showed that portions of ten turbines would be visible from the John Day River at different vantage points. The applicant then identified five viewpoints that represented locations from which the most turbines would be visible at any given time ("worst case scenarios"). The nearest visible turbine would be more than two miles away from any of the five viewpoints. The applicant provided visual simulations, showing that in most cases only the blade tips would be visible above the ridgeline as viewed from the river.[75] The visual impact of the facility in these "worst case" examples would be a very small element within the landscape. The impact would affect only a few small segments of the John Day River. For these reasons, the Council finds that construction and operation of the facility would not result in significant adverse impact to the significant or important scenic and aesthetic values within the John Day River area.

Oregon National Historic Trail

The Oregon National Historic Trail received federal designation to commemorate the historic travel route and to promote its preservation, interpretation and public use and appreciation. The Trail passes through six states and covers 2,130 miles. Within the analysis area are five "high potential" sites: Fourmile Canyon, John Day River Crossing, Biggs Junction, Deschutes River Crossing and The Dalles Complex. The management plan does not identify specific scenic or aesthetic values beyond these five sites. "High potential" sites are sites that have potential to interpret the Trail's historical significance, that afford a high-quality recreational experience and greater than average scenic values.

Based on modeling results, field investigation and interviews with Oregon Department of Parks and Recreation staff, the applicant found that the proposed KWP would be visible from only one of the five high-potential sites in the analysis area. Portions of four KWP turbines would be visible from the John Day River and at locations along its banks at the John Day River Crossing (McDonald Ford), although the facility would not be visible from the

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[73] App Supp, Tab R, Appendix R-2, *Two Rivers Resource Management Plan: Record of Decision* (June1986), p. 32.

[74] See, for example, *The Oregon Scenic Waterways Program: A Landowner's Guide* (Oregon Parks and Recreation Department).

[75] App Supp, Tab R, Figures R-18 through R-22.

BLM interpretive site near the crossing. The applicant provided a visual simulation, showing that only the blade tips of the turbines would be visible above the ridgeline as viewed from the river. The Council finds that, where visible at all, the KWP is not likely to result in significant adverse impact to the scenic quality of the John Day River Crossing site or the overall scenic values associated with the Oregon National Historic Trail.

Lower Deschutes River

The Lower Deschutes River is a Federal Wild and Scenic River and an Oregon State Scenic Waterway. Based on modeling results, field investigation and interviews with BLM and Oregon Department of Parks and Recreation staff, the applicant found that the proposed KWP would not be visible from the Lower Deschutes River Canyon. The closest wind turbines to any part of the Lower Deschutes River Canyon would be at least seven miles away. The Council finds that the proposed KWP would therefore not have any significant impact on visual resources along the designated Deschutes River resource areas.

Lower Klickitat River Wild and Scenic River

The lower ten miles of the Klickitat River is a Federal Wild and Scenic River. The KWP would not be visible from any part of the designated area. The area lies entirely in the State of Washington approximately 30 miles from the KWP site.

Spokane District (BLM)

The applicant states that the BLM lands within the Spokane District are not managed for scenic quality, based on an interview with BLM staff. There is a wildflower viewing area more than 25 miles from the KWP site, but the KWP would not have any adverse impact on viewing wildflowers in the area.

Journey Through Time Scenic Byway

The Journey Through Time Tour Route is managed by the Oregon Department of Transportation. It is an Oregon Scenic Byway running from Baker City to Biggs. Within the analysis area, the Byway follows US Highway 97. Although there are scenic areas along Highway 97, the Journey Through Time Tour Route Management Plan does not identify any significant or important scenic or aesthetic values in the analysis area. The goals of the management plan are primarily to create jobs and economic opportunities and to preserve the heritage and rural lifestyle of the communities along the route.

Sherman County

The Sherman County Comprehensive Plan identifies scenic resources within the County. In SCCP Section XI, Finding XI identifies "rock outcroppings, trees, the John Day River Canyon and the Deschutes River Canyon" as "important features of the County's landscape. The Finding also notes "scenic highway" designations by ODOT. The related goal is SCCP Goal X: "Preserve the integrity of the Sherman County Landscape." The single policy under this goal is: "Trees should be considered an important feature of the landscape and therefore the County Court shall encourage the retention of this resource when practical." The proposed KWP would not require the removal of any trees. The Council finds that the proposed KWP would not result in a significant adverse impact to the scenic resources identified in the local Sherman County land use plan.

The visual impacts of the proposed facility on the Deschutes and John Day River Canyons and on US Highway 97 have been described above. In addition, the SCCP identifies

I-80 and Oregon Highways 206 and 216 as scenic highways, but ODOT does not list these routes as state or federal "scenic byways."[76]

Sherman County has already approved conditional use permits for the Klondike I and II wind energy projects. In approving Klondike II, the County Planning Commission found the wind project to be "consistent with Section XI of the County Comprehensive Plan."[77]

Wasco County

The applicant states that the Wasco County Comprehensive plan identifies the following "outstanding scenic and recreational areas": the Columbia River Gorge, areas within the Deschutes River canyon or designated as a state scenic waterway, areas seen from the John Day River or designated as a state scenic waterway, Rock Creek Reservoir, Pine Hollow Lake and lands within the White River Canyon. The visual impacts of the proposed facility on the Columbia Gorge and on the Deschutes and John Day River Canyons have been described above. White River Falls State Park lies just at the edge of the 30-mile analysis area, although most of the White River Canyon itself is not within the analysis area. The Council finds that the proposed facility is unlikely to have a significant impact on the visual qualities of the White River Canyon due to the distance from the site and intervening topography. The nearest parts of Wasco County are eight miles or more from the proposed KWP. The Council finds that the proposed facility would not have a significant adverse effect on important scenic resources in Wasco County.

Gilliam County

The applicant states that the Gilliam County Comprehensive Plan, Part 5, identifies "rock outcroppings marking the rim and walls of steep canyon slopes" as important scenic resources. The Council finds that the proposed KWP is not likely to have a significant impact on viewing rock outcroppings and scenic canyons in Gilliam County. In addition, the Plan identifies the John Day River corridor as a scenic resource. The visual impact of the proposed facility on the John Day River Canyon has been described above. The nearest parts of Gilliam County are east of the John Day River, at least two miles from the KWP site.

Morrow County

Based on personal communication with Morrow County Planning Director Carla McLane, the applicant states that there are no significant or important scenic values within the analysis area that are identified by the Morrow County Comprehensive Plan. The nearest parts of Morrow County are at least 20 miles from the KWP site.

Klickitat County

Klickitat County, Washington, lies north of Sherman County on the north side of the Columbia River. Based on personal communication with Klickitat County Planning Director Curt Dryer, the applicant states that there are no significant or important scenic values within the analysis area that have been identified by Klickitat County. The nearest parts of Klickitat County are at least nine miles from the KWP site.

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[76] ODOT website, http://egov.oregon.gov/ODOT/HWY/SCENICBYWAYS/proponets.shtml (October 17, 2005)
[77] Planning Commission Order, June 3, 2004, p. 9.

Yakima County

The portion of Yakima County, Washington, that is within the analysis area is completely within the Yakama Reservation. The applicant states that the Yakama have no land management plan that identifies significant or important scenic values and that the Yakima County Policy Plan does not identify specific scenic resources within the analysis area. The nearest parts of Yakima County are approximately 25 miles from the KWP site.

Conclusions of Law

The Council finds that the design, construction, operation and retirement of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic and aesthetic values identified as significant or important in applicable federal land management plans or in local land use plans in the analysis area. The Council finds that a site certificate for the facility should include Conditions (98), (99) and (100). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Scenic and Aesthetic Values Standard.

(e) Recreation

OAR 345-022-0100

(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction and operation of a facility, taking into account mitigation, are not likely to result in a significant adverse impact to important recreational opportunities in the analysis area as described in the project order. The Council shall consider the following factors in judging the importance of a recreational opportunity:

(a) Any special designation or management of the location;

(b) The degree of demand;

(c) Outstanding or unusual qualities;

(d) Availability or rareness;

(e) Irreplaceability or irretrievability of the opportunity.

* * *

Findings of Fact

A. Recreational Opportunities in the Analysis Area

KIII provided information about compliance with the Council's Recreation Standard in Exhibit T of the application. The analysis area for the Recreation Standard is the area within the site boundary and five miles from the site boundary.

Recreational opportunities within the analysis area include upland bird and big game hunting, rafting, boating, fishing, sightseeing, nature and wildlife photography, bicycling, horseback riding, hiking and camping. Within the site boundary, there may be some opportunity for bird or deer hunting on private property with permission of the landowner. In addition, historic trail alignments might be viewed from county roads.

KIII identified the following recreational opportunities in the analysis area and assessed their importance based on the factors listed in OAR 345-022-0100:

John Day River

The analysis area contains a segment of the John Day River (approximately from river mile 5 to river mile 26). This segment is included within both federal and state special designations as a Federal Wild and Scenic River and a State Scenic Waterway. In addition, the segment is included in the state-designated John Day Wildlife Refuge. There are two developed Bureau of Land Management day use areas along the John Day within the analysis area: the Oregon Trail Interpretive Site near McDonald Crossing and the Rock Creek recreation area.

Recreational activities in this segment of the John Day include primarily boating, rafting and fishing and may also include bird hunting, sightseeing and nature photography. Demand (or usage) may be considered moderate to high. Outstanding recreational values are associated with the river's scenic, fish and wildlife, geological, paleontological and archaeological attributes as well as significant botanical and ecological features. Based on these qualities and the location and setting, the recreational opportunity may be considered uncommon and irreplaceable. The Council finds that this segment of the John Day River is an important recreational opportunity.

Journey Through Time Scenic Byway

A portion of US Highway 97 is a state-designated Scenic Byway, including a segment that runs through the analysis area (approximately from milepost 0 to milepost 36). The designation is based on the history of the area. There are no developed scenic overlooks or waysides in the analysis area. The associated recreational activity is sightseeing, and the demand may be considered moderate, although the availability of scenic views in the area is common. Nevertheless, because the segment of the highway within the analysis area is unique, it may be considered irreplaceable. The Council finds that this segment of the Journey Through Time Scenic Byway is an important recreational opportunity.

Historic Trail Alignments

The Oregon Trail and the Barlow Road Cutoff Trail run through the analysis area, including portions within the site boundary. Most of the area within the analysis area has been developed, primarily for agriculture. Development has largely obliterated visible evidence of these historic trails in the analysis area. There are no intact trail segments within the site boundary, and the only accessible intact segment within the analysis area is near the McDonald Crossing within the John Day River corridor. The recreational opportunity is limited to visiting and viewing the approximate historic alignments from county roads.

The historic trail alignments are outstanding because of their historical significance. Demand (or interest) in the alignments may be considered moderate. The opportunity to view developed areas of the alignment is common and replaceable, although views of intact segments are rare and irreplaceable. The Council finds that the historic trail alignments are important recreational opportunities.

Sherman County Historical Museum

The Sherman County Historical Museum is located in Moro, the county seat. The associated recreational opportunity is sightseeing (and the educational value of viewing

historic artifacts). Demand is low to moderate, based on reported visitor use. The opportunity may be considered neither rare nor irreplaceable, due to the existence of other similar historical museums outside the analysis area. The Council finds that the Sherman County Historical Museum is not an "important" recreational opportunity and that the design, construction and operation of the proposed KWP would have no effect on the museum as a recreational opportunity.

Sherman County Fairgrounds and RV Park

The Sherman County Fairgrounds and RV Park are located in Moro. The associated recreational opportunities are the sightseeing (events at the fairgrounds) and possibly camping. Demand for this opportunity is low to moderate. There are no unusual or outstanding qualities, and the opportunity is common and replaceable. The Council finds that the Sherman County Fairgrounds and RV Park is not an important recreational opportunity according to the factors listed in the Recreation Standard.

DeMoss Springs Memorial Park

The DeMoss Springs Memorial Park is a county park located between Wasco and Moro on US Highway 97. It marks the location of the DeMoss family town site. The family settled at the site in 1883. Park facilities include two shelters, a picnic area and interpretive signs. The recreational opportunity is sightseeing. Demand is low to moderate. The park has no unusual or outstanding features. It may be considered uncommon, due to its local historic significance, but the recreational opportunity is not irreplaceable. The Council finds that the DeMoss Springs Memorial Park is not an important recreational opportunity according to the factors listed in the Recreation Standard.

Moro City Park

Moro City Park facilities include picnic tables, a playground and restrooms. Demand (usage) is low. The recreational opportunity has no outstanding or unusual qualities and is common and replaceable. The Council finds that the Moro City Park is not an important recreational opportunity according to the factors listed in the Recreation Standard.

Wasco City Park

Wasco City Park has no outstanding or unusual qualities and is common and replaceable. Demand (usage) is low. The Council finds that the Wasco City Park is not an important recreational opportunity according to the factors listed in the Recreation Standard.

Bird and Deer Hunting

Hunting in the analysis area occurs primarily in the John Day River corridor. Demand for this recreational opportunity is low to moderate. There are no unusual or outstanding features of the hunting opportunity in the analysis area, and many other locations for hunting exist outside the analysis area. This recreational opportunity is common and replaceable. The Council finds that the opportunity for hunting in the analysis area is not an important recreational opportunity according to the factors listed in the Recreation Standard.

B. Potential Impact on Important Recreational Opportunities

Based on the analysis above, the Council finds that important recreational opportunities exist within the analysis area associated with the following features: John Day River, Journey Through Time Scenic Byway and historic trail alignments. Design,

construction and operation of the proposed facility would have no direct effect on any recreation opportunities in the analysis area. The only recreation-related feature within the site boundary are segments of the historic trail alignments, but because there are no visible signs of the trails within the site boundary, the proposed wind energy facility would have no adverse impact on any physical remnant of the trails. The certificate holder would enhance the existing Oregon Trail historical marker near Biggs in cooperation with the Sherman County Historical Society (Condition (52)). Wind turbines might be visible from some locations within the John Day River corridor and along the Scenic Byway. Construction noise and wind turbine noise may be audible at some locations on segments of the historic trail alignments and within the John Day River corridor. Short-term traffic delays may occur on parts of the Scenic Byway due to construction traffic, but traffic impact during operation of the proposed KWP would be insignificant. These impacts are not likely to interfere significantly with the recreational opportunities for hunting, rafting, boating, fishing, sightseeing, nature and wildlife photography, bicycling, horseback riding, hiking or camping within the analysis area.

Conclusions of Law

The Council finds that the design, construction and operation of the proposed facility, taking into account mitigation and subject to the conditions stated in this order, are not likely to result in significant adverse impact to important recreational opportunities in the analysis area. The Council concludes that the proposed facility complies with the Recreation Standard. There are no conditions specifically related to this finding, but other conditions may serve to mitigate the impact of the facility on the enjoyment of recreational opportunities (for example, Conditions (52), (98), (99) and (100)).

(f) Public Health and Safety Standards for Wind Energy Facilities

OAR 345-024-0010

* * *

(2) To issue a site certificate for a proposed wind energy facility, the Council must find that the applicant:

(a) Can design, construct and operate the facility to exclude members of the public from close proximity to the turbine blades and electrical equipment;

(b) Can design, construct and operate the facility to preclude structural failure of the tower or blades that could endanger the public safety and to have adequate safety devices and testing procedures designed to warn of impending failure and to minimize the consequences of such failure.

Findings of Fact

Because the proposed facility would be located on private property, public access would be limited. Turbine towers would be located at least 450 feet from any residence or public road (Condition (59)). Turbine blade tips would be approximately 40 meters above ground at the closest point of rotation. Towers would be smooth steel structures with no exterior ladders or access to the turbine blades. Tower entry doors would be locked (Condition (60)). There would be no public access to the nacelles or turbine tower interiors or to the electrical equipment contained therein. Generator step-up transformers would be located within locked cabinets at the base of each tower (Condition (64)).

Towers and tower foundations, as well as aboveground transmission line support structures would be designed according to applicable building codes to avoid failure or collapse (Condition (54)). During construction, the certificate holder would follow manufacturers' recommended handling instructions and procedures to prevent damage to towers or blades that could lead to failure (Condition (61)).

The certificate holder would have an operational safety monitoring program and would inspect turbine blades on a regular basis for signs of wear (Condition (62)). All turbines would have self-monitoring devices, linked to sensors at the O&M building to alert operators to potentially dangerous conditions (Condition (63)).

Electric transformers and other equipment associated with the two proposed substations would be enclosed by a fence with a locked gate and otherwise be made inaccessible to the public (Condition (58)). Warning signs would be posted as required by law for the safety of the public (Condition (98)).

Conclusions of Law

The Council finds that KIII can design, construct and operate the facility to exclude members of the public from close proximity to the turbine blades and electrical equipment. The Council further finds that KIII can design, construct and operate the facility to preclude structural failure of the tower or blades that could endanger the public safety and to have adequate safety devices and testing procedures designed to warn of impending failure and to minimize the consequences of such failure. The Council finds that a site certificate for the facility should include Conditions (54), (58), (59), (60), (61), (62), (63), (64) and (98). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Public Health and Safety Standards for Wind Energy Facilities.

(g) Siting Standards for Wind Energy Facilities

OAR 345-024-0015

To issue a site certificate for a proposed wind energy facility, the Council must find that the applicant:

(1) Can design and construct the facility to reduce visual impact by methods including, but not limited to:

(a) Not using the facility for placement of advertising, except that advertising does not include the manufacturer's label or signs required by law;

(b) Using the minimum lighting necessary for safety and security purposes and using techniques to prevent casting glare from the site, except as otherwise required by the Federal Aviation Administration or the Oregon Department of Transportation, Transportation Development Branch, Aeronautics Section; and

(c) Using only those signs necessary for facility operation and safety and signs required by law;

(2) Can design and construct the facility to restrict public access by the following methods:

(a) For a horizontal-axis wind energy facility with tubular towers, using locked access sufficient to prevent unauthorized entry to the interior of the tower;

(b) For a horizontal-axis wind energy facility with lattice-type towers:

(A) Removal of wind facility tower climbing fixtures to 12 feet from the ground;

(B) Installation of a locking, anti-climb device on the wind facility tower; or

(C) Installation of a protective fence at least 6 feet high with a locking gate; or

(c) For a vertical-axis wind energy facility, installation of a protective fence at least 6 feet high with a locking gate;

(3) Can design and construct facility to reduce cumulative adverse environmental impacts in the vicinity to the extent practicable by measures including, but not limited to, the following, where applicable:

(a) Using existing roads to provide access to the facility site, or if new roads are needed, minimizing the amount of land used for new roads and locating them to reduce adverse environmental impacts;

(b) Combining transmission lines and points of connection to local distribution lines;

(c) Connecting the facility to existing substations, or if new substations are needed, minimizing the number of new substations; and

(d) Avoiding, to the extent practicable, the creation of artificial habitat for raptors or raptor prey. Artificial habitat may include, but is not limited to:

(A) Above-ground portions of foundations surrounded by soil where weeds can accumulate;

(B) Electrical equipment boxes on or near the ground that can provide shelter and warmth; and

(C) Horizontal perching opportunities on the towers or related structures.

Findings of Fact

A. Visual Impact

The wind turbines would be mounted on tubular steel towers of uniform height. The towers would be uniformly painted a neutral gray or white color. No advertising signs would be posted at the facility. Turbine components may be printed with the manufacturer's logo. There would be no signs at the facility except signs required by law or necessary for health and safety purposes (Condition (98)).

Turbines would have the minimum lighting required by the Federal Aviation Agency including any revised guidelines. The O&M building would have low impact (focused downward) exterior lighting for safety and security purposes (Condition (100)).

B. Restriction of Public Access

Because the wind turbines would be located on private property, public access to the site would be limited. Each tower would have a locked entry door at ground level restricting access to authorized personnel (Condition (60)). The facility would be a horizontal-axis wind energy facility with tubular towers, and therefore OAR 345-024-0015(2)(b) and (c) do not apply.

C. Cumulative Environmental Effects

The proposed KWP (up to 165 turbines) is located near the Klondike I (16 turbines) and Klondike II (50 turbines) projects that are already in operation. In addition, a site certificate application for the proposed Biglow Canyon Wind Farm (up to 225 turbines) is currently under Council review. The nearby Biglow project site is north of the KWP site. If the maximum number of proposed KWP and Biglow wind turbines are approved and built, there would be a cumulative total of 456 wind turbines in the immediate area.

Access Roads

KIII considered and analyzed potential adverse environmental impacts in locating the proposed new access roads. The construction of new roads would be limited to locations within the lease boundary. In addition, improvements would be made to some existing public roads, including grading and graveling. Road construction and improvement would not significantly impact any wetlands, other waters of the state or fish and wildlife habitat.

Transmission Lines and Substations

Transmission lines to collect the power generated by individual wind turbines would be predominantly underground, although a maximum of 5.5 miles of collector line might be build aboveground due to geotechnical constraints. Approximately half of this line (18.3 miles) would be constructed within existing county road right-of-way. Power from the eastern section of the facility would be routed to a collector substation about 0.75 miles west of Webfoot. From this collector substation, aboveground power lines, hung on single wood or steel poles of a type similar to other power lines in the area, would carry the power approximately 3.5 miles to the BPA Klondike Schoolhouse Substation. Power from the western section of the facility would be routed underground to a new substation next to the BPA Klondike Schoolhouse Substation. There would be a single point of connection with the BPA transmission system at that substation.

Raptor Protection

The facility would be designed to avoid creating artificial habitat for raptors or raptor prey. Turbine pad areas would be graveled to reduce the potential for erosion and weed infestation (Condition (78)). An ongoing weed control plan would be implemented (Condition (89)). Pad-mounted transformers at each turbine would be designed to avoid use by raptors or prey species as artificial habitat (64)). The turbines will use tubular towers rather than lattice towers to avoid creating horizontal perching opportunities. All transmission support poles would conform to raptor protection guidelines recommended by the Avian Powerline Interaction Committee and would have anti-perching devices (Condition (90)). Meteorological towers will be free-standing 80-meter pole structures with no guy wires.

Conclusions of Law

The Council finds that the proposed design and construction of the KWP would reduce visual impact, restrict public access and reduce cumulative adverse environmental impacts in accordance with the requirements of OAR 345-024-0015. The Council finds that a site certificate for the facility should include Conditions (60), (64), (78), (89), (90) (98) and (100). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Council's Siting Standards for Wind Energy Facilities.

(h) Siting Standards for Transmission Lines

OAR 345-024-0090

To issue a site certificate for a facility that includes any high voltage transmission line under Council jurisdiction, the Council must find that the applicant:

(1) Can design, construct and operate the proposed transmission line so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public;

(2) Can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.

Findings of Fact

This standard addresses safety hazards associated with electric fields around transmission lines.[78] The proposed KWP includes an aboveground 230-kV transmission line approximately 3.5 miles in length from the collector substation near Webfoot to a facility substation near the BPA Klondike Schoolhouse substation. This transmission line would run parallel to Klondike Lane but would lie outside the public right-of-way on private land. In addition, the proposed facility includes approximately 38 miles of 34.5-kV transmission line (collector line) to transport the power from each turbine to the substations. Most of the collector line would be underground, but up to 5.5 miles of the collector line might be built in aboveground segments.

The electric fields around transmission lines are directly proportional to the voltage in the transmission line and inversely proportional to distance from the line (the higher the voltage, the stronger the field; the greater the distance, the weaker the field). The Council has adopted a safety standard for electric field strength of not more than 9 kV per meter at one meter above the ground surface in areas accessible to the public (OAR 345-024-0090). In addition, electric fields can induce a voltage in objects within the electric field. Unless proper precautions are taken, induced voltages might result in an electric shock when a person or animal touches the object and creates a path for a current to flow to the ground. Grounding minimizes the danger by providing an alternative path for the electric current. Passing current through the grounding wire minimizes the current that would otherwise flow through a person or animal that comes in contact with the object. OAR 345-024-0090 requires certificate holders to design and operate transmission lines so that induced currents will be as low as reasonably achievable. The applicant calculated electric field strength using "Corona and

[78] Magnetic field effects are addressed below under Public Health and Safety in Section V.1(e).

Field Effect Program (Version 3)," a software tool developed by the Bonneville Power Administration.

Aboveground 230-kV Transmission Line

The applicant calculated that the average electric field beneath the aboveground 230-kV line would not exceed 2.6 kV per meter at one meter above ground.[79] The applicant intends to provide appropriate grounding of fences that are parallel to the transmission line and of any metal-roofed buildings in proximity to the line. The certificate holder would take appropriate precautions to minimize the risk of electric shock from induced currents (Conditions (18) and (87)).

Aboveground 34.5-kV Transmission Line

The aboveground 34.5-kV line would include segments of single-circuit or double-circuit line (Condition (84)). The maximum electric field at one meter above ground for single-circuit line is estimated to be 0.29 kV per meter and for double-circuit line, 0.7 kV per meter.[80] The certificate holder would take appropriate precautions to minimize the risk of electric shock from induced voltages (Conditions (18) and (87)).

Underground 34.5-kV Transmission Line

The proposed facility includes up to 38 miles of underground collector lines, which collect the electric power produced from each wind turbine and transmit that power to a substation. The applicant states that there would be no measurable electric field at the surface of the ground above the underground transmission lines, because the electric field would be contained within the insulation of the transmission cable. As explained by the applicant, "Each cable has a semi-conducting insulation shield, and a grounded concentric neutral made up of multiple strands of copper wire that encircle the cable just under the outer jacket."[81] Further, because there would be no electric field near them, the underground transmission lines would not pose a potential hazard from induced voltage.

Conclusions of Law

The Council finds that KIII can design, construct and operate the proposed transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public. The Council further finds that KIII can design, construct and operate the proposed transmission lines so that induced currents resulting from the transmission lines and related or supporting facilities will be as low as reasonably achievable. The Council finds that a site certificate for the facility should include Conditions (18), (84) and (87). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Siting Standards for Transmission Lines.

[79] App Supp, Tab AA, Item ii, and App Supp Tab AA, Item iii.
[80] App Supp, Tab AA, Item iv.
[81] App Supp, Tab AA, Item i.

4. Standards to Protect Wildlife

(a) Threatened and Endangered Species

OAR 345-022-0070

To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:

(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction, operation and retirement of the proposed facility, taking into account mitigation:

(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or

(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and

(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction, operation and retirement of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

Findings of Fact

KIII provided information about compliance with the Council's Threatened and Endangered Species Standard in Exhibit Q of the application. The analysis area for threatened or endangered plant[82] and wildlife species[83] is the area within the site boundary and 5 miles from the site boundary.

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[82] ORS 564.100 defines "endangered" and "threatened" plant species as follows:
"Endangered species" means:
(a) Any native plant species determined by the department to be in danger of extinction throughout any significant portion of its range.
(b) Any native plant species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.
"Threatened species" means:
(a) Any native plant species the director determines by a finding of fact is likely to become an endangered species within the foreseeable future throughout any significant portion of its range.
(b) Any native plant species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.

[83] ORS 496.004 defines "endangered" and "threatened" wildlife species as follows:
"Endangered species" means:
(a) Any native wildlife species determined by the commission to be in danger of extinction throughout any significant portion of its range within this state.
(b) Any native wildlife species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.
"Threatened species" means:
(a) Any native wildlife species the commission determines is likely to become an endangered species within the foreseeable future throughout any significant portion of its range within this state.
(b) Any native wildlife species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.

