

**BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON**

In the Matter of the Application for a Site Certificate
for the Montague Wind Power Facility

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FINAL ORDER

The Oregon Energy Facility Siting Council

September 10, 2010

MONTAGUE WIND POWER FACILITY

FINAL ORDER

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LIST OF ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
App	Preliminary Application for a Site Certificate submitted on January 22, 2010
App Supp	Application Supplement submitted on April 27, 2010
Applicant	Montague Wind Power Facility LLC
BLM	U.S. Department of the Interior, Bureau of Land Management
BPA	Bonneville Power Administration
Council	Energy Facility Siting Council
CRP	Conservation Reserve Program
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
CTWSR	Confederated Tribes of the Warm Springs Indian Reservation
CUP	Conditional Use Permit
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.
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Oregon Department of State Lands
EFU	land zoned for "exclusive farm use"
FAA	Federal Aviation Administration
GCCP	Gilliam County Comprehensive Plan
GCZO	Gilliam County Zoning and Land Development Ordinance
IBR	Iberdrola Renewables, Inc.
kV	kilovolt or kilovolts
LCDC	Land Conservation and Development Commission
LJII	Leaning Juniper II Wind Power Facility
Maximum Turbine Layout	Figure C-4 of the application
Minimum Turbine Layout	revised Figure C-6 of the application (App Supp Attachment C-1)
mph	miles per hour
MW	megawatt or megawatts
MWPF	Montague Wind Power Facility
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

O&M	Operations and maintenance
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OPRD	Oregon Parks and Recreation Department
ORNHIC	Oregon Natural Heritage Information Center
ORS	Oregon Revised Statutes
OWRD	Oregon Water Resources Department
RAI	Oregon Department of Energy request for additional information
SAG	Special Advisory Group (Gilliam County Board of Commissioners)
SCADA	Supervisory, Control and Data Acquisition
SHPO	Oregon State Historic Preservation Office, Department of Parks and Recreation
USFWS	U.S. Fish and Wildlife Service
WGS	Washington ground squirrel
WMMP	Wildlife Monitoring and Mitigation Plan (Attachment A)
ZVI	Zone of Visual Influence

MONTAGUE WIND POWER FACILITY **FINAL ORDER**

I. INTRODUCTION

1 This order addresses an application for a site certificate for the construction and operation
2 of a proposed wind energy facility in Gilliam County near Arlington, Oregon. The applicant is
3 Montague Wind Power Facility LLC. The applicant has named the proposed facility the
4 "Montague Wind Power Facility" (MWPF). The Oregon Energy Facility Siting Council
5 (Council) issues this order based on its review of the application and the comments and
6 recommendations on the application by state agencies, local government, tribal organizations and
7 the public.

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

14 It is the public policy of the State of Oregon that "the siting, construction and operation
15 of energy facilities shall be accomplished in a manner consistent with protection of the public
16 health and safety and in compliance with the energy policy and air, water, solid waste, land use
17 and other environmental protection policies of this state." ORS 469.310. A site certificate issued
18 by the Council binds the state and all counties, cities and political subdivisions of Oregon. Once
19 the Council issues the site certificate, the responsible state agency or local government must
20 issue any necessary permits that are addressed in the site certificate without further proceedings.
21 ORS 469.401(3). The Council has continuing authority over the site for which the site certificate
22 is issued and may inspect the site at any time in order to ensure that the facility is being operated
23 consistently with the terms and conditions of the site certificate. ORS 469.430.

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

35 In accordance with ORS 469.370(1), the Oregon Department of Energy (Department)
36 issues a draft proposed order on an application. After the draft proposed order has been issued,
37 the Council must conduct at least one public hearing in the affected area. At the hearing, the
38 Council takes public comment on the application and draft proposed order. ORS 469.370(2).
39 Any issues that may be the basis for a contested case hearing must be raised by the public

1 hearing comment deadline or they are waived and cannot be considered in a contested case. ORS
2 469.370(3).

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

11 After the conclusion of the contested case proceeding, the Council decides whether to
12 grant a site certificate and issues a final order that either approves or rejects the application based
13 on the standards adopted under ORS 469.501 and any additional state statutes, rules or local
14 government ordinances determined to be applicable to the proposed facility by the project order.
15 ORS 469.370(7). Any party to a contested case proceeding may apply for rehearing within 30
16 days from the date of service of the final order.

17 The Council's final order is subject to judicial review by the Oregon Supreme Court.
18 Only a party to the contested case may request judicial review, and the only issues that may be
19 subject to judicial review are issues raised by parties to the contested case. A petition for judicial
20 review must be filed with the Supreme Court within 60 days after the date of service of the
21 Council's final order or within 30 days after the date the petition for rehearing is denied or
22 deemed denied. ORS 469.403.

23 The definitions in ORS 469.300 and Oregon Administrative Rule (OAR) 345-001-0010
24 apply to terms used in this order.

II. PROCEDURAL HISTORY

25 On November 9, 2009, Iberdrola Renewables, Inc. (IBR) submitted a Notice of Intent
26 (NOI) to apply for a Site Certificate for the MWPF. On November 17, 2009, the Department sent
27 a public notice of the NOI to persons on the Council's general mailing list, to persons on the
28 special list set up for the project and to property owners identified in the NOI, as required under
29 OAR 345-015-0110. On November 18, 2009, IBR sent copies of the NOI to a list of reviewing
30 agencies provided by the Department together with a memorandum from the Department as
31 described in OAR 345-015-0120. On November 19, 2009, the Department published notice of
32 the NOI in the *East Oregonian*. On November 25, the Department published notice of the NOI in
33 the *Condon Times-Journal*.

34 On November 20, 2010, in accordance with ORS 469.480, the Council appointed the
35 Gilliam County Board of Commissioners and the Morrow County Court as the Special Advisory
36 Group (SAG) for the review of the MWPF site certificate application.¹

¹ The applicant subsequently revised the proposed site boundary to exclude areas within Morrow County. Accordingly, the Morrow County Court no longer met the definition of a Special Advisory Group under ORS 469.480(1) ("the governing body of any local government within whose jurisdiction a facility is proposed to be located"). Nevertheless, the Council may, under ORS 469.480(2) "establish such special advisory groups as are considered necessary."

1 On December 9, 2009, in Arlington, Oregon, the Department held a public information
2 meeting about the proposed MWPF and the site certificate process. At the meeting, IBR
3 announced that the proposed facility would be built entirely on private lands located in Gilliam
4 County.² The Department accepted public comment on the NOI through December 21, 2009.

5 On January 5, 2010, after review of the NOI and consideration of public and reviewing
6 agency comments, the Department issued a project order.

7 On January 22, 2010, IBR submitted a preliminary application. On January 28, IBR
8 mailed copies of the preliminary application to a list of reviewing agencies approved by the
9 Department together with a memorandum from the Department requesting comments from the
10 reviewing agencies regarding the completeness of the application. The deadline for completeness
11 comments was February 26, 2010. IBR also sent copies of the preliminary application to public
12 libraries in Arlington, Condon and Boardman.

13 On February 2, the Department posted notice of the preliminary application on the
14 Department's website, including downloadable project maps and key sections of the application.
15 The notice included information about the locations where members of the public could examine
16 the entire preliminary application and about how to contact the Department's project officer for
17 more information.

18 The following reviewing agencies responded to the Department's request by the February
19 26th deadline:

20 Sarah Kelly, Department of State Lands (email, February 21, 2010)
21 Jerry Murray, Public Utility Commission (email, February 22, 2010)
22 Jan Houck, Oregon Parks & Recreation Department (email, February 24, 2010)
23 Steve Cherry, Oregon Department of Fish and Wildlife (email, February 25, 2010)
24 Susan White, State Historic Preservation Office (email and letter, February 25, 2010)
25 Susie Anderson, Gilliam County (email and letter, February 26, 2010)
26 Nancy Gilbert, U.S. Fish and Wildlife Service (email and fax, February 26, 2010)
27 Shawn Steinmetz, Confederated Tribes of the Umatilla Indian Reservation (email and
28 letter, February 26, 2010)

29 On April 14, 2010, IBR formed a wholly-owned subsidiary to be the applicant for the
30 proposed MWPF and to be the certificate holder of the facility, if the Council were to grant a site
31 certificate.³ Herein, we refer to the subsidiary, "Montague Wind Power Facility LLC," as "the
32 applicant."

33 Based on the Department's review of the preliminary application and on comments
34 received from reviewing agencies, the Department requested additional information from the
35 applicant. On April 21, 2010, the Department determined that the application was complete
36 based on additional information submitted by the applicant since the date of the preliminary
37 application. The Department requested that the applicant submit an application supplement. The
38 Department accepted the application supplement on April 27, 2010, and filed the application as
39 of that date. In accordance with OAR 345-021-0055, the complete application consists of the

² Confirmed by email from Sara Parsons, December 9, 2009. The NOI project description had included a portion of the proposed project to be located in Morrow County.

³ Email from Sara Parsons, April 14, 2010.

1 Preliminary Application submitted in January 2010 and the Application Supplement submitted in
2 April 2010.

3 The applicant distributed copies of the supplement to the reviewing agencies and others
4 identified by the Department, together with the notice described in OAR 345-015-0200. In the
5 notice, the Department asked the reviewing agencies to submit agency reports by May 28, 2010.
6 The applicant also sent copies of the supplement to the public libraries in Arlington, Condon and
7 Boardman, for public inspection.

8 On April 30, 2010, the Council appointed John W. Burgess as the Hearing Officer for the
9 review of the MWPF site certificate application and any further proceedings, as needed.

10 On May 3, 2010, the Department issued public notice of the filing of the application. The
11 Department mailed the notice to the property owners listed in Exhibit F of the application and to
12 persons on the Council's general mailing list and the special mailing list set up for the proposed
13 facility, as described in OAR 345-015-0190. The notice included information about locations
14 where copies of the complete application would be available for public review. On May 11 and
15 12, 2010, the Department published the notice of the application filing in the *East Oregonian*. On
16 May 13, 2010, the Department published notice of the application filing in the *Condon Times-*
17 *Journal*. The Department, in addition, posted notice of the filing on its website. In the public
18 notices, the Department invited public comment by a deadline of May 28, 2010.

19 In response to the public and agency notices that the application had been filed, the
20 Department received written comments from the following reviewing agencies and members of
21 the public by the May 28 deadline:

22 • Reviewing Agencies

23 Todd Hesse, Oregon Department of Environmental Quality (email, May 10, 2010)
24 Steve Cherry, Oregon Department of Fish and Wildlife (letter, May 13, 2010)
25 Jerry Cordova and Nancy Gilbert, U.S. Fish and Wildlife Service (email, May 28,
26 2010)

27 • Public Comments

28 Wayne Hughes (letter, May 24, 2010)

29 The comments from the Department of Environmental Quality (DEQ) addressed the need
30 for a National Pollutant Discharge Elimination System (NPDES) permit for construction
31 activities but did not otherwise describe any water quality concerns about the proposed facility.
32 The Oregon Department of Fish and Wildlife (ODFW) recommended a site certificate condition
33 to protect single Washington ground squirrel burrows discovered during pre-construction
34 surveys. The proposed condition and the designation of Category 1 habitat around single burrows
35 is discussed herein at page 100. The U.S. Fish and Wildlife Service (USFWS) recommended
36 golden eagle surveys, project design to avoid golden eagle fatalities and monitoring consistent
37 with USFWS interim protocols. The applicant responded to the USFWS comments and
38 summarized the surveys that had been done, design measures and proposed monitoring plans.⁴
39 An assessment of potential impacts on golden eagles is discussed herein at page 105. Wayne
40 Hughes expressed concerns about the location of wind turbines near his residence and potential
41 "sight, sound and ELF reception" impacts. In response to the comments of Mr. Hughes, the

⁴ Email from Jeffrey Durocher, June 10, 2010.

1 applicant determined that his residence had been omitted from the noise impact analysis. The
2 applicant initiated discussions with Mr. Hughes regarding his concerns. The noise analysis is
3 discussed herein beginning at page 126.

4 The Department considered all of the comments in preparing the Draft Proposed Order.
5 The Department provided a draft of the Draft Proposed Order to the applicant for review on June
6 17, 2010. The Department issued the Draft Proposed Order on June 22, 2010.

7 The Department issued notice of a public hearing at least 20 days before the hearing date,
8 as required under OAR 345-015-0220. The Department published the notice in the *East*
9 *Oregonian* and the *Condon Times-Journal*, newspapers of general circulation available in the
10 vicinity of the proposed facility. The Department, in addition, posted notice of the public hearing
11 on its website.

12 The Department held a public hearing on July 22, 2010, in Arlington, Oregon, and
13 accepted public comments on the Draft Proposed Order until 5:00 PM on July 23. Hearing
14 Officer John Burgess presided at the public hearing and explained that any person intending to
15 raise an issue that may be the basis for a contested case must raise the issue in person or in
16 writing on the record of the public hearing.

17 The Department considered all of the public comments made at the public hearing or
18 submitted in writing by the deadline in preparing the Proposed Order. A summary of the
19 comments received and the Department's responses is included in Attachment D, incorporated
20 herein by this reference.

21 The Council met in Boardman, Oregon, on July 30, 2010. At the meeting, the Department
22 presented the Draft Proposed Order to the Council and discussed the issues raised by the public
23 comments and the Department's responses and recommendations regarding the public
24 comments. The Department issued the Proposed Order on August 9 and provided the contested
25 case notice required under OAR 345-015-0230(3). The contested case notice specified a deadline
26 of August 24, 2010, for interested persons to request party status.

27 The Oregon Historic Trails Advisory Council (OHTAC), the Oregon-California Trails
28 Association (OTAC) and Stafford Hazelett submitted petitions to the Hearing Officer to
29 participate in a contested case proceeding. On August 31, 2010, the Hearing Officer issued an
30 Order. The Order stated that each of the petitioners had requested that their petition be
31 withdrawn. The Order cancelled the scheduled prehearing conference and hearing and concluded
32 the contested case proceeding. The Order was served on the three petitioners and the applicant on
33 September 1, 2010.

34 The Council considered the Department's Proposed Order at a public meeting in The
35 Dalles, Oregon, on September 10, 2010, and issued this Final Order.

III. GENERAL FINDINGS OF FACT

1. Description of the Proposed Facility

(a) Project Overview

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

1 wind turbines and related facility components, including two substations, one or two operations
2 and maintenance buildings, up to eight permanent meteorological towers, access roads, and
3 aboveground and underground transmission lines. The MWPF would have a peak generating
4 capacity of up to 404 megawatts (MW). The average electric generating capacity would be up to
5 134.7 MW.⁵ Accordingly, the proposed facility is within the Council's siting jurisdiction under
6 ORS 469.300.

7 The applicant intends to connect the MWPF to the regional transmission system through
8 the Bonneville Power Administration's Slatt Substation. The applicant has proposed one
9 preferred and two alternate 230-kilovolt (kV) transmission line routes between Slatt and a
10 facility substation in the central part of the facility. A second substation would be built to collect
11 power from turbines in the western part of the project, and a 230-kV transmission line would
12 connect the western area substation to the central substation.

(b) The Energy Facility

13 The proposed energy facility would include individual wind turbines, each consisting of a
14 nacelle (containing the gearbox and generator), a rotor and blade assembly and a turbine tower
15 and foundation. The applicant is considering turbine sizes in the range of 1.5 MW to 3.0 MW.
16 The applicant has not yet determined the turbine vendor, the turbine type and generating capacity
17 or the number of turbines to be built. In the application, the applicant requests flexibility to use
18 any combination of turbine types, subject to the limitations that no single turbine would have a
19 generating capacity greater than 3.0 MW and the combined generating capacity of the facility as
20 a whole would not exceed 404 MW. The maximum number of turbines would be 269 1.5-MW
21 turbines. Any increase in these overall limits would require an amendment of the site certificate.

22 In the application, the applicant has analyzed impacts for two turbines that represent the
23 range of turbines that could potentially be used at the facility: the GE 1.5-MW turbine and the
24 Vestas V100 3.0-MW turbine. The applicant has analyzed a possible "minimum turbine layout"
25 of 134 3.0-MW turbines and a possible "maximum turbine layout" of 269 1.5-MW turbines. The
26 applicant provided the data shown in Table 1 to illustrate the specifications for the range of
27 turbine types that could be constructed at the facility.

⁵ ORS 469.300(4) defines the "average electric generating capacity" of a wind energy facility as the peak generating capacity divided by 3.00.

Table 1: Turbine Specifications⁶

Specification	GE 1.5	Vestas V100
Peak Generating Capacity	1.5 MW	3.0 MW
Weight (nacelle and tower) ⁷	220 US tons	348 US tons
Hub Height (meters)	80	100
Rotor Diameter (meters)	77	100
Maximum Blade Tip Height (meters)	119	150
Minimum Blade Tip Clearance Above Ground (meters)	41	50
Maximum Rotor Speed (revolutions per minute)	18	30
Maximum Sound Power Level (decibels) ⁸	104	110
Tower Base (diameter)	15 feet	16 feet
Pedestal (diameter)	16 feet	20 feet
Gravel apron (radius from pedestal)	up to 15 feet	up to 15 feet

Each turbine tower would be supported by a reinforced concrete foundation ranging up to 24 meters (80 feet) in width. The 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 concrete slab foundation at the base of each wind turbine tower or within the turbine nacelle or tower. A step-up transformer increases the output voltage of the wind turbine generator to the voltage of the power collection system. A gravel turbine pad area (apron) of up to 15 feet in radius from the turbine base would surround each turbine tower.

(c) Related or Supporting Facilities

The proposed facility would include the following related or supporting facilities:

- Power collection system
- Control system
- Two collector substations
- 230-kV transmission lines
- Meteorological towers
- Operations and maintenance (O&M) facilities
- Access roads
- Public roadway modifications
- Additional construction areas

Power Collection System

A power collection system operating at 34.5 kV would carry the power from each turbine to the project substations (described below). To the extent practicable, the collection system would be installed underground at a depth of at least three feet. Segments of the collector line

⁶ Based on App, Exhibit B, pp. 3-5 and Table B-1, and Exhibit X, Table X-6.

⁷ The weight shown is the weight of metals. It does not include the blades.

⁸ Values shown are not adjusted for uncertainty (typically +/- 2 decibels).

could be constructed aboveground where necessary based on geotechnical conditions or other engineering considerations. Based on the current design, the applicant estimates that approximately 76 miles of collector cables would be placed underground and 15 miles would run on aboveground pole structures.⁹ The applicant cannot determine the final length of aboveground collector line segments until the final component layout is known and geotechnical studies have been completed, but the applicant has proposed that no more than 27 miles of the collector system would be aboveground and that the total length of the collector system would not exceed 103 miles.¹⁰ The Council adopts Condition 88, which incorporates these limits. Aboveground segments would be supported by H-frame or monopole support structures up to 100 feet in height.¹¹ Aboveground segments would be either single-circuit or double-circuit and would include a ground wire or shield wire.

After the application was filed, the applicant proposed an alternate collector line route for connecting the AA, BB, CC, DD and EE turbine strings to the central substation.¹² A segment of this collector line would lie within an easement across land occupied by the Leaning Juniper II Wind Power Facility (LJII).¹³ Another segment would follow the route of the proposed 230-kV transmission line that would connect the western substation to the central substation (described below). Use of the alternate collector line route would not increase the temporary or permanent impacts of the facility as described herein.¹⁴

Control System

A fiber optic communications network would link the wind turbines to central computers at the O&M buildings.¹⁵ A Supervisory, Control and Data Acquisition (SCADA) system would collect operating and performance data from each wind turbine and from the project as a whole and allow remote operation of the wind turbines. The SCADA software consists of applications developed by the turbine vendor or a third-party SCADA vendor. Where underground, communications lines would be placed in the same trenches as the collector lines, at least three feet below the surface, and aboveground communications lines would run on the same power poles as the collector lines and 230-kV transmission lines. The total length of SCADA system lines would be up to 132 miles.¹⁶

Substations and 230-kV Transmission Lines

The power collection system would link each turbine to the proposed substations. The applicant proposes to build two facility substations.¹⁷ One would be located in the western part of the site and the other would be located in the central part of the site.¹⁸ Each substation site would

⁹ App, Exhibit B, p. 9, and App Supp, Exhibit B, p. 1.

¹⁰ App, Exhibit B, p. 10; and App Supp, Exhibit B, p. 1.

¹¹ App, Exhibit AA, pp. 2-4.

¹² Email from Sara Parsons, June 16, 2010. The alternate collector line route was shown in a revised Figure C-5c attached to the email.

¹³ The easement corridor would include a shared access road, as described herein.

¹⁴ Email from Sara Parsons, June 16 and 17, 2010.

¹⁵ App, Exhibit B, p. 10.

¹⁶ The length of SCADA line on the 230-kV transmission line structures would be 9 miles from the western substation to the central substation and 20 miles (2 x 10 miles) from the central substation to Slatt (App, Exhibit B, p. 11). Accordingly, the total length of SCADA line would be 132 miles rather than 129 miles as stated in the application supplement (App Supp, Exhibit B, p. 2).

¹⁷ App, Exhibit B, p. 10.

¹⁸ Possible substation locations are shown on Figures C-4 and C-6 (App, Exhibit C).

1 consist of a graveled, fenced area containing the transformer and switching equipment and an
2 area to park utility vehicles. Each substation would occupy approximately 5 acres of land.¹⁹ The
3 substation transformers would convert the 34.5-kV power from the collection system to 230-kV.

4 An aboveground, single-circuit 230-kV transmission line up to 9 miles in length would
5 connect the western substation to the central substation. An aboveground, single-circuit 230-kV
6 transmission line up to 10 miles in length would connect the central substation to the existing
7 500-kV Slatt-Buckley transmission line owned by the Bonneville Power Administration (BPA)
8 at the Slatt substation. The applicant requests the option to select from three possible routes for
9 the transmission line segment from the central facility substation to the Slatt substation.²⁰

10 The 230-kV lines would be supported by H-frame structures with two galvanized steel or
11 wood poles or by galvanized steel or wood monopole structures. The support structures would be
12 80 to 100 feet high.²¹

13 The power generated by the proposed MWPF would connect to the regional transmission
14 grid through the existing 500-kV BPA Slatt-Buckley transmission line. The interconnection
15 switchyard facilities at the Slatt substation are separate from the energy facility. The
16 interconnection is not considered a related or supporting facility subject to the terms and
17 conditions of the site certificate.²²

18 Meteorological Towers

19 The proposed facility would include up to eight permanent meteorological (met) towers.²³
20 The met towers would be non-guyed lattice-type steel towers approximately 80 meters (262 feet)
21 in height. Each met tower would be mounted on a concrete foundation.²⁴

22 O&M Facilities

23 The applicant proposes to build up to two O&M facilities.²⁵ Each O&M facility would
24 occupy a permanent 3-acre site (during construction, an additional seven acres at each O&M
25 facility would be used as staging and storage area). Each O&M facility would include a one-
26 story building of up to 8,000 square feet (housing offices, SCADA equipment, bathroom and
27 kitchen facilities, a break room, a storage area and a garage for vehicle, turbine and equipment
28 maintenance). In addition, each O&M facility would include storage for lubricants, oils, grease,
29 antifreeze, degreasers and hydraulic fluids used in the operation and maintenance of the MWPF.
30 The hazardous materials would be stored within a secondary containment area to prevent any
31 contamination from leaks or spills.²⁶ Each O&M facility would include a fenced and graveled
32 area for parking and outside storage.

33 An on-site well at each O&M building would supply water for use during facility
34 operation.²⁷ Sewage from the O&M buildings would be discharged to on-site septic systems.

¹⁹ App, Exhibit C, Table C-2.

²⁰ The preferred and alternative routes are shown on Figures C-4 and C-6 (App, Exhibit C).

²¹ App, Exhibit R, p. 3.

²² BPA would review the proposed interconnection according to the requirements of the National Environmental Policy Act (NEPA).

²³ App, Exhibit B, p. 11.

²⁴ App, Exhibit B, Figure B-5.

²⁵ App, Exhibit B, pp. 5-6.

²⁶ App, Exhibit V, p. 4.

²⁷ App, Exhibit B, p. 14, and Exhibit O, pp. 3-4.

1 Power and telephone service for the O&M buildings would be supplied by existing local
2 providers.

3 **Access Roads**

4 New private access roads would be built to provide access to the facility's turbine strings.
5 The access roads would connect to spur roads at each turbine tower. After the application was
6 filed, the applicant proposed to obtain easements across land occupied by LJII to provide
7 alternate access routes to the proposed MWPF.²⁸ Within the easements, the certificate holder
8 would use the private access roads already constructed to serve LJII and would build new road
9 segments to connect the LJII access roads to the MWPF turbine strings.

10 There would be approximately 71 miles of new roads constructed for the MWPF.²⁹ New
11 access roads would be up to 20 feet wide.³⁰ During construction, approximately 69 miles of the
12 new roads would be temporarily widened up to 80 feet for crane passage.

13 In addition, approximately 5 miles of existing private roads would be permanently
14 widened to 20 (and temporarily widened to 80 feet for crane passage during construction).
15 Where needed, existing cattle guards would be replaced with wider cattle guards to
16 accommodate the wider roadway.

17 **Public Roadway Modifications**

18 The applicant states that "improvements and upgrades" to existing state and county
19 public roads may be necessary for construction of the facility.³¹ These modifications would be
20 confined to the existing road rights-of-way and would be undertaken with the approval of the
21 Gilliam County Road Department or the Oregon Department of Transportation, depending on the
22 location of the improvement. The Council adopts Condition 71 to incorporate these
23 requirements. Upon completion of construction, the certificate holder would restore public roads
24 to pre-construction condition or better. The Council adopts Condition 75 to ensure repair of any
25 damage to county roads.

26 **Additional Construction Areas**

27 During construction, a 7-acre staging area would be located adjacent to each O&M
28 facility and two 5-acre staging areas would be centrally located.³² Separate 2.5-acre staging areas
29 would be located near turbine strings (the applicant estimates these areas would occupy up to
30 57.5 acres). At each turbine tower, there would be a rotor laydown and crane maneuvering area
31 occupying up to 160,000 square feet (the applicant estimates that these areas would occupy up to
32 977.8 acres).

33 Crane paths would be used during construction to move construction cranes between
34 individual towers and turbine strings. New access roads and some existing private roads would
35 be temporarily widened to 80 feet where necessary to accommodate crane travel. Crane paths
36 that do not parallel access roads would temporarily disturb a 55-foot wide corridor.

²⁸ Email from Sara Parsons, June 8, 2010.

²⁹ Revised Table C-2 (email from Sara Parsons, June 14, 2010).

³⁰ App, Exhibit B, p. 12.

³¹ App, Exhibit K, p. 4, and Exhibit U, p. 6.

³² App, Exhibit B, p. 12, and revised Table C-3 (email from Sara Parsons, June 14, 2010).

1 Temporary access for construction of above-ground collector line segments and
2 disturbance around pole locations would affect approximately 66 acres based on the current
3 layout.³³ Construction of the underground segments of the collector system would affect
4 approximately 226 acres. Temporary disturbance associated with construction of 230-kV
5 transmission lines would affect approximately 31 acres.

6 The applicant stated that there are existing sources of gravel in the area that could provide
7 gravel for construction of the facility.³⁴ If a new gravel quarry were developed, it would not be a
8 related or supporting facility because it would be built for use by multiple projects. Under OAR
9 345-001-0010(49) a new gravel quarry is not a related or supporting facility unless it “would not
10 be built but for construction or operation of the energy facility.” Likewise, the applicant stated
11 that a new or existing concrete batch plant would be used to supply concrete during construction,
12 but that any such batch plant would not be a related or supporting facility, because it would be
13 used by multiple projects.³⁵

14 The applicant would obtain water for construction purposes from the City of Arlington or
15 from a new or existing water well. Existing wells owned by the City of Arlington or private
16 landowners would not be substantially modified to supply construction water and therefore
17 would not be related or supporting facilities. If a new well is constructed, it would be constructed
18 for use “by multiple projects and County needs.”³⁶

2. The Site and Site Boundary

19 The applicant provided information about the location of the proposed facility in Exhibit
20 C of the application. The application includes maps showing the proposed facility location.³⁷ The
21 proposed site overlaps the sites of LJII and the Pebble Springs Wind Project.³⁸ The MWPF site
22 would include easements across areas occupied by LJII and the shared use of access roads within
23 those easements.³⁹ The site is near or adjacent to other existing or approved wind energy
24 facilities in Gilliam County and Morrow County.

25 The site is located entirely within Gilliam County. The distance from Arlington to the
26 Slatt substation (at the northernmost edge of the site boundary) is approximately 1.5 miles. The
27 distance from Arlington to the nearest part of the site where turbines would be built is
28 approximately 3.8 miles. The facility would be located on private land for which the applicant
29 has negotiated or will negotiate long-term leases or easements.⁴⁰ There are approximately 33,485
30 acres within the site boundary, as shown on Table 6 herein. The applicant has provided a
31 preliminary legal description of the site.⁴¹ The applicant has provided two layouts to illustrate

³³ Revised Table C-3 (email from Sara Parsons, June 14, 2010).

³⁴ Response to RAI E2 (App Supp, Exhibit E, p. 1).

³⁵ Response to RAI E3 (App Supp, Exhibit E, p. 2).

³⁶ Response to RAI E1 (App Supp, Exhibit E, p. 1).

³⁷ App, Exhibit C, Figures C-1 and C-2.

³⁸ App, Exhibit P, Figure P-1.

³⁹ Email from Sara Parsons, June 8, 2010.

⁴⁰ The applicant provided Township and Range references in the application (App, Exhibit C, p. 2).

⁴¹ App, Exhibit C, pp. 2-3, Table C-1 and Figures C-8a through C-8d.

possible configurations of the proposed MWPF components within the site boundary, using either 1.5-MW turbines or 3.0-MW turbines.⁴²

The applicant has identified two groups of turbines that the Council has previously approved for construction as part of LJII that could, instead, be built as part of the proposed MWPF.⁴³ One group is located in the western part of the MWPF site and consists of four proposed turbine locations; the other group is located in the northern part of the MWPF site and consists of five turbines.⁴⁴ Before beginning construction of the MWPF, the certificate holder would notify the Department whether the turbines would be built as part of the MWPF or whether the turbines would be built as part of LJII. The Council adopts Condition 26, which incorporates this required notice. Turbines and related components that are built as part of the MWPF would be subject to the requirements of the MWPF site certificate; turbines and related components that are built as part of LJII would be subject to the requirements of the LJII site certificate.

As defined by OAR 345-001-0010, the “site boundary” is the perimeter of the site of the energy facility, its related or supporting facilities, all temporary laydown and staging areas and all corridors and microsites.⁴⁵ The Council has recognized the need for wind energy developers to have flexibility to “microsite” the final location of wind turbines and related infrastructure after issuance of a site certificate, based on turbine selection, geotechnical constraints, site-specific wind resource factors, avoidance of high-value wildlife habitat and the desire to reduce conflict with farming practices. Beginning in 2006, the Council has approved microsites in site certificates and site certificate amendments for wind facilities.