KIII contacted the U.S. Fish and Wildlife Service (USFWS) and the Oregon Natural Heritage Information Center (ONHIC) to request information on threatened, endangered and sensitive species within the 5-mile analysis area. KIII reviewed available wildlife literature and scientific data and contacted ODFW to request information on fish and wildlife habitat requirements and distribution in the area. In addition, KIII contacted the Oregon Department of Agriculture (ODA) for information about plant distribution and protection and conservation programs.

Plant Identification and Survey Protocol

Eagle Cap Consulting, Inc., conducted an investigation for rare plants in the analysis area.[84] The survey included a thorough literature review and consultation with USFWS, ONHIC and other sources. "Target" species for the investigation included plants listed at threatened or endangered by USFWS, as well as plants that have been formally proposed for federal listing. In addition, target species included all vascular plant taxa defined as threatened or endangered by the ODA and species contained on lists 1, 2 or 3 of the ONHIC rare plant lists.

The analysis area is predominantly cultivated agricultural land under dry land wheat production. A few native plant communities remain, mostly along the plateau margins and steep side slopes of Grass Valley Canyon. These areas consist of sagebrush and rabbitbrush-dominated shrub lands and native bunchgrass grasslands. Agricultural areas that are enrolled under the CRP occur as narrow strips in previously plowed drainage ways and as large blocks in other areas.

Eagle Cap performed field surveys in May 2005 and in May 2006. The 2005 field survey was designed to take in all ground potentially disturbed by construction or operation of the proposed KWP, including all land within at least 150 feet on both sides of the centerline of all proposed turbine strings, underground and overhead electrical lines and access roads (resulting in survey corridors at least 300 feet wide). The rare plant survey area also included the entire proposed disturbance footprint (plus an additional 150-foot buffer) of non-linear components (including staging areas, substation sites, etc.) and the proposed mitigation area. Table 1 in the Eagle Cap investigation report listed the target species.

At the request of the Department, the applicant hired Eagle Cap to perform a second field survey in 2006 in areas suitable for target plant species within the proposed micrositing corridors but not previously surveyed. The field investigation did not locate any rare plant target species within the survey area.[85]

No target plant species were found during the 2005 and 2006 field surveys, and the investigators found that the area had low potential to support any of these species. Based on the field surveys conducted by Eagle Cap, the design, construction, operation and retirement of the proposed KWP is unlikely to have any impact on state or federally listed threatened or endangered plant species within the areas searched.

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[84] Eagle Cap Consulting, *An Investigation of Rare Plant Resources Associated with the Proposed Klondike III Wind Project, Sherman County, Oregon*, App Supp, Tab Q, Item iii.

[85] Eagle Cap Consulting, *An Investigation of Rare Plant Resources Associated with the Expanded Analysis Area of the Proposed Klondike III Wind Project, Sherman County, Oregon* (May 12, 2006).

As recommended in the Eagle Cap report, the applicant proposed measures to mitigate possible indirect effects to plant species of concern in the vicinity. The proposed measures include a plan for control of noxious weeds (Condition (89)) and a comprehensive fire control plan (Condition (66)).

Fish and Wildlife Identification and Survey Protocol

KIII requested database information from the USFWS and the ONHIC on the potential for occurrence of threatened, endangered and sensitive species within the 5-mile analysis area (the area within the site boundary and five miles beyond the site boundary). In addition, KIII conducted a literature search and consulted with ODFW regarding species distribution and habitat requirements. Based on the literature review and consultations, KIII identified the threatened or endangered species that have the potential to exist in the analysis area. These species are listed in Table 6.

Table 6: Threatened and Endangered Species That May Occur in the Analysis Area

Species	Status
Birds	
Bald Eagle (*Haliaeetus leucocephalus*)	Federal and state threatened species
American Peregrine Falcon (*Falco peregrinus anatum*)	State endangered species; no federal listing
Mammals	
Washington Ground Squirrel	State endangered species; federal candidate species
Fish	
Steelhead – Mid-Columbia River ESU, summer run (Oncorhynchus mykiss)	Federal threatened species; state sensitive-vulnerable species
Steelhead – Snake River Basin ESU	Federal threatened species; no state listing
Steelhead – Upper Columbia River ESU	Federal endangered species; no state listing
Sockeye Salmon – Salmon River Tributary to the Snake River (Oncorhynchus nerka)	Federal endangered species; no state listing
Chinook Salmon – Snake River ESU, spring/summer and fall runs (Oncorhynchus tshawytscha)	Federal and state threatened species
Chinook Salmon – Upper Columbia River ESU	Federal endangered species

In addition to the literature review, the applicant performed wildlife surveys as described in the *Biological Protocol: Klondike III Wind Power Project: February 8, 2005* (App Appendix Q-6). In summary, these surveys included:

- Ground surveys consisting of walking transect searches within 1,000 feet of all project components in habitat suitable to "target species" (KIII developed the list of target species in consultation with ODFW. The target species were: bald eagle, peregrine falcon, golden eagle, burrowing owl, loggerhead shrike, all raptor species, long-billed curlew and white-tailed jackrabbit.)
- Nocturnal surveys to identify the presence of jackrabbits.

- Avian baseline survey: winter and spring avian use based on standard point counts and in-transit observations.[86]
- Avian baseline raptor nesting survey, consisting of two helicopter surveys within a two-mile radius of the project area (late May/early April and early June) and a ground survey in the vicinity of any Swainson's or ferruginous hawk nests observed during the aerial surveys. Additional raptor nest surveys will be conducted by the applicant in the spring of 2006.

In addition, the applicant analyzed existing mortality data for bats in the analysis area to evaluate the potential impacts to bat populations from construction and operation of the proposed facility.[87] The USFWS database lists seven "species of concern" bat species that have potential to occur within the analysis area.[88] Monitoring data from the first year of operation of the Klondike I wind power project identified six bat fatalities associated with the project and a statistical bat fatality rate of 1.16 bats per turbine per year. This rate is below the average bat fatality rate for new generation wind projects in the United States (1.5 per turbine per year) and comparable to the bat fatality rate at the Stateline Wind Project (1.12 per turbine per year).[89] Of the four Klondike I bat fatalities that could be identified by species, only one (silver-haired bat) is a "species of concern."[90]

Potential Impacts on Threatened or Endangered Wildlife Species

The proposed facility would have no significant impact on any of the fish species listed in Table 6 because of the lack of fish habitat within or near the site boundary. Suitable habitat for the Washington ground squirrel (WGS) includes native grassland and shrub-steppe habitat. Small areas of these habitat types occur within the site boundary, but there have been no reported sightings of WGS west of the John Day River. The ONHIC reported a single WGS sighting within the analysis area in 1979, approximately two miles from the site on the east side of the John Day River. Because there is little suitable habitat within the site boundary and there have been no reported WGS sightings on the west side of the John Day River, ODFW concluded that an on-site pre-construction survey for WGS is unnecessary.[91]

Bald Eagle

The bald eagle is a federal and state-listed threatened species. The critical nesting period for the bald eagle is from January 1 to August 15. Based on the literature, no bald eagle nests, roosting areas or critical habitat areas exist within the analysis area.

The bald eagle wintering period is from November 15 to March 15. Wintering bald eagles favor undisturbed areas where food is abundant. Wintering bald eagles may roost communally at night near major foraging areas, typically isolated areas within old growth

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[86] Avian baseline surveys, including point counts and raptor nest surveys, were performed by ABR, Inc. and reported in *Baseline Avian Use at the Proposed Klondike III Wind Power Project, Oregon , Winter 2004 - Spring 2005, Final Report* (June 2005), App Supp, Tab P, Item viii.

[87] The applicant's analysis is in Exhibit P (App p. P-21).

[88] App Table P-2.

[89] *Stateline Wind Project Wildlife Monitoring Final Report, July 2001- December 2003*, p. 30.

[90] The silver-haired bat is designated as a federal species of concern (App Table P-2), and it is a state-listed "sensitive-undetermined" species (a species that may become threatened or endangered but whose status is unclear).

[91] E-mail from Rose Owens, ODFW, April 10, 2006.

stands. Winter raptor surveys conducted by ODFW and others in the vicinity of the proposed KWP have observed bald eagles feeding on wintering waterfowl along the Columbia River corridor but have not observed bald eagles in upland areas within or near the site boundary. No bald eagles were observed during the winter and spring avian baseline surveys in 2004-2005. Accordingly, the design, construction, operation and retirement of the proposed KWP are not expected to have any significant impact on bald eagles. Because nesting ranges and locations of bald eagles is constantly expanding, the certificate holder would review the ONHIC and USFWS databases and consult with Frank Isaacs, Oregon State University Cooperative Wildlife Unit, on an annual basis if construction of the proposed facility begins after 2006 (Condition (91)).

Peregrine Falcon

The peregrine falcon is a state-listed endangered species. The species was removed from the federal list of endangered and threatened wildlife on August 25, 1999. The critical nesting period for the peregrine falcon is mid-February through May. Peregrine falcons may occur in the analysis area year-round, but there are no known nest sites within the analysis area (the closest is about 6.5 miles from the facility site). Peregrine falcons prefer to nest on ledges found along river courses and other large bodies of water, but they will also use suitable nesting ledges on man-made structures. Prey species may exist within the site boundary where suitable habitat exists. Grain elevators in the vicinity support pigeons, which are likely prey for peregrine falcons. No peregrine falcons were observed during the winter and spring avian baseline surveys in 2004-2005. Accordingly, although the species may be present in the area, the design, construction, operation and retirement of the proposed KWP is not expected to have any significant impact on peregrine falcons. Because nesting ranges and locations of peregrine falcons is constantly expanding, the certificate holder would review the ONHIC and USFWS databases and consult with Frank Isaacs, Oregon State University Cooperative Wildlife Unit, on an annual basis if construction of the proposed facility begins after 2006 (Condition (91)).

Conclusions of Law

The Council finds that no conservation program applies and that the design, construction, operation and retirement of the proposed facility, taking into account mitigation and subject to the conditions stated in this order, do not have the potential to significantly reduce the likelihood of the survival or recovery of any threatened or endangered plant or wildlife species listed under Oregon law. The Council finds that a site certificate for the facility should include Conditions (66), (89) and (91). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Threatened and Endangered Species Standard.

(b) Fish and Wildlife Habitat

OAR 345-022-0060

To issue a site certificate, the Council must find that the design, construction, operation and retirement of the facility, taking into account mitigation, are consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of September 1, 2000.

Findings of Fact

A. Mitigation Goals and Standards

ODFW has defined six categories of habitat in order of value to wildlife. The rule establishes mitigation goals and corresponding implementation standards for each habitat category. The habitat definitions contained in OAR 635-415-0025 are as follows.[92]

> *"Habitat Category 1" is irreplaceable, essential habitat for a fish or wildlife species, population, or a unique assemblage of species and is limited on either a physiographic province or site-specific basis, depending on the individual species, population or unique assemblage.*

The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality. This goal requires avoidance of impacts.

> *"Habitat Category 2" is essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.*

If impacts are unavoidable, the mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality *and* provision of a net benefit of habitat quantity or quality. The Council interprets this to mean that both habitat quantity and quality must be preserved and either habitat quantity or habitat quality must be improved. To achieve this goal, impacts must be avoided or unavoidable impacts must be mitigated through reliable "in-kind, in-proximity" habitat mitigation to achieve no net loss of either pre-development habitat quantity or quality.[93] In addition, a net benefit of habitat quantity or quality must be provided.

> *"Habitat Category 3" is essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.*

The mitigation goal for Category 3 habitat is no net loss of either habitat quantity or quality. The Council interprets this to mean that both habitat quantity and quality must be preserved. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts through reliable "in-kind, in-proximity" habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality.

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[92] The ODFW rules define habitat into two broad classifications of "essential" and "important." OAR 635-415-0005 defines "essential habitat" as "any habitat condition or set of habitat conditions which, if diminished in quality or quantity, would result in depletion of a fish or wildlife species." The rule defines "important habitat" as "any habitat recognized as a contributor to sustaining fish and wildlife populations on a physiographic province basis over time."

[93] OAR 635-415-0005 defines "in-kind habitat mitigation" as "habitat mitigation measures which recreate similar habitat structure and function to that existing prior to the development action." OAR 635-415-0005 defines "in-proximity habitat mitigation" as follows: "habitat mitigation measures undertaken within or in proximity to areas affected by a development action. For the purposes of this policy, 'in proximity to' means within the same home range, or watershed (depending on the species or population being considered) whichever will have the highest likelihood of benefiting fish and wildlife populations directly affected by the development."

"Habitat Category 4" is important habitat for fish and wildlife species.

Like Category 3, the mitigation goal for Category 4 habitat is no net loss in either existing habitat quantity or quality. The Council interprets this to mean that both existing habitat quantity and quality must be preserved. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts. In contrast to Category 3, mitigation options are less constrained and may involve reliable "in-kind or out-of-kind, in-proximity or off-proximity" habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality.

"Habitat Category 5" is habitat for fish and wildlife having high potential to become either essential or important habitat.

If impacts are unavoidable, the mitigation goal for Category 5 habitat is to provide a net benefit in habitat quantity or quality. The Council interprets this to mean that there must be some improvement in either habitat quality or quantity. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts through actions that contribute to essential or important habitat.

"Habitat Category 6" is habitat that has low potential to become essential or important habitat for fish and wildlife.

The mitigation goal for Category 6 habitat is to minimize impacts. The goal is achieved by actions that minimize direct habitat loss and avoid impacts to off-site habitat.

B. Habitat in the Analysis Area

KIII provided information about compliance with the Habitat Standard in Exhibit P of the application. The analysis area for potential fish and wildlife habitat impacts was the area within 1,000 feet from all project components. KIII identified habitat types based on field surveys and consultation with ODFW. Aerial photography was used to create a preliminary map; KIII then determined the habitat area boundaries based on ground surveys. KIII applied the ODFW habitat categories (1 through 6) using the habitat mitigation goals and standards defined in OAR 635-415-0025. Figures P-1 through P-6 in the application identify and map the habitat types and categories within the analysis area.[94] ODFW concurs with KIII's identification of the habitat categories, except that tree groups or individual trees that contain known nest sites for raptors should be designated Category 1.[95]

After submitting the application in May 2005, the applicant requested that the site certificate authorize micrositing of turbines and other facility components within defined micrositing corridors rather than at specific points.[96] To estimate the potential impact on wildlife habitat, the applicant re-mapped the turbine locations "toward areas of greater habitat quantity or higher value habitat." Based on this "worst case" mapping, the applicant determined the maximum amount of habitat in each category that would be permanently or temporarily affected by micrositing facility components within the proposed 900-foot

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[94] App Supp, Tab P, Item i. Revised Figures P-1 through P-6 were subsequently provided to correct the location of the proposed 300-foot and 900-foot corridors (e-mail from Dana Siegfried, March 1, 2006). Later, KIII modified Figure P-2 to show a redesigned access road to turbine string D (e-mail from Jesse Gronner, March 22, 2006.

[95] Letter from Rose Owens, ODFW, March 10, 2006.

[96] App Supp, Section 1, "Siegfried Memo, Turbine Corridor Micrositing (12/9/05)."

corridors.[97] Based on the applicant's analysis, the maximum area of permanent and temporary impact on higher value habitat is shown in Table 7.

Table 7 : Maximum Area of Affected Higher-Value Habitat

Habitat Type	Area of temporary impact (acres)	Area of permanent impact (acres)
Category 2		
Grassland	1.25	0.63
Shrub-steppe	0.00	0.03
Category 3		
CRP	9.99	7.29
Grassland	2.98	0.43
Shrub-steppe	1.42	0.00
Upland trees	0.00	0.03
Category 4		
Grassland	0.006	0.05
Category 6		
Developed	0.00	0.00
Agricultural	81.48	55.86
TOTAL	**97.13**	**64.32**

The footprint of the facility would have no direct impact on tree groups or individual trees that are considered Category 1 habitat. Less than one acre of Category 2 habitat would be permanently affected, and 1.25 acres of Category 2 habitat would be temporarily affected. Approximately 7.75 acres of Category 3 habitat would be permanently affected, and 14.4 acres of Category 3 habitat would be temporarily affected. Less than an acre of Category 4 habitat would be affected either temporarily or permanently. Most of the habitat that would be affected by the proposed KWP is Category 6 agricultural land.

C. Habitat Impacts during Construction and Operation

Category 2 Habitat

Category 2 grassland habitat consists of native bunchgrasses, typically dominated by bluebunch wheatgrass and Sandberg bluegrass. Other native grass species and various native forbs and yellow rabbitbrush are also present. Sagebrush, rabbitbrush and other shrubs are dense in small patches. Invasive species may be present but do not dominate. Weed cover is generally well below 20 percent. There are few patches of bare ground or soil disturbance. Many areas of grassland classified as Category 2 are found on lithosol soils or fairly shallow soils. Lithosols are generally found on south and west aspects and some ridge tops within the analysis area. Category 2 lithosols maintain enough bunchgrass structure to provide potential habitat for ground-nesting birds such as the grasshopper sparrow and long-billed curlew, foraging and dispersal habitat for white-tailed jackrabbits and potential foraging habitat for

[97] App Supp, Tab P, Item ii, Table P-3 (900). KIII modified this table to show an increase in the area permanent impact to Category 6 agricultural land due to redesign of the access road to turbine string D (e-mail from Dana Siegfried, March 22, 2006).

raptors such as Swainson's hawk and Ferruginous hawk. The majority of the Category 2 grassland habitat was found on south-facing slopes between Webfoot and Grass Valley Canyon and north of Grass Valley and Highway 206.

Category 2 shrub-steppe habitat occurs primarily on the slopes leading down to Highway 206 from the agricultural areas west of Sandon Road. It also occurs within dense sagebrush on the upper terraces of Grass Valley Canyon and, in places, extends upslope along the drainages toward the agricultural plateau. This habitat type consists of an overstory of sagebrush and an understory of native grasses and patches of invasive grasses. Although the habitat is weedy in a few places, it is the best remaining shrub-steppe habitat to be found within the vicinity and provides important habitat for wildlife.

The footprint of the proposed facility's permanent structures would potentially affect a maximum area of approximately 0.66 acres of Category 2 habitat, most of which (0.63 acres) is grassland habitat. Construction of the proposed facility would have, in addition, a temporary impact on 1.25 acres of Category 2 grassland habitat.

Based on data collected at the Stateline Wind Project and at other wind facilities in the United States, the operation of wind turbines is believed to have an adverse effect on nearby habitat that is important or essential for grassland avian species. This effect is referred to as a "displacement" effect. A study conducted at Stateline showed a statistically significant effect within the first 50 meters from wind turbine locations.[98] It is not known whether the displacement effect is permanent. The reduced use by grassland birds in the first few years after construction may be due in part to temporarily disturbed habitat near the turbines, which may need several years to establish mature vegetation. To gain a more complete understanding of the displacement effect from wind facilities, long-term, multi-year studies are needed.

At the proposed KWP site, there is Category 2 and 3 habitat near the proposed wind turbine locations that could be adversely affected by operation of the facility. The Department considered whether to recommend a grassland bird displacement study at the site and has conferred with the applicant and with ODFW on this question. If such a study were to find evidence of a displacement effect, a decision would then have to be made about what mitigation would be appropriate. Recognizing that the Council might prefer the certainty of doing mitigation now over the uncertainty of further study and a delayed decision about mitigation, the applicant has proposed to increase the size of the habitat mitigation area in lieu of a multi-year displacement study at the KWP site, as discussed below in Section IV.4(b)D at page 79.

Category 3 Habitat

Category 3 Conservation Reserve Program[99] (CRP), habitat is found throughout the analysis area. It occurs generally along steep slopes and less accessible areas. CRP areas are

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[98] *Stateline Wind Project Wildlife Monitoring Final Report, July 2001- December 2003*, p. 22-23.

[99] The Conservation Reserve Program is a voluntary program for agricultural landowners. The program encourages landowners to plant long-term resource-conserving covers to improve soil, water, and wildlife resources. Through the CRP, landowners receive annual rental payments, incentive payments and annual maintenance payments for certain activities and cost-share assistance to establish approved cover on eligible cropland. The Commodity Credit Corporation within the U.S. Department of Agriculture administers the program through the Farm Service Agency.

historic agricultural fields that are in the process of being restored to grassland. Most of the CRP lands within the analysis area have had five or more years to become well developed as habitat. Weed cover is generally low to moderate. As of 2005, the CRP areas that were surveyed had developed the characteristics necessary to provide habitat for sensitive wildlife, such as density of cover and quality of forage, although the majority of planted species within the CRP are non-native species, including intermediate wheatgrass and crested wheatgrass. Although CRP lands provide important wildlife habitat, this habitat is not significantly limited on a site-specific or physiographic province level due to the abundance of CRP land within and around the analysis area.

Category 3 habitat also includes Continuous CRP (CCRP), which consists of strips of CRP along field edges and drainages. These CCRP strips are designated Category 3 because they maintain the structure necessary to provide shelter for wildlife in an area that is mostly cultivated land and may provide connection to other habitat areas.

Category 3 grasslands can be divided into those areas with shallow soils and those areas with deeper soils. The shallow soil areas are characterized by non-native grasses interspersed with some native grasses, while the deeper soil areas are dominated by a mixture of cheatgrass and native bunchgrasses. Most of the Category 3 grassland in the analysis area is in shallow soil. In these grassland areas, sparse, native bunchgrasses are mixed with a robust layer of non-native species. Bare soil and rocks are common, and the soil surface in many places is disturbed and more prone to erosion than Category 2 grassland.

Deeper soil Category 3 grasslands exist along the southern boundary of the project area. This grassland habitat contains 20 to 50 percent cheatgrass beneath sparse native bunchgrass and rabbitbrush. These areas often characterize the transition zone between the weedier Category 4 areas and less-disturbed Category 2 bunchgrass-dominated grassland habitat. These areas were designated as Category 3 because the cheatgrass between clumps of bunchgrass provides less valuable forage than native grasses. It is not the preferred habitat for sensitive grassland species and provides less forage for the prey base for target species such as Swainson's hawk.

Category 3 grassland habitat also exists adjacent to intermittent streams in agricultural areas. Although the vegetation in these areas is quite weedy, the habitat provides potential wildlife shelter and forage adjacent to intermittent water sources.

Category 3 shrub-steppe habitat occurs in the southwest corner of the analysis area within the proposed mitigation area and within tributaries to Grass Valley Canyon that do not contain riparian or wetland vegetation but do contain a dense cover of sagebrush. This habitat consists of native sagebrush and rabbitbrush with a weedy understory of cheatgrass. These areas were designated as Category 3 rather than Category 4 because of the wildlife value provided by the dense sagebrush cover in an area otherwise dominated by grasslands. Wildlife may use this habitat primarily for cover and secondarily for foraging.

Category 3 upland tree habitat is located near Emigrant Springs, Webfoot, along Klondike Lane and near residences throughout the analysis area. Most of the trees appear to have been planted as a windbreak or as shelter for cattle. Those areas not adjacent to residences are quite weedy, with cheatgrass and escaped wheat dominating the understory. Due to the presence of human disturbance and very weedy or developed understory, these upland trees are not considered irreplaceable habitat, unless they contain nest sites for raptors.

Scattered locust shrubs in areas separated from human disturbance are used by songbirds for perching and foraging but are not of sufficient size to provide nesting opportunities for sensitive species.

The footprint of the proposed facility's permanent structures would potentially affect a maximum area of approximately 7.75 acres of Category 3 habitat, primarily CRP land (7.29 acres) with small areas of Category 3 grassland (0.43 acres) and upland tree habitat (0.03 acres). The impact to upland tree habitat would not require removal of any trees or other direct impacts on trees. Areas of permanent and temporary impact to upland tree habitat involve maintenance (adding gravel and grading) of an existing road shown on Figure P-4 of the application. Figure P-4 also shows two locations where proposed facility access roads would cross intermittent streams within Category 3 grassland habitat. In one location, an access road would cross an intermittent stream just south of Klondike Lane east of the O&M building for Klondike I and II. There would be no new impact to habitat in this location because there is an existing road and culvert. In the second location, a segment of underground collector line would cross an intermittent waterway, which is part of a drainage feature north of Klondike Lane. KIII proposes to use a directional bore to avoid impact to the waterway, although there would be some temporary impact to the adjacent grassland habitat (Condition (79)).

Temporary impact during construction of the proposed facility would affect about 10 acres of Category 3 CRP land, about 3 acres of Category 3 grassland habitat and 1.42 acres of Category 3 shrub-steppe habitat.

In addition to the footprint impacts on Category 3 habitat, operation of the proposed KWP could have a displacement impact on this habitat and on Category 2 habitat, as discussed above. In lieu of conducting a displacement study, the applicant has proposed to mitigate for this potential impact, as discussed below in Section IV.4(b)D at page 79.

Category 4 Habitat

Category 4 grasslands include shallow soil areas, which are heavily grazed and very weedy with a sparse overstory of sagebrush, and deeper soil grasslands, which have patches of native bunchgrass but are dominated by cheatgrass and other weeds. In both types, the dense weed cover limits the ability of most wildlife species to use these areas for forage or cover. Category 4 deeper soil grasslands are found along the north-facing slopes of the tributary between Grass Valley and Webfoot and along the drainage adjacent to Highway 206. These areas do not provide optimal wildlife habitat, and they are susceptible to erosion and soil damage from grazing. Areas that have been heavily burned or otherwise disturbed have similar characteristics, such as several slopes in the southwest portion of the site.

The proposed facility would affect very small areas of Category 4 grassland habitat. Permanent and temporary impact would affect less than 0.1 acres.

Category 6 Habitat

Category 6 habitat within the analysis area includes non-irrigated agricultural croplands and developed areas. The agricultural areas are generally a monoculture of dryland wheat and include those areas currently in production as well as cut, fallow fields. Developed areas include residential yards and outbuildings, feed lots and corrals, equipment storage areas, existing substations and construction management offices. Developed areas are highly

disturbed and lack native vegetation. Due to the high level of disturbance, these areas are unlikely to become important or essential wildlife habitat in the foreseeable future. The proposed facility would permanently affect about 56 acres of Category 6 agricultural land and would have a temporary impact on about 82 acres.

D. Mitigation and Monitoring

Table 8 summarizes the levels of mitigation are required under the ODFW habitat mitigation goals and standards, which are discussed in more detail above at page 73:

Table 8 : ODFW Mitigation Standards

Habitat Category	Mitigation
Category 1	Avoid impact
Category 2	In-kind, in-proximity habitat mitigation to achieve no net loss of either habitat quantity or quality and provision of a net benefit of habitat quantity or quality
Category 3	In-kind, in-proximity habitat mitigation to achieve no net loss of either habitat quantity or quality
Category 4	In-kind or out-of-kind, in-proximity or off-proximity habitat mitigation to achieve no net loss in either existing habitat quantity or quality
Category 6	Minimize direct habitat loss and avoid impacts to off-site habitat

The applicant designed the proposed layout of the facility as shown on Figure C-2 in the site certificate application to avoid or minimize adverse impacts on wildlife habitat. The Council finds that the site certificate should allow the certificate holder to microsite turbines and other facility components within the 900-foot corridors shown on Figures P-1 through P-6 (as revised March 1, 2006), subject to the following requirements that address potential habitat impact (Condition (92)):

- The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.
- To the extent possible, the certificate holder shall construct facility components in the locations shown on Figure C-2 of the site certificate application.
- If the certificate holder must change the layout of facility components from what is shown on Figure C-2 due to micrositing considerations, the certificate holder shall, to the extent possible, construct facility components within the 300-foot corridors shown on Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006).
- The certificate holder may construct facility components outside the 300-foot corridors if necessary due to micrositing considerations, except that the certificate holder shall not construct any facility components outside the 900-foot corridors shown on Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006) or cause any temporary disturbance outside those 900-foot corridors.