Before beginning construction and after considering all microsites factors, the certificate holder would provide to the Department a detailed map of the facility, showing the final locations where the certificate holder proposes to build facility components (Condition 31). Within 90 days after beginning operation of the facility, the certificate holder would submit a legal description of the facility site to the Department (Condition 2), as required by OAR 345-027-0020(2).

3. Construction Deadlines

The applicant intends to begin construction in late 2010 after issuance of a site certificate. OAR 345-027-0020(4) requires a certificate holder to begin and complete construction of a facility by the dates specified in the site certificate. The applicant proposes to begin construction of the MWPF no later than three years after the effective date of the site certificate and to complete construction no later than six years after the effective date of the site certificate.⁴⁶ The Council incorporates these deadlines in Conditions 24 and 25.

⁴² Figures C-4, C-5a through C-5d, C-6 and C-7a through C-7d (App, Exhibit C). Revised Figures C-4, C-5a through C-5d, C-6 and C-7a through C-7d show the road easement corridors shared with LJII (email from Sara Parsons, June 11, 2010). The applicant proposed an alternate collector line route that would include a segment within a shared road easement corridor, as shown on a second revised Figure C-5c (email from Sara Parsons, June 16, 2010).

⁴³ App, Exhibit B, p. 2.

⁴⁴ Turbine locations H1, H2, H3, H4, L8, L9, L10, L11 and L12 are shown on Figure C-3a (App Supp, Attachment B-1).

⁴⁵ The facility “site,” as defined under ORS 469.300, includes all land upon which the energy facility and its related or supporting facilities are located.

⁴⁶ App, Exhibit B, p. 18.

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

The Council must decide whether the proposed MWPF 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 164.

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 is a wholly-owned subsidiary of Iberdrola Renewables, Inc. (IBR). IBR has engaged in the permitting, design and construction of energy facilities throughout the United

1 States.⁴⁷ The Council has previously found that IBR or its wholly-owned subsidiaries have the
2 organizational expertise to construct, operate and retire energy facilities in Oregon, including the
3 Klondike III Wind Project, the Leaning Juniper II Wind Power Facility and the Helix Wind
4 Power Facility.⁴⁸ IBR, through its subsidiary, Klondike Wind Power III LLC, is currently
5 operating the Klondike III Wind Project in full compliance with its site certificate.⁴⁹

6 The applicant identified specific qualified and experienced internal personnel for
7 management of the design, construction and operation of the proposed facility.⁵⁰ The applicant
8 has not selected a prime contractor for construction of the proposed facility but would hire
9 qualified contractors with direct experience in wind energy facility construction to design and
10 build the proposed facility (Condition 34). The applicant and IBR have not received any
11 regulatory citations in the course of constructing and operating wind energy facilities.⁵¹ The
12 applicant does not have an ISO 9000 or ISO 14000 certified program, and therefore OAR 345-
13 022-0010(2) does not apply.

14 The mitigation actions necessary to demonstrate compliance with Council standards are
15 described in Sections IV and V and are incorporated in the site certificate conditions described
16 herein. Based on evidence provided by the applicant, including the applicant's experience with
17 other wind projects and the qualifications and experience of personnel upon whom the applicant
18 would rely, the Council finds that the applicant could successfully implement and complete the
19 mitigation actions.

B. Third-Party Permits

20 The Council finds that third party permits would be necessary for construction of the
21 proposed MWPF. For the reasons discussed below, the Council finds that the applicable third
22 parties either have the necessary permits or have a reasonable likelihood of obtaining the
23 necessary permits.⁵² The certificate holder will have a contractual relationship with a prime
24 contractor to build the facility and will select contractors who are experienced in the wind
25 industry.⁵³ Experienced and qualified contractors would have experience in obtaining necessary
26 permits for construction projects. Considering IBR's experience in successfully developing other
27 wind energy projects in Oregon, the Council finds that the applicant has a reasonable likelihood
28 of entering into a contractual or other arrangement with third parties for access to the resources
29 secured by the third-party permits.

⁴⁷ IBR has experience with more than 3,700 MW of wind energy facilities in North America (App, Exhibit D, Table D-1).

⁴⁸ *Final Order on the application for the Klondike III Wind Project* (June 30, 2006), pp. 14-16 (IBR formerly known as PPM Energy); *Final Order on the Application for the Leaning Juniper II Wind Power Facility* (September 21, 2007), pp. 16-18; *Final Order on the Application for the Helix Wind Power Facility* (July 31, 2009), pp. 13-16.

⁴⁹ In addition, IBR (formerly known as PPM Energy), through its subsidiary Klamath Energy LLC, is currently operating the Klamath Cogeneration Project and the Klamath Generation Peakers in full compliance with their site certificates.

⁵⁰ App, Exhibit D, pp. 3-8.

⁵¹ A serious accident occurred at an IBR-owned wind project, Klondike III, in Oregon. An employee of the turbine manufacturer (Siemens) was killed and another was injured. The Oregon Occupational Safety and Health Division (OR-OSHA) investigated the accident and issued a citation and fine to Siemens. IBR received no citation from OR-OSHA as a result of the investigation.

⁵² Gilliam County, DEQ, OWRD and DOGAMI are not bound by the site certificate to issue these permits under ORS 469.401. The Council makes no decision as to whether or not these permits should be issued.

⁵³ App, Exhibit D, p. 8.

1 Under OAR 345-022-0010(4), if a third party does not have the necessary permit at the
2 time of the Council action on the application, the Council may issue a site certificate "subject to
3 the condition that the certificate holder shall not commence construction...until the third party
4 has obtained the necessary permit or approval and the applicant has a contract or other
5 arrangement for access to the resource or service secured by that permit or approval." The third-
6 party permits discussed below are necessary for construction. The Council adopts Condition 29,
7 which would require the certificate holder to provide confirmation that the third parties have
8 obtained the necessary permits and that the certificate holder has a contract or other arrangement
9 with the third parties for access to the resources secured by the permits.

10 Approximately 37 million gallons of water would be needed for dust control, road and
11 earthwork compaction, and concrete mixing during the construction of the MWPF.⁵⁴ We discuss
12 water rights below at page 136. The applicant proposes to obtain water from the City of
13 Arlington under an existing municipal water right or from a new or existing water well under a
14 limited water use license.⁵⁵ In the application, the applicant included a letter from the City's
15 Public Works Superintendent indicating that the City could supply the water needed during
16 construction.⁵⁶ If the applicant needs an alternate source of construction water, the applicant's
17 construction contractor or a landowner could supply water from a new or existing well, subject to
18 a limited water use license issued by the Oregon Water Resources Department (OWRD). The
19 certificate holder's construction contractor (or the landowner) would be responsible for obtaining
20 the limited license needed for use of groundwater for construction purposes.⁵⁷

21 Concrete mix would be supplied from an existing or new batch plant.⁵⁸ If an existing
22 batch plant is used, that batch plant would already have the necessary permits to operate and to
23 supply concrete to other customers. If a new batch plant is constructed, the construction
24 contractor would be responsible for obtaining all necessary permits. The necessary permits may
25 include a Gilliam County Conditional Use Permit and DEQ air quality and water quality permits
26 (for batch plant wastewater, stormwater and dust emissions).

27 Approximately 536,000 tons of gravel and washed rock would be needed for road
28 construction and other construction purposes. The applicant proposes to obtain gravel and rock
29 from existing or new commercial gravel pit sources that provide gravel to Gilliam County or
30 other customers.⁵⁹ If existing quarries are used, those quarries would already have the necessary
31 permits to operate and to supply rock and gravel to other customers. If a new quarry is
32 constructed, the construction contractor would be responsible for obtaining all necessary permits.
33 The necessary permits may include an operating permit from the Oregon Department of Geology
34 and Mineral Industries (DOGAMI), a DEQ WPCF-1000 permit or other DEQ permits as
35 required for operation, and a Gilliam County Conditional Use Permit.

⁵⁴ App, Exhibit O, p. 1.

⁵⁵ App, Exhibit O, p. 3.

⁵⁶ App Supp, Attachment O-1.

⁵⁷ App, Exhibit E, p. 8, and Exhibit O, p. 3.

⁵⁸ App, Exhibit G, p. 6, and App Supp, Exhibit E, p. 2.

⁵⁹ App, Exhibit G, p. 1.

Conclusions of Law

1 For the reasons discussed above and subject to the site certificate conditions discussed
2 herein, the Council finds that the applicant has demonstrated that it has the organizational
3 expertise to construct and operate the proposed facility. The Council further finds that the
4 certificate holder's construction contractor has a reasonable likelihood of obtaining third-party
5 permits necessary for construction of the facility. The Council finds that the applicant has a
6 reasonable likelihood of entering into contractual or other arrangements with third parties, as
7 described above, for access to the resources or services secured by those permits. Based on these
8 findings, the Council concludes that the applicant has met the Organizational Expertise Standard.

(b) Retirement and Financial Assurance

OAR 345-022-0050

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

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

13 *(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit*
14 *in a form and amount satisfactory to the Council to restore the site to a useful, non-*
15 *hazardous condition.*
16

Findings of Fact

A. Retirement

17 The wind facility is expected to have a useful life of at least 25 to 30 years. If the facility
18 were "re-powered" in the future by upgrading existing towers with more efficient turbines and by
19 replacing other infrastructure and related equipment, it could have a useful life longer than 30
20 years.

21 OAR 345-022-0050(1) ensures that the facility site can be restored to a useful, non-
22 hazardous condition at the end of the facility's useful life. For the purpose of the standard, a
23 "useful, non-hazardous condition" is a condition consistent with the applicable local
24 comprehensive land use plan and land use regulations. The proposed MWPF is located on land
25 zoned Exclusive Farm Use (EFU). To satisfy the standard, therefore, the applicant must show
26 that the site can be restored to a non-hazardous condition suitable for farm use.

27 The certificate holder is obligated to retire the facility upon permanent cessation of
28 construction or operation. The Council adopts Conditions 8, 9, 32 and 33 to address the
29 certificate holder's site restoration and financial assurance obligations.⁶⁰ Before restoring the
30 site, the certificate holder must submit a final retirement plan for approval by the Council
31 (Condition 9). The retirement plan must describe the activities necessary to restore the site to a
32 useful, non-hazardous condition. After Council approval of the plan, the certificate holder must
33 obtain the necessary authorizations from the appropriate regulatory agencies to proceed with
34 restoration of the site. Conditions 8 and 32 require the certificate holder to maintain a bond or

⁶⁰ Conditions 8 and 9 are mandatory conditions under OAR 345-027-0020.

1 letter of credit to ensure that funds would be available to the Council to restore the site if the
2 certificate holder does not retire the facility as required by Condition 9.

3 It is customary for a performance bond to contain provisions allowing the surety to
4 complete construction of a project in order to reduce its potential liability. Oregon law and
5 Council rules require a site certificate for construction or operation of an energy facility. ORS
6 469.320(1); OAR 345-027-0100(1). Accordingly, when a certificate holder elects to use a bond
7 to meet the financial assurance requirements and the surety retains the right to complete
8 construction and to operate or retire the energy facility, the Council requires the certificate holder
9 to ensure that the surety has agreed to comply with all applicable statutes, Council rules and site
10 certificate conditions. In addition, the Council requires that the surety seek Council approval
11 before commencing construction, operation or retirement activities. These requirements are
12 included in Condition 33.

13 Restoring the site to a useful, non-hazardous condition upon retirement would involve
14 dismantling all aboveground structures. Nacelles and rotors would be removed, and the turbine
15 towers would be dismantled. Pad-mounted transformers and related aboveground equipment
16 would be removed. Concrete turbine tower and transformer pads and underground foundations
17 would be removed to a minimum depth of three feet below grade. Gravel or crushed rock would
18 be removed from adjacent turbine pad areas. The O&M building would be removed (or, at the
19 request of the landowner, the buildings might be converted to farm use). All aboveground 230-
20 kV and 34.5-kV transmission lines, SCADA lines, and support structures would be removed.
21 Underground transmission lines and communication cables that are at least three feet below
22 grade would be left in place. At a depth of three feet, underground components and foundations
23 are not expected to interfere with farming practices or crop root growth.⁶¹

24 All excavated areas would be backfilled with topsoil. The surface would be graded. The
25 affected areas, including areas temporarily disturbed during site restoration activities, would be
26 replanted with native plant seed mixes or agricultural crops, as appropriate, based on the use of
27 surrounding lands. Demolition waste material would be transported for disposal at authorized
28 sites.

29 For the purposes of the site restoration cost estimate, the Department assumes that facility
30 access roads would be removed, except those roads that existed prior to facility construction.⁶²
31 Road areas would be restored with topsoil, graded and replanted with native plant seed mixes or
32 agricultural crops, as appropriate. Access roads might be left in place based on landowner
33 preference.

34 The proposed facility would not have any underground storage tanks. Each O&M facility
35 would contain oil storage for 330 gallons of new oil (used primarily for wind turbine gear
36 lubrication) and 330 gallons of waste oil.⁶³ The O&M facilities would include storage for grease,
37 antifreeze, degreasers and hydraulic fluids used in the operation and maintenance of the
38 MWPF.⁶⁴ The hazardous materials would be stored within a secondary containment area to

⁶¹ Email from Jordan Maley, Oregon State University Extension Service, March 25, 2010.

⁶² For the purposes of the estimate, the Department assumed that the turbine access roads that are shared with LJII would be removed during restoration of the MWPF site.

⁶³ App Supp, Exhibit B, p. 6.

⁶⁴ App, Exhibit G, Table G-1.

1 prevent any contamination from leaks or spills.⁶⁵ Small quantities of lubricants, antifreeze and
2 other hazardous materials would be transported within the site during operation, and leaks, spills
3 and improper handling of these materials could occur. The handling of hazardous materials is
4 discussed herein at page 125. The Department's site restoration estimate assumes that the cost of
5 clean-up of any contamination from minor spills would be covered by the Future Developments
6 Contingency adder.

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

B. Estimated Cost of Site Restoration

9 OAR 345-022-0050(2) addresses the possibility that the certificate holder is unable or
10 unwilling to restore the site upon permanent cessation of construction or operation of the facility.
11 A bond or letter of credit provides a site restoration remedy to protect the State of Oregon and its
12 citizens if the certificate holder fails to perform its obligation to restore the site under any
13 circumstances. The bond or letter of credit must remain in force until the certificate holder has
14 fully restored the site. To provide a fund that is adequate for the State to pay site restoration costs
15 if the certificate holder fails to perform its obligation, the Council assumes circumstances under
16 which the restoration cost would be highest.

17 The applicant estimated that the cost of site restoration in 1st Quarter 2010 dollars would
18 be approximately \$21.219 million, excluding any deduction for scrap or salvage value.⁶⁶ The
19 applicant's estimate assumed a maximum of 269 GE 1.5-MW turbines would be removed.

20 The Department's independent cost estimate, following the estimating procedure
21 outlined in its draft "Facility Retirement Cost Estimating Guide," assumes a facility
22 configuration that would result in the highest site restoration cost consistent with the maximum
23 design flexibility requested by the applicant. The assumptions underlying the Department's
24 estimate are as follows:

- 25 • 269 GE 1.5-MW turbines, each weighing 220 U.S. tons (including the weight of
26 steel in the towers and nacelles).⁶⁷
- 27 • Turbine foundations containing 37.7 cubic yards of concrete above three feet
28 below grade.⁶⁸
- 29 • 269 step-up transformers, supported on concrete foundations containing 9 cubic
30 yards of concrete.⁶⁹
- 31 • 8 meteorological towers.⁷⁰
- 32 • 27 miles of double-circuit aboveground 34.5-kV collector line supported on 720
33 H-type poles spaced an average of 200 feet apart.⁷¹

⁶⁵ App, Exhibit V, p. 4.