Micrositing considerations include the size of the turbine selected and available for the project, optimization of capture of the wind energy resource, geotechnical factors, avoidance of higher-value wildlife habitat and reduction of adverse impacts on accepted farm practices in the area. Before beginning construction, the certificate holder would provide to the Department a description of the final design layout, taking into consideration the micrositing considerations (Condition (31)).

During construction, the certificate holder would avoid or reduce construction activity that could interfere with raptor nesting in areas close to proposed turbine locations (Condition (94)). If construction is scheduled during the sensitive nesting periods for Swainson's hawk, golden eagle, ferruginous hawk or burrowing owl, an independent biological monitor will survey potential nesting areas near the proposed turbine strings. High-impact construction activities, such as blasting or other major ground disturbance, would be avoided during the nesting period until the monitor has determined that the nest locations are unoccupied (or, if occupied, that the young have fledged).

KIII has proposed mitigation for the permanent footprint impacts of the facility and for potential displacement impacts. As discussed above, the operation of wind energy facilities is believed to have a displacement impact on both native grassland and restored CRP habitat. Studies at the Stateline Wind Project indicate a reduction in suitable habitat use by grassland bird species, particularly within the first 50 meters from turbine locations. The Council approves mitigation for the potential displacement impact that might result from operation of the KWP, in lieu of a multi-year study of grassland bird displacement.

KIII searched for a suitable mitigation site in proximity to the proposed facility and considered at least four alternative locations. KIII proposed one of the alternative sites, based primarily on the current conditions of the site. The criteria that the applicant used to select the proposed mitigation site included the following:

- Overall Potential for Improvement. Land that provides functional wildlife habitat, but is degraded by weeds or non-native species can be enhanced with chemical and mechanical habitat improvement measures. Other factors such as soil depth and accessibility affect a site's overall potential for enhancement.
- Favorable soil. Areas with deeper soils offer a better seedbed for grasses than areas with shallower soils.
- Slope/Accessibility. Property with gentler slopes usually has deeper soils. It is easier to access but yet private for wildlife (limited human disturbance). Sites that can be reached with existing or proposed roads are also desirable because no new road construction is needed.
- Size and Continuity. Large blocks, or a single block of land, are easier to lease from landowners and easier to access for habitat improvement purposes. Sites with at least 10 acres of suitable land also provide contiguous wildlife habitat.
- Distance from Turbine Strings. To avoid providing habitat for small mammals that would be attractive prey for raptors, ODFW recommends that grassland should not be enhanced near turbine locations.

- Proximity to Disturbance. Areas farther from human or animal disturbance (such as homes, farm buildings and grazing areas) have a better chance for successful habitat enhancement.
- Location. A site within the existing wind-lease boundary is desirable because it eliminates the need for further surveys or leases.
- Landowner interest. Successful implementation and monitoring of habitat enhancement measures is more likely when the landowner is interested in a having a conservation easement.

Based on these criteria, KIII proposed a 30-acre area as a mitigation site.[100] KIII proposed to enhance the quality of wildlife habitat within the mitigation site by weed control and revegetation with native grass, forbs and shrub species. The goal of the habitat enhancement measures would be to improve existing Category 3 and 4 habitat to a Category 2 quality, where possible. KIII has identified at least one site in proximity to the proposed facility where sufficient contiguous acres are available that have the potential for achieving habitat enhancement. ODFW expressed concerns about whether enhancement measures could be successful at the proposed site and recommended that the applicant continue searching for a better site.

The Council finds that the proposed mitigation is feasible. To allow flexibility in the site certificate to select the best mitigation site available, the Council finds that the site certificate should require a 30-acre habitat mitigation area described herein but allow the certificate holder to determine the final location of the mitigation area before beginning facility construction. The certificate holder would select a mitigation area in proximity to the facility site in consultation with ODFW, subject to approval by the Department.

Before beginning construction of the KWP, the certificate holder would acquire the legal right to create, maintain and protect the habitat mitigation area for the life of the facility. The certificate holder would implement habitat enhancement measures on this land as described in the Habitat Mitigation Plan (Condition (97)). The certificate holder would monitor the progress of the habitat enhancement measures on an annual basis until the certificate holder and the Department agree that the area is trending toward meeting the success criteria and would continue to monitor the site every five years thereafter for the life of the KWP to assess vegetation cover and success.

The Council finds that a 30-acre mitigation area is appropriate based on the following analysis. As shown in Table 7, the permanent facility structures would occupy about 0.66 acres of Category 2 habitat, about 7.75 acres of Category 3 habitat and about 0.05 acres of Category 4 habitat. To meet the ODFW mitigation standards listed in Table 8, the applicant must show how a mitigation plan would achieve "no net loss of either habitat quantity or quality" (for the Category 2, 3 and 4 habitat affected) plus a "net benefit of habitat quantity or quality" (for the Category 2 habitat affected). For the footprint impacts, the mitigation area includes approximately 9 acres that provides protection and enhancement of habitat on a 1:1 basis for Category 3 and 4 impacts and on a 2:1 basis for impacts to Category 2 habitat. This provides a "net benefit" of habitat quantity for Category 2. The remaining land within the

[100] Figure P-2 (revised), e-mail from Sara McMahon, April 12, 2006.

mitigation area (about 21 acres) provides mitigation for potential displacement impacts. A rough calculation of potential displacement impact was done by assuming a 50-percent reduction in use by grassland birds within 50 meters of wind turbines. It was also assumed that grassland birds use CRP land at a rate that is 50-percent of their use of native grassland and upland tree habitat (and therefore that the amount of mitigation area should be half as much for CRP displacement as for native grassland displacement). It was further assumed that the final design locations of wind turbines within the micrositing corridors would be such that the maximum area of native grassland would be affected (the "worst case"). The displacement mitigation area of 21 acres provides protection and enhancement of habitat on a 1:1 basis for Category 3 impacts and on a 2:1 basis for impacts to Category 2 habitat. This provides a "net benefit" of habitat quantity for Category 2. The Council finds that this computation of the area for displacement mitigation is reasonable, considering the limited scientific knowledge at this time about the measurement and permanence of displacement impacts, but that the method of computation in this case should not set firm policy for Council consideration of future wind energy projects. The Council adopts the Department's recommendation that the Council decide the reasonable and appropriate mitigation for potential displacement impacts at wind projects on a case-by-case basis, consistent with the ODFW mitigation standards.

To meet the ODFW habitat mitigation standard for impacts to Category 6 habitat, KIII proposes to design and construct facility components that are the minimum size needed for safe operation (Condition (92)). In addition, the applicant proposes to use best management practices to prevent loss of topsoil during construction (Condition (76)), to restore agricultural topsoil to pre-construction condition after construction and to control noxious weeds in areas disturbed by construction activities (Condition (89)). Agricultural areas as well as areas of Category 2, 3 or 4 habitat that are temporarily disturbed during construction would be restored to pre-construction condition or better upon completion of construction, as described in the "Revegetation Plan" that is incorporated in this proposed order as Attachment B (Condition (81)). During operation, the certificate holder would avoid impact on cultivated land when performing facility repair and maintenance activities (Condition (47)).

Klondike III Wildlife Monitoring and Mitigation Plan

A common element of the ODFW mitigation goals and standards applicable to Category 2, 3 and 4 habitat is the protection of habitat quality as well as quantity. To address the issue of habitat quality and to ensure that the operation of the KWP complies with the Council's standard, the certificate holder would conduct wildlife monitoring (Condition (95)). The overall objectives for wildlife monitoring the KWP facility are:

- To determine whether the operation of the facility causes significant fatalities of birds and bats,
- To determine whether the operation of the facility results in a reduction of nesting activity or nesting success of raptor species, and
- To determine whether the operation of the facility results in a significant loss of habitat quality.

The details of the monitoring components, statistical analysis and data reporting are described in the Wildlife Monitoring and Mitigation Plan (WMMP) that is incorporated in this proposed order as Attachment A. The requirement of monitoring during the operation of the

KWP facilities is a necessary part of finding compliance with the Fish and Wildlife Habitat Standard. Adequate monitoring provides data necessary to evaluate the impacts of facility operation on nearby wildlife habitat. Under the terms of the WMMP, the Department may require the certificate holder to implement additional mitigation, subject to approval by the Council, if the monitoring results show significant fatalities of avian species, adverse impact to raptor nesting or other loss of habitat quality.

The WMMP includes "thresholds of concern" for four species groups: raptors, raptor species of special concern, grassland species, and State sensitive avian species listed under OAR 635-100-0040. The thresholds are expressed as fatalities per megawatt of peak generating capacity, and the certificate holder is required to calculate the average annual fatality rates for species groups after two years of monitoring. If the data show that a threshold of concern for a species group has been exceeded, the Department would determine whether additional mitigation is appropriate based on analysis of the data, consultation with ODFW and consideration of any other significant information available at the time. In addition, mitigation might be appropriate if the Department determines that fatality rates for individual avian or bat species (especially State Sensitive Species) are higher than expected and at a level of biological concern.

The Department developed the thresholds of concern for species groups in consultation with the applicant and the applicant's wildlife consultants, ODFW and the Department's own wildlife consultant. The Department also considered the analysis of monitoring results from the Stateline Wind Project. Although the threshold numbers provide a rough measure for deciding whether the Council should be concerned about observed fatality rates, the thresholds have a very limited scientific basis. The exceeding of a threshold, by itself, would not be a scientific indicator that operation of the facility would result in range-wide population level declines of any of the species affected. The thresholds are provided in the WMMP to guide consideration of additional mitigation based on two years of monitoring data.

The proposed WMMP includes data collection and analysis of fatality rates for bat species but does not set a "threshold of concern" that would require consideration of whether mitigation for bats is appropriate after two years of monitoring. To mitigate for potential adverse impacts to bat species, the applicant proposes to make financial contributions to Bat Conservation International or another bat conservation group in the Pacific Northwest to help fund research toward a better understanding of wind facility impacts to bats and to continue to develop mitigation solutions (Condition (96)).[101] In considering whether additional mitigation is appropriate for bat fatalities based on the monitoring data, the Department will take into account the mitigation that the certificate holder has already implemented.

E. Habitat Impacts and Mitigation during Retirement of the Facility

As required under Council rules, retirement would proceed according to a Council-approved final retirement plan. The retirement plan would ensure minimal impacts to fish,

[101] KIII's parent company, PPM Energy, is already contributing $5,000 a year to Bat Conservation International for 3 years for base research, plus approximately $25,000 a year for at least two years for research at PPM's Cassleman Wind Project in Pennsylvania and $50,000 a year for two years at PPM's Hoosac Wind Project in Massachusetts. PPM is also contributing $25,000 a year for four years to the Grassland/Shrub Steppe Species Collaborative to research impacts to grassland birds.

wildlife and the environment and provide for restoration of the site and temporarily disturbed areas to a useful, non-hazardous condition (Condition (9)). Retirement of the facility would include removal of facility structures and restoration of the underlying land (approximately 64 acres) to farm or habitat uses. It is anticipated that site restoration activities would temporarily affect additional habitat adjacent to the facility site as needed to accommodate the movement and placement of cranes and other heavy equipment used during facility demolition. This adjacent area is likely to be similar in size and habitat category to the area temporarily disturbed during construction. These areas of temporary disturbance would be graded and reseeded after completion of the facility demolition work. Site restoration is further described at page 16.

F. General Findings of Consistency with ODFW Goals and Standards

Design

The proposed facility would occupy a permanent footprint of approximately 64 acres. Eighty-seven percent or more of the affected habitat would be Category 6 agricultural land. The component parts of a wind facility (turbines, access roads, transmission lines and substations) must be disbursed over a wide area to capture the wind resource effectively. Locating the majority of facility components within Category 6 habitat ensures the least impact on higher-value habitat, although some amount of impact is unavoidable. The design of the proposed KWP is consistent with ODFW's habitat mitigation goals and standards (OAR 635-415-0025).

Construction

About 82 percent or more of the area that would be temporarily disturbed during construction is Category 6 habitat. Impact to intermittent streams and stream habitat would be minimal. The certificate holder would avoid construction activity within a buffer area around raptor nests during the sensitive nesting period. Upon completion of construction, areas of temporary disturbance would be restored and re-planted to pre-construction condition or better. Construction would be carried out in a manner consistent with OAR 635-415-0025.

Operation

The certificate holder would establish a habitat mitigation area and would undertake habitat enhancement activities to improve the value of the area to wildlife. The habitat area would be protected from other development during the life of the facility. Operational monitoring as described in the Wildlife Monitoring and Mitigation Plan would provide data necessary to evaluate the operational impacts of the facility on habitat quality. If analysis of monitoring data indicates significant impacts, further mitigation may be required. Taking into account the mitigation of impacts, operation of the facility would be consistent with OAR 635-415-0025.

Retirement

Retirement would include removal of facility components and restoration and revegetation of the underlying area as well as any area temporary disturbed during the demolition. Retirement would be done subject to a final retirement plan approved by the Council. The final retirement plan would provide for minimizing impact to fish and wildlife habitat. Retirement can be carried out in a manner consistent with OAR 635-415-0025.

Conclusions of Law

The Council finds that the design, construction, operation and retirement of the proposed facility, taking into account mitigation and subject to the conditions stated in this order, would be consistent with ODFW's habitat mitigation goals and standards (OAR 635-415-0025). The Council finds that a site certificate for the facility should include Conditions (9), (31), (47), (76), (81),(79), (89), (92), (93), (94), (95), (96) and (97). Based on these findings and conditions, the Council concludes that the proposed facility complies with the Council's Fish and Wildlife Habitat Standard.

5. Standards Not Applicable to Site Certificate Eligibility

Under ORS 469.501(4), the Council may issue a site certificate without making the findings required by the standards discussed in this section (Structural Standard, Historic, Cultural and Archaeological Resources Standard, Public Services Standard and Waste Minimization Standard). Nevertheless, the Council may impose site certificate conditions based on the requirements of these standards.

(a) Structural Standard

OAR 345-022-0020

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study, has adequately characterized the site as to seismic zone and expected ground motion and ground failure, taking into account amplification, during the maximum credible and maximum probable seismic events; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence;

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety presented by the hazards identified in subsection (c).

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

* * *

Proposed Conditions

KIII provided information regarding the seismic characteristics of the site and possible seismic and geological hazards in Exhibit H of the application. The analysis area for the Structural Standard is the area within the site boundary. On behalf of the applicant, Geotechnical and Environmental Consultants (GRI) assessed the geologic and seismic conditions of the site. GRI's assessment included review of relevant available literature and information, examination of aerial photographs and a limited on-site survey. The literature review included a previous geotechnical investigation for the Klondike II wind project. GRI consulted with the Oregon Department of Geology and Mineral Industries (DOGAMI). Site-specific subsurface and geophysical investigations were not undertaken by GRI as part of this preliminary assessment. Before construction, appropriate site-specific geotechnical investigation would be performed to investigate the subsurface and foundation support conditions at the locations of the turbine towers and other significant facility structures (Condition (53)). Council rules include mandatory conditions regarding geotechnical investigation and protection of the public from seismic hazards (Conditions (12), (13) and (14)).

The site is about five miles south of the Columbia River on a high plateau area between the Deschutes and John Day Rivers. The topography is generally level ground to gently rolling slopes with steep slope areas on the northeast and southern margins. Elevation within the site boundary is 1,250 to 1,500 feet. Slopes at proposed turbine tower locations are typically less than 3 percent.[102]

GRI provided an analysis of potential seismic hazards at the site. Most of the project area consists of a mantle of fine-grained, silty soils (loess), typically four to six feet deep, over a basalt layer. As the GRI report notes: "The effect of a specific seismic event on the site is related to the type and thickness of soil overlying the bedrock and to the type and quantity of seismic energy delivered to the bedrock beneath the site by the earthquake." GRI found no obvious surface evidence of large-scale, deep-seated slope instability, faulting or ground rupture, nor did analysis of aerial photographs show evidence of these characteristics.

There is sparse quantitative information available regarding historic seismic activity in the area. Seismographic records are available from about 1940. Based on available data, GRI developed "generalized design earthquakes" for three categories of potential seismic events: subduction zone events, subcrustal events and local crustal events. For preliminary assessment purposes, GRI evaluated the effect of a subduction zone event with a moment magnitude (Mw) of 8.8 at a focal distance of 150 miles. This design earthquake was based on published estimates of the probable maximum size of subduction zone events. GRI estimated that such an event would result in peak horizontal bedrock acceleration of 0.08 g at the KWP site.[103]

GRI evaluated the effects of a subcrustal event based on published information regarding the probable maximum size of subcrustal events in the region. Based on a design earthquake of Mw 7.0 at a distance of 100 miles, GRI estimated peak horizontal bedrock acceleration of 0.04 g at the KWP site. In addition, based on an analysis of the lengths of local

[102] A more detailed geological description is included in the GRI assessment report, App Appendix H-2.
[103] Earthquake magnitude is measured in moment magnitude ("Mw"). The amount of seismic force is given in "g," a unit of force equal to the force exerted by gravity, which indicates the force to which a body is subjected when it is accelerated.

faults, GRI evaluated a Mw 6.5 earthquake at a distance of 7 miles and estimated peak horizontal bedrock accelerations at the site would be approximately 0.2 g. GRI, therefore, assumed peak horizontal bedrock acceleration of 0.12 g, "in keeping with the intent of the 2003 International Building Code" and using two-thirds of the Maximum Considered Earthquake based on the 1996 U.S. Geological Survey.

Based on a generalized subsurface profile and the peak bedrock acceleration estimates, GRI used a model to determine that a local crustal event would produce the peak horizontal ground acceleration at the site. GRI estimated a mean peak horizontal ground acceleration of 0.16 g. GRI concluded: "Based on our past experience, ground accelerations of this magnitude can be readily accommodated in the design of the turbine tower structures. It has also been our experience that transient wind loading on turbine towers and wind and ice loading on transmission line towers will be the more severe loading conditions that will govern the design of the tower structures."

In addition, GRI concluded that there is low risk of seismic hazards such as slope instability, ground rupture, liquefaction and settlement or subsidence at the site. The presence of loess soils presents a potential non-seismic risk of significant settlement if the soils are loaded by conventional spread footings and subsequently saturated. GRI believes that this risk can be mitigated by conventional foundation design methods including: (1) spread foundations below the loess, (2) drilled shaft foundations that develop support in the materials below the loess; (3) removal of the loess and replacement with compacted fill, or (4) in situ improvements of the loess soils.

DOGAMI reviewed the information in Exhibit H of the application and found the information to complete, but the agency noted that the results of pre-construction geotechnical investigations should be provided to DOGAMI. The seismic hazard assessment should be revised to integrate any new pertinent information as a result of site-specific investigations, instead of a "generalized" profile, and the profile should be extended to the site boundaries. DOGAMI further noted that the applicant's use of the 2003 International Building Code was appropriate because Oregon no longer uses "seismic zone" classifications.

(b) Historic, Cultural and Archaeological Resources

OAR 345-022-0090

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction, operation and retirement of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to:

(a) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places;

(b) For a facility on private land, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and

(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in

section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

* * *

Proposed Conditions

KIII provided information regarding historic, cultural and archaeological resources in Exhibit S of the application. The analysis area for potential impacts to these resources is the area within the site boundary. The applicant conducted a literature review and records search as well as field investigations. Archaeological Investigations Northwest, Inc. (AINW) conducted a field investigation, and a cultural resource report is included in the application.[104]

Field investigations for the project were conducted in five field sessions between January and March 2005. The field survey area was limited to 264-foot-wide survey corridors centered on the proposed alignments of turbine strings, access roads and underground utility lines and a 50-foot-wide survey corridor on the north side of Klondike Lane where the proposed aboveground 230-kV transmission line would be built. In addition, the survey area included proposed substation sites, laydown areas and existing roads that would be widened. The field survey did not include other areas within the proposed 900-foot micrositing corridors. Field investigation consisted of systematic pedestrian inspection of the survey area. No areas were excavated, because no locations within analysis area were considered likely to contain buried cultural deposits that would not be visible on the surface.

Because not all of the analysis area has been inspected by field investigation, those areas outside of the survey area described above should be inspected where construction-related impacts would occur. The Council adopts Condition (48) to ensure that the inspection is completed before construction begins.

Based on the report by AINW, there are no previously recorded archaeological resources within the analysis area. Four archaeological resources were identified in the field investigation. These resources consisted of prehistoric archaeological isolates and a small assemblage of historic-period refuse. These resources are not considered significant.[105]

The Council adopts Condition (49) that requires construction personnel to be trained in the identification of archeological or cultural materials. In accordance with state law (ORS 97.745 and 358.920), the Council adopts Condition (50) to require that earth-disturbing activities be halted if archeological objects are discovered in the course of construction of the facility.[106] The condition further requires notification of the State Historic Preservation Office and the Department and evaluation of the discovery by a qualified archaeologist.

The alignment of the Oregon Trail is a designated historic trail under both federal and Oregon statutes. The alignment crosses the northeastern portion of the KWP site. No physical evidence of the trail was observed anywhere within the analysis area during the field investigations. An earlier study reported that intact segments of the trail were still visible in the early 1980s at locations within the analysis area, but all of the reported locations of intact

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[104] App Appendix S-1.

[105] App page S-2.

[106] Under OAR 736-051-0090, a person may not "knowingly and intentionally excavate, injure, destroy or alter an archeological site or object or remove an archeological object from private lands in Oregon" without a permit issued under ORS 390.235.

trail segments are within agricultural fields where farming activity is likely to have obliterated physical traces of the trail. KIII states that the designation as a National Historic Trail does not impose any restrictions on development on non-federal lands.[107]

Any intact segments of the trail are highly likely to be eligible for listing on the National Register of Historic Places and would also likely be eligible for designation as a National Historic Landmark. Accordingly, the Council adopts Condition (51) to require that construction of KWP proceed carefully in the vicinity of the mapped alignment of the Oregon Trail and that any intact physical evidence of the trail discovered during construction be protected from disturbance.

The applicant concluded that construction of turbine strings is "likely to constitute an adverse effect on the visual setting of the Oregon Trail alignment in general and any intact segments that may be extant."[108] The alignment may be a focus of visitors to Sherman County who are interested in exploring the Oregon Trail. For this reason, the Council adopts Condition (52) to offset adverse visual effects to the setting of the Oregon Trail alignment.

The field investigation identified several historic-period resources within the analysis area consisting of buildings and structures associated with private ranching operations, commercial uses or public uses. AINW recommended that most of these resources be considered not significant. Four historic resources were evaluated more closely (the Anson farmstead, the Emigrant Springs Cemetery, the Webfoot school and the Columbia Southern railroad alignment). AINW concluded that none of these resources were likely to be eligible for listing on the National Register of Historic Places.

(c) Public Services

OAR 345-022-0110

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

* * *

Proposed Conditions

KIII provided information in Exhibit U about the potential impacts of the facility on public services.[109] The analysis area for public services is the area within the site boundary

[107] RAI S1, App Supp, Section 1, "Response to Request for Additional Information #1."
[108] App page S-5.
[109] App Supp, Tab U, Item iv.

and 30 miles from the site boundary, including area within the State of Washington. The analysis area includes nearly all of Sherman County and significant portions of Gilliam, Wasco and Klickitat counties. Small segments of Morrow and Yakima counties are also within 30 miles of the site boundary. There are nine incorporated cities in the analysis area: Arlington, Condon, Dufur, Grass Valley, Moro, Rufus, The Dalles, Wasco and Goldendale.

A. Sewage, Storm Water and Solid Waste

During construction of KWP, the impact on sewers and sewage treatment would be minimal. The Council adopts Condition (103) to require that the certificate holder provide and maintain portable toilets for on-site sewage handling during construction. Storm water drainage during construction would be subject to the NPDES Storm Water Discharge General Permit #1200-C, which would ensure appropriate on-site handling of storm water. There are no local storm sewers to be affected. Construction of the KWP would generate solid waste that would be removed for off-site disposal. Sunrise Disposal and Recycling provides solid waste disposal service for all of Sherman County. Solid waste would be taken to the Columbia Ridge landfill near Arlington, which has an estimated 50-year capacity.

During operation, sewage from the O&M building would be disposed of in an on-site septic system. Appropriate measures would be used to avoid or reduce erosion from storm water run-off during operation of the facility, and, as noted above, there are no local storm sewers that would be affected. Solid waste generated during operation would be insignificant and would be recycled or taken to the Columbia Ridge landfill by a licensed hauler.

B. Water

KIII estimates the volume of water used during construction of the KWP would be approximately 18 million gallons. Water would be used primarily for dust control and concrete mixing. KIII anticipates that water could come from several sources, including the City of Wasco. To show that adequate water is available in the area, KIII provided a letter from the City of Arlington, indicating that the city could supply all of the water needed for construction of the KWP.[110]

During operation, less than 5,000 gallons per day would be needed for domestic purposes at the O&M facility. This water would come from a new on-site well. The facility's use of water during operation, therefore, would have no impact on municipal water systems. The small volume of water needed for the O&M facility is not likely to have an impact on other wells that serve local landowners.

C. Housing, Police and Fire Protection, Health Care and Schools

The applicant estimates that construction of the KWP would employ a maximum of 120 workers. The applicant estimates that half of the workforce would be from outside the area. Based on experience with construction of Klondike I, the applicant believes that there is sufficient temporary housing available in Morrow, Biggs Junction, Wasco and The Dalles.

KIII estimates that a staff of up to 20 full-time and part-time employees would be needed during operation of the proposed facility. Assuming conservatively that as many as 12

[110] Letter from Tim Wetherell, City of Arlington Public Works Director, dated February 27, 2006 (attachment to e-mail from Jesse Gronner, dated February 28, 2006, regarding "water right issue").

employees would move to the area, the number of in-migrant households would be small. The applicant found an average housing vacancy rate of 13.5 percent in the nine incorporated communities in the analysis area. The permanent impact on housing therefore would be insignificant.

Each of the counties in the analysis area has police services from a county sheriff's department, and in addition, the cities of The Dalles, Goldendale and Condon have police departments. Construction and operation of Klondike I did not result in significant demand for police services, and no significant adverse impacts are anticipated from construction and operation of the KWP.

The project site is located in the North Sherman Fire Protection District based in Wasco. In addition, there are eight other fire departments or districts in the analysis area, including the cities of Condon, Moro, Rufus, Dufur and The Dalles as well as the South Sherman Rural Fire District, the Gilliam County Rural Fire District and the Klickitat Rural Fire District #7. Local farmers are often the first to respond to a fire because of the large service areas. Farmers provide fire suppression with their own equipment. The certificate holder would take steps to reduce the risk of fire during construction and operation, as discussed further at page 103. Based on interviews conducted by the applicant, the proposed facility would not adversely affect the ability of the North Sherman County Rural Fire Protection District and the Moro Rural Fire Protection District to provide fire protection or ambulance service for their service areas.

The Mid-Columbia Medical Center, located in The Dalles (approximately 35 miles from the KWP site), is a full service medical facility, providing emergency services and surgery. Ambulance service from the Moro Rural Fire Protection District would provide ambulance service in the event of an emergency on the facility site. Helicopter evacuation service is also available. In addition, Klickitat Valley Hospital in Goldendale (approximately 25 miles from the KWP site) serves Central and Eastern Klickitat County. Temporary and permanent population increases during construction and operation of the proposed facility are not likely to result in significant adverse impact on the ability of the health care service providers in the analysis area.

The Sherman County School District serves all of Sherman County with one high school located in Morrow (grades 7 through 12) and two elementary schools in Grass Valley and Wasco (grades K through 6). The district serves approximately 280 students (in 2005), although enrollment has declined in recent years. During construction, the in-migrant portion of the workforce is not expected to relocate family members to the area, and, therefore, no increased demand on schools is anticipated during construction. During operation, as many as 12 workers might move with their families into the area, but the small increase in school-age children would not significantly increase student population. Based on interviews conducted by the applicant, local school districts would be able to accommodate the new students with existing school capacity, and an increase in the number of students would be beneficial because state funding is tied to the number of students served by the district.

D. Traffic Safety

Construction-related traffic is likely to cause minor traffic delays on area highways (I-84, US 97 and OR 206) and on local roads near the site when trucks deliver turbines, construction-related equipment, concrete and other building materials. Such delays would be

short-term and temporary. During construction, flaggers would be used at appropriate locations at appropriate times to direct traffic.

Local roadways currently have very low use. The increased traffic from truck deliveries and construction workers commuting to the site is not likely to result in significant adverse impact on traffic safety. Some segments of local roads within the site boundary would be improved by graveling and grading or would be completely reconstructed and widened. The proposed improvements would improve the quality of the roads and have a beneficial impact on traffic safety.

During operation, the anticipated permanent staff of up to 20 employees would not significantly increase traffic in the analysis area. The use of area highways and local roads by employees during operation is not likely to result in a significant adverse impact on traffic safety.

(d) Waste Minimization

OAR 345-022-0120

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that, to the extent reasonably practicable:

(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction, operation, and retirement of the facility, and when solid waste or wastewater is generated, to result in recycling and reuse of such wastes;

(b) The applicant's plans to manage the accumulation, storage, disposal and transportation of waste generated by the construction and operation of the facility are likely to result in minimal adverse impact on surrounding and adjacent areas.

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

* * *

Proposed Conditions

KIII provided information about waste minimization in Exhibit V of the site certificate application.

A. Solid Waste

Solid waste generated during construction would consist primarily of concrete waste from turbine pad construction, wood waste from wood forms used for concrete pad construction and scrap steel from turbine tower construction. Other construction wastes could include erosion control materials, such as straw bales and silt fencing, and packaging materials for turbine parts and other electrical equipment.

The applicant's plan for solid waste management during construction is described in Exhibit V. The Council adopts Condition (105), which summarizes the applicant's plan. KIII proposes to minimize the generation of solid waste during construction by detailed estimating

of materials needs and efficient construction practices. Packaging wastes (such as paper and cardboard) would be separated and recycled. Wastes generated during construction would be recycled when feasible. Non-recyclable wastes would be collected and transported to a local landfill by a licensed waste hauler.

Concrete waste would be generated on site during construction. This waste may be used as fill on site, with the agreement of the landowner. Before disposing of clean fill on site, the certificate holder would submit a request for permit exemption in accordance with OAR 340-093-0080 and any other applicable regulations. The material would be placed in an excavated hole and covered with at least 3 feet of topsoil. The surface would be graded to match existing contours. If no reuse option is available for concrete waste on site or at another location where such fill is allowed, it would be removed to a landfill by a licensed waste hauler. The Council adopts Condition (106), which addresses requirements for disposal of waste concrete.

During operation, small quantities of office waste, such as paper, food packaging and scraps, would be generated at the O&M building. In addition, there could be small quantities of solid waste from repair or replacement of electrical or turbine equipment. The applicant's plan for solid waste management during operation of the facility is described in Exhibit V. The Council adopts Condition (107), which summarizes the applicant's plan. Waste from the O&M building and other solid waste generated on site would be collected and recycled as feasible. Non-recyclable wastes would be collected and transported to a local landfill by a licensed waste hauler.

Hazardous materials that could be used on the project site during construction or operation include lubricating oils, cleaners and herbicides. Hazardous wastes, such as oily rags or similar wastes related to turbine lubrication and other maintenance, would be generated during construction and operation. The applicant would use hazardous materials in a manner that is protective of human health and the environment and would comply with all applicable local, state, and federal environmental laws and regulations. If accidental spills of hazardous materials were to occur, the spill would be cleaned up and the contaminated soil or other materials disposed of and would be treated according to applicable regulations. The Council adopts Condition (73), which addresses proper handling of hazardous materials, and Condition (74), which addresses preparation for and response to spills and accidental releases of hazardous materials.

Measures for reducing, reusing and recycling solid waste upon retirement would be addressed as part of the retirement plan that the Council must approve before retirement of the facility (Condition (9)).

B. Wastewater

During construction, wastewater would be generated from the wash down of concrete trucks after concrete loads have been emptied. The Council adopts Condition (80), which would require that wash down occur only at an existing contractor-owned batch plant or at tower foundation locations. In addition, the Council adopts Condition (103), which would require that portable toilets be provided for on-site sewage handling during construction and that they be pumped and cleaned regularly by a licensed contractor.

During operation, sewage from the O&M building would be discharged to an on-site septic system. Water used for blade washing would evaporate on site. Any wastewater generated during retirement would be addressed as part of the retirement plan that the Council must approve before retirement of the facility.

C. Impact on Surrounding and Adjacent Areas

The accumulation, storage, disposal and transportation of waste generated by construction and operation of the proposed facility would have minimal adverse impact on surrounding and adjacent areas. Most waste would be removed from the site and reused, recycled or disposed of at an appropriate facility.

Transportation of wastes to landfills or recycling facilities would involve periodic truck trips over public and private roads between the facility site and the landfill or recycling facilities. Because of the expected low volume of waste materials, these trips would not have an adverse impact on surrounding and adjacent areas.

Water used on site during construction for dust suppression and road compaction would evaporate or infiltrate into the ground. Water would not be discharged to wetlands, lakes, rivers or streams.

During construction, the certificate holder would ensure that contractors manage and monitor waste generation and recycle or dispose of wastes in an appropriate manner. During operation, the operations staff would be responsible for a waste management program, ensuring that solid waste is recycled to the extent feasible or disposed of in dumpsters and that hazardous wastes are properly disposed of in accordance with applicable regulations.

V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS

1. Requirements under Council Jurisdiction

Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-022-0000, the Council must determine that the proposed facility complies with "all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility." Applicable Oregon statutes and administrative rules that are not otherwise addressed in Section IV of this order include the noise control regulations adopted by the Environmental Quality Commission, the Division of State Lands' regulations for removal or fill of material affecting waters of the state, the Water Resources Department's (WRD) regulations for appropriating ground water, the Oregon Department of Transportation's regulations for location and construction of buried cables within State Highway right-of-way and the Council's statutory authority to consider protection of public health and safety.

(a) Noise Control Regulations

The applicable noise control regulations are as follows:

OAR 340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

* * *

(b) New Noise Sources:

* * *

(B) New Sources Located on Previously Unused Site:

(i) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

(ii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with windspeed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(III) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

(IV) For purposes of determining whether a proposed wind energy facility would satisfy the ambient noise standard where a landowner has not waived the standard, noise levels at the appropriate measurement point are predicted assuming that all of the proposed wind facility's turbines are operating between cut-in speed and the wind speed corresponding to the maximum sound power level established by IEC 61400-11 (version 2002-12). These predictions must be

compared to the highest of either the assumed ambient noise level of 26 dBA or to the actual ambient background L10 and L50 noise level, if measured. The facility complies with the noise ambient background standard if this comparison shows that the increase in noise is not more than 10 dBA over this entire range of wind speeds.

(V) For purposes of determining whether an operating wind energy facility complies with the ambient noise standard where a landowner has not waived the standard, noise levels at the appropriate measurement point are measured when the facility's nearest wind turbine is operating over the entire range of wind speeds between cut-in speed and the windspeed corresponding to the maximum sound power level and no turbine that could contribute to the noise level is disabled. The facility complies with the noise ambient background standard if the increase in noise over either the assumed ambient noise level of 26 dBA or to the actual ambient background L10 and L50 noise level, if measured, is not more than 10 dBA over this entire range of wind speeds.

(VI) For purposes of determining whether a proposed wind energy facility would satisfy the Table 8 standards, noise levels at the appropriate measurement point are predicted by using the turbine's maximum sound power level following procedures established by IEC 61400-11 (version 2002-12), and assuming that all of the proposed wind facility's turbines are operating at the maximum sound power level.

(VII) For purposes of determining whether an operating wind energy facility satisfies the Table 8 standards, noise generated by the energy facility is measured at the appropriate measurement point when the facility's nearest wind turbine is operating at the windspeed corresponding to the maximum sound power level and no turbine that could contribute to the noise level is disabled.

* * *

Findings of Fact

Applicable Regulations

The proposed facility would be a "new industrial or commercial noise source" under OAR 340-035-0035 because construction of the facility would begin after January 1, 1975.[111] The noise control regulations impose different limits on new noise sources constructed on a "previously used industrial or commercial site" compared to the limits imposed on new sources constructed on a "previously unused industrial or commercial site." A site is considered a "previously unused industrial or commercial site" if the site has not been not been used by any industrial or commercial noise source at any time during the 20 years preceding the construction of a new noise source on the site.[112] According to the applicant, all the equipment associated with the proposed KWP would be located on property that has not been used for industrial or commercial operations during the past 20 years. Therefore, the noise generated by the proposed project must comply with OAR 340-035-0035(1)(b)(B).

[111] OAR 340-035-0015(33) defines "new industrial or commercial noise source."
[112] OAR 340-035-0015(47) defines "previously unused industrial or commercial site." Agricultural activities are specifically excluded from this definition.

The regulation quoted above requires that the noise generated by a new wind energy facility located on a previously unused site must comply with two tests. Facility-generated noise must not increase the ambient hourly L_{10} or L_{50} noise levels at any noise sensitive receiver by more than 10 decibels (dBA[113]) when turbines are operating "between cut-in speed and the wind speed corresponding to the maximum sound power level."[114] This requirement is known as the "ambient degradation" test. To show that a proposed facility complies with this test, the applicant may use an assumed ambient hourly L_{50} noise level of 26 dBA; otherwise, the applicant must measure the actual ambient hourly noise levels at the receiver in accordance with the procedures specified in the regulation. OAR 340-035-0035(1)(b)(B)(iii)(III) relieves the applicant from having to show compliance with the ambient degradation test "if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located."

The potential "waiver" of the ambient degradation test does not relieve the wind facility from compliance with the second test imposed under OAR 340-035-0035(1)(b)(B). A new wind energy facility located on a previously unused site must not radiate sound levels to any noise sensitive receiver exceeding the noise limits specified in Table 8 of the regulation. This is known as the "Table 8" or "maximum allowable" test. Table 8 provides the following limits:

Statistical Noise Limits for Industrial and Commercial Sources		
Statistical Descriptor	**Maximum Permissible Statistical Noise Levels (dBA)**	
	Daytime (7:00 AM - 10:00 PM)	**Nighttime (10:00 PM - 7:00 AM)**
L_{50}	55	50
L_{10}	60	55
L_1	75	60
The hourly L_{50}, L_{10} and L_1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively.		

The proposed energy facility would operate on a 24-hour basis. Therefore, the noise radiating from the proposed facility must not exceed the maximum allowable nighttime noise limits (10:00 PM to 7:00 AM). Consequently, to comply with the maximum allowable test, the noise radiating from the KWP must not exceed an hourly L_{50} noise level of 50 dBA at any noise sensitive receiver. For the purpose of determining whether a proposed wind facility would comply with this test, noise levels must be predicted "assuming that all of the proposed wind facility's turbines are operating at the maximum sound power level."

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[113] The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network, which corresponds to the frequency response of the human ear.

[114] The regulation applies the test "as measured at an appropriate measurement point." The "appropriate measurement point," as defined by OAR 340-035-0015(3), is "25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source" or "that point on the noise sensitive property line nearest the noise source," whichever is farther from the source. OAR 340-035-0015(38) defines "noise sensitive property" as "real property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries." Private residences are the only "noise sensitive properties" potentially affected by the proposed KWP. We refer to these as the "noise sensitive receivers."

Compliance with the Regulations

OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities. Construction of the proposed KWP would produce localized, short duration noise levels similar to those produced by any large construction project with heavy construction equipment. Much of the project work would be far removed from any noise sensitive receivers. Nevertheless, in those areas near residences, the certificate holder should confine the noisiest construction activities to daylight hours to help mitigate noise impacts at the residences (Condition (101)).

The applicant has elected to use the assumed ambient hourly L_{50} noise level of 26 dBA for the background ambient noise level rather than to conduct noise measurements at the noise sensitive receivers in the vicinity of the project. Accordingly, to show compliance with the ambient degradation test, the noise generated by the operation of the proposed KWP wind turbines between cut-in wind speed and maximum sound power level wind speed must not cause the hourly L_{50} noise level at any noise sensitive receiver to exceed 36 dBA.

KIII proposes to use either GE 1.5-MW or Vestas 1.65-MW wind turbines. For the purpose of predicting the noise generated by the wind facility, KIII used the sound data associated with the GE 1.5-MW turbines because those turbines reportedly have the potential of generating higher maximum noise levels within the operating wind speeds associated with the two turbine types.[115] In predicting the noise from the turbines, KIII assumed the maximum sound power level of 106 dBA that is guaranteed by the manufacturer, and in predicting the noise that would be generated by substation transformers, KIII utilized a predicted maximum sound power level of 103.8 dBA.[116]

KIII identified seven noise sensitive receivers that have the potential of receiving noise from the proposed facility. To accommodate the applicant's request for flexibility to construct wind turbines within a 900-foot-wide micrositing corridor, the Department asked the applicant to predict the noise levels at the noise sensitive receivers assuming that the turbines were located at the edge of the 900-foot corridor closest to the receiver. To perform the analysis, KIII used the Sound Propagation Model for Outdoor Noise Sources (SPM 9613, Version 2) to predict turbine noise levels at the seven locations. Based on the assumed turbine locations, the predicted hourly L_{50} noise levels at five of the seven receivers would exceed the 36 dBA limit of the "ambient degradation" test, but turbine operating noise would not exceed the "maximum allowable" (Table 8) test at any of the receivers. Table 9 shows the predicted maximum noise levels[117]:

[115] E-mail from Jesse Gronner, dated January 10, 2006, regarding "Vestas noise info" (App Supp, Tab X, Item v).
[116] Memo from TW Environmental, dated January 10, 2006 (App Supp, Tab X, Item vii).
[117] The table shows results based on modeling data from TW Environmental (App Supp, Tab X, Items vii and viii).

Table 9: Predicted Noise Based on Assumed Turbine Locations

Receiver	Predicted Maximum Hourly L_{50} Noise Level (dBA)
R1	35
R2	36
R3	38
R4	43
R5	41
R6	45
R7	43

As shown in Table 9, the predicted noise levels at R3, R4, R5, R6 and R7 exceed the ambient degradation limit. The predicted noise level at R7 includes the predicted noise contributed from the transformer at the proposed Webfoot substation, assuming the substation is located nearest R7 within the 4-acre parcel with no shielding by the proposed O&M building.

The applicant identified the particular turbines that would contribute to causing the facility to generate noise in excess of the ambient degradation limit. To reduce noise from the facility to an acceptable level, these turbines would have to be eliminated or moved (within the micrositing corridors) farther away from the noise sensitive receivers. Table 10 lists the turbines and the affected noise sensitive receivers.[118]

Table 10: Turbines Potentially Contributing to Excessive Noise

Receiver	Turbine Number (Wpt)
R3	48 and 49
R4	58, 59, 60, 61, 62, 63 and 64
R5	58, 59 and 60
R6	89, 90, 91, 92, 93, 94, 97, 98, 99, 100, 101, 102, 126, 127, 128 and 136
R7	93, 94, 101, 102, 126, 127, 128, 129, 130, 131, 132, 136, 137, 138 and 139

The Council adopts Condition (102). As provided under OAR 340-035-0035(1)(b)(B)(iii)(III), the certificate holder would be relieved from having to show compliance with the ambient degradation test by obtaining a "legally effective easement or real covenant" from the affected landowner. To address compliance for those properties for which the landowner has not provided a "waiver" of the ambient degradation test, Condition (102) requires the certificate holder to present data before construction begins to demonstrate that the facility would not generate noise in excess of 36 dBA at the property when the turbines listed in Table 10 are placed in their final design locations.

Under OAR 340-035-0035(4)(a), DEQ has authority to require the owner of an operating noise source to monitor and record the statistical noise levels upon written notification. In the event of a complaint regarding noise levels during the operation of the proposed KWP, the Council has authority to act in the place of DEQ to enforce this provision

[118] Turbine location numbering corresponds to turbine locations as shown on the Turbine Location Map (App Appendix C-3).

to verify that the certificate holder is operating the facility in compliance with the noise control regulation. Under Condition (3), the certificate holder would be required to operate the facility in accordance with all applicable state laws.

Conclusions of Law

Based on the findings and conditions discussed above, the Council finds that the proposed facility would comply with the applicable state noise control regulations (OAR 340-035-0035(1)(b)(B)). The Council finds that a site certificate for the facility should include Conditions (101) and (102).

(b) Removal-Fill Law

The Oregon Removal-Fill Law (ORS 196.800 through 990) and regulations (OAR 141-085-0005 through 141-085-0090) adopted by the Department of State Lands (DSL) require a Removal/Fill Permit if 50 cubic yards or more of material is removed, filled or altered within any "waters of the state" at the proposed site.[119] The Council must determine whether a permit is needed. In addition, the U.S. Army Corps of Engineers administers Section 404 of the Clean Water Act, which regulates the discharge of fill into waters of the United States (including wetlands). Under Section 404, a federal Nationwide or Individual fill permit may be required.

Findings of Fact

KIII provided information about wetlands and other waters of the state in Exhibit J of the application. The applicant's contractor, David Evans and Associates, Inc. (DEA), conducted field investigation for wetlands following the procedures in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The DEA field investigation addressed the area within a 300-foot survey corridor centered on the proposed turbine strings and a 60-foot survey corridor centered on linear components outside of turbine strings (proposed new roads, existing roads requiring upgrade, underground collector system and aboveground collector line).[120] In addition, the field investigation area included the actual footprint (with no surrounding "buffer") of all proposed laydown areas and substations. DEA reviewed the entire area for possible wetlands or other waters of the state but selected 25 sample plots in areas believed to have the highest probability of containing such features (ravine bottoms, depressions and other areas that could potentially collect water). The sample plots included areas mapped as wetlands by the National Wetlands Inventory and areas mapped as intermittent or perennial drainages by the U.S. Geological Survey. DEA conducted a ground survey of the sample plots in January 2005.

The applicant provided a wetland delineation report, which summarized the field investigation.[121] DSL reviewed the applicant's delineation report and found that the report identified one wetland unit (0.13 acres) and one intermittent waterway (a drainage channel).

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[119] OAR 141-085-0010(225) defines "Waters of this State." The term includes wetlands and certain other water bodies.

[120] Although Appendix J-1 describes the "site boundary" somewhat differently, DSL subsequently concurred that the delineation report adequately addressed the area within a 300-foot survey corridor centered on turbine strings (Letter from Jill Myatt, DSL, to Jesse Gronner, January 5, 2006).

[121] Wetland Delineation Report: Klondike III Wind Project (March 2005), App Appendix J-1.

DSL found that the wetland was subject to the permit requirements of the Removal-Fill Law but that the intermittent waterway was not jurisdictional.[122]

The applicant proposes to avoid any impact on the two identified features. At locations where the proposed underground collector system would cross the drainage channel, the applicant would bore under the channel. The proposed aboveground transmission line crosses over the channel and the wetland area. The applicant would locate transmission line support structures outside of the channel and the wetland. By using these measures, there would be no removal or fill of material within the jurisdictional wetland identified by DSL and no need for a Removal/Fill Permit. For the same reason, a Section 404 federal permit would not be required because there could be no impact on any waters of the United States.

No field investigation has been done in areas within the proposed 900-foot micrositing corridors but outside the DEA investigation area described above. To ensure that a Removal/Fill Permit would not be needed for construction of the KWP anywhere within the micrositing corridor, the applicant proposed a site certificate condition that would require a pre-construction field investigation after the final turbine design locations have been identified. The Council adopts Condition (79), which would ensure that the facility would have no impact on jurisdictional waters of the state. Based on the final design layout of the facility, if construction would occur in any locations not previously investigated by DEA as described in Appendix J-1 of the application, the certificate holder would conduct a pre-construction investigation to determine whether any jurisdictional waters of the state exist in those locations. The condition requires that there be no impact on any jurisdictional water identified in the pre-construction investigation.

Conclusions of Law

Based on the findings and conditions discussed above, the Council concludes that a Removal-Fill Permit is not required. The Council finds that a site certificate for the facility should include Condition (79).

(c) Ground Water Act

Through the provisions of the Ground Water Act of 1955, ORS 537.505 to ORS 537.796, and OAR Chapter 690, the Oregon Water Resources Commission administers the rights of appropriation and use of the ground water resources of the state. Under OAR 345-022-0000(1), the Council must determine whether the proposed KWP complies with these statutes and administrative rules.

Findings of Fact

The construction and operation of the proposed KWP would not require a new or transferred water right. During construction, approximately 18 million gallons of water would be used primarily for dust suppression, road compaction and concrete mixing. The applicant anticipates that a variety of sources could supply this water. To show that adequate water is available in the area, KIII provided a letter from the City of Arlington, indicating that the city could supply all of the water needed for construction of the KWP.[123]

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[122] Letter from Jill Myatt, DSL, to Jesse Gronner, September 26, 2005.

[123] Letter from Tim Wetherell, City of Arlington Public Works Director, dated February 27, 2006 (attachment to e-mail from Jesse Gronner, dated February 28, 2006, regarding "water right issue").

During operation of the facility, water would come from a new on-site well. The volume of water used would be less than 5,000 gallons per day. ORS 537.545(1)(f) provides that a new water right is not required for industrial and commercial uses of up to 5,000 gallons per day. During operation, water would be used for domestic purposes at the O&M facility and possibly for turbine blade-washing, subject to Condition (83), under which the certificate holder would demonstrate to the Department that blade-washing would be authorized under a DEQ general permit or that no permit would be required.

Conclusions of Law

Based on the findings above, the Council concludes that, subject to the conditions stated herein, the proposed use of ground water for the construction and operation of the proposed KWP complies with the Ground Water Act of 1955 and the rules of the Water Resources Department. The Council finds that a site certificate for the facility should include Condition (83).

(d) Utility Crossing of a State Highway

Under OAR Chapter 734, Division 55, the Oregon Department of Transportation regulates the location, installation, construction, maintenance and use of utility structures, including buried cables, within State Highway right-of-way. The proposed facility would include underground collector lines that would cross under Highway 206 along Smith Lane to the north of turbine string "D."[124] The certificate holder would be required to obtain the necessary permit from ODOT before beginning construction (Condition (86)).

In consultation with ODOT, the Council has authority to determine whether the applicant has met the requirements for a utility crossing permit, and the Council has authority to impose conditions in the permit.[125] ODOT would issue the permit, based on the conditions of the site certificate. ODOT retains enforcement authority over the permit.[126] ODOT has recommended that the Council find that the applicant has met the permit requirements and has provided a draft permit that includes recommended conditions.[127]

The Council finds that KIII has met the permit requirements. The Council instructs ODOT to issue a permit substantially in the form of Attachment D upon submission by the applicant of the proper application and payment of the proper fee as provided under ORS 469.401(3).

(e) Public Health and Safety

Under ORS 469.310 the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety...." State law further provides that "the site certificate shall contain conditions for the protection of the public health and safety...." ORS 469.401(2).

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[124] Figure P-1 (App Supp, Tab P, Item 1).
[125] ORS 469.503(3).
[126] ORS 469.401(3).
[127] E-mail from Patrick Smith, ODOT, April 12, 2006.

Findings of Fact

We discuss specific public health and safety standards for wind energy facilities above at page 62. In this section we discuss the issues of fire protection, magnetic fields, highway safety and coordination with the Oregon Public Utilities Commission.

A. Fire Protection

The certificate holder would develop and implement a fire management plan during construction in consultation with local fire control authorities (Condition (66)). The plan would include measures to reduce the risk of wildfire and to respond appropriately to any fires that occur on the facility site. The certificate holder would ensure that construction vehicles and equipment are operated on graveled areas to the extent possible and that open flames, such as cutting torches, are kept away from dry grass areas (Condition (68)).

Turbine towers and pad-mounted transformers would be constructed with a concrete pad around each base and a minimum of 10 feet of non-flammable ground cover on all sides (Condition (65)). The turbines would have automatic equipment protection features that would shut down the turbine if a malfunction occurs and reduce the chance of a mechanical problem causing a fire (Condition (63)). Service vehicles used for regular maintenance or construction at the site would be equipped with a shovel and portable fire extinguisher of a 4A5OBC or equivalent rating (Condition (67)).

The certificate holder would develop and implement a fire management plan during facility operation in consultation with local fire control authorities (Condition (66)). During operation, all on-site employees would receive annual fire prevention and response training by qualified instructors or members of the local fire department (Condition (70)). Employees would be instructed to keep vehicles on roads and off dry grassland, except when off-road operation is required for emergency purposes. The certificate holder would provide to the county fire department a copy of the approved site plan indicating the identification number assigned to each turbine and the location of all facility structures (Condition (69)). Fire control authorities would also receive the names and telephone numbers of facility personnel to contact in an emergency.

B. Magnetic Fields

The proposed facility would include a network of underground and aboveground electric transmission lines (collector system) and an aboveground 230-kV transmission line to carry power from the eastern section of the project to the proposed facility substation near Schoolhouse. Electric transmission lines create both electric and magnetic fields. Electric fields produced by the proposed KWP transmission lines are addressed above at page 66, and for the reasons discussed there, the electric fields would not exceed the Council's standard of 9 kV per meter at one meter above the ground surface in areas accessible to the public.

The strength of a magnetic field is a function of the current (amperage) in the electric transmission line: the higher the current, the greater the strength of the magnetic field. The magnetic field strength decreases as the distance from the conductor increases. The strength of a magnetic field fluctuates hourly and daily with changes in the amount of current in the transmission line caused by the electrical load. Magnetic field strength is measured in units of milligauss (mG). The applicant calculated magnetic field strength using "Corona and Field

Effect Program (Version 3)," a software tool developed by the Bonneville Power Administration.

The Council has previously considered the issue of whether exposure to magnetic fields might cause health risks.[128] This issue has been the subject of considerable scientific research and discussion. Based on its review in other cases, the Council has concluded that the credible evidence of a health risk from low levels of exposure to magnetic fields is inconclusive. The Council has not found sufficient information upon which to set health-based limits for exposure to magnetic fields. Nevertheless, given the uncertainty about possible health consequences, the Council has encouraged applicants to propose low-cost ways to reduce or manage public exposure to magnetic fields from transmission lines under the Council's jurisdiction. This approach is sometimes referred to as "prudent avoidance." The Council adopts Condition (88), which would reduce public exposure to magnetic fields.

Aboveground 230-kV Transmission Line

For the aboveground 230-kV line, KIII determined that the maximum magnetic field strength would occur directly beneath the line at mid-span. The analysis assumed the lowest mid-span conductor height of 30 feet. KIII determined that the maximum magnetic field strength would be 92.7 mG and that the field strength would decrease to 2.7 mG at 200 feet from the centerline.[129] There would be no residential structures within 200 feet of the transmission line.