⁶⁶ App, Exhibit W, Attachment W-1, Table W-1.

⁶⁷ App, Exhibit B, p. 4. The Department assumes that internal ladders and platforms are included in the net weight of metals in each turbine tower.

⁶⁸ Response to informal RAI (App Supp, Exhibit B, pp. 2-3).

⁶⁹ Response to informal RAI (App Supp, Exhibit B, pp. 2-3).

⁷⁰ App, Exhibit B, p. 11.

- 54 collector system junction boxes.⁷²
- 19 miles of single-circuit 230-kV transmission line on H-type supports spaced as close as 500 feet apart.⁷³
- Removal of 82 miles of access roads.⁷⁴
- Removal of facility components would disturb additional area around the component footprints. The estimated areas affected and the unit costs to restore these areas, based on the severity of disturbance expected, are shown in the table below.⁷⁵

Using these highest-cost assumptions, the Department estimated the site restoration cost for the proposed MWPF as shown in Table 2.⁷⁶

Table 2: Cost Estimate for Facility Site Restoration

Cost Estimate Component	Quantity	Unit Cost	Extension
<u>Turbines</u>			
Disconnect electrical, ready for disassembly (per turbine)	269	\$924	\$248,556
Remove turbine blades, hubs and nacelles (per turbine)	269	\$4,910	\$1,320,790
Remove turbine towers (per net ton of steel)	59,180	\$63	\$3,728,340
Remove turbine foundation (per cubic yard)	10,141	\$30	\$304,230
Remove pad transformers and foundations (per turbine)	269	\$2,199	\$591,531
Restore turbine pads and turnouts (per acre)	14	\$7,691	\$107,674

⁷¹ App, Exhibit B, pp. 10 and 17-18, Exhibit C, Table C-2, and response to informal RAI (App Supp, Exhibit B, p. 1). The applicant stated that aboveground segments of the collector system might be either single or double circuit lines. To estimate the highest cost, the Department assumed that all aboveground segments would be double-circuit, consisting of six conductor wires and one SCADA line. The support structures would include up to 72 turning structures, described in the application (App Supp, Exhibit B, pp. 6-8). The Department assumed that the incremental removal cost for turning structures would not be significant.

⁷² Response to informal RAI (App Supp, Exhibit B, p. 2).

⁷³ App, Exhibit B, pp. 11 and 18, Exhibit C, Table C-2, Exhibit AA, p. 11, and response to informal RAI (App Supp, Exhibit B, p. 2). The 230-kV transmission line from the western substation to the central substation (up to 9 miles in length) would have three conductor wires plus one SCADA line. The transmission line from the central substation to the Slatt substation (up to 10 miles in length) would have three conductors and two SCADA lines. The support structures would include up to 25 turning structures, described in the application (App Supp, Exhibit B, pp. 6-8). The Department assumed that the incremental removal cost for turning structures would not be significant.

⁷⁴ App, Exhibit B, p. 12, and Exhibit C, p. 5, including removal of access roads that are shared with LJII.

⁷⁵ The unit cost for restoring temporarily disturbed areas around access roads, turbine turnouts, met towers and O&M facilities assumes that grading and seeding would be needed. The unit cost for restoring crane paths, turbine disassembly areas and areas around turbine pads and transmission line support structures assumes that only seeding would be needed. Temporary disturbance for removal of access roads includes removal of access roads that are shared with LJII.

⁷⁶ The Facility Retirement Cost Estimating Guide computes the retirement and site restoration cost in terms of mid-2004 dollars. Table 2 shows unit costs in mid-2004 dollars and an adjustment of the subtotal to 3rd Quarter 2010 dollars using a multiplier of 1.1472. The multiplier was generated by dividing the 3rd Quarter 2010 Gross Domestic Product Implicit Price Deflator (GDP) by the average of the 2nd Quarter and 3rd Quarter 2004 GDP, or 111.0455/96.7935. For this calculation, the Department obtained the current GDP index values from the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast."

<u>Met Towers</u>			
Dismantle and dispose of met towers (per tower)	8	\$7,833	\$62,664
<u>O&M Facilities</u>			
Remove O&M Building	2	\$42,222	\$84,444
<u>Substations</u>			
Dismantle and dispose of substation	2	\$123,775	\$247,550
<u>Transmission Line</u>			
Remove 230-kV transmission line (per mile)	19	\$16,808	\$319,352
Remove aboveground 34.5-kV collector system (per mile)	27	\$4,671	\$126,117
Junction boxes - Remove electrical to 4' below grade (each)	54	\$1,246	\$67,284
<u>Access Roads</u>			
Road removal, grading and seeding (per acre)	199	\$7,911	\$1,574,289
<u>Temporary Disturbance Areas</u>			
Around access roads, turnouts and met towers (per acre)	575	\$5,275	\$3,033,125
Around O&M facility (per acre)	14	\$5,275	\$73,850
Around transmission lines and crane paths (per acre)	163	\$2,618	\$426,734
Around turbine pads and disassembly areas (per acre)	1045	\$2,618	\$2,735,810
<u>General Costs</u>			
Permits, mobilization, engineering, overhead	1	\$418,617	\$418,617
<u>Subtotal</u>			\$15,470,957
Subtotal Adjusted to 3 rd Quarter 2010 Dollars			\$17,748,282
Performance Bond		1%	\$177,483
<u>Gross Cost (adjusted)</u>			\$17,925,765
Administration and Project Management		10%	\$1,792,576
Future Developments Contingency		10%	\$1,792,576
Total Site Restoration Cost (rounded to nearest \$1,000)			\$21,511,000

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

1 OAR 345-022-0050(2) requires the Council to decide whether the applicant has a
2 reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to
3 the Council to restore the site to a useful, non-hazardous condition. Based on the estimate shown
4 in Table 2, the Council finds the value of the financial assurance bond or letter of credit for
5 restoring the site of the proposed MWPF would not exceed \$21.511 million (3rd Quarter 2010
6 dollars) adjusted annually as described in Condition 32.

7 The applicant provided information about its financial capability in Exhibits D and M of
8 the application. The applicant proposes to provide a financial assurance bond or letter of credit in
9 a form approved by the Council before beginning construction of the facility. The applicant has
10 provided a letter from Caja de Ahorros y Pensiones de Barcelona ("la Caixa"), dated April 24,

2010, stating that IBR, as an affiliate of Iberdrola SA, has “sufficient available letter of credit capacity” to support a request for a letter of credit in the amount of \$21,219,000.⁷⁷ The letter does not constitute a firm commitment from la Caixa to issue the letter of credit, but it is evidence of a reasonable likelihood that the applicant could obtain the necessary financial assurance.⁷⁸

Conclusions of Law

For the reasons discussed above and subject to the conditions discussed herein, the Council finds that the MWPF 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 finds that \$21.511 million in 3rd Quarter 2010 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 the applicant has demonstrated a reasonable likelihood of obtaining a bond or letter of credit, satisfactory to the Council, in an amount adequate to restore the site to a useful, non-hazardous condition. Based on these findings and conditions, the Council concludes that the applicant has met the Retirement and Financial Assurance Standard for the proposed MWPF.

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:

(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).

⁷⁷ App Supp, Attachment M-1.

⁷⁸ IBR or its subsidiaries have provided acceptable financial assurance for other facilities under Council jurisdiction, including the Klondike III Wind Project, the Leaning Juniper II Wind Power Facility and the Klamath Cogeneration Project.

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

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

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

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

22 (c) The following standards are met:

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

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

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

31 * * *

Findings of Fact

32 The applicant provided information about compliance with the Council's Land Use
33 Standard in Exhibit K of the application and elected to have the Council make the land use
34 determination under OAR 345-022-0030(2)(b).⁷⁹ The analysis area for the Land Use Standard is
35 the area within the site boundary and one-half mile from the site boundary.

36 The proposed facility would lie on land within the land use jurisdiction of Gilliam
37 County. The energy facility and its related or supporting facilities would be built entirely on

⁷⁹ Under OAR 345-021-0010(1)(k), an applicant must elect whether to address the Council's land use standard by obtaining local land use approvals under ORS 469.504(1)(a) or by obtaining a Council determination under ORS 504(1)(b). The applicant elected to have the Council make the determination (App, Exhibit K, p. 1).

1 private land for which the applicant has negotiated or will negotiate long-term leases or
2 easements.⁸⁰ All of the land within the site boundary is zoned EFU.

3 The Council must apply the Land Use Standard in conformance with the requirements of
4 ORS 469.504. The Oregon Supreme Court has held “under ORS 469.504(1)(b) and (5), the
5 council may choose to determine compliance with statewide planning goals by evaluating a
6 facility under paragraph (A) or (B) or (C), but ... it may not combine elements or methods from
7 more than one paragraph, except to the extent that the chosen paragraph itself permits.”⁸¹

8 The Council may find compliance with statewide planning goals under ORS
9 469.504(1)(b)(A) if the Council finds that the proposed facility “complies with applicable
10 substantive criteria from the affected local government’s acknowledged comprehensive plan and
11 land use regulations that are required by the statewide planning goals and in effect on the date
12 the application is submitted.” Under ORS 469.504(5), the Council must apply the applicable
13 substantive criteria recommended by the special advisory group. Gilliam County is the affected
14 local government, and the Council has appointed the Gilliam County Board of Commissioners as
15 the Special Advisory Group (SAG) for the purpose of identifying the applicable substantive
16 criteria.

17 The land use analysis begins with identification of the applicable substantive criteria
18 recommended by the SAG. The Gilliam County Planning Director identified the local land use
19 criteria that would be applicable to the proposed MWPF.⁸² In its Request for Comments on the
20 Completeness of the Application, the Department requested that the SAG identify the applicable
21 substantive criteria in effect on the date IBR submitted the application (January 22, 2010).⁸³ The
22 Planning Director identified the following as applicable substantive criteria: Gilliam County
23 Zoning and Land Development Ordinance (GCZO) Sections 4.020(A), 4.020(D)(14),
24 4.020(D)(29), 4.020(D)(34), 4.020(H), 4.020(J), 7.010 and 7.020(T).⁸⁴ The Planning Director
25 noted that it is not necessary to address GCZO Section 7.020(Q), because it is substantively the
26 same as GCZO Section 4.020(H).

27 For the reasons discussed below, the Council finds that the proposed facility does not
28 comply with all of Gilliam County’s applicable substantive criteria. If the Council finds that the
29 proposed facility does not comply with one or more of the applicable substantive criteria, then
30 the Council must proceed under ORS 469.504(1)(b)(B) and must determine whether the
31 proposed facility “otherwise [complies] with the applicable statewide planning goals.” In *Save*
32 *Our Rural Oregon*, the Oregon Supreme Court held that “paragraph (B) necessarily requires an
33 evaluation of the same applicable substantive criteria as paragraph (A) and, to the extent those
34 criteria are not met, directs the council to consider statewide planning goals.” The Council finds
35 that Goal 3 (Agricultural Lands) is the applicable statewide planning goal. We discuss
36 compliance with Goal 3 below at page 43.

⁸⁰ App, Exhibit K, p. 2.

⁸¹ *Save Our Rural Oregon v. Energy Facility Siting Council*, 339 Or 353 (2005). ORS 469.504(1)(b)(C) is not available to the Council in this case, because subsection (5) of the statute does not allow the Council to elect to apply the statewide planning goals directly when the special advisory group has recommended applicable substantive criteria.

⁸² Letter from Susie Anderson, Gilliam County Planning Director, December 17, 2009.

⁸³ Request for Comments on the Completeness of the Application, January 28, 2010.

⁸⁴ Letters from Susie Anderson, Gilliam County Planning Director, February 26 and March 8, 2010.

A. Gilliam County's Applicable Substantive Criteria

GCZO Section 4.020(A): EFU Exclusive Farm Use

In an EFU Zone, the following regulations shall apply:

A. High Value Farmland. Due to the limited amount of High Value Farmland in Gilliam County, the uses for High Value Farmland are not listed in this section. If a use permitted in Subsections 2 and 3 of this section is located on High Value Farmland, the requirements of this section and the requirements of OAR 660, Division 33, shall be used for the review.

GCZO Section 4.020(A) addresses uses "permitted in Subsections 2 and 3 of this section." Because the subsections of Section 4.020 are labeled as (A), (B), (C) and (D), the Council interprets the ordinance as addressing uses permitted in subsections (B) and (C).⁸⁵ The Council finds that the MWPF uses are not uses "permitted in Subsections 2 and 3 of this section" because they are conditional uses permitted under GCZO Section 4.020(D). In commenting on this ordinance, the Planning Director noted that although the ordinance is not applicable, the applicant would be responsible for identifying affected high value farmland and for applying the applicable State administrative rules. We address the requirements of OAR 660, Division 33, herein beginning at page 47.

GCZO Section 4.020(D): Conditional Uses Permitted

In an EFU Zone, the following regulations shall apply:

** * **

D. Conditional Uses Permitted. In the EFU Zone, the following uses and their accessory uses may be permitted if determined by the Planning Commission during a public hearing to satisfy the applicable criteria and procedures set forth in Section 7.040. The appropriate review criteria are identified for each use.

** * **

14. Commercial utility facilities for the purpose of generating power for public use by sale. A power generation facility not located on high-value farmland shall not preclude more than 20 acres from use as a commercial agricultural enterprise. A power generation facility located on high-value farmland shall not preclude more than 12 acres from use as a commercial agricultural enterprise. Approval of a use pursuant to this subsection is subject to the review criteria of Section 4.020.H, and any other applicable criteria or provisions of law.

** * **

29. Utility facilities necessary for public service subject to the provisions of ORS 215.275 and OAR 660-033-0130(16). No local legislative criteria shall be applied for consideration of establishing a utility facility necessary for public service.

** * **

34. Wind Power Generation Facilities.

⁸⁵ Final Order on Amendment #1 for the Leaning Juniper II Wind Power Facility (November 20, 2009), p. 21.

1 The principal use associated with the proposed MWPF is a “commercial utility facility
2 for the purpose of generating power for public use by sale” (or “power generation facility”)
3 under GCZO Section 4.020(D)(14).⁸⁶ The ordinance sets an acreage limit of 12 acres for a power
4 generation facility that is located on high-value farmland and an acreage limit of 20 acres if the
5 facility is not located on high-value farmland. In addition to imposing the acreage limitations, the
6 ordinance provides that approval of this use is subject to the review criteria of GCZO Section
7 4.020(H), discussed below at page 27.

8 The GCZO does not define “high-value farmland.” ORS 215.710(1) and OAR 660-033-
9 0020(8), however, define “High Value Farmland” as land “in a tract composed predominantly of
10 soils that are... [either irrigated or not irrigated and] classified prime, unique, Class I or II” by
11 the Natural Resources Conservation Service (NRCS).⁸⁷ “Tract” means one or more contiguous
12 lots or parcels in the same ownership.⁸⁸ OAR 660-033-0020(1)(a)(A) defines “agricultural land”
13 as land in NRCS soil capability classes I-VI in Eastern Oregon. Class VII soils have very severe
14 limitations that make them unsuitable for cultivation; Class VIII soils have limitations that nearly
15 preclude their use for commercial crop production.⁸⁹ The definition of “agricultural land”
16 nevertheless provides that land in capability classes other than I-VI “that is adjacent to or
17 intermingled with” lands in classes I-VI “within a farm unit” shall be inventoried as agricultural
18 land.⁹⁰ The Council has previously found that Class VII and Class VIII soils should be
19 inventoried as agricultural land.⁹¹

20 The applicant provided information about soil types in Exhibit I of the application and
21 calculated the areas of high-value farmland in Exhibit K.⁹² As illustrated by the maps in the
22 application, there are pockets of soil types that are considered Class I or Class II when
23 irrigated.⁹³

24 Some parts of the proposed MWPF would be located on high-value farmland but most of
25 the facility would not be located on high-value farmland. The areas occupied by the components
26 of the facility are shown in Table 3.⁹⁴ The Council finds that the proposed MWPF would
27 preclude more than 20 acres of non-high-value farmland from use as a commercial agricultural
28 enterprise and would therefore not comply with GCZO Section 4.020(D)(14).

⁸⁶ The facility substations and the 230-kV transmission line connecting the western substation to the central substation may be analyzed as belonging to the principal use. The interconnecting 230-kV transmission line from the central substation to the BPA Slatt Substation may be part of the principal use or, alternately, may be analyzed as a “utility facility necessary for public service” under GCZO Section 4.020(D)(29). The facility access roads may be part of the principal use or, alternately, may be analyzed as transportation improvements on rural lands allowed by OAR 660-012-0065 (GCZO Section 4.020(D)(25)). The MWPF taken as a whole might be analyzed as a “Wind Power Generation Facility” under GCZO Section 4.020(D)(34).

⁸⁷ ORS 215.710(6) provides that the applicable “soil classes, soil ratings or other soil designations” are those of the NRCS “in its most recent publication for that class, rating or designation before November 4, 1993.”

⁸⁸ OAR 660-033-0020(10).

⁸⁹ NRCS, Soil Survey Report of Gilliam County, Oregon (May 1984), “Capability Classes and Subclasses.”

⁹⁰ OAR 660-033-0020(1)(b).

⁹¹ *Final Order on Amendment #1 for the Leaning Juniper II Wind Power Facility* (November 20, 2009), p. 22.

⁹² Detailed soil survey maps identify all of the soils within the site boundary (App, Exhibit I, Figures I-2a through I-2d). Soil classes are identified in Figures K-6 and K-7a through K-7d (App, Exhibit K).

⁹³ App, Exhibit K, p. 34. Soil type 32A is Class I when irrigated. Soil types 13, 26, 31B, 32B, 40B, 41B and 55B are Class II when irrigated. Individual soil types are discussed in Exhibit I and identified by number on Figure I-1.

⁹⁴ The table includes the area occupied by access roads that are shared with LJII.

Table 3: Areas Occupied by Facility Components⁹⁵

Structure	Total Permanent Impacts (acres)	High-Value Farmland (acres)	Non-High-Value Farmland (acres)
Principal Use			
Turbine towers, including pad areas	10.25	0	10.25
Meteorological towers	0.17	0	0.17
Aboveground 34.5-kV collector segments	0.20	0.003	0.19
O&M facilities	6.00	0	6.00
Facility collector substations	10.00	0	10.00
Subtotal	26.61	0.003	26.61
Access roads	227.77	2.35	223.85
Subtotal Principal Use and Access Roads	254.38	2.35	252.03
Interconnection system			
230-kV transmission line structures	0.16	0	0.16
Total Facility Area	254.55	2.35	252.19

GCZO Section 4.020(D)(29) provides that a “utility facility necessary for public service” may be permitted in an EFU zone subject to the provisions of ORS 215.275 and OAR 660-033-0130(16). The proposed 230-kV transmission line that would interconnect the facility with the existing BPA Slatt-Buckley transmission line may be considered as a “utility facility necessary for public service.” We discuss the criteria applicable to the interconnection line below at page 45.

The entire MWPF, including all related or supporting facilities, may be permitted as a “wind power generation facility” under GCZO Section 4.020(D)(34). GCZO Section 7.020(T), discussed below at page 34 contains the County’s specific requirements for land use approval of a wind power generation facility.

GCZO Section 4.020(H): Specific Review Criteria

H. Specific Review Criteria. In the EFU Zone, certain uses are subject to specific criteria, in addition to any other applicable criteria. The specific provisions of this subsection apply only when referenced within the list of uses included in Subsections 4.020.B, C and D.

1. *The use may be approved only where the County finds that the use will 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.*

There are approximately 65,844 acres of “surrounding lands” within the analysis area (the area within the site boundary and one-half mile from the site boundary).⁹⁶ Surrounding lands

⁹⁵ Based on Revised Table K-1 (email from Sara Parsons, June 15, 2010).

⁹⁶ App, Exhibit K, p. 8. The applicant did not calculate and exclude the acres of land occupied by roads, farmhouses and other buildings, rock outcrops and washes or that otherwise is not available for farm use. The applicant calculated the total acreage within the analysis area and stated that the predominant uses are farm uses.

1 “devoted to farm use” are used for agricultural crop cultivation and animal grazing.⁹⁷ There is no
2 forest use on surrounding lands. For the reasons discussed below, the Council finds that the
3 impacts of the proposed MWPF would not force a significant change in accepted farm practices
4 or significantly increase the cost of farm practices on surrounding lands.

5 As shown by Table 3, the proposed MWPF would occupy approximately 255 acres of
6 EFU land, or less than one-half of one percent of the farmland within the analysis area. Accepted
7 farm practices in the area include soil preparation in the spring and fall, sowing of seed,
8 fertilizing, pest and weed management and harvesting.⁹⁸ The County has previously found that
9 the uses associated with a wind energy facility would not force a significant change in accepted
10 farm practices on surrounding lands and would not significantly increase the cost of farm
11 practices.⁹⁹

12 In addition to the permanent footprint of the facility, construction would temporarily
13 affect approximately 1,778 acres of EFU land, which would be unavailable for farming during
14 construction.¹⁰⁰ Ground disturbance and the creation of margin areas around access roads and
15 turbine pads could allow weeds to spread into cultivated areas. The applicant proposes to
16 implement the *Revegetation Plan*, which includes weed control measures that would be
17 implemented after construction. The *Revegetation Plan* is discussed further herein at page 111
18 and is incorporated in Condition 92. In addition, the applicant has agreed to implement a weed
19 control plan during operation, consistent with the Gilliam County Weed Control Program.¹⁰¹ The
20 weed control plan is incorporated in Condition 43.

21 Construction of the facility could adversely affect soil quality by erosion or
22 compaction.¹⁰² The Council’s Soil Protection Standard addresses potential soil impacts, as
23 discussed below at page 57. The discussion includes measures to address and mitigate soil
24 erosion and compaction.

25 The certificate holder would locate facility components and temporary construction
26 laydown and staging areas to minimize disturbance with farming operations (Condition 39). In
27 accordance with GCZO Section 7.020(T)(4)(a)(5), the certificate holder would record a
28 Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland
29 (Condition 41).

30 Construction and operation of the MWPF could cause changes in routes of access to
31 fields and changes in patterns of cultivation, seeding, fertilizing and harvesting near the facility.
32 Condition 38 would require the certificate holder to consult with area landowners during
33 construction and operation of the facility to determine further measures to reduce or avoid any
34 adverse impacts to farm practices on surrounding lands and to avoid any increase in farming
35 costs. The terms of the wind energy leases allow landowners to continue their farming operations
36 around the wind turbines and other facility components where the farming activities do not affect

⁹⁷ App, Exhibit K, p. 8.

⁹⁸ App, Exhibit K, p. 8.

⁹⁹ Gilliam County Planning Commission Order No. 2006-06, Exhibit A, p. 8. By this order, the Commission approved a Conditional Use Permit authorizing construction of the Pebble Springs Wind Energy Project.

¹⁰⁰ Temporary disturbance as shown in Table 6.

¹⁰¹ App Supp, Exhibit K, pp. 1-2.

¹⁰² App, Exhibit I, p. 6.

the operation and maintenance of the wind energy facility.¹⁰³ The new facility access roads and improved farm roads would be available to the landowners and would give farmers improved access to local fields and facilitate movement of farm equipment.¹⁰⁴

GCZO Section 4.020(J): Property Development Standards

In an EFU Zone, the following regulations shall apply:

** * **

J. Property Development Standards. In the EFU Zone, the following standards apply to residential and nonresidential development.

1. Building Height. No limitations.

2. Setbacks

a. The front and rear yard setbacks from the property line shall be 25 feet.

b. The side yard setbacks from the property line shall be 25 feet.

The Planning Director advised the Department that GCZO Section 4.020(J) would apply to the O&M structures only.¹⁰⁵ The applicant proposes to comply with the setback requirements that the Council adopted for the Leaning Juniper II Wind Power Facility.¹⁰⁶ The Council adopts Condition 42, which incorporates those setback requirements. The condition includes a setback for O&M buildings of at least 50 feet from the nearest boundary of the certificate holder's lease area.

GCZO Section 7.010(A)(1): General Approval Criteria and Conditions (1)

A conditional use listed in this ordinance shall be permitted, altered or denied in accordance with the standards and procedures of this ordinance and this article by action of the Planning Commission or Planning Director. In the case of a use existing prior to the effective date of this ordinance, and classified in this ordinance as a Conditional Use, a change in use or in lot area or an alteration of a Conditional Use, a change in use or in lot area or an alteration of structure shall conform with the requirements for a Conditional Use.

A. General Approval Criteria and Conditions

1. In addition to criteria, standards and conditions that may be set forth in a specific Zone, this Article, or other regulations applicable to a specific Conditional Use shall not be approved or permitted unless the following criteria are met. A Conditional Use may be approved on the Condition or Conditions that the applicant obtain and maintain compliance with other permits and approvals required.

a. The proposed use shall be in compliance with the applicable Comprehensive Plan designation and policies.

GCZO Section 7.010(A)(1) contains a list of criteria that must be met "in addition to the criteria, standards and conditions that may be set forth in a specific Zone, this Article, or other

¹⁰³ App, Exhibit K, p. 9.

¹⁰⁴ App, Exhibit K, p. 8.

¹⁰⁵ Letter from Susie Anderson, Gilliam County Planning Director, March 8, 2010.

¹⁰⁶ App, Exhibit K, p. 10; *First Amended Site Certificate for the Leaning Juniper II Wind Power Facility* (November 20, 2010), Condition 39.

1 regulations applicable to a specific Conditional Use.” For the reasons discussed below, the
2 Council finds that the proposed MWPF would comply with Section 7.010(A)(1).

3 GCZO Section 7.010(A)(1)(a) requires compliance with “the applicable Comprehensive
4 Plan designation and policies.” The Council finds that the applicable Comprehensive Plan
5 designation and policy for purposes of analyzing compliance is Gilliam County Comprehensive
6 Plan (GCCP) Part 3, Policy #1.¹⁰⁷ This policy commits the County “to maximize the preservation
7 and protection of commercial agriculture in the County and to provide maximum incentives for
8 such through the application of zoning in compliance with ORS 215 to all lands identified as
9 ‘Agricultural Lands’” but not to “exclude non-farm uses that are authorized by state statutes on
10 Lands zoned as Exclusive Farm Use (EFU) and are otherwise consistent with the Plan.” The non-
11 farm uses associated with the proposed MWPF include the generating facility (authorized under
12 ORS 215.283(2)(g)), the substations and interconnection line (authorized under ORS
13 215.283(1)(d)) and the access roads (authorized under ORS 215.283(3)).¹⁰⁸ These land uses are
14 authorized by statute on agricultural land and are otherwise consistent with the GCCP for the
15 reasons discussed herein.

16 *b. As applicable, sewage and/or solid waste disposal methods shall be provided*
17 *in compliance with applicable local, State and Federal regulations.*

18 Subsection (b) of the ordinance requires compliance with applicable government
19 regulations for sewage and solid waste disposal. The applicant described the disposal of sewage
20 and solid waste during construction and operation of the facility in Exhibit V. The applicant’s
21 proposed waste management plans are discussed herein beginning at page 118. The certificate
22 holder would dispose of solid waste at a licensed landfill facility. The certificate holder would
23 dispose of sewage from the O&M facilities in licensed on-site septic systems. Due to the small
24 volume of sewage, a Water Pollution Control Facility permit would not be required for the on-
25 site septic systems.

26 Mandatory condition OAR 345-027-0020(3) requires the certificate holder to construct
27 and operate the facility in compliance with all applicable state and local laws and regulations
28 (Condition 3). The Council has no jurisdiction to enforce federal permit requirements; however,
29 the certificate holder would be subject to any permits required under federal law. The Council
30 adopts Condition 28, which requires the certificate holder to obtain all necessary federal, state
31 and local permits or approvals required for construction, operation and retirement of the facility.
32 The Council adopts Condition 110, which requires the certificate holder to discharge sanitary
33 wastewater generated at the O&M facilities into licensed on-site septic systems in compliance
34 with county permit requirements. The Council adopts Conditions 111 and 112, which summarize
35 the applicant’s plans for solid waste management during facility construction and operation.

¹⁰⁷ The Council has previously addressed the applicable substantive criteria of Gilliam County, including the
“applicable Comprehensive Plan designation and policies” (*Final Order on the Leaning Juniper II Wind Power
Facility* (September 2007), p. 32; and *Final Order on the Shepherds Flat Wind Farm* (July 2008), p. 25).

¹⁰⁸ These statutes are discussed below, beginning at page 43.

1 c. *Proposal shall be found to be in compliance or conditioned upon compliance*
2 *with applicable air and noise pollution standards.*

3 Subsection (c) requires compliance with air and noise pollution standards. The proposed
4 MWPF would not generate air pollution emissions. The proposed facility would comply with
5 State noise control regulations for the reasons discussed below at page 126.

6 d. *Required access shall be legally established, available, and adequate to serve*
7 *the proposed use or provisions to provide such evident.*

8 Subsection (d) requires adequate, legally established access to the proposed use. The
9 facility would be built on private land. Access to the facility would be from existing County
10 roads as described in Exhibit U of the application.¹⁰⁹ The applicant has negotiated or will
11 negotiate leases or easements with landowners to acquire legal access. The proposed facility does
12 not include construction of any new public roads. Modification of some public roads may be
13 needed to accommodate large construction vehicles, but any modifications would be restricted to
14 the existing rights-of-way.¹¹⁰

15 e. *Public services deemed necessary shall be available or provisions for such*
16 *provided and no use shall be approved which is found to exceed the carrying*
17 *capacities of affected public services unless there are provisions to bring such*
18 *capacities up to the need.*

19 Subsection (e) requires public services to be available and bars approval of a use that
20 exceeds the carrying capacity of affected public services. Electricity needed during operation of
21 the facility for typical office loads at the field workshops would be supplied by the local electric
22 provider.¹¹¹ Water used during operation would come from on-site wells located at the O&M
23 buildings, and waste water would be discharged to on-site septic systems. No public water or
24 sewer services would be affected. Water needed during construction of the facility would be
25 supplied under an existing municipal water right or from a private well under a limited water use
26 license from OWRD, as discussed below at page 136. The Council's Public Services Standard
27 addresses sewers and sewage treatment, water, storm water drainage, solid waste management,
28 housing, traffic safety, police and fire protection, health care and schools. Site certificate
29 conditions based on the requirements of the Public Services Standard are discussed below at
30 page 118. The Council finds that the public services necessary for the proposed MWPF are
31 available and the proposed MWPF would not exceed the carrying capacities of the affected
32 services.