Aboveground 34.5-kV Transmission Line

The aboveground 34.5-kV line would include segments of single-circuit or double-circuit line. The applicant calculated that the highest magnetic field (maximum current during peak load) below a single-circuit line would be 49.6 mG and below a double-circuit line would be 86.2 mG.[130]

Underground 34.5-kV Transmission Line

KIII estimated the potential magnetic field strength from the underground 34.5-kV transmission lines considering two cases: one, where the circuit is remote from other circuits, and, two, where the circuit parallels other circuits. The magnetic field strength calculation assumed that the cables would be buried underground at a depth of 48 inches. KIII determined that the maximum magnetic field strength for the underground system would be 41.05 mG and would occur for main feeder circuits isolated from other circuits, because some cancellation of fields occurs when several circuits are parallel and in proximity.[131]

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[128] Final Order for the Klamath Generation Facility, September 2005; Final Order for the COB Energy Facility, January 2005; Final Order for the Summit/Westward Project, October 2002; Final Order for the Port Westward Generating Project, November 2002; Final Order for the Hermiston Power Project, March 1996; Report of the EMF Committee to the Energy Facility Siting Council, dated March 30, 1993; Final Report on Human Health Effects from Exposure to 60-Hz Electric and Magnetic Fields from High Voltage Power Lines to the Council, dated April 1990.

[129] App Supp Tab AA, Item iii.

[130] App Supp, Tab AA, Item iv.

[131] App Supp, Tab AA, Item i.

C. Highway Safety

State Highway 206 crosses the southwest part of the KWP facility site between turbine string "D" and turbine string "E."[132] In comments to the Department, ODOT expressed concern about traffic safety in the area.[133] Wind turbines located close to the highway might distract motorists' attention. ODOT recommended improvements to the highway shoulders to give motorists a safe place to stop and view the turbines. The Council adopts Condition (75), which would require the certificate holder to cooperate with ODOT to implement improvements to the highway shoulders.

D. Coordination with the PUC

The Oregon Public Utility Commission Safety and Reliability Section ("PUC") has previously requested that the Council ensure that certificate holders coordinate with PUC staff on the design and specifications of electrical transmission lines. The PUC has explained that others in the past have made inadvertent, but costly, mistakes in the design and specifications of transmission lines that could have easily been corrected early if the developer had consulted with the PUC staff responsible for the safety codes and standards. The certificate holder would be required to coordinate the design of electrical transmission lines with the PUC (Condition (85)).

Conclusions of Law

Based on the findings and conditions discussed above, the Council concludes that the siting, construction and operation of the proposed KWP facilities, subject to the conditions stated in this order, are consistent with protection of public health and safety. The Council finds that a site certificate for the facility should include Conditions (63), (65), (66), (67), (68), (69), (70), (75), (85) and (88).

2. Summary of Monitoring Requirements

This section summarizes site certificate requirements for monitoring that would apply to the proposed facility. Condition (20) requires the certificate holder to have specific monitoring programs for impacts to resources protected by Council standards and to resources addressed by other applicable statutes, administrative rules and local ordinances. The certificate holder's monitoring programs should include the requirements listed below and any other monitoring necessary to comply with site certificate conditions.

1) Cultural Resources: The certificate holder must monitor construction activities to ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archaeological or cultural resources are found (Condition (50)) and to ensure that construction personnel proceed carefully in the vicinity of the mapped alignment of the Oregon Trail (Condition (51)).

2) Operational Safety: The certificate holder must have an operational safety monitoring program, including inspection of turbine blades on a regular basis for signs of wear (Condition (62)).

[132] Figure P-1 (App Supp, Tab P, Item 1).
[133] E-mail from Patrick Smith, ODOT, March 15, 2006.

3) Fire Control: The certificate holder must have a fire management plan, including monitoring the site to minimize the risk of fire and to respond appropriately to any fires that occur (Condition (66)).

4) Hazardous Materials: The certificate holder must monitor the use of hazardous materials to ensure protection of public health, safety and the environment (Condition (73)).

5) Soil Impacts: The certificate holder must implement an Erosion and Sediment Control Plan during construction to minimize adverse impacts to soils (Condition (76)) and must monitor the facility site during operation to maintain or repair erosion control measures (Condition (82)).

6) Post-Construction Revegetation: The certificate holder must restore areas temporarily disturbed during construction as described in the Revegetation Plan, including monitoring of the revegetated areas to ensure that success criteria are met (Condition (81)).

7) Weed Control: The certificate holder must monitor the facility site during operation to control the spread of noxious weeds (Condition (89)).

8) Wildlife nest avoidance: The certificate holder must monitor raptor nest locations during construction to comply with restrictions of construction activity within 1300 feet of active nests (Condition (94)).

9) Wildlife Monitoring: The certificate holder must monitor the facility site for impacts to avian and bat species in accordance with a Wildlife Monitoring and Mitigation Plan (Condition (95)).

10) Habitat Mitigation: The certificate holder must monitor the habitat mitigation site to ensure that success criteria are met and maintained for the life of the facility (Condition (97)).

3. Requirements That Are Not Under Council Jurisdiction

(a) Federally-Delegated Programs

Under ORS 469.503(3), the Council does not have jurisdiction for determining compliance with statutes and rules for which the federal government has delegated the decision on compliance to a state agency other than the Council. Nevertheless, the Council may rely on the determinations of compliance and the conditions in the federally-delegated permits issued by these state agencies in deciding whether the proposed facility meets other standards and requirements under its jurisdiction.

The applicant has applied to the Oregon Department of Environmental Quality (DEQ) for the NPDES 1200-C General Construction Storm Water permit, and DEQ has assigned the project to the 1200-C general permit.[134]

[134] E-mail from Richard Nichols, DEQ, February 13, 2006, regarding "Klondike III and Bigalow."

(b) Requirements That Do Not Relate to Siting

Under ORS 469.401(4), the Council does not have authority to preempt the jurisdiction of any state agency or local government over matters that are not included in and governed by the site certificate or amended site certificate. Such matters include design-specific construction or operating standards and practices that do not relate to siting. Nevertheless, the Council may rely on the determinations of compliance and the conditions in the permits issued by these state agencies and local governments in deciding whether the facility meets other standards and requirements under its jurisdiction.

VI. CONDITIONS REQUIRED BY COUNCIL RULES

This section lists conditions to be included in the site certificate as specifically required by OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site Specific Conditions), OAR 345-027-0028 (Monitoring Conditions) and OAR Chapter 345, Division 26 (Construction and Operation Rules for Facilities). These conditions should be read together with the specific facility conditions listed in Section VII to ensure compliance with the siting standards of OAR Chapter 345, Divisions 22 and 24, and to protect the public health and safety. References in preceding sections to specific conditions are included for convenience only. Such references do not relieve the certificate holder from the obligation to comply with all site certificate conditions. In these conditions, "Office of Energy" means the Oregon Department of Energy, and the other definitions in OAR 345-001-0010 apply.

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this section and in Section VII is subject to the provisions of OAR 345-001-0040, which addresses information that may be exempt under the Oregon Public Records Law. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure under ORS 192.502 *et seq*. or ORS 469.560 if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

In addition to all other conditions stated in this order, the site certificate holder is subject to all conditions and requirements contained in the rules of the Council and in local ordinances and state law in effect on the date the certificate is executed. Under ORS 469.401(2), upon a clear showing of a significant threat to the public health, safety or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by KIII's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

(1) OAR 345-027-0020(1): The Council shall not change the conditions of the site certificate except as provided for in OAR Chapter 345, Division 27.

(2) OAR 345-027-0020(2): Except as provided in OAR 345-027-0023(6), before beginning construction, the certificate holder shall submit to the Office of Energy a legal description of the site.

(3) OAR 345-027-0020(3): The certificate holder shall design, construct, operate and retire the facility:

(a) Substantially as described in the site certificate;

(b) In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and

(c) In compliance with all applicable permit requirements of other state agencies.

(4) OAR 345-027-0020(4): The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate. (*See conditions (26) and (27).*)

(5) OAR 345-027-0020(5): Except as necessary for the initial survey or as otherwise allowed for transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities. For transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if:

(a) The certificate holder has construction rights on that part of the site; and

(b) The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of the transmission line or pipeline occurs during the certificate holder's negotiations to acquire construction rights on another part of the site.

(6) OAR 345-027-0020(6): If the Council requires mitigation based on an affirmative finding under any standards of Division 22 or Division 24 of this chapter, the certificate holder shall consult with affected state agencies and local governments designated by the Council and shall develop specific mitigation plans consistent with Council findings under the relevant standards. The certificate holder must submit the mitigation plans to the Office and receive Office approval before beginning construction or, as appropriate, operation of the facility.

(7) OAR 345-027-0020(7): The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.

(8) OAR 345-027-0020(8): Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit, satisfactory to the Council, in an amount specified in the site certificate to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility. (*See Condition (32).*)

(9) OAR 345-027-0020(9): The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site.

(10) OAR 345-027-0020(10): The Council shall include as conditions in the site certificate all representations in the site certificate application and supporting record the Council deems to be binding commitments made by the applicant.

(11) OAR 345-027-0020(11): Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape portions of the site disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall dispose of all temporary structures not required for facility operation and all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.

(12) OAR 345-027-0020(12): The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement and subsidence.

(13) OAR 345-027-0020(13): The certificate holder shall notify the Office of Energy, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Office receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose mitigation actions.

(14) OAR 345-027-0020(14): The certificate holder shall notify the Office, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site.

(15) OAR 345-027-0020(15): Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Office of Energy of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.

(16) OAR 345-027-0020(16): If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Office within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the

specified date, the Council may direct the Office to prepare a proposed a final retirement plan for the Council's approval. Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.

(17) OAR 345-027-0023(4): If the energy facility or related or supporting facility is a transmission line, the certificate holder shall restore the reception of radio and television at residences and commercial establishments in the primary reception area to the level present prior to operations of the transmission line, at no cost to residents experiencing interference resulting from the transmission line.

(18) OAR 345-027-0023(5): If the facility includes any high voltage transmission line under Council jurisdiction:

(a) The certificate holder shall design, construct and operate the transmission line in accordance with the requirements of the National Electrical Safety Code (American National Standards Institute, Section C2, 1997 Edition); and

(b) The certificate holder shall develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line.

(19) OAR 345-027-0023(6): If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a pipeline or transmission line, the Council shall specify an approved corridor in the site certificate and shall allow the certificate holder to construct the pipeline or transmission line anywhere within the corridor, subject to the conditions of the site certificate. If the applicant has analyzed more than one corridor in its application for a site certificate, the Council may, subject to the Council's standards, approve more than one corridor. Before beginning operation of the facility, the certificate holder shall submit to the Office a legal description of the permanent right-of-way where the applicant has built the pipeline or transmission line within an approved corridor. The site of the pipeline or transmission line subject to the site certificate is the area within the permanent right-of-way.

(20) OAR 345-027-0028: The following general monitoring conditions apply:

(a) The certificate holder shall consult with affected state agencies, local governments and tribes and shall develop specific monitoring programs for impacts to resources protected by the standards of divisions 22 and 24 of this chapter and resources addressed by applicable statutes, administrative rules and local ordinances. The certificate holder must submit the monitoring programs to the Office of Energy and receive Office approval before beginning construction or, as appropriate, operation of the facility.

(b) The certificate holder shall implement the approved monitoring programs described in section (a) and monitoring programs required by permitting agencies and local governments.

(c) For each monitoring program described in sections (a) and (b), the certificate holder shall have quality assurance measures approved by the Office before beginning construction or, as appropriate, before beginning commercial operation.

(d) If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the Office describing the impact on the facility and any affected site certificate conditions.

(21) OAR 345-026-0048: Following receipt of the site certificate, the certificate holder shall implement a plan that verifies compliance with all site certificate terms and conditions and applicable statutes and rules. As a part of the compliance plan, to verify compliance with the requirement to begin construction by the date specified in the site certificate, the certificate holder shall report promptly to the Office of Energy when construction begins. Construction is defined in OAR 345-001-0010. In reporting the beginning of construction, the certificate holder shall describe all work on the site performed before beginning construction, including work performed before the Council issued the site certificate, and shall state the cost of that work. For the purpose of this exhibit, "work on the site" means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor. The certificate holder shall document the compliance plan and maintain it for inspection by the Office of Energy or the Council.

(22) OAR 345-026-0080: The certificate holder shall report according to the following requirements:

(a) General reporting obligation for non-nuclear facilities under construction or operating:

(i) Within six months after beginning construction, and every six months thereafter during construction of the energy facility and related or supporting facilities, the certificate holder shall submit a semiannual construction progress report to the Council. In each construction progress report, the certificate holder shall describe any significant changes to major milestones for construction. The certificate holder shall include such information related to construction as specified in the site certificate. When the reporting date coincides, the certificate holder may include the construction progress report within the annual report described in this rule;

(ii) The certificate holder shall, within 120 days after the end of each calendar year after beginning construction, submit an annual report to the Council addressing the subjects listed in this rule. The Council secretary and the certificate holder may, by mutual agreement, change the reporting date.

(b) To the extent that information required by this rule is contained in reports the certificate holder submits to other state, federal or local agencies, the certificate holder may submit excerpts from such other reports to satisfy this rule. The Council reserves the right to request full copies of such excerpted reports.

(c) In the annual report, the certificate holder shall include the following information for the calendar year preceding the date of the report:

(i) Facility Status: An overview of site conditions, the status of facilities under construction, and a summary of the operating experience of facilities that are in operation. In this section of the annual report, the certificate holder shall describe any unusual events, such as earthquakes, extraordinary windstorms, major accidents or the

like that occurred during the year and that had a significant adverse impact on the facility;

(ii) Reliability and Efficiency of Power Production: For electric power plants,

(A) The plant availability and capacity factors for the reporting year. If equipment failures or plant breakdowns had a significant impact on those factors, the certificate holder shall describe them and its plans to minimize or eliminate their recurrence;

(B) The efficiency with which the power plant converts fuel into electric energy. If the fuel chargeable to power heat rate was evaluated when the facility was sited, the certificate holder shall calculate efficiency using the same formula and assumptions, but using actual data; and

(C) The facility's annual hours of operation by fuel type and, every five years after beginning operation, a summary of the annual hours of operation by fuel type as described in OAR 345-024-0590(5);

(iii) Status of Surety Information: Documentation demonstrating that bonds or letters of credit as described in the site certificate are in full force and effect and will remain in full force and effect for the term of the next reporting period;

(iv) Industry Trends: A discussion of any significant industry trends that may affect the operations of the facility;

(v) Monitoring Report: A list and description of all significant monitoring and mitigation activities performed during the previous year in accordance with site certificate terms and conditions, a summary of the results of those activities, and a discussion of any significant changes to any monitoring or mitigation program, including the reason for any such changes;

(vi) Compliance Report: A description of all instances of noncompliance with a site certificate condition. For ease of review, the certificate holder shall, in this section of the report, use numbered subparagraphs corresponding to the applicable sections of the site certificate;

(vii) Facility Modification Report: A summary of changes to the facility that the certificate holder has determined do not require a site certificate amendment in accordance with OAR 345-027-0050; and

(viii) Nongenerating Facility Carbon Dioxide Emissions: For nongenerating facilities that emit carbon dioxide, a report of the annual fuel use by fuel type and annual hours of operation of the carbon dioxide emitting equipment as described in OAR 345-024-0630(4).

(23) OAR 345-026-0100: The certificate holder shall promptly notify the Office of Energy of any changes in major milestones for construction, decommissioning, operation or retirement schedules. Major milestones are those identified by the certificate holder in its construction, retirement or decommissioning plan.

(24) OAR 345-026-0105: The certificate holder and the Office of Energy shall exchange copies of all correspondence or summaries of correspondence related to compliance with statutes, rules and local ordinances on which the Council determined compliance, except for material withheld from public disclosure under state or federal law or under Council rules. The certificate holder may submit abstracts of reports in place of full reports; however, the certificate holder shall provide full copies of abstracted reports and any summarized correspondence at the request of the Office of Energy.

(25) OAR 345-026-0170: The certificate holder shall notify the Office of Energy within 72 hours of any occurrence involving the facility if:

(a) There is an attempt by anyone to interfere with its safe operation;

(b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused event such as a fire or explosion affects or threatens to affect the public health and safety or the environment; or

(c) There is any fatal injury at the facility.

VII. SPECIFIC FACILITY CONDITIONS

The conditions listed in this section include conditions based on representations in the site certificate application and supporting record. The Council deems these representations to be binding commitments made by the applicant. These conditions are required under OAR 345-027-0020(10). The certificate holder must comply with these conditions in addition to the conditions listed in Section VI. This section includes other specific facility conditions the Council finds necessary to ensure compliance with the siting standards of OAR Chapter 345, Divisions 22 and 24, and to protect the public health and safety. For conditions that require subsequent review and approval of a future action, ORS 469.402 authorizes the Council to delegate the future review and approval to the Department if, in the Council's discretion, the delegation is warranted under the circumstances of the case.

1. Certificate Administration Conditions

(26) The certificate holder shall begin construction of the facility within three years after the effective date of the site certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by the Council Chair and the applicant. The Council may grant an extension of the deadline to begin construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted.

(27) The certificate holder shall complete construction of the facility within five years after the effective date of the site certificate. Construction is complete when: 1) the facility is substantially complete as defined by the certificate holder's construction contract documents, 2) acceptance testing has been satisfactorily completed and 3) the energy facility is ready to begin continuous operation consistent with the site certificate. The certificate holder shall promptly notify the Department of the date of completion of construction. The Council may grant an extension of the deadline for completing construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted.

(28) The certificate holder shall construct a facility substantially as described in the site certificate and may select one of two turbine types: the GE 1.5-megawatt wind turbine or the Vestas V82 1.65-megawatt wind turbine.

(29) The certificate holder shall obtain all necessary state and local permits or approvals required for construction, operation and retirement of the facility or ensure that its contractors obtain the necessary state and local permits or approvals.

(30) Before beginning construction, the certificate holder shall notify the Department in advance of any work on the site that does not meet the definition of "construction" in

OAR 345-001-0010 or ORS 469.300 and shall provide to the Department a description of the work and evidence that its value is less than $250,000.

(31) Before beginning construction and after considering all micrositing factors, the certificate holder shall provide to the Department a detailed map of the proposed facility, showing the final locations where facility components are proposed to be built in relation to the 300-foot and 900-foot corridors shown on Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006). In accordance with Condition (2), the certificate holder must submit a legal description of the site to the Department. For the purposes of this site certificate, the term "legal description" means a description of location by reference to a map and geographic data that clearly and specifically identifies the physical location of all parts of the facility. Notwithstanding OAR 345-027-0020(2), for the purposes of this site certificate, construction of parts of a wind facility within micrositing corridors is comparable to construction of pipelines or transmission lines within Council-approved corridors as described in OAR 345-027-0023(6). Before beginning operation of the facility, the certificate holder shall submit to the Department a legal description for those parts of the facility constructed within micrositing corridors. The final site of the facility includes the final turbine site corridors and other facility components as described in the final order on the site certificate application and in this site certificate.

(32) Before beginning construction, the certificate holder shall submit to the State of Oregon through the Council a bond or letter of credit in the amount of $2.201 million (in 2005 dollars) naming the State of Oregon, acting by and through the Council, as beneficiary or payee.

(a) The certificate holder shall adjust the amount of the bond or letter of credit annually, using the following calculation:

(i) Adjust the gross cost of $7,098,773 (2005 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency (the "Index"). If at any time the Index is no longer published, the Council shall select a comparable calculation to adjust 2005 dollars to present value.

(ii) Adjust the estimated scrap value by an index factor derived from the Producer Price Index values, not seasonally adjusted, reported by the U.S. Department of Labor, Bureau of Labor Statistics, "Commodities: Metals and metal Products: Carbon steel scrap" (Series ID: WPU101211). Using the average monthly index value for the 12 months ending with December of the year preceding the year in which the adjustment is made as the numerator and the average monthly index value for the 12 months ending with December 2005 (277.2) as the denominator, multiply the estimated scrap value of $149 per ton (2005 dollars) by the resulting factor. If at any time the Producer Price Index Values are no longer published, the Council shall select a comparable calculation to adjust the estimated scrap value.

(iii) Multiply the adjusted scrap value (ii) per ton by 36,367.65 tons and subtract the resulting value from the adjusted gross cost (i).

(iv) Add 1 percent of the subtotal (iii) for the adjusted performance bond amount, 10 percent of the subtotal (iii) for the adjusted administration and project management

costs, and 20 percent of the subtotal (iii) for the adjusted future developments contingency.

(v) Add the subtotal (iii) to the sum of percentages (iv) and round the resulting total to the nearest $1,000 to determine the adjusted financial assurance amount for the reporting year.

(b) The certificate holder shall use a form of bond or letter of credit approved by the Council.

(c) The certificate holder shall use an issuer of the bond or letter of credit approved by the Council.

(d) The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under Condition (22).

(e) The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site.

(33) If the certificate holder elects to use a bond to meet the requirements of Condition (32), the certificate holder shall ensure that the surety is obligated to comply with the requirements of applicable statutes, Council rules and this site certificate when the surety exercises any legal or contractual right it may have to assume construction, operation or retirement of the energy facility. The certificate holder shall also ensure that the surety is obligated to notify the Council that it is exercising such rights and to obtain any Council approvals required by applicable statutes, Council rules and this site certificate before the surety commences any activity to complete construction, operate or retire the energy facility.

(34) Before beginning construction, the certificate holder shall notify the Department of the identity and qualifications of the engineering, procurement and construction ("EPC") contractor(s) for specific portions of the work. The certificate holder shall select EPC contractors that have substantial experience in the design and construction of similar facilities. The certificate holder shall report to the Department any change of major construction contractors.

(35) The certificate holder shall contractually require all construction contractors and subcontractors involved in the construction of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.

(36) During construction, the certificate holder shall have an on-site assistant construction manager who is qualified in environmental compliance to ensure compliance with all construction-related site certificate conditions. During operation, the certificate holder shall have a project manager who is qualified in environmental compliance to ensure compliance with all ongoing site certificate conditions. The certificate holder shall notify the Department of the name, telephone number, fax number and e-mail address of these managers and shall keep the Department informed of any change in this information.

(37) Within 72 hours after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report the conditions or circumstances to the Department.

(38) Notwithstanding OAR 345-027-0050(2), an amendment of the site certificate is required if the proposed change would increase the electrical generation capacity of the facility and would increase the number of wind turbines or the dimensions of existing wind turbines.

2. Land Use Conditions

(39) The certificate holder shall construct the public road improvements described in the site certificate application to meet or exceed road standards for the road classifications in the County's Transportation System Plan and Zoning Ordinance because roads will require a more substantial section to bear the weight of the vehicles and turbine components than would usually be constructed by the County.

(40) The certificate holder shall cooperate with the Sherman County Road Department to ensure that any unusual damage or wear caused by construction of the facility is repaired by the certificate holder. Upon completion of construction, the certificate holder shall restore the county roads to at least their pre-project condition, to the satisfaction of the county public works department.

(41) The certificate holder shall ensure that no equipment or machinery is parked or stored on any county road except while in use.

(42) The certificate holder shall not locate any aboveground facility structure (including wind turbines, O&M building, substations and meteorological towers but not including aboveground transmission lines and junction boxes) within 30 feet from any property line or within 50 feet from the right-of-way of any arterial or major collector road or street and shall not allow any architectural feature, as described in Sherman County Zoning Ordinance Section 4.2, to project into these required setbacks by more than 2 feet.

(43) The certificate holder shall locate aboveground transmission lines, junction boxes, access roads and temporary construction laydown and staging areas to minimize disturbance with farming practices and, wherever feasible, shall place turbines and transmission interconnection lines along the margins of cultivated areas to reduce the potential for conflict with farm operations. The certificate holder shall place aboveground transmission lines and junction boxes along public road rights-of-way to the extent practicable.

(44) The certificate holder shall include traffic control procedures in contract specifications for construction of the facility. The certificate holder shall require flaggers to be at appropriate locations at appropriate times during construction to direct traffic and to ensure minimal conflicts between harvest and construction vehicles. The certificate holder shall submit a final transportation plan to Sherman County before beginning construction.

(45) Before beginning construction of the facility, the certificate holder shall record Farm Management Easements on the properties on which the certificate holder locates wind power generation facilities. The certificate holder shall record these easements in the real property records of Sherman County and shall file copies of the recorded easements with the Sherman County Planning Director.

(46) The certificate holder shall remove from Special Farm Assessment the properties on which it locates the facility and shall pay all property taxes due and payable after the Special Farm Assessment is removed from such properties.

(47) During operation, the certificate holder shall avoid impact on cultivated land to the extent reasonably possible when performing facility repair and maintenance activities.

3. Cultural Resource Conditions

(48) Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and areas that would be temporarily disturbed during construction and also showing the areas that Archaeological Investigations Northwest, Inc. (AINW) surveyed in 2005, as described in the site certificate application. The certificate holder shall hire qualified personnel to conduct field investigation of all areas of permanent or temporary disturbance that AINW did not previously survey and shall provide a written report of the field investigation to the Department. If any significant historic, cultural or archaeological resources are found during the field investigation, the certificate holder shall ensure that construction and operation of the facility will have no impact on the resources. The certificate holder shall instruct all construction personnel to avoid the areas where the resources were found and shall implement other appropriate measures to protect the resources.

(49) The certificate holder shall ensure that a qualified person instructs construction personnel in the identification of cultural materials.

(50) The certificate holder shall ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archaeological or cultural resources are found during construction of the facility until a qualified archaeologist can evaluate the significance of the find. The certificate holder shall notify the Department and the State Historic Preservation Office (SHPO) of the find. If the archaeologist determines that the resource is significant, the certificate holder shall make recommendations to the Council for mitigation, including avoidance or data recovery, in consultation with the Department, SHPO and other appropriate parties. The certificate holder shall not restart work in the affected area until the certificate holder has demonstrated to the Department that it has complied with the archaeological permit requirements administered by SHPO.

(51) The certificate holder shall ensure that construction personnel proceed carefully in the vicinity of the mapped alignment of the Oregon Trail. If any intact physical evidence of the trail is discovered, the certificate holder shall avoid any disturbance to the intact segments, by redesign, re-engineering or restricting the area of construction activity. The certificate holder shall promptly notify the Department and the State Historic Preservation Office (SHPO) of the discovery. The certificate holder shall consult with the Department and with SHPO to determine appropriate mitigation measures.

(52) To offset adverse visual effects to the setting of the Oregon Trail alignment, the certificate holder shall:

(a) Document the pre-construction setting of the Oregon Trail alignment from the John Day River canyon to Biggs through photographs and videotape; and

(b) Enhance the existing Oregon Trail historical marker off I-84 at Biggs with an additional educational and interpretive display in cooperation with the Sherman County Development League and the Sherman County Historical Society.

4. Geotechnical Conditions

(53) Before beginning construction, the certificate holder shall conduct a site-specific geotechnical investigation and shall report its findings to the Oregon Department of Geology & Mineral Industries (DOGAMI). The certificate holder shall conduct the geotechnical investigation after consultation with DOGAMI and in general accordance with the site-specific seismic hazard report and the engineering geologic report guidelines that have been adopted by the Oregon Board of Geologist Examiners. The guidelines are available through the Board and in the DOGAMI publication O-00-04 (2000).

(54) The certificate holder shall design and construct the facility in accordance with requirements set forth by the State of Oregon's Building Code Division and any other applicable codes and design procedures.

(55) The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic hazards. As used in this condition, "non-seismic hazards" include settlement, landslides, flooding and erosion.