33 f. *Proposal shall be in compliance with the applicable standards and limitations*
34 *of the primary and combining zone as may be applicable.*

35 Subsection (f) requires compliance with applicable standards of the primary and
36 combining zone. The standards applicable to the primary zone (EFU) are described and
37 discussed herein. The proposed facility would lie entirely within land zoned EFU. There are no
38 combining zones defined in the applicable substantive criteria identified by the SAG.¹¹²

¹⁰⁹ App, Exhibit U, pp. 3-4.

¹¹⁰ App, Exhibit K, p. 12.

¹¹¹ App, Exhibit B, p. 14.

¹¹² GCZO Section 3.050 defines the combining zones in Gilliam County.

1 g. *No use shall be approved which is found to have a significant adverse impact*
2 *on resource-carrying capacities unless there are provisions for mitigating*
3 *such impact.*

4 Subsection (g) addresses resource carrying capacity. The impacts of the proposed MWPF
5 on air quality, soils, water supplies and water bodies would not exceed resource-carrying
6 capacities of those resources. The proposed facility would have no air pollution emissions that
7 would result in an adverse impact to air quality. We discuss impacts to soils at page 57. To avoid
8 or reduce soil erosion, the certificate holder would comply with the requirements of an NPDES
9 Storm Water Discharge General Permit #1200-C (NPDES 1200-C) permit and an Erosion and
10 Sediment Control Plan during construction and would implement erosion control measures
11 during operation (Conditions 80 and 85). The facility would use a significant amount of water
12 during construction, but water use would be subject to the limitations of the applicable water
13 right or limited license and applicable OWRD regulations. Based on those regulations, facility
14 water use would not exceed the resource-carrying capacities of the proposed water sources.
15 Water use during operation would be less than 5,000 gallons per day (Condition 86). We discuss
16 the availability of sufficient water for construction and operation of the facility at page 136.
17 Water would not be discharged to wetlands, lakes, rivers or streams, and there would be no
18 adverse impact on water quality. Water used during operation at the O&M facilities would be
19 disposed of in approved on-site septic systems and would not result in an adverse impact on
20 water quality or affect any public sewer facilities (Condition 110).

21 The Council's standards address other natural resource consequences of the proposed
22 MWPF facility. In our discussion of each of the standards, we identify the potential adverse
23 impacts of the proposed facility and explain how the certificate holder would mitigate those
24 impacts. We discuss the potential impacts to protected areas at page 60; to scenic resources at
25 page 65; to threatened and endangered species at page 88; to wildlife habitat at page 93; to
26 ambient noise levels at page 126; and to waters of the State at page 134. The Council's
27 Retirement and Financial Assurance Standard, discussed at page 17, addresses retirement of the
28 proposed facility and restoration of the site to a useful, non-hazardous condition. For the reasons
29 discussed in the sections cross-referenced above and subject to the mitigation addressed by the
30 site certificate conditions, the proposed MWPF would not have a significant adverse impact on
31 resource-carrying capacities.

32 h. *No use shall be approved which is found to exceed the carrying capacities of*
33 *affected public services and facilities.*

34 Subsection (h) addresses the carrying capacities of affected public services. This
35 requirement is met for the reasons discussed above under Subsection (e), discussed above. The
36 applicant's compliance with this requirement is further supported by the findings under the
37 Council's Public Services Standard, discussed below at page 118.

38 i. *All required State and Federal permits or approvals have been obtained or*
39 *will be as a condition of approval.*

40 Subsection (i) requires the certificate holder to obtain all required State and Federal
41 permits and approvals. The site certificate would require compliance with all applicable permit
42 requirements of other State agencies (Condition 3). The Council has no jurisdiction to enforce
43 federal permit requirements; however, the certificate holder would be subject to any permits
44 required under federal law. The Council adopts Condition 28, which requires the certificate

holder to obtain all necessary federal, state and local permits or approvals required for construction, operation and retirement of the facility.

GCZO Section 7.010(A)(2): General Approval Criteria and Conditions (2)

A conditional use listed in this ordinance shall be permitted, altered or denied in accordance with the standards and procedures of this ordinance and this article by action of the Planning Commission or Planning Director. In the case of a use existing prior to the effective date of this ordinance, and classified in this ordinance as a Conditional Use, a change in use or in lot area or an alteration of a Conditional Use, a change in use or in lot area or an alteration of structure shall conform with the requirements for a Conditional Use.

A. General Approval Criteria and Conditions

1. * * * ¹¹³

2. *In addition to specific standards and/or conditions set forth by the applicable zone, this article or some other applicable regulations, other conditions may be imposed that are determined necessary to avoid a detrimental impact, and to otherwise protect the best interests of the surrounding area and the County as a whole. Such conditions may include, but are not limited to, the following:*

- a. *Limiting the manner in which the use is conducted including restricting the time an activity may take place and restraints to minimize such environmental effects as noise, vibration, air pollution, glare and odor.*
- b. *Establishing a special setback or other open space or lot area or dimension.*
- c. *Limiting the height, size or location of a building or other structure.*
- d. *Designating the size, number, improvements, location and nature of vehicle access points and parking or loading areas.*
- e. *Limiting or otherwise designating the number, size, location, height, and lighting of signs and outdoor lighting.*
- f. *Requiring diking, screening, fencing, landscaping or another facility to protect adjacent or nearby property and designating standards for its installation and maintenance.*
- g. *Protecting and preserving existing trees, vegetation, water resources, wildlife habitat or other significant natural resources.*
- h. *Limiting the term of the Conditional Use Permit to a specific time.*
- i. *Requiring necessary on-site or off-site improvements and maintenance.*
- j. *Requiring the holder of a Conditional Use Permit to obtain review, renewal, or reapplication approval of the permit in the event that there is an increase in impact from the use on public facilities beyond that which was projected at the time of initial approval.*

* * * ¹¹⁴

GCZO Section 7.010(A)(2) describes conditions that “may be imposed... [if] determined necessary to avoid a detrimental impact, and to otherwise protect the best interests of the

¹¹³ GCZO Section 7.010(A)(1) is discussed above at page 28.

¹¹⁴ GCZO Section 7.010(A) subsections (3) and (4) are omitted. These subsections address County procedures for termination and review or alteration of Conditional Use Permits. These subsections do not contain substantive standards for land use approval.

surrounding area and the County as a whole.” The ordinance lists discretionary conditions and does not contain substantive standards. The Department consulted with the Gilliam County Planning Director regarding conditions that the County would consider “necessary to avoid a detrimental impact and to otherwise protect the best interests of the surrounding area and the County as a whole.” The Planning Director recommended that the site certificate contain conditions comparable to those incorporated in the Conditional Use Permits for Shepherds Flat North, Shepherds Flat Central and Shepherds Flat South.¹¹⁵ The site certificate conditions for the MWPF, set forth herein beginning at page 142, incorporate the substance of the County’s recommendations.

GCZO Section 7.020(T): Wind Power Generation Facility Siting Requirements

In addition to the standards of the zone in which the conditional use is located and the general standards of this ordinance, conditional uses shall meet the following standards:

** * **

T. Wind Power Generation Facility Siting Requirements

1. Purpose. The Gilliam County Facility Siting Requirements are intended to establish a local conditional use permitting process that is clear, timely, and predictable as well as encompasses important local issues such as the health, safety and welfare of citizens in Gilliam County.

2. Definitions

- a. “Commercial Wind Power Generation.” An activity carried out for monetary gain using one or more wind turbine generators that has a combined generating capacity greater than 1 MW.*
- b. “Decommissioning Fund.” An adequate financial vehicle dedicated and maintained with appropriate yearly adjustments to assure the money to dismantle the Wind Power Generation Facility and to restore the site to a useful, nonhazardous condition.*
- c. “Wind Power Generation Facility.” 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:*
 - (1) Connected to a common switching station; or*
 - (2) Constructed, maintained, or operated as a group of devices.*

3. Procedure. The procedure for taking action on the siting of a facility is a request for a conditional use. A public hearing pursuant to Article 7 shall be held to determine if the applicant meets the siting requirements for a Wind Power Generation Facility. The requirement for a hearing will not apply to proposed facilities for which EFSC is making the land use decision.

Subsections 1, 2 and 3 of Section 7.020(T) are definitional and procedural ordinances that do not contain substantive land use standards applicable to the proposed use.

4. Wind Power Generation Facility Siting Requirements. The requirements set out in this section shall apply for the application and review of the siting of a Wind Power

¹¹⁵ Email from Susie Anderson, Gilliam County Planning Director, June 3, 2010.

1 *Generation Facility and the issuance of a Gilliam County Facility Conditional Use*
2 *Permit.*

3 a. *The following information shall be provided as part of the application:*

4 (1) *A general description of the proposed Wind Power Generation Facility, a*
5 *tentative construction schedule, the legal description of the property on which*
6 *the facility will be located, and identification of the general area for all*
7 *components of the proposed Wind Power Generation Facility, including a*
8 *map showing the location of components.*

9 (2) *Identification of potential conflicts, if any, with:*

10 (a) *Accepted farming practices as defined in ORS 215.203(2)(c) on*
11 *adjacent lands devoted to farm uses;*

12 (b) *Other resource operations and practices on adjacent lands except for*
13 *wind power generation facilities on such adjacent lands; and*

14 (c) *The nature and extent of the proposed facility on the cost of accepted*
15 *farm or forest practices on surrounding EFU land.*

16 (3) *A Transportation Plan, with proposed recommendations, if any, reflecting*
17 *the guidelines provided in the Gilliam County's Transportation System Plan*
18 *(TSP) and the transportation impacts of the proposed Wind Power Generation*
19 *Facility upon the local and regional road system during and after*
20 *construction, after consultation with the Gilliam County Public Works*
21 *Director. The plan will designate the size, number, location and nature of*
22 *vehicle access points.*

23 (4) *An avian impact monitoring plan. The avian monitoring plan shall be*
24 *designed and administered by the applicant's wildlife professionals. For*
25 *projects being sited by EFSC, compliance with EFSC's avian monitoring*
26 *requirements will be deemed to meet this requirement. The plan shall include*
27 *the formation of a technical oversight committee to review the plan, and*
28 *consist of the following persons:*

29 (a) *The landowners/farm tenants.*

30 (b) *Facility owner/operator representative. (Chair)*

31 (c) *Oregon Department of Fish and Wildlife representative, if the agency*
32 *chooses to participate.*

33 (d) *Two Gilliam County residents with no direct economic interest in the*
34 *project and recommended by the applicants for appointment by the*
35 *Gilliam County Board of Commissioners.*

36 (e) *U.S. Fish and Wildlife representative, if the agency chooses to*
37 *participate.*

38 (f) *Gilliam County Planning Commission member.*

39 *At the request of applicant, this committee requirement may be waived or*
40 *discontinued by the County.*

41 (5) *A Covenant Not to Sue with regard to generally accepted farming practice*
42 *shall be recorded with the County. Generally accepted farming practices shall*
43 *be consistent with the definition of Farming Practices under ORS 30.930. The*
44 *applicant shall covenant not to sue owners, operators, contractors,*

employees, or invitees of property zoned for farm use for generally accepted farming practices.

(6) A fire prevention and emergency response plan for all phases of the life of the facility. The plan shall address the major concern associated with the terrain, dry conditions, and limited access.

(7) An erosion control plan, developed in consultation with the Gilliam County Public Works Department. The plan should include the seeding of all road cuts or related bare road areas as a result of all construction, demolition and rehabilitation with an appropriate mix of native vegetation or vegetation suited to the area. This requirement will be satisfied if the applicant has an NPDES (National Pollution Discharge Elimination System) permit.

(8) A weed control plan addressing prevention and control of all Gilliam County identified noxious weeds directly resulting from the Wind Power Generation Facility during preparation, construction, operation and demolition/rehabilitation.

(9) A socioeconomic impact assessment of the Wind Power Generation Facility, evaluating such factors as, but not limited to, the project's effects upon the social, economic, public service, cultural, visual, and recreational aspects of affected communities. These effects can be viewed as either positive or negative. In order to maximize potential benefits and to mitigate outcomes that are viewed problematic, decision makers need information about the socioeconomic impacts that are likely to occur.

(10) If the Wind Power Generation Facility exceeds 20 acres in size, a Goal 3 exception is required as found in OAR 660-033-0130(22).

(11) Information pertaining to the impacts of the Wind Power Generation Facility on:

(a) Wetlands;

(b) Wildlife (all potential species of reasonable concern);

(c) Wildlife habitat;

(d) Criminal activity (vandalism, theft, trespass, etc.) and proposed actions, if any, to avoid, minimize or mitigate negative impacts.

(12) A dismantling and decommissioning plan of all components of the Wind Power Generation Facility, as provided in this section.

GCZO Section 7.020(T)(4)(a) sets out the requirements for an application for the siting of a Wind Power Generation Facility and the issuance of a Gilliam County CUP.¹¹⁶ Although these requirements are not substantive land use standards, the matters addressed in these requirements are addressed in the site certificate application. We include this discussion of GCZO Section 7.020(T)(4)(a) to cross-reference the comparable sections of the site certificate application.

¹¹⁶ The applicant addressed these requirements (App, Exhibit K, pp. 19-23).

1 Subsection (1) requires a general description of the proposed facility, construction
2 schedule, legal description and map of the proposed facility component locations. The applicant
3 provided this information in Exhibits B and C.

4 Subsection (2) requires identification of potential conflicts with farming practices,
5 resource operations and practices on adjacent lands and impact of the proposed facility on the
6 cost of accepted farm or forest practices on surrounding EFU land. The applicant provided this
7 information in Exhibit K, as discussed above at page 27.

8 Subsection (3) requires a transportation plan. The applicant provided information about
9 transportation routes to the facility site in Exhibit U. If any modifications of public roads are
10 necessary, the certificate holder would consult with the Gilliam County Public Works Director
11 and comply with County design standards (Condition 71).¹¹⁷ Any modifications of County roads
12 would be confined to the County rights-of-way.

13 Subsection (4) requires an avian impact monitoring plan. For facilities under Council
14 siting jurisdiction, the ordinance provides that compliance with the Council's avian monitoring
15 requirements satisfies the County requirement. The applicant provided information about avian
16 impacts and proposed monitoring in Exhibit P. The Council adopts Condition 91, which
17 incorporates the *Wildlife Monitoring and Mitigation Plan*, attached hereto as Attachment A.

18 Subsection (5) requires a Covenant Not to Sue with regard to generally accepted farm
19 practices. The applicant discussed this requirement in Exhibit K. The Council adopts Condition
20 41, which would require the certificate holder to record a Covenant Not to Sue before beginning
21 construction of the facility.

22 Subsection (6) requires a fire prevention and emergency response plan. The applicant
23 provided information about fire prevention and response in Exhibits B and U. The Council
24 adopts Condition 60, which would require the certificate holder to develop and implement fire
25 safety plans during facility construction and operation.

26 Subsection (7) requires an erosion control plan. The applicant provided information
27 about erosion control in Exhibit I. The Council adopts Condition 80, which would require
28 compliance with an Erosion and Sediment Control Plan during facility construction, and
29 Condition 85, which would require the certificate holder to implement erosion monitoring and
30 control measures during facility operation.

31 Subsection (8) requires a weed control plan. The applicant provided information about
32 weed control in Exhibits K and P. The Council adopts Condition 92, which addresses
33 construction impacts to agricultural land and would require the certificate holder to implement
34 the *Revegetation Plan* (which includes weed control measures), and Condition 43, which would
35 require the certificate holder to implement a weed control plan during facility operation.

36 Subsection (9) requires a socioeconomic impact assessment, evaluating such factors as
37 public services, cultural impacts, visual impacts and recreational opportunities. The applicant
38 provided information about these matters in Exhibit R (scenic resources), Exhibit S (cultural
39 resources), Exhibit T (recreational opportunities) and Exhibit U (public services).

¹¹⁷ Response to RAI U1 (App Supp, Exhibit U, p. 1).

1 Subsection (10) requires a Goal 3 exception if the facility exceeds 20 acres in size. As
2 shown in Table 3 above at page 27, the proposed facility exceeds 20 acres in size. The applicant
3 provided information about a Goal 3 exception in Exhibit K.

4 Subsection (11) requires information regarding wetlands, wildlife, wildlife habitat and
5 criminal activity. The applicant provided information about wetland impacts in Exhibit J, about
6 wildlife and wildlife habitat in Exhibits P and Q and about police protection in Exhibit U.

7 Subsection (12) requires a decommissioning plan. The applicant provided information
8 about decommissioning and site restoration in Exhibit W. Site restoration is addressed under the
9 Council's Retirement and Financial Assurance Standard discussed above at page 17

10 *b. Gilliam County may impose clear and objective conditions in accordance with*
11 *the County Comprehensive Plan, County Development Code and State law,*
12 *which Gilliam County considers necessary to protect the best interests of the*
13 *surrounding area, or Gilliam County as a whole.*

14 GCZO Section 7.020(T)(4)(b) gives the County discretion to impose "clear and objective
15 conditions...necessary to protect the best interests of the surrounding area, or Gilliam County as
16 a whole." The Department consulted with the Gilliam County Planning Director. The site
17 certificate conditions discussed herein incorporate the substance of the County's
18 recommendations.

19 *c. Prior to commencement of any construction, all other necessary permits shall*
20 *be obtained, e.g., Gilliam County Zoning Permit, road access and other*
21 *permits from the Gilliam County Public Works Department, and from the*
22 *Oregon Department of Transportation.*

23 The Council adopts Condition 28, which would require the certificate holder to obtain all
24 necessary federal, state and local permits or approvals required for construction.

25 *d. The following requirements and restrictions apply to the siting of a facility:*
26 *(1) The Wind Power Generation Facility shall be on property zoned EFU, and*
27 *no portion of the facility shall be within 3,520 feet of properties zoned*
28 *residential use or designated on the Comprehensive Plan as residential.*
29 *(For clarification purposes of this section, EFU Zones are not considered*
30 *zoned for residential use.)*

31 The proposed MWPF would be located entirely on land zoned EFU. The applicant has
32 proposed a setback condition that includes the setback of 3,520 feet from properties zoned
33 residential use or designated in the Comprehensive Plan as residential that is required by Section
34 7.020(T)(4)(d)(1).¹¹⁸ The Council adopts Condition 42, which incorporates the setback required
35 by this ordinance. The applicant states that the proposed facility is not within 3,520 feet of the
36 City of Arlington or other areas zoned residential.¹¹⁹

37 *(2) Reasonable efforts shall be made to blend the wind facility's towers with*
38 *the natural surroundings in order to minimize impacts upon open space*
39 *and the natural landscape.*

¹¹⁸ App, Exhibit K, p. 10.

¹¹⁹ App, Exhibit K, p. 24.

1 The Council finds that “reasonable efforts” to “blend the wind facility’s towers with the
2 natural surroundings” are measures that reduce the visual impact of the towers on the landscape
3 while providing sufficient visibility of the facility for aviation safety and making effective use of
4 the wind resource for power generation. The applicant proposes that the turbines would “use
5 low-reflectivity, neutral gray, white, off-white or earth tone finishes...to minimize contrast with
6 the sky backdrop and to minimize the reflections that can call attention to structures in the
7 landscape.”¹²⁰ Nevertheless, guidance from the Federal Aviation Administration (FAA)
8 recommends that towers be white or a slight shade from white for daytime visibility and
9 recommends synchronized flashing lights on perimeter and interior turbines for nighttime
10 visibility.¹²¹ The applicant proposes to restrict exterior lighting on the turbines “to the aviation
11 warning lights required by the FAA.” The Council adopts Conditions 102 and 104, which
12 address turbine towers colors and aviation warning lights. We address the proposed facility’s
13 visual impacts in the discussion of the Council’s Scenic Resources Standard below at page 65
14 and Siting Standards for Wind Energy Facilities at page 80. For the reasons discussed above and
15 subject to the site certificate conditions, the Council finds that the MWPF would comply with
16 GCZO Section 7.020(T)(4)(d)(2).

17 *(3) Reasonable efforts shall be taken to protect and to preserve existing trees,*
18 *vegetation, water resources, wildlife habitat or other significant natural*
19 *resources.*

20 *(4) The turbine towers shall be designed and constructed to discourage bird*
21 *nesting and wildlife attraction.*

22 The proposed facility’s effects on wildlife and wildlife habitat are addressed in the
23 discussion of the Council’s Threatened and Endangered Species Standard below at page 88 and
24 Fish and Wildlife Habitat Standard below at page 93. The potential impact on water resources is
25 addressed in the discussion of water rights below at page 136. The effect of the facility on
26 wetlands and other waters of the state protected by the state’s Removal-Fill Law is addressed
27 below at page 134. The proposed turbine towers would be smooth steel structures rather than
28 lattice structures to discourage bird nesting and perching (Condition 99).¹²² Turbine pad areas
29 would be covered with gravel, which would reduce weeds, eliminate a fire hazard and avoid the
30 growth of cover for raptor prey near turbine towers (Condition 57).¹²³ For turbine types having
31 pad-mounted step-up transformers, the transformer cabinets at each turbine would be designed to
32 avoid use by raptors or prey species as artificial habitat (Condition 68). The Council finds that
33 the proposed MWPF would comply with GCZO Sections 7.020(T)(4)(d)(3) and (4).

34 *(5) The turbine towers shall be of a size and design to help reduce noise or*
35 *other detrimental effects.*

36 The proposed facility would comply with the state’s Noise Control Regulations, which
37 are discussed below at page 126. Other potential “detrimental effects” include public safety
38 concerns, which are addressed in the discussion of the Council’s Public Health and Safety
39 Standards for Wind Energy Facilities below at page 78 and in the discussion of public safety

¹²⁰ App, Exhibit R, p. 19.

¹²¹ James W. Patterson, Jr., *Development of Obstruction Lighting Standards for Wind Turbine Farms* (FAA, November 2005).

¹²² App, Exhibit K, p. 24.

¹²³ App, Exhibit B, p. 13.

1 issues beginning on page 138. Transmission line and electrical safety are addressed in the
2 discussion of the Council's Siting Standards for Transmission Lines below at page 86. Other
3 public health and safety concerns are addressed below at page 138. For the reasons discussed in
4 the referenced sections, the Council finds that the proposed MWPF would comply with GCZO
5 Section 7.020(T)(4)(d)(5).

6 *(6) Private access roads shall be gated to protect the facility and property*
7 *owners from illegal or unwarranted trespass, and illegal dumping and*
8 *hunting.*

9 Some existing private farm roads that are currently not gated would be used for facility
10 access. New facility access roads would be built. The applicant proposed to locate lockable gates
11 at the entrance of facility access roads but also proposed to seek a variance for any landowners
12 who do not want gates.¹²⁴ GCZO Section 7.020(T)(4)(d)(6) addresses the County's interest in
13 public safety. The Council adopts Condition 40 to incorporate the requirement in this ordinance.
14 The Council finds, therefore, that the proposed MWPF would comply with GCZO Section
15 7.020(T)(4)(d)(6).

16 The applicant believes that a variance would be warranted under the circumstances
17 described in GCZO Section 9.030.¹²⁵ The applicant has not submitted any information indicating
18 that any landowner objects to the gates required under the County ordinance or that there are
19 "special and unusual circumstances related to a specific lot."¹²⁶ The Council finds that a variance
20 to the gate requirement is not a matter to be included in and governed by the site certificate.¹²⁷
21 Whether to grant a variance should be left to the County to decide on a case-by-case basis as the
22 need arises. The County is in the best position to determine under what conditions the policy
23 underlying the ordinance would be served by granting a variance.

24 *(7) Where practicable the electrical cable collector system shall be installed*
25 *underground, at a minimum depth of 3 feet; elsewhere the cable collector*
26 *system shall be installed to prevent adverse impacts on agriculture*
27 *operations.*

28 The applicant proposes that the collector lines would be installed a minimum of three feet
29 below grade except where site-specific considerations require that segments of the collector
30 system be installed aboveground (Condition 88).¹²⁸ The certificate holder would locate facility
31 components and temporary construction laydown and staging areas to minimize disturbance with
32 farming operations (Condition 39). The Council finds that the proposed MWPF would comply
33 with GCZO Section 7.020(T)(4)(d)(7).

34 *(8) Required permanent maintenance/operations buildings shall be located*
35 *off-site in one of Gilliam County's appropriately zoned areas, except that*
36 *such a building may be constructed on-site if:*

¹²⁴ App, Exhibit K, p. 25.

¹²⁵ Response to RAI K3 (App Supp, Exhibit K, p. 3).

¹²⁶ A finding of "special and unusual circumstances" is required before granting a variance under GCZO Section 9.010.

¹²⁷ Under ORS 469.401(4), a site certificate does not "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."

¹²⁸ App, Exhibit B, p. 9, and Exhibit K, p. 25.

- 1 (a) *The building is designed and constructed generally consistent with the*
2 *character of similar buildings used by commercial farmers or*
3 *ranchers; and*
4 (b) *The building will be removed or converted to farm use upon*
5 *decommissioning of the Wind Power Generation Facility consistent*
6 *with the provisions of this section.*

7 The applicant proposes to construct one or two O&M buildings on-site. Each O&M
8 building would be a single-story structure of approximately 8,000 square feet. The buildings
9 would be designed and constructed to be generally consistent with the character of similar
10 buildings used by commercial farmers or ranchers in the area.¹²⁹ Retirement or
11 “decommissioning” of the facility is discussed under the Council’s Retirement and Financial
12 Assurance Standard above at page 17. Site restoration would include removal of the O&M
13 buildings or conversion of the buildings to farm use with the consent of the affected landowners.
14 The Council finds that the proposed MWPF would comply with GCZO Section
15 7.020(T)(4)(d)(8).

- 16 (9) *A Wind Power Generation Facility shall comply with the Specific Safety*
17 *Standards for Wind Facilities delineated in OAR 345-024-0010 (as*
18 *adopted at time of application).*

19 Compliance with the Council’s Public Health and Safety Standards for Wind Energy
20 Facilities (OAR 345-024-0010) is discussed below at page 78.

- 21 (10) *To the extent feasible, the County will accept information presented by an*
22 *application for an EFSC proceeding in the form and on the scheduled*
23 *required by EFSC.*

24 This requirement is a procedural provision in the County ordinance under which the
25 County accepts information presented in a site certificate application for facilities under Council
26 jurisdiction.

27 5. *Decommissioning/Dismantling Process. The applicant’s dismantling of incomplete*
28 *construction and/or decommissioning plan for the Wind Power Generation Facility*
29 *shall include the following information*¹³⁰

30 * * *

- 31 g. *For projects sited by EFSC, compliance with EFSC’s financial assurance and*
32 *decommissioning standards shall be deemed to be in compliance with the*
33 *dismantling and decommissioning requirements of this Section 152.524.*¹³¹

34 The proposed MWPF would comply with the Council’s Retirement and Financial
35 Assurance Standard for the reasons discussed above at page 17. Compliance with the Council’s
36 standard satisfies the Gilliam County ordinance.

¹²⁹ App, Exhibit K, p. 25.

¹³⁰ Omitted subsections describe the required content of a decommissioning plan, including site restoration, the County bond requirement and arbitration.

¹³¹ This cross-reference appears in an early draft of the Umatilla County wind ordinance, which Gilliam County apparently used as a model for drafting parts of GCZO Section 7.020(T). In context, this cross-reference refers to subsection (5) of Section 7.020(T).

1 6. *Wind Power Generation Facility Siting Subsequent Requirements*

- 2 a. *A bond or letter of credit shall be established for the dismantling of*
3 *uncompleted construction and/or decommissioning of the facility. (See*
4 *§152.524.) For projects being sited by the State of Oregon's Energy Facility*
5 *Siting Council (EFSC), the bond or letter of credit required by EFSC will be*
6 *deemed to meet this requirement.*

7 As required under OAR 345-027-0020(8), the certificate holder would provide financial
8 assurance satisfactory to the Council for site restoration (Condition 8). Financial assurance is
9 discussed under the Council's Retirement and Financial Assurance Standard above at page 17.
10 The financial assurance required by the Council satisfies the Gilliam County ordinance.

- 11 b. *The actual latitude and longitude location or Stateplane NAD 83(91)*
12 *coordinates of each turbine tower, connecting lines, and transmission lines*
13 *shall be provided to Gilliam County once commercial electrical production*
14 *begins.*
15 c. *A summary of as-built changes in the facility from the original plan, if any,*
16 *shall be provided by the owner/operator.*

17 The Council adopts Condition 45, which would require the certificate holder to provide
18 the actual location of turbine towers, connecting lines and transmission lines and a summary of
19 as-built changes as required by this County ordinance.

- 20 d.
21 (1) *The Wind Power Generation Facility requirements shall be facility-*
22 *specific, but can be amended as long as the facility does not exceed the*
23 *boundaries of the Gilliam County Conditional Use Permit where the*
24 *original facility was constructed.*
25 (2) *An amendment to the conditional use permit shall be required if proposed*
26 *facility changes would:*
27 (i) *Increase the land area taken out of agricultural production by an*
28 *additional 20 acres or more;*
29 (ii) *Increase the land area taken out of agricultural production sufficiently*
30 *to trigger taking a Goal 3 exception;*
31 (iii) *Require an expansion of the established facility boundaries;*
32 (iv) *Increase the number of towers;*
33 (v) *Increase generator output by more than 25 percent relative to the*
34 *generation capacity authorized by the initial permit due to the*
35 *repowering or upgrading of power generation capacity.*

36 *No amendment would be required if an expansion of power-generating*
37 *capacity is due to technology upgrades installed within the existing*
38 *boundaries of the established Wind Power Generation Facility.*
39 *Notification by the facility owner/operator to the Gilliam County Planning*
40 *Department of nonsignificant changes is encouraged, but not required. An*
41 *amendment to a Site Certificate issued by EFSC will be governed by the*
42 *rules for amendments established by EFSC.*

1 GCZO Section 7.020(T)(6)(d) describes the County's procedure for amendment of a
2 Conditional Use Permit. In accordance with ORS 469.401(3), the County may amend the CUP
3 for the MWPF subject only to the conditions set forth in the site certificate or amended site
4 certificate. The Council may amend the site certificate under the rules in OAR Chapter 345,
5 Division 27.