5. Hazardous Materials, Fire Protection & Public Safety Conditions

(56) The certificate holder shall notify the Department within 72 hours of any accidents including mechanical failures on the site associated with construction or operation of the facility that may result in public health and safety concerns.

(57) Before beginning construction, the certificate holder shall submit a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) identifying the proposed final locations of the turbines and related or supporting facilities. The certificate holder shall notify the Department of the FAA's response as soon as it has been received.

(58) To protect the public from electrical hazards, the certificate holder shall enclose the facility substations with appropriate fencing and locked gates.

(59) The certificate holder shall not locate turbine towers within 450 feet of any residence or public road.

(60) The certificate holder shall construct turbine towers that are smooth steel structures with no exterior ladders or access to the turbine blades and shall install locked access doors accessible only to authorized personnel.

(61) The certificate holder shall follow manufacturers' recommended handling instructions and procedures to prevent damage to towers or blades that could lead to failure.

(62) The certificate holder shall have an operational safety monitoring program and shall inspect turbine blades on a regular basis for signs of wear. The certificate holder shall repair turbine blades as necessary to protect public safety.

(63) The certificate holder shall install and maintain self-monitoring devices on each turbine, connected to a fault annunciation panel or supervisory, control and data acquisition (SCADA) system at the operations and maintenance building, to alert operators to potentially dangerous conditions, and the certificate holder shall immediately remedy any dangerous conditions. The certificate holder shall maintain automatic equipment protection features in each turbine that would shut down the turbine and reduce the chance of a mechanical problem causing a fire.

(64) The certificate holder shall install generator step-up transformers at the base of each tower in locked cabinets designed to protect the public from electrical hazards and to avoid creation of artificial habitat for raptor prey.

(65) The certificate holder shall construct turbines on concrete foundations and shall cover the ground within a minimum 10-foot radius with non-flammable material. The certificate holder shall maintain the non-flammable pad area covering during operation of the facility.

(66) During construction and operation of the facility, the certificate holder shall develop and implement fire management plans in consultation with local fire control authorities to minimize the risk of fire and to respond appropriately to any fires that occur on the facility site. In developing the fire management plans, the certificate holder should take into account the dry nature of the region and should address risks on a seasonal basis.

(67) During construction and operation of the facility, the certificate holder shall ensure that service vehicles are equipped with a shovel and portable fire extinguisher of a 4A5OBC or equivalent rating.

(68) During construction, the certificate holder shall ensure that construction vehicles and equipment are operated on graveled areas to the extent possible and that open flames, such as cutting torches, are kept away from dry grass areas.

(69) Upon the beginning of operation of the facility, the certificate holder shall provide to the North Sherman County Rural Fire Protection District and to the Moro Rural Fire Protection District copies of the approved site plan indicating the identification number assigned to each turbine and the location of all facility structures. During operation of the facility, the certificate holder shall provide to the North Sherman County Rural Fire Protection District and to the Moro Rural Fire Protection District the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site.

(70) During operation, the certificate holder shall ensure that all on-site employees receive annual fire prevention and response training by qualified instructors or members of the local fire department and that all employees are instructed to keep vehicles on roads and off dry grassland, except when off-road operation is required for emergency purposes.

(71) During construction, the certificate holder shall require that all on-site construction contractors develop and implement a site health and safety plan that informs workers and others on-site what to do in case of an emergency and that includes the locations of fire extinguishers and nearby hospitals, important telephone numbers and first aid techniques.

(72) During operation, the certificate holder shall develop and implement a site health and safety plan that informs employees and others on-site what to do in case of an emergency and that includes the locations of fire extinguishers and nearby hospitals, important telephone numbers and first aid techniques.

(73) The certificate holder shall use hazardous materials in a manner that protects public health, safety and the environment and shall comply with all applicable local, state and federal environmental laws and regulations.

(74) If a spill or release of hazardous materials occurs during construction or operation of the facility, the certificate holder shall notify the Department within 72 hours and shall clean up the spill or release and dispose of any contaminated soil or other materials according to applicable regulations. The certificate holder shall make sure that spill kits containing items such as absorbent pads are located on equipment and storage facilities to respond to accidental spills and shall instruct employees handling hazardous materials in the proper handling, storage and cleanup of these materials.

(75) Before beginning construction, the certificate holder shall cooperate with the Oregon Department of Transportation to implement public safety improvements to the shoulders of State Highway 206 by bearing the cost of constructing two viewpoint turn-offs (one on each side of the highway) within the highway right-of-way in suitable locations from where the public may safely view the wind turbines without entering private property or interfering with facility operations.

6. Water, Soils, Streams & Wetlands Conditions

(76) The certificate holder shall conduct all construction work in compliance with an Erosion and Sediment Control Plan (ESCP) satisfactory to the Oregon Department of Environmental Quality and as required under the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit #1200-C. The certificate holder shall include in the ESCP any procedures necessary to meet local erosion and sediment control requirements and storm water management requirements.

(77) During construction, the certificate holder shall limit truck traffic to designated existing and improved road surfaces to avoid soil compaction, to the extent possible.

(78) The certificate holder shall cover turbine pad areas with gravel or other non-erosive material immediately following exposure during construction and shall maintain the pad area covering during operation of the facility.

(79) During construction, the certificate holder shall avoid impacts to waters of the state in the following manner:

(a) The certificate holder shall bore under the intermittent drainage channel identified in Appendix J-1 of the site certificate application in any location where the underground collector system would cross the channel.

(b) The certificate holder shall locate transmission line support structures outside of the drainage channel and the wetland identified in Appendix J-1 of the site certificate application in any location where an aboveground transmission line crosses over the channel or the wetland area.

(c) After the final turbine design locations have been identified, if construction would occur in any locations not previously investigated as described in Appendix J-1 of the

application, the certificate holder shall conduct a pre-construction investigation to determine whether any jurisdictional waters of the state exist in those locations. The certificate holder shall submit a written report on the pre-construction investigation to the Department of Energy and to the Department of State Lands for approval before beginning construction and shall ensure that construction of the facility would have no impact on any jurisdictional water identified in the pre-construction investigation.

(80) During construction, the certificate holder shall ensure that the wash down of concrete trucks occurs only at a contractor-owned batch plant or at tower foundation locations. If such wash down occurs at tower foundation locations, then the certificate holder shall ensure that wash down wastewater does not run off the construction site into otherwise undisturbed areas and that the wastewater is disposed of on backfill piles and buried underground with the backfill over the tower foundation.

(81) The certificate holder shall restore areas that are temporarily disturbed during construction according to the methods, monitoring procedures and success criteria described in the Revegetation Plan that is incorporated in the Final Order on the Application as Attachment B and as amended from time to time. During operation, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repairs according to the same methods and monitoring procedures.

(82) During facility operation, the certificate holder shall routinely inspect and maintain all roads, pads and trenched areas and, as necessary, maintain or repair erosion control measures.

(83) During operation, the certificate holder shall not use any water or chemicals for washing turbine blades unless the certificate holder demonstrates to the satisfaction of the Department before any blade-washing begins that:

(a) Oregon Department of Environmental Quality (DEQ) regulations do not require a permit for the proposed blade-washing activity or, if a permit is required, that the proposed blade-washing activity is authorized under a general permit issued by DEQ; and

(b) In conducting blade-washing activities, the certificate will use water only from its approved on-site well and that the use of water will not exceed 5,000 gallons per day.

7. Transmission Line & EMF Conditions

(84) The certificate holder shall install the 34.5-kV collector system underground to the extent practical. Where geotechnical conditions or other engineering considerations require, the certificate holder may install segments of the collector system aboveground in developed or agricultural areas that are Category 6 habitat, but the total length of aboveground segments must not exceed 5.5 miles. The certificate holder shall construct aboveground segments of the collector system using single or double circuit monopole design as described in the site certificate application and shall not locate any aboveground segments within 200 feet of any existing residence.

(85) At least 30 days before beginning preparation of detailed design and specifications for the electrical transmission lines, the certificate holder shall consult with the Oregon Public Utility Commission staff to ensure that transmission line designs and specifications are consistent with applicable codes and standards.

(86) Before beginning construction, the certificate holder shall obtain a permit, substantially in the form of the draft permit incorporated in the Final Order on the Application as Attachment D, from the Oregon Department of Transportation authorizing the location, installation, construction, maintenance and use of buried cables within the right-of-way of State Highway 206.

(87) To protect public safety, the certificate holder shall design and maintain the transmission lines so that:

(a) Alternating current electric fields during operation do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.

(b) Induced voltages during operation are as low as reasonably achievable.

(88) The certificate holder shall take reasonable steps to reduce or manage human exposure to electromagnetic fields, including but not limited to:

(a) Constructing the 230-kV transmission line to ensure that conductors have a minimum clearance of 30 feet from the ground at mid-span under maximum sag conditions.

(b) Constructing aboveground segments of the 34.5-kV transmission line to ensure that conductors have a minimum clearance of 25 feet from the ground at mid-span under maximum sag conditions.

(c) Constructing underground segments of the 34.5-kV transmission line at least 36-inches below the surface of the ground.

(d) Providing to landowners a map of underground and overhead transmission lines on their property and advising landowners of possible health risks.

8. Plants, Wildlife & Habitat Protection Conditions

(89) During construction and operation of the facility, the certificate holder shall implement a plan to control the introduction and spread of noxious weeds. The certificate shall develop the weed control plan in consultation with the Sherman County Weed Control Manager.

(90) The certificate holder shall design all aboveground transmission line support structures following the practices suggested by the Avian Powerline Interaction Committee (APLIC 1996, referenced in the site certificate application, p. P-33) and shall install anti-perching devices on transmission pole tops and cross arms where the poles are located within ½ mile of turbines.

(91) If construction begins after 2006, the certificate holder shall review the ONHIC and USFWS databases and consult with Frank Isaacs, Oregon State University Cooperative Wildlife Unit (or other expert designated by ODFW) on an annual basis before beginning construction to determine whether bald eagles or peregrine falcons have been observed in or near the site of the facility. The certificate holder shall report the results of the database review and consultation to the Department and to ODFW and, if there have been new observations of bald eagles or peregrine falcons in the area, the certificate holder shall implement appropriate measures to protect the species from adverse impact, as approved by the Department and ODFW.

(92) The certificate holder may construct turbines and other facility components within the 900-foot corridors shown on Figures P-1 through P-6 of the site certificate application

(as revised March 1, 2006), subject to the following requirements addressing potential habitat impact:

(a) The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

(b) The certificate holder shall design and construct facility components that are the minimum size needed for safe operation of the energy facility.

(c) To the extent possible, the certificate holder shall construct facility components in the locations shown on Figure C-2 of the site certificate application.

(d) If the certificate holder must change the layout of facility components from what is shown on Figure C-2 due to micrositing considerations, the certificate holder shall, to the extent possible, construct facility components within the 300-foot corridors shown on Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006).

(e) The certificate holder may construct facility components outside the 300-foot corridors if necessary due to micrositing considerations, except that the certificate holder shall not construct any facility components outside the 900-foot corridors shown on Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006) or cause any temporary disturbance outside those 900-foot corridors.

(93) The certificate holder shall implement measures to mitigate impacts to sensitive wildlife habitat during construction including, but not limited to, the following:

(a) Preparing maps to show sensitive areas, such as nesting or denning areas for sensitive wildlife species, that are off limits to construction personnel.

(b) Ensuring that a qualified person instructs construction personnel to be aware of wildlife in the area and to take precautions to avoid injuring or destroying wildlife or significant wildlife habitat.

(c) Avoiding unnecessary road construction, temporary disturbance and vehicle use.

(94) During construction, the certificate holder shall protect the area within a 1300-foot buffer around active nests of the following species during the sensitive period, as provided in this condition:

Species	Sensitive Period	Early Release Date
Swainson's hawk	April 1 to August 15	May 31
Golden eagle	February 1 to August 31	May 31
Ferruginous hawk	March 15 to August 15	May 31
Burrowing owl	April 1 to August 15	July 15

During the year in which construction occurs, the certificate holder shall use a protocol approved by the Oregon Department of Fish and Wildlife (ODFW) to determine whether there are any active nests of these species within a half-mile of any areas that would be disturbed during construction. If a nest is occupied by any of these species after the beginning of the sensitive period, the certificate holder shall not engage in high-impact construction activities (activities that involve blasting, grading or other major ground disturbance) or allow high levels of construction traffic within 1300 feet of the nest site. In addition, the certificate holder will flag the boundaries of the 1300-foot buffer area and shall instruct construction personnel to avoid any unnecessary activity within the buffer area. The certificate holder shall hire an independent biological monitor to observe the active nest sites during the sensitive period for signs of disturbance and to notify the Department of any non-compliance with this condition. If the monitor

observes nest site abandonment or other adverse impact to nesting activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of the Department, unless the adverse impact is clearly shown to have a cause other than construction activity. The certificate holder may begin or resume high-impact construction activities before the ending day of the sensitive period if any known nest site is not occupied by the early release date. If a nest site is occupied, then the certificate holder may begin or resume high-impact construction before the ending day of the sensitive period with the approval of ODFW, after the young are fledged. The certificate holder shall use a protocol approved by ODFW to determine when the young are fledged (the young are independent of the core nest site).

(95) The certificate holder shall conduct wildlife monitoring as described in the Wildlife Monitoring and Mitigation Plan that is incorporated in the Final Order on the Application as Attachment A and as amended from time to time.

(96) To mitigate for potential adverse impacts to bat species, the certificate holder shall contribute $10,000 per year for three years, beginning in the first year of operation, to fund research toward better understanding wind facility impacts to bats and to develop mitigation solutions. In consultation with the Oregon Department of Energy and the Oregon Department of Fish and Wildlife, the certificate holder shall select an appropriate bat conservation organization to receive this funding.

(97) Before beginning construction of the facility, the certificate holder shall acquire the legal right to create, maintain and protect a habitat mitigation area for the life of the facility by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the Habitat Mitigation Plan that is incorporated in the Final Order on the Application as Attachment C and as amended from time to time.

9. Visual Effects Conditions

(98) To reduce the visual impact of the facility, the certificate holder shall:

(a) Mount nacelles on smooth, hollow steel towers, approximately 20 feet in diameter at the base.

(b) Paint all towers uniformly in a neutral white or light gray color.

(c) Paint the substation buildings in a neutral color to blend with the surrounding landscape.

(d) Not allow any advertising to be used on any part of the facility or on any signs posted at the facility, except that the turbine manufacturer's logo may appear on turbine nacelles.

(e) Use only those signs required for facility safety or required by law, except that the certificate holder may erect a sign near the operations and maintenance building to identify the wind energy facility.

(f) Maintain any signs allowed under this condition in good repair.

(99) The certificate holder shall design and construct the operation and maintenance building to be generally consistent with the character of similar buildings used by commercial

farmers or ranchers in the area and shall paint the building in a neutral color to blend with the surrounding landscape.

(100) The certificate holder shall not use exterior nighttime lighting except:

(a) The minimum turbine tower lighting required by the Federal Aviation Administration.

(b) Security lighting at the operations and maintenance building and at the substations, provided that such lighting is shielded or downward-directed to reduce glare.

(c) Minimum lighting necessary for repairs or emergencies.

10. Noise Control Conditions

(101) To reduce noise impacts at nearby residential areas, the certificate holder shall:

(a) Confine the noisiest operation of heavy construction equipment to the daylight hours.

(b) Require contractors to install and maintain exhaust mufflers on all combustion engine-powered equipment; and

(c) Establish a complaint response system at the construction manager's office to address noise complaints.

(102) Before beginning construction, the certificate holder shall present information demonstrating to the satisfaction of the Department that the requirements of either (a) or (b) have been met at properties R3, R4, R5, R6 and R7 (as shown on the Noise Buffer and Receptor Locations map in the Application Supplement, Tab X, Item vi):

(a) The certificate holder has obtained a legally effective easement or real covenant pursuant to which the owner of the property authorizes the certificate holder's operation of the facility to increase ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA at the appropriate measurement point. A legally effective easement or real covenant shall: include a legal description of the burdened property (the noise sensitive property); be recorded in the real property records of the county; expressly benefit the certificate holder; expressly run with the land and bind all future owners, lessees or holders of any interest in the burdened property; and not be subject to revocation without the certificate holder's written approval.

(b) For any property for which the certificate holder has not obtained a legally effective easement or real covenant as described in (a), the certificate holder has identified the final design locations of all turbines to be built and has performed a noise analysis, in accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV), demonstrating that the total noise generated by the facility would meet the ambient degradation test at the appropriate measurement point when all turbines are placed in their final design locations. The certificate holder shall perform the noise analysis using the Sound Propagation Model for Outdoor Noise Sources (SPM 9613, Version 2) and shall assume the following input parameters:

(i) The maximum sound power level guaranteed by the manufacturer.

(ii) Temperature of 52° F (11° C).

(iii) Relative humidity of 70 percent.

(iv) No ground effect.

(v) No barrier effects.

11. Waste Management Conditions

(103) The certificate holder shall provide portable toilets for on-site sewage handling during construction and shall ensure that they are pumped and cleaned regularly by a licensed contractor who is qualified to pump and clean portable toilet facilities.

(104) During operation, the certificate holder shall discharge sanitary wastewater generated at the O&M building to a licensed on-site septic system in compliance with county permit requirements. The certificate holder shall design the septic system design with a capacity that is less than 2,500 gallons per day.

(105) The certificate holder shall implement a waste management plan during construction that includes but is not limited to the following measures:

(a) Training employees to minimize and recycle solid waste.

(b) Minimizing the generation of wastes from construction through detailed estimating of materials needs and through efficient construction practices.

(c) Recycling steel and other metal scrap.

(d) Recycling wood waste.

(e) Recycling packaging wastes such as paper and cardboard.

(f) Collecting non-recyclable waste for transport to a landfill by a licensed waste hauler.

(g) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes.

(106) The certificate holder may dispose of waste concrete on site with the permission of the landowner and in accordance with OAR 340-093-0080 and other applicable regulations. The certificate holder shall dispose of waste concrete on site by placing the material in an excavated hole, covering it with at least three feet of topsoil and grading the area to match existing contours. If the waste concrete is not disposed of on site, the certificate holder shall arrange for proper disposal in a landfill.

(107) The certificate holder shall implement a waste management plan during operation that includes but is not limited to the following measures:

(a) Training employees to minimize and recycle solid waste.

(b) Recycling paper products, metals, glass and plastics.

(c) Collecting non-recyclable waste for transport to a landfill by a licensed waste hauler.

(d) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes.

VIII. GENERAL CONCLUSION

The applicant has submitted an application to construct a wind energy facility consisting of 165 wind turbines having a combined nominal electric generating capacity of not more than 272.25 megawatts. The Council finds that a site certificate for the facility

should include the conditions listed in Sections VI and VII of this order. The Council finds that a preponderance of evidence on the record supports the following conclusions:

1. The proposed KWP facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.520.
2. The proposed KWP facility complies with the standards adopted by the Council pursuant to ORS 469.501.
3. The facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.
4. The proposed KWP facility complies with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the proposed facility.

Based on the findings of fact, reasoning, conditions and conclusions of law in this order, the Council concludes that the applicant has satisfied the requirements for issuance of a site certificate for the proposed KWP, subject to the conditions stated in this order.

IX. ORDER

The Council hereby orders that a site certificate be issued to Klondike Wind Power III LLC for the proposed Klondike III Wind Project, subject to the terms and conditions set forth above.

Issued this 30th day of June, 2006.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: Hans Neukomm
Hans Neukomm
Council Chair

Attachments
Attachment A: Wildlife Monitoring and Mitigation Plan
Attachment B: Revegetation Plan
Attachment C: Habitat Enhancement Plan
Attachment D: Draft ODOT Permit

Notice of the Right to Appeal
You have the right to appeal this order to the Oregon Supreme Court pursuant to ORS 469.403. To appeal you must file a petition for judicial review with the Supreme Court within 60 days from the day this order was served on you. If this order was personally delivered to you, the date of service is the date you received this order. If this order was mailed to you, the date of service is the date it was mailed, not the day you received it. If you do not file a petition for judicial review within the 60-day time period, you lose your right to appeal.

Klondike III Wind Project: Wildlife Monitoring and Mitigation Plan

[JUNE 30, 2006]

This plan describes wildlife monitoring that the certificate holder shall conduct during operation of the Klondike III Wind Project (KWP).[1] The monitoring objectives are to determine whether the facility causes significant fatalities of birds and bats and to determine whether the facility results in a loss of habitat quality. The KWP facility consists of 165 wind turbines, three non-guyed meteorological towers and other related or supporting facilities as described in the site certificate.

The certificate holder shall use experienced personnel to manage the monitoring required under this plan and properly trained personnel to conduct the monitoring, subject to approval by the Oregon Department of Energy (Department) as to professional qualifications. For all components of this plan except PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System, the certificate holder shall hire an independent third party (not employees of the certificate holder) to perform monitoring tasks.

The Wildlife Monitoring and Mitigation Plan for the Klondike III Wind Project has the following components:

1) Fatality monitoring program including:
    a) Removal trials
    b) Searcher efficiency trials
    c) Fatality search protocol
    d) Statistical analysis
2) Raptor nesting surveys
3) Avian use surveys
4) PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System

Following is a discussion of the components of the monitoring plan, statistical analysis methods for fatality data, data reporting and potential mitigation.

The selection of the mitigation actions that the certificate holder may be required to implement under this plan should allow for flexibility in creating appropriate responses to monitoring results that cannot be known in advance. If the Department determines that mitigation is needed, the certificate holder shall propose appropriate mitigation actions to the Department and shall carry out mitigation actions approved by the Department, subject to review by the Oregon Energy Facility Council (Council).

[1] This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

1. Fatality Monitoring

(a) Definitions and Methods

Seasons

This plan uses the following dates for defining seasons:

Season	Dates
Spring Migration	March 16 to May 15
Summer/Breeding	May 16 to August 15
Fall Migration	August 16 to October 31
Winter	November 1 to March 15

Search Plots

The certificate holder shall conduct fatality monitoring within search plots. The certificate holder, in consultation with the Oregon Department of Fish and Wildlife (ODFW), shall select search plots based on a systematic sampling design that ensures that the selected search plots are representative of the habitat conditions in different parts of the site. Each search plot will contain one turbine. Search plots will be square or circular. Circular search plots will have a radius of 242 meters centered on the turbine location. Square search plots will be of sufficient size to contain a circle with a radius of 242 meters centered on the turbine location. The certificate holder shall provide maps of the search plots to the Department before beginning fatality monitoring at the facility. The certificate holder shall use the same search plots for each search conducted during a monitoring year.

Scheduling

In each monitoring year, the certificate holder shall conduct fatality monitoring searches at the rates of frequency shown below. Over the course of one monitoring year, the certificate holder would conduct 16 searches, as follows:

Season	Frequency
Spring Migration	2 searches per month (4 searches)
Summer/Breeding	1 search per month (3 searches)
Fall Migration	2 searches per month (5 searches)
Winter	1 search per month (4 searches)

Sample Size

The sample size for fatality monitoring is the number of turbines searched per monitoring year. The certificate holder shall search a minimum of 55 turbines during the first monitoring year. The certificate holder shall search a minimum of 55 different turbines during the second monitoring year. Over two monitoring years, 110 of the 165 turbines will be searched.

(b) Removal Trials

The objective of the removal trials is to estimate the length of time avian and bat carcasses remain in the search area. Carcass removal studies will be conducted during each season in the vicinity of the search plots. Estimates of carcass removal rates will be used to adjust carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from

the search area due to predation, scavenging or other means such as farming activity. Removal rates will be estimated by habitat and season.

The certificate holder shall conduct carcass removal trials within each of the seasons defined above during the years in which fatality monitoring occurs. During the first year in which fatality monitoring occurs, trials will occur in at least eight different calendar weeks in a year, with at least one calendar week between starting dates. Trials will be spread throughout the year to incorporate the effects of varying weather, farming practices and scavenger densities. At least two trials will be started in each season. Each trial will use at least 20 carcasses. For each trial, at least 5 small bird carcasses and at least 5 large bird carcasses will be distributed in cultivated agriculture habitat and at least 3 small bird carcasses and at least 3 large bird carcasses will be distributed in non-cultivated habitat (grassland/shrub steppe and CRP). In a year, approximately 100 carcasses will be placed in cultivated agriculture and approximately 60 in non-cultivated grassland/shrub steppe or CRP for a total of approximately 160 trial carcasses. The number of removal trials may be reduced to one per season (80 trial carcasses) during the second year of fatality monitoring, subject to approval by the Department, if the certificate holder can demonstrate that the calculation of fatality rates will continue to have statistical validity with the reduced sample size.

The "small bird" size class will use carcasses of house sparrows, starlings, commercially available game bird chicks or legally obtained native birds to simulate passerines. The "large bird" size class will use carcasses of raptors provided by agencies, commercially available adult game birds or cryptically colored chickens to simulate raptors, game birds and waterfowl. If fresh bat carcasses are available, they may also be used.

To avoid confusion with turbine-related fatalities, planted carcasses will not be placed in fatality monitoring search plots. Planted carcasses will be placed in the vicinity of search plots but not so near as to attract scavengers to the search plots. The planted carcasses will be located randomly within the carcass removal trial plots.

Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be: 1) placed in an exposed posture (e.g., thrown over the shoulder), 2) hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass) and, 3) partially hidden. Trial carcasses will be marked discreetly for recognition by searchers and other personnel. Trial carcasses will be left at the location until the end of the carcass removal trial.

It is expected that carcasses will be checked as follows, although actual intervals may vary. Carcasses will be checked for a period of 40 days to determine removal rates. They will be checked approximately every day for the first 4 days, and then on day 7, day 10, day 14, day 20, day 30 and day 40. This schedule may vary depending on weather and coordination with the other survey work. At the end of the 40-day period, the trial carcasses and scattered feathers will be removed.

(c) Searcher Efficiency Trials

The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. The certificate holder shall conduct searcher efficiency trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated agriculture habitat types. Searcher efficiency will be estimated by habitat type and season. Estimates of searcher efficiency will be used to adjust carcass counts for detection bias.

Searcher efficiency trials will be conducted in each season as defined above, during the years in which the fatality monitoring occurs. Trials will be spread throughout the year to incorporate the effects of varying weather, farming practices and scavenger densities. At least two trials will be conducted in each season. Each trial will use approximately 20 carcasses, although the number will be variable so that the searcher will not know the total number of trial carcasses being used in any trial. For each trial, both small bird and large bird carcasses will be used in approximately equal numbers. "Small bird" and "large bird" size classes and carcass selection are as described above for the removal trials. A greater proportion of the trial carcasses will be distributed in cultivated agriculture habitat than in non-cultivated habitat (grassland/shrub steppe and CRP). In a year, approximately 100 carcasses will be placed in cultivated agriculture and approximately 60 in non-cultivated grassland/shrub steppe or CRP for a total of approximately 160 trial carcasses. The number of searcher efficiency trials may be reduced to one per season (80 trial carcasses) during the second year of fatality monitoring, subject to approval by the Department, if the certificate holder can demonstrate that the calculation of fatality rates will continue to have statistical validity with the reduced sample size.

Personnel conducting searches will not know in advance when trials are conducted; nor will they know the location of the trial carcasses. If suitable trial carcasses are available, trials during the fall season will include several small brown birds to simulate bat carcasses. Legally obtained bat carcasses will be used if available.

On the day of a standardized fatality monitoring search (described below) but before the beginning of the search, efficiency trial carcasses will be placed at random locations within areas to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn.

Efficiency trials will be spread over the entire season to incorporate effects of varying weather and vegetation growth. Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be: 1) placed in an exposed posture (thrown over the shoulder), 2) hidden to simulate a crippled bird and 3) partially hidden.

Each non-domestic carcass will be discreetly marked so that it can be identified as an efficiency trial carcass after it is found. The number and location of the efficiency trial carcasses found during the carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses.

If new searchers are brought into the search team, additional detection trials will be conducted to ensure that detection rates incorporate searcher differences.

(d) Coordination with the Biglow Canyon Wind Farm

The proposed Biglow Canyon Wind Farm lies to the north of the Klondike III Wind Power Project on similar terrain and habitat. If the Council approves site certificates for both facilities and requires similar wildlife monitoring, coordination of removal trials and searcher efficiency trials would be possible. Subject to the approval of both certificate holders and the Department, the number of trials at each site and the number of trial carcasses used at each site can be reduced by combining the removal data and efficiency data from both projects, if the certificate holder can demonstrate that the calculation of fatality rates would continue to have

statistical validity for both facilities and that combining the data would not affect any other requirements of the monitoring plans for either facility.

(e) Fatality Monitoring Search Protocol

The objective fatality monitoring is to estimate the number of bird and bat fatalities that are attributable to facility operation. The goal of bird and bat fatality monitoring is to obtain a precise estimate of the fatality rate and associated variances. The certificate holder shall conduct fatality monitoring using standardized carcass searches. The certificate holder shall conduct fatality monitoring for two years (32 searches), beginning one month after the start of commercial operation of the KWP.

The certificate holder shall use a worst-case analysis to resolve any uncertainty in the results and to determine whether the data indicate that additional mitigation should be considered. The Department may require additional, targeted monitoring if the data indicate the potential for significant impacts that cannot be addressed by worst-case analysis and appropriate mitigation. On an annual basis, the certificate holder shall report an estimate of fatalities in seven categories: 1) all birds, 2) small birds, 3) large birds, 4) raptors, 5) grassland birds, 6) nocturnal migrants, 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. The certificate holder shall calculate fatality rates using the statistical methods described in Section (f).

The certificate holder shall estimate the number of avian and bat fatalities attributable to operation of the facility based on the number of avian and bat fatalities found at the facility site. All carcasses located within areas surveyed, regardless of species, will be recorded and, if possible, a cause of death determined based on blind necropsy results. If a different cause of death is not apparent, the fatality will be attributed to facility operation. The total number of avian and bat carcasses will be estimated by adjusting for removal and searcher efficiency bias.

Personnel trained in proper search techniques ("the searchers") will conduct the carcass searches by walking parallel transects within the search plots.[2] Transects will be initially set at 6 meters apart in the area to be searched. A searcher will walk at a rate of approximately 45 to 60 meters per minute along each transect searching both sides out to three meters for casualties. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial. The searchers will record the condition of each carcass found, using the following condition categories:

- Intact – a carcass that is completely intact, is not badly decomposed and shows no sign of being fed upon by a predator or scavenger
- Scavenged – an entire carcass that shows signs of being fed upon by a predator or scavenger, or portions of a carcass in one location (e.g., wings, skeletal remains, legs, pieces of skin, etc.)
- Feather Spot – 10 or more feathers at one location indicating predation or scavenging or 2 or more primary feathers

All carcasses (avian and bat) found during the standardized carcass searches will be photographed, recorded and labeled with a unique number. Each carcass will be bagged and frozen for future reference and possible necropsy. A copy of the data sheet for each carcass will

[2] Where search plots are adjacent, the search area may be rectangular.

be kept with the carcass at all times. For each carcass found, searchers will record species, sex and age when possible, date and time collected, location, condition (e.g., intact, scavenged, feather spot) and any comments that may indicate cause of death. Searchers will photograph each carcass as found and will map the find on a detailed map of the search area showing the location of the wind turbines and associated facilities. The certificate holder shall coordinate collection of state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of federal endangered, threatened or protected species with the U.S. Fish and Wildlife Service (USFWS). The certificate holder shall obtain appropriate collection permits from ODFW and USFWS.

The searchers might discover carcasses incidental to formal carcass searches (e.g., while driving within the project area). For each incidentally discovered carcass, the searcher shall identify, photograph, record data and collect the carcass as would be done for carcasses within the formal search sample during scheduled searches. If the incidentally discovered carcass is found within a formal search plot, the fatality data will be included in the calculation of fatality rates. If the incidentally discovered carcass is found outside a formal search plot, the data will be reported separately. The certificate holder shall coordinate collection of incidentally discovered state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of incidentally discovered federal endangered, threatened or protected species with the USFWS.

Any injured native birds found on the facility site will be carefully captured by a trained project biologist or technician and transported to Jean Cypher (wildlife rehabilitator) in The Dalles, the Blue Mountain Wildlife Rehabilitation Center in Pendleton or the Audubon Bird Care Center in Portland in a timely fashion. The certificate holder shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

(f) Statistical Methods for Fatality Estimates

The estimate of the total number of wind facility-related fatalities is based on:

(1) The observed number of carcasses found during standardized searches during the two monitoring years for which the cause of death is attributed to the facility.[3]
(2) Searcher efficiency expressed as the proportion of planted carcasses found by searchers.
(3) Removal rates expressed as the estimated average probability a carcass is expected to remain in the study area and be available for detection by the searchers during the entire survey period.

Definition of Variables

The following variables are used in the equations below:

c_i the number of carcasses detected at plot i for the study period of interest (e.g., one year) for which the cause of death is either unknown or is attributed to the facility

n the number of search plots

[3] If a different cause of death is not apparent, the fatality will be attributed to facility operation.

k	the number of turbines searched (includes the turbines centered within each search plot and a proportion of the number of turbines adjacent to search plots to account for the effect of adjacent turbines on the 90-meter search plot buffer area)
$\bar{c}$	the average number of carcasses observed per turbine per year
s	the number of carcasses used in removal trials
s_c	the number of carcasses in removal trials that remain in the study area after 40 days
se	standard error (square of the sample variance of the mean)
t_i	the time (days) a carcass remains in the study area before it is removed
$\bar{t}$	the average time (days) a carcass remains in the study area before it is removed
d	the total number of carcasses placed in searcher efficiency trials
p	the estimated proportion of detectable carcasses found by searchers
I	the average interval between searches in days
$\hat{\pi}$	the estimated probability that a carcass is both available to be found during a search and is found
m_t	the estimated annual average number of fatalities per turbine per year, adjusted for removal and observer detection bias
C	nameplate energy output of turbine in megawatts (MW)

Observed Number of Carcasses

The estimated average number of carcasses ($\bar{c}$) observed per turbine per year is:

$$\bar{c} = \frac{\sum_{i=1}^{n} c_i}{k}. \qquad (1)$$

Estimation of Carcass Removal

Estimates of carcass removal are used to adjust carcass counts for removal bias. Mean carcass removal time ($\bar{t}$) is the average length of time a carcass remains at the site before it is removed:

$$\bar{t} = \frac{\sum_{i=1}^{s} t_i}{s - s_c}. \qquad (2)$$

This estimator is the maximum likelihood estimator assuming the removal times follow an exponential distribution and there is right-censoring of data. Any trial carcasses still remaining at 40 days are collected, yielding censored observations at 40 days. If all trial carcasses are

removed before the end of the trial, then s_c is 0, and $\bar{t}$ is just the arithmetic average of the removal times. Removal rates will be estimated by carcass size (small and large) and season.

Estimation of Observer Detection Rates

Observer detection rates (i.e., searcher efficiency rates) are expressed as p, the proportion of trial carcasses that are detected by searchers. Observer detection rates will be estimated by carcass size and season.

Estimation of Facility-Related Fatality Rates

The estimated per turbine annual fatality rate (m_t) is calculated by:

$$m_t = \frac{\bar{c}}{\hat{\pi}}, \tag{3}$$

where $\hat{\pi}$ includes adjustments for both carcass removal (from scavenging and other means) and observer detection bias assuming that the carcass removal times t_i follow an exponential distribution. Under these assumptions, this detection probability is estimated by:

$$\hat{\pi} = \frac{\bar{t} \cdot p}{I} \cdot \left[\frac{\exp\left(I/\bar{t}\right) - 1}{\exp\left(I/\bar{t}\right) - 1 + p} \right]. \tag{4}$$

The estimated per MW annual fatality rate (m) is calculated by:

$$m = \frac{m_t}{C}. \tag{5}$$

The certificate holder shall calculate fatality estimates for: (1) all birds, (2) small birds, (3) large birds, (4) raptors, (5) grassland birds, (6) nocturnal migrants 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. The final reported estimates of m, associated standard errors and 90% confidence intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for calculating point estimates, variances and confidence intervals for complicated test statistics. For each iteration of the bootstrap, the plots will be sampled with replacement, trial carcasses will be sampled with replacement and $\bar{c}$, $\bar{t}$, p, $\hat{\pi}$ and m will be calculated. A total of 5,000 bootstrap iterations will be used. The reported estimates will be the means of the 5,000 bootstrap estimates. The standard deviation of the bootstrap estimates is the estimated standard error. The lower 5th and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the lower limit and upper limit of 90% confidence intervals.

Nocturnal Migrant and Bat Fatalities

Differences in observed nocturnal migrant and bat fatality rates for lit turbines, unlit turbines that are adjacent to lit turbines and unlit turbines that are not adjacent to lit turbines will be compared graphically and statistically.

(g) Mitigation

Mitigation may be appropriate if fatality rates exceed a "threshold of concern." For the purpose of determining whether a threshold has been exceeded, the certificate holder shall calculate the average annual fatality rates for species groups after two years of monitoring. Based on current knowledge of the species that are likely to use the habitat in the area of the facility, the following thresholds apply to the Klondike III facility:

Species Group	**Threshold of Concern** (fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson's hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl and any federal threatened or endangered raptor species.)	0.06
Grassland species (All native bird species that rely on grassland habitat and are either resident species, occurring year round, or species that nest in the area, excluding horned lark, burrowing owl and northern harrier.)	0.59
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above.)	0.2

If the data show that a threshold of concern for a species group has been exceeded, the certificate holder shall implement additional mitigation if the Department determines that mitigation is appropriate based on analysis of the data, consultation with ODFW and consideration of any other significant information available at the time. In addition, mitigation may be appropriate if the Department determines that fatality rates for individual avian or bat species (especially State Sensitive Species) are higher than expected and at a level of biological concern. If mitigation is appropriate, the certificate holder, in consultation with the Department and ODFW, shall propose mitigation measures designed to benefit the affected species. The certificate holder shall implement mitigation as approved by the Council. The Department may recommend additional, targeted data collection if the need for mitigation is unclear based on the information available at the time. The certificate holder shall implement such data collection as approved by the Council.

Mitigation should be designed to benefit the affected species group. Mitigation may include, but is not limited to, protection of nesting habitat for the affected group of native species through a conservation easement or similar agreement. Tracts of land that are intact and functional for wildlife are preferable to degraded habitat areas. Preference should be given to protection of land that would otherwise be subject to development or use that would diminish the wildlife value of the land. In addition, mitigation measures might include: enhancement of the protected tract by weed removal and control; increasing the diversity of native grasses and forbs; planting sagebrush or other shrubs; constructing and maintaining artificial nest structures for raptors; improving wildfire response; and local research that will aid in understanding more about the species and conservation needs. In considering whether additional mitigation is appropriate for bat fatalities, the Department will take into account the mitigation that the certificate holder has already implemented under Condition 96 of the site certificate (a contribution of $10,000 per year for three years, beginning in the first year of operation, to fund

research toward better understanding wind facility impacts to bats and to develop mitigation solutions).

2. Raptor Nest Surveys

The objectives of raptor nest surveys are to estimate the size of the local breeding populations of tree or other above-ground-nesting raptor species in the vicinity of the facility and to determine whether operation of the facility results in a reduction of nesting activity or nesting success in the local populations of the following raptor species: Swainson's hawk, golden eagle and ferruginous hawk.

(a) Survey Protocol

For the species listed above, aerial and ground surveys will be used to gather nest success statistics on active nests, nests with young and young fledged. The certificate holder will share the data with state and federal biologists. The certificate holder will conduct two years of post-construction raptor nest surveys. One year of surveys will be done in the first nesting season after construction is completed. The second year of surveys will be done in the fourth year after construction is completed.

During each monitoring year, the certificate holder will conduct a minimum of one helicopter survey in late May or early June and additional surveys as described in this section. All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. Nest locations will be recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system coordinates will be recorded for each nest. Locations of inactive nests will be recorded as they may become occupied during future years.

The certificate holder shall conduct the aerial surveys within the Klondike III site and a 2-mile buffer around the turbines to determine nest occupancy. Determining nest *occupancy* will likely require two helicopter visits to each nest. For occupied nests, the certificate holder shall determine nesting *success* by a minimum of one ground visit to determine species, number of young and nesting success. "Nesting success" means that the young have successfully fledged (the young are independent of the core nest site). Nests that cannot be monitored due to the landowner denying access will be checked from a distance where feasible.

(b) Mitigation

The certificate holder shall analyze the raptor nesting data collected after two monitoring years to determine whether a reduction in either nesting success or nest use has occurred in the vicinity of the Klondike III facility. If the analysis indicates a reduction in nesting success by Swainson's hawk, golden eagle or ferruginous hawk within 2 miles of the facility, then the certificate holder shall propose appropriate mitigation and shall implement mitigation as approved by the Council. At a minimum, if the analysis shows that any of these species has abandoned a nest territory within ½ mile of the facility or has not fledged any young over the two-year period within a ½ mile of the facility, the certificate holder shall assume the abandonment or unsuccessful fledging is the result of the facility unless another cause can be demonstrated convincingly.

Given the very low buteo nesting densities in the area, statistical power to detect a relationship between distance from a wind turbine and nesting parameters (e.g., number of fledglings per reproductive pair) will be very low. Therefore, impacts may have to be judged based on trends in the data, results from other wind energy facility monitoring studies and literature on what is known regarding the populations in the region.

If the analysis shows that mitigation is appropriate, the certificate holder shall propose mitigation for the affected species in consultation with the Department and ODFW. Mitigation should be designed to benefit the affected species or contribute to overall scientific knowledge and understanding what stimulates nest abandonment. Mitigation may be designed to proceed in phases over several years. It may include, but is not limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within two miles of the facility) or participation in research projects designed to improve scientific understanding of the needs of the affected species.

(c) Long-term Raptor Nest Monitoring and Mitigation Plan

In addition to the two years of post-construction raptor nest surveys described in paragraph (a), the certificate holder shall conduct long-term raptor nest surveys at five-year intervals for the life of the facility. The certificate holder shall conduct the first long-term raptor nest survey in the ninth year after construction is completed. In conducting long-term surveys, the certificate holder shall follow the same survey protocol that is described above in paragraph (a) unless the certificate holder proposes an alternative protocol that is approved by the Department. In developing an alternative protocol, the certificate holder shall consult with ODFW and may collaborate with the certificate holder for any other wind energy facility.

The certificate holder shall analyze the long-term survey data as described above in paragraph (b). If the analysis shows that mitigation is appropriate, the certificate holder shall propose mitigation for the affected species in consultation with the Department and ODFW as described in paragraph (b) and shall implement mitigation as approved by the Council. Any reduction in nesting success could be due to operation of the KWP, operation of another wind facility in the vicinity or some other cause. The reduction shall be attributed to the KWP if the wind turbine closest to the affected nest site is a KWP turbine unless the certificate holder demonstrates, and the Department agrees, that the reduction was due to a different cause.

3. Avian Use Surveys

During each fatality monitoring search, observers will record birds detected in a ten-minute period at approximately one-third of the turbines within the fatality monitoring sample using standard variable circular plot point count survey methods. The purpose of observing and recording avian use while conducting the fatality monitoring is to identify additional species that may not have been listed in the original baseline survey report. In addition, avian use surveys provide a basis to evaluate, in general terms, whether the species with the highest fatality numbers are also the most common species at the site.

4. PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System

PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System (WRHS) is a monitoring program to search for and handle avian and bat casualties found by maintenance personnel during construction and operation of the facility. A similar system is in

place for Klondike I and II. Construction and maintenance personnel will be trained in the methods. This monitoring program includes the initial response, the handling and the reporting of bird and bat carcasses discovered incidental to construction and maintenance operations ("incidental finds").

All carcasses discovered by maintenance personnel will be photographed and recorded. If maintenance personnel discover incidental finds at turbines that are not within search plots for the fatality monitoring searches, the data will be reported separately from fatality monitoring data. For such incidental finds, the maintenance personnel will notify a project biologist. The project biologist must be a qualified independent professional biologist who is not an employee of the certificate holder. The project biologist (or the project biologist's experienced wildlife technician) will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass. The certificate holder's on-site carcass handling permitee must be a person who is listed on state and federal scientific or salvage collection permits and who is available to process (collect) the find on the day it is discovered. The find must be processed on the same day as it is discovered.

If maintenance personnel discover carcasses within search plots, the data will be included in the calculation of fatality rates. The maintenance personnel will notify a project biologist. The project biologist will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass. As stated above, the on-site permittee must be available to process the find on the day it is discovered. The certificate holder shall coordinate collection of state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of federal endangered, threatened or protected species with the USFWS.

5. Data Reporting

The certificate holder will report the monitoring data and analysis to the Department. Monitoring data include fatality data, raptor nest survey data, avian use point counts and data on incidental finds by fatality searchers and KWP personnel. The report may be included in the annual report required under OAR 345-026-0080 or may be submitted as a separate document at the same time the annual report is submitted. In addition, the certificate holder shall provide to the Department any data or record generated in carrying out this monitoring plan upon request by the Department.

The certificate holder shall notify USFWS and ODFW immediately in the event that any federal or state endangered or threatened species are killed or injured on the facility site.

The public will have an opportunity to receive information about monitoring results and to offer comment. Within 30 days after receiving the annual report of monitoring results, the Department will make the report available to the public on its website and will specify a time in which the public may submit comments to the Department.[4]

[4] The certificate holder may establish a Technical Advisor Committee (TAC) but is not required to do so. If the certificate holder establishes a TAC, the TAC may offer comments to the Council about the results of the monitoring required under this plan.

6. Amendment of the Plan

This Wildlife Monitoring and Mitigation Plan may be amended from time to time by agreement of the certificate holder and the Council. Such amendments may be made without amendment of the site certificate. The Council authorizes the Department to agree to amendments to this plan and to mitigation actions that may be required under this plan. The Department shall notify the Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject or modify any amendment of this plan or mitigation action agreed to by the Department.

Klondike III Wind Project: Revegetation Plan

[JUNE 30, 2006]

I. Introduction

This plan describes methods and standards for restoration of areas temporarily disturbed during the construction, maintenance or repair of the Klondike III Wind Project (KWP).[1] The objective of revegetation is to restore the temporarily disturbed areas to pre-construction condition or better. Restoration of these areas is required by the site certificate for the facility.

An estimated 97 acres of land will be temporarily affected during construction of the facility.[2] Approximately 82 acres of the temporarily disturbed area is cultivated agricultural land and the remainder is grassland, shrub-steppe or CRP.[3] The certificate holder shall maintain erosion and sediment control measures put in place during construction until the affected areas are restored as described in this plan and the risk of erosion has been eliminated.

This plan has been prepared to guide the revegetation efforts. Seed mixes, planting methods and weed control techniques have been developed for the project area in consultation with the Oregon Department of Fish and Wildlife (ODFW). The plan specifies monitoring procedures to evaluate revegetation success and recommended remediation if revegetation appears unsuccessful in certain areas.

II. Description of the Project Area

The facility is located in Sherman County, Oregon. The project area is on private agricultural land used primarily for dry land winter wheat production. Soils are typically loess formations of well-drained, moderately permeable, fertile silt loams over basalt. Some areas are used for livestock grazing. Depth to bedrock is generally 20 to 60 inches. The area receives approximately 11 inches of precipitation annually, most of which occurs between October 1 and March 31.

The project area is within the Deschutes-Columbia Plateau physiographic province. Topography within the area is typically gently rolling to level ground with steep slope areas at the northeast and southern margins of the site. Elevation ranges from 1,250 to 1,500 feet. Most of the native vegetation in the project area has been modified by human activities. Very little native plant area exists, occurring predominantly along the plateau margins and steep side slopes of Grass Valley Canyon. Plant communities in these areas consist of sagebrush and rabbitbrush dominated shrub lands and native bunchgrass grasslands, each with varying degrees of invasive species present. CRP areas have been planted with a mix of native and non-native bunch grasses.

III. Revegetation Methods

The certificate holder shall restore areas of temporary disturbance by preparing the soil and seeding using common application methods. The certificate holder shall use mulching and other appropriate practices to control erosion and sediment during facility construction and

[1] This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

[2] In addition to the area permanently occupied by facility structures (approximately 64 acres).

[3] "CRP" is formerly cultivated land that the landowner has enrolled in the Conservation Reserve Program.

during revegetation work. The certificate holder shall restore agricultural topsoil to pre-construction condition. The certificate holder shall select the seed mix to apply based on the pre-construction land use, as described below.

1. Seed Planting Methods

Restoration of temporarily disturbed areas should begin as soon as possible after completion of facility construction, maintenance or repair activity in the area to be restored. Planting should be done at the appropriate time of year based on weather conditions and the time of year when ground disturbance occurs. The certificate holder shall choose planting methods based on site-specific factors such as slope, erosion potential and the size of the area in need of revegetation. Disturbed ground may require chemical or mechanical weed control before weeds have a chance to go to seed. Two common application methods are described as follows.

(a) Broadcasting

Broadcast the seed mix at the specified application rate. Where feasible, apply half of the total mix in one direction and the second half of mix in direction perpendicular to first half. Apply weed free straw from a certified field or sterile straw at a rate of two tons per acre immediately after applying seed. Crimp straw into the ground to a depth of two inches using a crimping disc or similar device. As an alternative to crimping, a tackifier may be applied using hydroseed equipment at a rate of 100 pounds per acre. Prior to mixing the tackifer, visually inspect the tank for cleanliness. If remnants from previous hydroseed applications exist, wash tank to remove remnants. Include a tracking dye with the tackifier to visibly aid uniform application. Broadcasting should not be used if winds exceed five miles per hour.

(b) Drilling

Using an agricultural or range seed drill, drill seed at 70 percent of the recommended application rate to a depth of ¼ inch or as recommended by the seed supplier. Where feasible, apply half of the total mix in one direction and the second half of mix in direction perpendicular to first half. If mulch has been previously applied, seed may be drilled through the mulch provided the drill is capable of penetrating the straw resulting in seed-to-soil contact conducive for germination.

2. Seed Mix

(a) Seed Mix 1 – Dry Land Wheat

The certificate holder shall seed temporarily disturbed agricultural areas with wheat or other crop seed. The certificate holder shall consult with the landowner and farm operator to determine species composition, seed and fertilizer application rates and application methods.

(b) Seed Mix 2 – CRP

The certificate holder shall seed temporarily disturbed CRP areas with a mix compatible with the CRP goals. The certificate holder shall consult with ODFW and the landowner to determine the species composition, application rate, use of fertilizers and application methods.

(c) Seed Mix 3 – Grassland

The certificate holder shall apply Seed Mix 3 to all temporarily disturbed areas that are not cultivated farmland or CRP areas. The composition and application rate of Seed Mix 3 will

be determined in consultation with ODFW and the landowners and will be subject to the approval of the Oregon Department of Energy (Department). The certificate holder shall use seed provided by a reputable supplier and complying with the Oregon Seed Law. The mix should contain native species selected based on relative availability and compatibility with local growing conditions. Factors that will be taken into consideration are soil erosion potential, soil type, seed availability and the need for using native or native-like species.

IV. Monitoring

1. Monitoring Procedures

In the year following each seeding, the certificate holder shall employ a qualified investigator (an independent botanist or revegetation specialist) to examine all seeded grassland and CRP areas to assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria. The qualified investigator shall revisit the revegetation areas on an annual basis until the certificate holder and the Department agree that the areas are trending toward meeting the success criteria. Thereafter, the qualified investigator shall revisit the revegetation areas every five years for the life of the KWP to assess vegetation cover and success. The certificate holder shall report the investigator's findings and recommendations regarding revegetation progress and success to the Department on an annual basis as part of the annual report on the KWP.

In consultation with the ODFW, the certificate holder's qualified investigator shall choose reference sites near the revegetated areas to represent the target conditions for the revegetation effort. The target conditions for each revegetated area are conditions that would be realistically attainable for the area. Land use patterns, soil type, local terrain and noxious weed densities should be considered in selecting reference sites. It is likely that several reference sites will be necessary to adequately represent the various habitat conditions within the project area.

Once the reference sites are chosen, they will be used for comparison during all subsequent monitoring visits, unless some event (such as wildfire) significantly changes vegetation conditions so that a particular reference site no longer represents a realistically attainable goal for the associated revegetated area. In that case, the qualified investigator shall choose a new reference site.

At each monitoring location, the investigator shall evaluate the following parameters (both within the revegetated area and within the reference site):

- Degree of erosion due to construction activities (high, moderate or low).
- Average number of stems of desirable vegetation per square foot.

The investigator shall evaluate the revegetated area and the reference site separately to determine revegetation success.

2. Success Criteria

A temporarily disturbed grassland or CRP area is successfully revegetated when the average desirable vegetation stem density within the revegetated area is greater than, or equal to, that observed in the comparable reference site. Desirable vegetation means those species included in the seed mix or native or naturalized species common to similar areas.

In each monitoring report to the Department, the certificate holder shall provide an assessment of revegetation success in grassland or CRP restoration areas. The Department may require reseeding or other corrective measures in those areas that do not meet the success criteria. The Department may exclude small areas from the reseeding requirement, if erosion from construction activities is low, if total vegetative cover (of native and non-native species together) exceeds 30% and if weed encroachment has made native seed establishment impossible.

Cultivated agricultural areas are successfully revegetated if the replanted areas achieve crop production comparable to adjacent non-disturbed cultivated areas. The certificate holder shall consult with the landowner or farmer to determine whether these areas have been successfully revegetated and shall report to the Department on the success of revegetation in these areas.

V. Amendment of the Plan

This Revegetation Plan may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council ("Council"). Such amendments may be made without amendment of the site certificate. The Council authorizes the Department to agree to amendments to this plan. The Department shall notify the Council of all amendments, and the Council retains the authority to approve, reject or modify any amendment of this plan agreed to by the Department.

Klondike III Wind Project: Habitat Mitigation Plan

[JUNE 30, 2006]

I. Introduction

This plan describes methods and standards for enhancement of an area of land near the Klondike III Wind Project (KWP) to mitigate for the permanent impacts of the KWP on wildlife habitat.[1] The certificate holder shall enhance the mitigation site as described in this plan and shall place the site into a conservation easement for the life of the KWP facility. The objective of the enhancement methods is to improve the habitat value of the mitigation area and to protect the area for wildlife use for the life of the facility.

This plan has been prepared to guide the habitat enhancement efforts. The plan specifies monitoring procedures to evaluate enhancement success and recommended remediation if enhancement is unsuccessful in any part of the mitigation site.

II. Description of the Permanent Impacts

The KWP would permanently affect approximately 64 acres. Most of the area of permanent impact (approximately 56 acres) would be within currently cultivated agricultural fields. This area is lower-value habitat (Category 6). The KWP facility would occupy approximately 8.5 acres of higher-value habitat. The actual area of each habitat category that the KWP will permanently occupy will depend on the final design layout of the facility after consideration of micrositing factors. The area of permanent impact includes habitat in Categories 2, 3 and 4.

Data collected at other wind energy facilities indicate that the operation of wind turbines may adversely affect the quality of nearby habitat that is important or essential for grassland avian species. Conducting a study at the KWP to determine whether operation of the facility will have a displacement effect on grassland birds would take several years. If the study concluded that an adverse impact had occurred, additional mitigation would be needed. In lieu of conducting a multi-year study, the certificate holder will provide additional mitigation, based on the assumed likelihood that operation of the KWP would reduce the quality of nearby habitat that is important or essential for grassland bird species. The affected habitat near the KWP wind turbines includes habitat in Categories 2 and 3.

As defined by the fish and wildlife habitat mitigation goals and standards of the Oregon Department of Fish and Wildlife (ODFW), the affected habitat and corresponding mitigation goals are as follows:

- **Category 2:** essential habitat for a fish or wildlife species, population, or unique assemblage of species that is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.

  Mitigation Goal: no net loss of either habitat quantity or quality and provision of a net benefit of habitat quantity or quality.

[1] This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

- **Category 3:** essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.

  Mitigation Goal: no net loss of either habitat quantity or quality.

- **Category 4:** important habitat for fish and wildlife species.

  Mitigation Goal: no net loss in either existing habitat quantity or quality.

III. Calculation of Mitigation Area

The area that is needed to mitigate for the amount of higher-value habitat occupied by KWP turbines and related facilities is determined by the "footprint" of the KWP within each habitat category. The amount of additional area needed to mitigate for a displacement effect that is uncertain cannot be precisely calculated. To determine a reasonable area for displacement mitigation, a rough calculation of potential displacement impact was done by assuming a 50-percent reduction in use by grassland birds within 50 meters of wind turbines.[2] It was also assumed that grassland birds use Conservation Reserve Program (CRP) land at a rate that is 50-percent of their use of native grassland and upland tree habitat (and therefore that the amount of mitigation area should be half as much for CRP displacement as for native grassland displacement). It was further assumed that the final design locations of wind turbines within the micrositing corridors would be such that the maximum area of native grassland would be affected (the "worst case"). For both footprint and displacement impacts within Category 2 habitat, the mitigation area was calculated on a 2:1 ratio to meet the ODFW goal of a "net benefit of habitat quantity or quality." The area of impact within each affected habitat category and the corresponding mitigation area for each category are as follows:

Category 2
Footprint impacts: 0.7 acres
Displacement impacts: 2.9 acres
Mitigation area: 3.6 acres x 2 = 7.2 acres

Category 3 (grassland and upland tree habitat)
Footprint impacts: 0.5 acres
Displacement impacts: 2.7 acres
Mitigation area: 3.2 acres

Category 3 (CRP)
Footprint impacts: 7.3 acres
Displacement impacts: 24.6 acres
Mitigation area: (7.3 + (50% x 24.6)) = 19.6 acres

Category 4
Footprint impacts: 0.1 acres
Displacement impacts: 0 acres
Mitigation area: 0.1 acres

Total mitigation area (rounded): 30 acres

[2] The method of determining a reasonable mitigation area as described in this plan is not intended to be a precise formula or a precedent for determining appropriate mitigation for any other facility.

The rough calculation of potential displacement impact described above was based in part on data collected at the Stateline Wind Project and reported in the *Stateline Wind Project Wildlife Monitoring Final Report, July 2001 - December 2003* (2003 report). Additional data will be collected at Stateline in 2006 and (if any Stateline 3 turbines are built) in 2010. If analysis of this additional data demonstrates a statistically significant displacement effect on grassland bird species that is greater than the displacement effect described in the 2003 report, then the certificate holder shall assume that the Klondike III facility is having a greater displacement effect on grassland species than was assumed when the site certificate was issued and shall propose additional mitigation. The Department shall recommend appropriate mitigation to the Council, and the certificate holder shall implement mitigation as approved by the Council.

IV. Description of the Mitigation Site

The certificate holder shall select a 30-acre mitigation site in proximity to the facility where habitat enhancement is feasible. The certificate holder shall determine the final location of the mitigation area consistent with this plan in consultation with ODFW and the affected landowners and subject to the approval of the Oregon Department of Energy (Department). The certificate holder shall acquire the legal right to create, maintain and protect the habitat mitigation area for the life of the facility by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department.

V. Habitat Enhancement Methods

The goal of habitat enhancement is to improve the habitat quality of the mitigation site to achieve, over time, a Category 2 quality over most, if not all, of the site. The mitigation site may include land that has been managed under a CRP contract, which may previously have been planted with non-native species, including intermediate wheatgrass *(Agropyron intermedium)* and crested wheatgrass (*Agropyron cristatum*). It is common to find non-native species such as cheat grass between the planted grasses on CRP land. The goal of habitat enhancement is to diversify the vegetation on the mitigation site to provide long-term, structurally mature, functional grassland habitat.

If the selected mitigation site includes CRP land, the certificate holder will work with the Farm Service Agency (FSA) and the landowner to develop habitat improvement measures for the site that would benefit wildlife. The certificate holder would consult with the FSA before performing any work on land under a CRP contract to ensure consistency with the intent of the CRP contract.

Weed control on the mitigation site will contribute to lessening noxious weed expansion on the site and on any nearby grassland, CRP or cultivated agricultural land and would result in lessening competition to the desirable seeded and naturalized vegetation as recovery progresses. The enhancement measures would proceed in phases. Before or during construction of the KWP, the certificate holder shall begin the enhancement measures. The first phase is to clear non-native species and weeds through a combination of spraying and mowing, followed by planting with desirable grasses, forbs and woody shrubs. After the new vegetation is established, the quality of the habitat will be maintained for the life of the KWP by continued weed control, fire control and reseeding as necessary. The certificate holder shall repeat enhancement measures as necessary to meet the success criteria. The following steps summarize the process:

1) Herbicide application. Herbicides would be sprayed on existing vegetation and newly emerging weeds to prevent them from seeding and spreading. If Roundup is used instead of herbicides to prevent the build up of herbicide residue, it will be sprayed early and often (3 times) during the growing season. Alternating strips of CRP would be prepared for seeding with native-like species, and the remaining areas would be left in place to reduce the potential for wind erosion. In time, desirable plant seed sources in the new strips would infiltrate into the non-native strips to increase the overall species diversity.

2) Seeding and Planting. Native-like grass and forbs will be planted in the fall or early winter, so that seeds can soak up moisture during the winter. The mitigation seed mix will be determined in consultation with the landowner and ODFW. A no-till drill would be used for seeding. The no-till drill uses a series of smaller disks to create divots in the ground, and then plants the seeds in these divots with a seeding tube. The no-till drill does not require that site be tilled or disked prior to seeding. The drill would be used in several directions to mask the appearance of row crops and provide a more natural "bunchgrass" appearance over time. The certificate holder shall consult with ODFW regarding species of woody shrubs appropriate for the site. Such species could be included in the seed mix or small plants could be planted.

3) Continued Weed Control. After grasses have established, weed control methods would continue during first growing season and as needed thereafter (on both seeded and non-seeded strips). Weeds would be controlled with herbicides during the first year, which can reduce persistent weeds after seeding. Hand-pulling weeds can also be very effective for small areas but would be limited to noxious weeds listed by Sherman County. Spot-spraying can be used instead of total area spray to protect locations where young desirable forbs that may be growing.

4) Fire Control. The certificate holder will require the operations contractor to be the responsible party for wildfire suppression on the mitigation site for the life of the KWP.

VI. Monitoring

1. Monitoring Procedures

In the year following the first seeding and continuing annually thereafter until the success criteria have been met, the certificate holder shall hire a qualified investigator (an independent botanist or revegetation specialist) to examine all seeded and planted areas to assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria. The qualified investigator shall revisit the mitigation area on an annual basis until the certificate holder and the Department agree that the area is trending toward meeting the success criteria. Thereafter, the qualified investigator shall revisit the mitigation area every five years for the life of the KWP to assess vegetation cover and success. The certificate holder shall report the investigator's findings and recommendations regarding habitat mitigation progress and success to the Department on an annual basis as part of the annual report on the KWP.

2. Success Criteria

Areas within the mitigation site are successfully revegetated when total canopy cover of all vegetation exceeds 30 percent and at least 25 percent of the ground surface is covered by desirable species. Desirable species are native species or desirable non-native species in the

mitigation seed mix. Successful "enhancement" of the mitigation site means that a Category 2 habitat quality exists over at least 80 percent of the mitigation area.

After predominantly desirable vegetation has been established, the investigator shall verify, during subsequent visits, that the plant communities within the mitigation site continue to meet the success criteria for revegetation. In addition, the investigator, in consultation with ODFW, shall evaluate the percentage of the mitigation site that has been enhanced to a Category 2 quality.

If all or part of the habitat within the site falls below the revegetation or enhancement success criteria levels, the investigator shall recommend corrective measures. The Department may require reseeding or other corrective measures in those areas that do not meet the success criteria. The Department may exclude small areas from the reseeding requirement where the potential for erosion is low and if total vegetative cover (of native and non-native species together) exceeds 30 percent.

VII. Amendment of the Plan

This Habitat Mitigation Plan may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council ("Council"). Such amendments may be made without amendment of the site certificate. The Council authorizes the Department to agree to amendments to this plan. The Department shall notify the Council of all amendments, and the Council retains the authority to approve, reject or modify any amendment of this plan agreed to by the Department.

Oregon Department of Transportation

APPLICATION AND PERMIT TO OCCUPY OR PERFORM OPERATIONS UPON A STATE HIGHWAY

See Oregon Administrative Rule, Chapter 734, Division 55

PERMIT NUMBER

CLASS: 1 KEY #

GENERAL LOCATION

HIGHWAY NAME AND ROUTE NUMBER: **Wasco - Heppner (US 206)**

HIGHWAY NUMBER: **300**

COUNTY: **28=SHERMAN**

BETWEEN OR NEAR LANDMARKS: **Wasco and Nish Pit**

HWY. REFERENCE MAP: **8B-11-11**

DESIGNATED FREEWAY: ☐ YES ☑ NO

IN U.S. FOREST: ☐ YES ☑ NO

APPLICANT NAME AND ADDRESS

Klondike Wind Power III LLC
c/o PPM Energy Inc
1125 NW Couch St. Ste 700
Portland, OR 97209

PURPOSE OF APPLICATION

(TO CONSTRUCT/OPERATE/MAINTAIN)

☐ POLE LINE — TYPE — MIN. VERT. CLEARANCE

☑ BURIED CABLE — TYPE: **Power & fiber optic**

☐ PIPE LINE — TYPE

☐ **NON-COMMERCIAL SIGN** — FEE AMOUNT: $150.00

☐ **MISCELLANEOUS OPERATIONS AND/OR FACILITIES AS DESCRIBED BELOW**

BOND REQUIRED: ☐ YES ☑ NO (REFERENCE: OAR 734-55 035(2)) — AMOUNT OF BOND

INSURANCE REQUIRED: ☑ YES ☐ NO (REFERENCE: OAR 734-55 035(1)) — SPECIFIED COMP. DATE

DETAIL LOCATION OF FACILITY (For more space attach additional sheets)

MILE POINT	TO MILE POINT	ENGINEERS STATION	TO ENGINEERS STATION	SIDE OF HWY OR ANGLE OF CROSSING	DISTANCE FROM CENTER OF PVMT	DISTANCE FROM R/W LINE	BURIED CABLE OR PIPE DEPTH/VERT.	BURIED CABLE OR PIPE SIZE AND KIND	SPAN LENGTH
3.66	3.66	190+00	190+40	90'			36" min 48" min	4 4" PVC & 2 4" PVC /w	

DESCRIPTION AND LOCATION OF NON-COMMERCIAL SIGNS OR MISCELLANEOUS OPERATIONS FACILITIES

Permit is for placing and maintaining a buried power cables and 2 fiber optic lines.

SPECIAL PROVISIONS (FOR MORE SPACE ATTACH ADDITIONAL SHEETS)

TRAFFIC CONTROL REQUIRED

♦ ☑ YES[OAR 734-55-025(6)] ☐ NO

OPEN CUTTING OF PAVED OR SURFACED AREAS ALLOWED?

♦ ☐ YES[OAR 734-55-100(2)] ☑ NO[OAR 734-55-100(1)]

♦ **AT LEAST 48 HOURS BEFORE BEGINNING WORK, THE APPLICANT OR HIS CONTRACTOR SHALL NOTIFY THE DISTRICT REPRESENTATIVE AT TELEPHONE NUMBER:** 541-296-2215 **OR FAX A COPY OF THIS PAGE TO THE DISTRICT OFFICE AT:** 541-296-1629 **SPECIFY TIME AND DATE IN THE SPACE BELOW.**

♦ A COPY OF THIS PERMIT AND ALL ATTACHMENTS SHALL BE AVAILABLE AT THE WORK AREA DURING CONSTRUCTION.

♦ **ORS 757.54 TO 757.571 REQUIRES EXCAVATORS TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. YOU MAY BE HELD LIABLE FOR DAMAGES. CALL FOR UTILITY LOCATES.** ***CALL BEFORE YOU DIG. 1-800-332-2344***

COMMENTS - ODOT USE ONLY

1. General Provisions are part of this permit.
2. Fiber Optic lines must be a minimum of 48" deep.

IF THE PROPOSED APPLICATION WILL AFFECT THE LOCAL GOVERNMENT, THE APPLICANT SHALL ACQUIRE THE LOCAL GOVERNMENT OFFICIAL'S SIGNATURE BEFORE ACQUIRING THE DISTRICT MANAGER'S SIGNATURE.

LOCAL GOVERNMENT OFFICIAL SIGNATURE		TITLE	DATE
X			
APPLICANT	**APPLICATION DATE**	**TITLE**	**TELEPHONE NO.**
X			
When this application is approved by the Department, the applicant is subject to, accepts and approves the terms and provisions contained in the attached: and the terms of Oregon Administrative Rules, Chapter 734, Division 55, which is by this reference made a part of this permit.		DISTRICT MANAGER OR REPRESENTATIVE X	APPROVAL DATE

734-3457 (5-03)

GENERAL PROVISIONS FOR POLELINE, PIPELINE, BURIED CABLE PERMITS AND MISCELLANEOUS PERMITS

(Rev) Mar 2005

APPLICANT Klondike III Wind Project **HIGHWAY** 300 **MP** 3.66

WORKSITE

☒1. Permittee shall call for utility locates before digging, 1-800-332-2344 per Oregon Administrative Rules (Chapter 952, Division 1). You may be held liable for damages.

☐2. Prior to beginning work on ODOT Region 4 right of way, permittee shall contact ODOT Region 4 Electrical Supervisor to request ODOT locates in and around ODOT facilities. Utility locates may not include ODOT facilities.

☒3. Permittee shall have a copy of this permit and all attachments at the work site. They shall be available to the District Manager or representative upon request.

☐4. Permittee shall acknowledge, in writing, it's receipt and review of Oregon Administrative Rules (Chapter 734, Division55) governing miscellaneous facilities and operations on the highway right of way as the governing provisions of this permit or agreement. Copies of this rule may be obtained from any district maintenance office.

☒4. Permittee shall review the Oregon Administrative Rules (Chapter 734 Division 55) governing miscellaneous facilities and operations on the highway right of way as the governing provisions of this permit or agreement. Web Site: http://arcweb.sos.state.or.us/rules/OARS_700/OAR_734/734_055.html.

☐6. Access control fence shall be maintained during construction and restored to its original or better condition after construction is complete.

☒7. The permittee shall not use state highway right of way to display advertising signs or merchandise of any kind.

☒8. Stopping and parking of vehicles on state highway right of way for the maintenance of adjoining property or in furtherance of any business transaction or commercial establishment is strictly prohibited.

☐9. All grass and small brush within the work area shall be rotary or flail mowed to ground level prior to the beginning of work to facilitate clean up. Disturbed areas shall be reseeded with grass native to the area in an appropriate seeding time.

☒10. Depositing of mud or debris upon any state highway is strictly prohibited and violation shall be cause for immediate cancellation of the permit. Clean up shall be at the applicant's expense. The highway shall be cleaned of all dirt and debris at the end of each work day, or more frequently if so determined by the District Manager or representative.

☒11. Permittee shall replace any landscape vegetation or fences that are destroyed. Any damage that is not fully recovered within 30 days (weather permitting) will be replaced by ODOT at the expense of the permittee. A "plant establishment" shall be understood to be part of the planting work to assure satisfactory growth of planted materials. The plant establishment period will begin when the original planting and all landscape construction has been completed and approved. The length of the establishment period will be one calendar year or as defined in the permit Special Provisions.

☐12. Permittee shall install and maintain landscaped area as shown on the attached drawings. Planting shall be limited to low-growing shrubs, grass or flowers that do not attain sufficient height to obstruct clear vision in any direction. The Oregon Department of Transportation (ODOT) retains the right to remove said landscaping at any time such removal may appear to be in the public interest, without liability or loss, injury, of damage or any nature whatsoever.

Permittee_____ ODOT REP._____Date_____

TRAFFIC

☒13. During construction or maintenance, the work area shall be protected in accordance with the current Manual on Uniform Traffic Control Devices, (MUTCD), Federal Highway Administration, US Department of Transportation, and the Oregon Department of Transportation supplements thereto. Flaggers shall have a card or certificate indicating their completion of an approved work zone traffic control course. All traffic control devices shall be maintained according to the American Traffic Safety Services Association (ATSSA), Quality Standards for Work Zone Traffic Control Devices handbook.

☐14. Permittee shall provide a detailed traffic control plan for each phase of the work, showing signs and cones. Plans shall be reviewed and approved by Oregon Department of Transportation in advance of construction or maintenance.

☒15. All damaged or removed highway signs shall be replaced by the permittee. Installation shall be according to MUTCD standards or ODOT specifications, and shall be completed as soon as possible but no later than the end of the work shift.

☐16. No lane restrictions are permitted on the roadway during the hours of darkness, on weekends, or between 6:00 AM and 9:00 AM, or 3:00 PM and 6:00 PM (Monday thru Friday) without prior approval by ODOT.

☒17. Hours of work on the roadway shall be: Daylight

DRAINAGE

☐18. On-site storm drainage shall be controlled within the permitted property. No blind connections to existing state facilities are allowed.

☐19. Excavation shall not be done on ditch slopes. Trench excavation shall either be at ditch bottom or outside ditch area. (Minimum depth at bottom of ditch shall be 36 inches; minimum depth outside of ditch shall be 42 inches).

☐20. Only earth or rock shall be used as fill material and shall slope so as not to change or adversely affect existing drainage. Fine grade and seed the finished fill with native grasses to prevent erosion, or as directed by the District Manager.

☐21. A storm drainage study stamped by an Oregon Registered Professional Engineer (PE) is required. The study must meet standards of the National Pollution Discharge Elimination Systems (NPDES) when any of the following conditions apply:

- Whenever a four inch pipe is inadequate to serve the developed area,
- development site is one acre or larger in size and directly or indirectly affects state facilities,
- or as directed by the District Manager or representative.
- An advance deposit for ODOT hydrology reviews may be required.

☐22. Permittee shall provide on-site detention for storm water runoff that exceeds that of the undeveloped site.

☐23. All water discharged to an ODOT drainage system shall be treated prior to discharge. All requests for connection to an ODOT storm system must meet any requirements of the National Pollutant Discharge Elimination System (NPDES). This may include local jurisdiction approval of on-site water quality treatment facilities and/or development of an operation and maintenance plan for any on-site water quality treatment facility, as determined by local jurisdiction.

Permittee_____ODOT REP_____Date_____

EXCAVATION/CONSTRUCTION

☒24. The following ODOT documents, where applicable and not otherwise superceded by the permit language, shall be incorporated for use in the permit: "Oregon Standard Specifications for Construction (2002)" and relevant Metric Standard Drawings. ODOT shall have authority over acceptance of all materials and workmanship performed under this permit as stated in Section 00150.00 of the "Oregon Standard Specifications for Construction (2002)." For additional Supplemental and Special Provisions please refer to: http://www.odot.state.or.us/techserv/roadway/specs/home.htm. Standard Specifications are available on this site.

☐25. Open cutting of pavement is allowed in areas specifically approved by District Manager or representative.

☐26. Backfill trench according to the attached typical drawing, marked as Exhibit ___A___.

☐27. Open cutting of the highway is allowed with construction in accordance with OAR 734-55-0100. All excavation in paved areas shall be backfilled and the roadway surface patched before the end of each shift. In special cases where steel plates are allowed, said plates shall be pinned and a temporary cold patch applied to the edges. The permittee shall be fully responsible for monitoring and maintenance of temporary patching and steel plating.

☐28. Compaction tests shall be required for each open cut per Oregon Standard Specification for Construction. Compaction tests shall be conducted every_____ lineal feet per_____lift of continuous trench according to the Manual of Field Test Procedures (MFTP), published by ODOT. Percent Compaction shall be 95%. Upon requests results of compaction test shall be provided to District Manager or representative at applicants' expense.

☐29. Control Density Fill (CDF) shall be used as surface backfill material in place of crushed rock in open trenches that impact the travel portions of the highway. The amount of cement used shall not exceed 3.0% of the total mixture's weight. Maximum compressed strengths must not exceed 250 pounds per square inch (psi).

☐30. Surface restoration shall be a minimum of six inches of hot asphalt-concrete (AC), compacted in two-three inch lifts, or match existing pavement depth, whichever is greater. Sand-seal all edges and joints.

☒31. All aggregate shall conform to Oregon Standard Specification for Construction, Section 02630 - Base Aggregate.

☐32. Any area of cut or damaged asphalt shall be restored in accordance with the included Attachment B, "T" Cut Typical Section drawing. For a period of two years following the patching of paved surface, permittee shall be responsible for the condition of permittee's pavement patches, and during that two year period shall repair to District Manager or representative satisfaction any of the patches which become settled, cracked, broken, or otherwise faulty.

☐33. An overlay to seal an open-cut area shall be completed prior to the end of the construction season, or when minimum temperature allows per "Oregon Standard Specification for Construction" and any subsequent revisions thereto. Typical overlay shall be 1.5 inches deep and cover the affected area from edge of pavement to edge of pavement, and taper longitudinally at a fifty feet to one inch (50' : 1") ratio. Taper may be adjusted by the District Manager as required. For a period of two years following this patching of the surface, the permittee shall be responsible for the condition of said pavement patches, and during that time shall repair to the District Manager or representative's satisfaction any of the patches which become settled, cracked, broken or otherwise faulty.

☒34. Highway crossings shall be bored or jacked. Bore pits shall be located behind ditch line or in areas satisfactory to the District Manager. Unattended pits shall either be protected by a six-foot fence, backfilled, or steel plated and pinned.

Permittee_____ODOT REP_____Date_____

☒35. Permittee shall install a "tracer wire" or other similar conductive marking tape or device, if installing any non-conductive, unlocatable underground facility, in order to comply with Oregon Utilities Coordination Council (OUCC), per OAR 952-01-0070 (6).

☒36. Trench backfill outside of ditch line or in approved areas may be native soil compacted at optimum moisture in twelve inch layers to 90% or greater of the maximum density.

☒37. Native material that is found to be unsatisfactory for compaction shall be disposed of off the project and granular backfill used.

☒38. Trench backfill in rock slope or shoulder shall be crushed 1"-0 or ¾"-0 size rock compacted at optimum moisture in eight-inch layers. Compaction tests shall be conducted according to the Manual of Field Test Procedures (MFTP), published by ODOT. Percent compaction shall be 95%. At the discretion of the District Manager or representative, results of compaction tests shall be provided to District Manager or representative at applicant's expense.

☒39. Where excavation is on fill slope steeper than a two to one (2:1) ratio, slope protection shall be provided using four-inch size rock laid evenly to a minimum depth of twelve inches.

☒340. No more than 300 feet of trench longitudinally along the highway shall be left open at any one time and no trench shall be left in an open condition overnight.

☒41. Areas of disturbed cut and fill slopes shall be restored to a condition suitable to the District Manager or representative. Areas of erosion shall be inlaid with an acceptable riprap material, or as directed.

☒42. All underground utilities shall be installed with three-foot or more of horizontal clearance from existing or contract plans guardrail posts and attachments. All non-metallic water, sanitary and storm sewer pipe shall have an electrically conductive insulated Number 12-gauge copper tracer wire the full length of the installed pipe using blue wire for water and green for storm and sanitary sewer piping.

☐43. Any area of cut or damaged concrete shall be restored in accordance with the attached Typical Section-Pipe Section under sidewalk.

☒44. Utility markers and pedestals shall be placed as near the highway right-of-way line as practical. In no case shall pedestals and line markers be located within the highway maintenance area.

☒45. No cable plowing is allowed within the lateral support of the highway asphalt (i.e. at six feet lower than the edge of the asphalt, no plowing within nine feet of the edge of the asphalt).

☐46. Review by an ODOT Bridge Engineer is required for all proposed bridge and structure attachments and for utility or any facilities to be installed within sixteen feet of bridge foundations, supports, walls or related, or within the influence zone of bridge facilities.

Permittee_____ODOT REP_____Date_____

Miscellaneous:

☒47. Permittee shall be responsible and liable for (1) investigating presence/absence of any legally protected or regulated environmental resource(s) in the action area; (2) determining any and all restrictions or requirements that relate to the proposed actions, and complying with such, including but not limited to those relating to hazardous material(s), water quality constraints, wetlands, archeological or historic resources(s) state and federal threatened or endangered species, etc., (3) complying with all federal, state, and local laws, and obtaining all required and necessary permits and approvals.

☒48. If the permittee impacts a legally protected/regulated resource, permittee shall be responsible for all costs associated with such impact, including, but not limited to all costs of mitigation and rehabilitation, and shall indemnify, and hold ODOT harmless for such impacts and be responsible and liable to ODOT for any associated costs or claims that ODOT may have.

☒49. Plans are approved by ODOT in general only and do not relieve the permittee from completing construction improvements in a manner satisfactory to ODOT. The District Manager or representative may require field changes. When revisions are made in the field, permittee is responsible to provide "as built" drawings, within 60 days from completion of highway improvements, and shall submit them to the District Office issuing the permit.

☒50. Permittee shall be responsible for locating and preserving all existing survey monumentation within the work area in accordance with ORS 209.150 and/or 209.155. If monumentation or it's accessories are inadvertently or otherwise disturbed or destroyed, applicant shall be responsible for all costs and coordination associated with it's reestablishment by a professional licensed surveyor.

☐51. An advance deposit of $ _____ is required for project associated costs incurred by ODOT. Such costs will be identified and estimated by ODOT, and include, but are not limited to review of studies and calculations involving hydraulics/drainage, geotechnical, traffic and traffic control plans, signal, roadway design, bridge and other engineering support. Excess funds remaining in the account upon completion of billing will be refunded. If ODOT costs exceed the deposit amount, permittee shall be billed for the difference.

Permittee _____ ODOT Rep. _____ Date _____

File:olk74/General Provisions (Rev Mar 2005)

CERTIFICATE OF SERVICE

I hereby certify that on July 10, 2006, I served the Final Order on the Application, In the Matter of the Application for a Site Certificate for the Klondike III Wind Project, and the Site Certificate for the Klondike III Wind Project on Klondike Wind Power III LLC by causing a true copy of these documents to be mailed with postage prepaid in a sealed envelope addressed Mr. Jesse Gronner at the last-known address indicated below:

Mr. Jesse Gronner
Klondike Wind Power III LLC
1125 NW Couch, Suite 700
Portland OR 97209

John White

Date: 7/10/06

John G. White
Oregon Department of Energy