6 e. *Within 120 days after the end of each calendar year, the facility*
7 *owner/operator shall provide Gilliam County an annual report including the*
8 *following information:*

- 9 (1) *Energy production by month and year.*
10 (2) *Nonproprietary information about wind conditions (e.g., monthly*
11 *averages, high wind events, bursts).*
12 (3) *A summary of changes to the facility that do not require facility*
13 *requirement amendments.*
14 (4) *A summary of the avian monitoring program – bird injuries, casualties,*
15 *positive impacts on area wildlife and any recommendations for changes in*
16 *the monitoring program.*
17 (5) *Employment impacts to the community and Gilliam County during and*
18 *after construction.*
19 (6) *Success or failures of weed control practices.*
20 (7) *Status of the decommissioning fund.*
21 (8) *Summary comments – any problems with the projects, any adjustments*
22 *needed, or any suggestions.*

23 *The annual report requirement may be discontinued or required at a less*
24 *frequent schedule by the County. The reporting requirement and/or*
25 *reporting schedule shall be reviewed, and possibly altered, at the request*
26 *of the facility owner/operator. (OPTION: For facilities under EFSC*
27 *jurisdiction and for which an annual report is required, the annual report*
28 *to EFSC satisfies this requirement.)*

29 This ordinance requires an annual report to the County from the owner or operator of a
30 County-permitted wind power generating facility but provides that the "annual report to EFSC"
31 satisfies the County reporting requirement for facilities under Council jurisdiction. As required
32 under OAR 345-026-0080, the certificate holder would report to the Council every six months
33 during construction and annually after beginning construction (Condition 21).

B. Applicable Statewide Planning Goals

34 For the reasons discussed above, the proposed facility complies with the applicable
35 substantive criteria recommended to the Council by Gilliam County, except GCZO Section
36 4.020(D)(14), which limits the area that a power generation facility may occupy in an EFU zone
37 (discussed above at page 25). In addition, under GCZO Section 7.020(T)(4)(a)(10), the County
38 requires a Goal 3 exception if a proposed wind power generation facility exceeds 20 acres in
39 size. We discuss an exception to Goal 3 below, beginning at page 48.

1 Because the facility does not comply with all applicable local land use criteria, the
2 Council must determine, under ORS 469.504(1)(b)(B), whether the proposed facility “otherwise
3 [complies] with the applicable statewide planning goals.” For a use located within an EFU zone,
4 the “applicable statewide planning goal” is Goal 3, which is the State’s Agricultural Lands goal.
5 As expressed in *Oregon’s Statewide Planning Goals and Guidelines*, Goal 3 is:

6 ***To preserve and maintain agricultural lands.***

7 *Agricultural lands shall be preserved and maintained for farm use, consistent with*
8 *existing and future needs for agricultural products, forest and open space and with*
9 *the state’s agricultural land use policy expressed in ORS 215.243 and 215.700.*

10 Consistent with Goal 3, Gilliam County has designated EFU zones to preserve
11 agricultural lands. Under Goal 3, non-farm uses are permitted within a farm use zone as provided
12 under ORS 215.283. To find compliance with ORS 215.283, the Council must determine
13 whether the proposed energy facility and its related or supporting facilities are uses that fit within
14 the scope of the uses permitted on EFU land described in ORS 215.283(1), (2) or (3).

15 The Council finds that the MWPF principal use is a “commercial utility facility for the
16 purpose of generating power for public use by sale” that is allowable under ORS 215.283(2)(g).
17 The Council finds that the principal use includes the wind turbines, power collection system,
18 meteorological towers, control system, O&M buildings, facility substations and the 230-kV
19 transmission line connecting the western substation to the central substation and field workshops.
20 The Council finds that the access roads are “transportation improvements” that are allowable
21 under ORS 215.283(3). For the reasons discussed in the next section below, the facility access
22 roads are subject to the same standards and requirements that apply to the principal use. The 230-
23 kV transmission line that interconnects the facility with the BPA transmission system may be
24 part of the principal use or, alternately, may be analyzed as a utility facility necessary for public
25 service” that is allowable under ORS 215.283(1)(d) (see discussion of the interconnection line
26 below).

27 The Access Roads

28 The proposed MWPF access roads are allowable on EFU land under ORS 215.283(3).
29 ORS 215.283(3) allows “roads, highways and other transportation facilities and improvements”
30 that are not otherwise allowed under paragraphs (1) and (2) of ORS 215.283 to be established in
31 an EFU zone, subject to:

- 32 (a) *Adoption of an exception to the goal related to agricultural lands and to any other*
33 *applicable goal with which the facility or improvement does not comply; or*
34 (b) *ORS 215.296 for those uses identified by rule of the Land Conservation and*
35 *Development Commission as provided in section 3, chapter 529, Oregon Laws*
36 *1993.*

37 The subparagraphs are conjoined by “or” and so either (a) or (b) applies. In this case,
38 subparagraph (b) applies because the MWPF access roads are a use identified by the LCDC.
39 OAR 660-033-0120 identifies uses authorized on agricultural lands. OAR 660-033-0120 (Table
40 1) lists “transportation improvements on rural lands allowed by OAR 660-012-0065” as a type
41 “R” use (“use may be approved, after required review”). OAR 660-012-0065(2)(d) defines
42 “accessory transportation improvements” as “transportation improvements that are incidental to a

land use to provide safe and efficient access to the use.”¹³² The proposed MWPF access roads are “incidental” to the principal use and would provide safe and efficient access to the facility.

Under OAR 660-012-0065(3)(a), transportation improvements for a use that is conditionally allowed by ORS 215.283 are consistent with Goal 3, subject to the requirements of OAR 660-012-0065. In this case, the principal use (a commercial utility facility for the purpose of generating power for public use by sale) is conditionally allowed by ORS 215.283(2)(g). Accordingly, the access roads serving that use would be consistent with Goal 3 subject to the requirements of OAR 660-012-0065. The requirements of OAR 660-012-0065(4) are applicable:

(4) 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 MWPF 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 would be subject to the standards and requirements applicable to the principal use.

The Interconnection Line

The proposed MWPF 230-kV interconnection line is necessary to deliver the electricity generated by the facility to the BPA Slatt Switching Station and ultimately to public customers. The interconnection line is 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.

215.275 Utility facilities necessary for public service; criteria; mitigating impact of facility. (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.***

¹³² OAR 660-012-0065(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 turbine string access roads are not “access roads” under this definition because they are not public roads.

1 (3) Costs associated with any of the factors listed in subsection (2) of this section
2 may be considered, but cost alone may not be the only consideration in determining
3 that a utility facility is necessary for public service. Land costs shall not be included
4 when considering alternative locations for substantially similar utility facilities. The
5 Land Conservation and Development Commission shall determine by rule how land
6 costs may be considered when evaluating the siting of utility facilities that are not
7 substantially similar.

8 (4) The owner of a utility facility approved under ORS 215.213 (1)(d) or 215.283
9 (1)(d) shall be responsible for restoring, as nearly as possible, to its former condition
10 any agricultural land and associated improvements that are damaged or otherwise
11 disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing
12 in this section shall prevent the owner of the utility facility from requiring a bond or
13 other security from a contractor or otherwise imposing on a contractor the
14 responsibility for restoration.

15 (5) The governing body of the county or its designee shall impose clear and
16 objective conditions on an application for utility facility siting under ORS 215.213
17 (1)(d) or 215.283 (1)(d) to mitigate and minimize the impacts of the proposed facility,
18 if any, on surrounding lands devoted to farm use in order to prevent a significant
19 change in accepted farm practices or a significant increase in the cost of farm
20 practices on the surrounding farmlands.

21 (6) The provisions of subsections (2) to (5) of this section do not apply to
22 interstate natural gas pipelines and associated facilities authorized by and subject to
23 regulation by the Federal Energy Regulatory Commission.

24 ORS 215.275(2) lists factors for deciding whether a utility facility is “necessary for
25 public service.”¹³³ The proposed interconnection line must be located in an EFU zone because
26 there is no non-EFU land near the BPA Slatt Switching Station, where the MWPF power would
27 be connected to the regional power grid. There are no reasonable alternatives to this location. At
28 least three of the factors listed in ORS 215.275(2) apply. “Technical and engineering feasibility”
29 requires that there be an interconnecting transmission line to connect the facility with the BPA
30 system. Second, the proposed interconnection line is “locationally dependent.” The transmission
31 line must be located in proximity to the proposed wind turbines, because that is where the power
32 would be generated, and it must also be located near the regional transmission system so that the
33 power can be transmitted to customers. Third, there are no “available urban and nonresource
34 lands” on which to locate the interconnection line. The facility site and the BPA Slatt Switching
35 Station are located entirely on EFU land. For these reasons, siting the interconnection line on
36 EFU land is “necessary for public service.” The Council finds that the interconnection line is
37 allowed under ORS 215.283(1)(d) subject to the other provisions of ORS 215.275 discussed
38 below.

39 ORS 215.275(4) requires that the owner of a utility facility approved under
40 ORS 215.283(1)(d) be responsible for restoring agricultural land and associated improvements to
41 their former condition if they are damaged or disturbed by the siting, maintenance, repair or
42 reconstruction of the facility. The certificate holder would be responsible for restoring all areas

¹³³ The same factors are listed in OAR 660-033-0130(16).

temporarily disturbed during construction, maintenance or repair of the 230-kV transmission lines (Conditions 11 and 92).

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.” These objectives are substantially identical to the approval standards incorporated in GCZO Section 4.020(H), discussed above at page 27 (including a discussion of site certificate conditions to “mitigate and minimize” the impacts of the proposed facility).

The LCDC Rules

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. The current rules include amendments that became effective on January 2, 2009. Under the current rules, a wind power generation facility is a distinct type “R” use (“use may be approved, after required review”) listed in OAR 660-033-0120 (Table 1).¹³⁴ The standards contained in OAR 660-033-0130(5) and (37) apply to wind power generation facilities.

Prior to the amendment of OAR 660-033-0120 and OAR 660-033-0130, a wind energy facility would be analyzed as a “commercial utility facility for the purpose of generating power for public use by sale.” OAR 660-033-0120 (Table 1) defines this use as a type “R” use and references applicable standards in OAR 660-033-0130.¹³⁵ The standards found in OAR 660-033-0130(5) and (22) apply if the proposed facility is located on non-high-value farmland and OAR 660-033-0130(5) and (17) apply if the proposed facility is located on high-value farmland.

As of the date that the application was submitted, Gilliam County had not incorporated the amendments to OAR 660-033-0120 and OAR 660-033-0130 into the local zoning ordinance. The acreage restrictions in GCZO Section 4.020(D)(14) therefore apply as discussed above at page 25.

Because ORS 469.504(1)(b)(B) authorizes the Council to determine compliance with the statewide planning goals directly, the Department believes that the Council may conclude that the MWPF complies with the statewide planning goals if the Council finds that the facility complies with the current requirements of OAR 660-033-0120 and OAR 660-033-0130. Nevertheless, for completeness and in case the Department is later found to be incorrect about the applicability of the amended LCDC rules, an analysis of both the “old rules” (before the January 2009 amendments) and the current rules is presented below.

OAR 660-033-0130(5)

(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may be approved only where such uses:

(a) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

¹³⁴ Table 1 lists “wind power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale” as a type R use.

¹³⁵ The current rule specifically excludes “wind power generating facilities” from this use.

1 (b) *Will not significantly increase the cost of accepted farm or forest practices on*
2 *surrounding lands devoted to farm or forest use.*

3 OAR 660-033-0130(5) applies under the current rules as well as under the old rules.
4 OAR 660-033-0130(5) provides that the proposed land use must not force a significant change in
5 accepted farm practices on surrounding farmland and must not significantly increase the cost of
6 accepted farm practices. The rule cross-references ORS 215.296, which contains standards for
7 approval for a use allowed under ORS 215.283(2) that are substantively identical to OAR 660-
8 033-0130(5)(a) and (b). These standards are incorporated in GCZO Section 4.020(H), discussed
9 above at page 27. In the discussion of the County ordinance, the Council finds that the MWPF
10 would not force a significant change in accepted farm practices on surrounding farmland and
11 would not significantly increase the cost of accepted farm practices. Because the same approval
12 standards are contained in the land use statute and LCDC rule, the Council finds that the MWPF
13 would comply with ORS 215.296 and OAR 660-033-0130(5).

14 The Old Rules

15 OAR 660-033-0130(17)

16 (17) *A power generation facility shall not preclude more than 12 acres from use as a*
17 *commercial agricultural enterprise unless an exception is taken pursuant to OAR*
18 *chapter 660, division 4.*

19 OAR 660-033-0130(22)

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

23 Under OAR 660-033-0120, the 12-acre limitation described in OAR 660-033-0130(17)
24 applies to components of a power generation facility located on high-value farmland. The 20-
25 acre limitation described in OAR 660-033-0130(22) applies to agricultural land that is not high-
26 value farmland. Definitions of “agricultural land,” “high-value farmland” and “non-high-value
27 farmland” are discussed above at page 26. As shown in Table 3 above at page 27, the MWPF
28 components would occupy less than three acres of high-value farmland and would therefore
29 comply with OAR 660-033-0130(17). The MWPF components, however, would occupy more
30 than 20 acres of non-high-value farmland. Accordingly, the Council finds that the proposed
31 MWPF would not comply with OAR 660-033-0130(22). Based on this finding, the proposed
32 MWPF would not comply with the rules implementing Goal 3 and an exception would be
33 necessary. We discuss an exception to Goal 3 below.

34 Goal 3 Exception

35 If the old LCDC rules apply, the proposed facility would not comply with OAR 660-033-
36 0130(22) as discussed above. Therefore, to find compliance under ORS 469.504(1)(b)(B), the
37 Council must decide whether an exception to Goal 3 is justified under ORS 469.504(2). ORS
38 469.504(2)(c) sets out the requirements that must be met for the Council to take an exception to a
39 statewide planning goal, as follows:

40 (2) *The council may find goal compliance for a facility that does not otherwise*
41 *comply with one or more statewide planning goals by taking an exception to the*
42 *applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide*
43 *planning goal pertaining to the exception process or any rules of the Land*

1 *Conservation and Development Commission pertaining to an exception process goal,*
2 *the council may take an exception to a goal if the council finds:*

3 * * *

4 (c) *The following standards are met:*

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

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

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

13 The applicant discussed the justification for an exception in Exhibit K of the
14 application.¹³⁶ The Council makes the findings discussed below and concludes that proposed
15 MWPF meets the standards for an exception to Goal 3 under ORS 469.504(2)(c).

16 (a) *Reasons Supporting an Exception*

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

19 Although the proposed facility would occupy approximately 255 acres of EFU land
20 (including 252 acres of non-high-value farmland), it would occupy less than one-half of one
21 percent of the farmland adjacent to the facility. There are approximately 65,844 acres of land
22 within the analysis area devoted to farm use.¹³⁷ It is significant to note that the wind facility
23 structures would not occupy a single, contiguous area within which no farming activities could
24 occur. Rather, the spacing of turbines and turbine strings would allow farm use to continue
25 efficiently on most of the land currently used for grazing and cultivation of crops.

26 Most of the farmland occupied by the proposed facility would be occupied by the access
27 roads. As shown in Table 3, the turbine towers, meteorological towers, O&M facilities,
28 substations and aboveground collector lines would occupy less than 27 acres. Facility access
29 roads would occupy approximately 228 acres but would be available to landowners for use in
30 farm operations.¹³⁸ Facility access roads would be the minimum size necessary for safe operation
31 and would be located to minimize conflict with farm uses on surrounding land (Condition 39).

32 The applicant notes that the proposed wind energy could not be developed on non-
33 resource lands in Gilliam County.¹³⁹ The only non-resource land in the area (that is, land not
34 devoted to farm use) is land within the city limits of Arlington and Condon. The non-resource
35 land is largely residential and does not contain sufficient area to construct a commercial wind
36 energy facility. The non-resource land lacks an adequate wind resource and access to the
37 regional transmission system.

¹³⁶ App, Exhibit K, pp. 40-44.

¹³⁷ App, Exhibit K, p. 8.

¹³⁸ App, Exhibit K, p. 8.

¹³⁹ App, Exhibit K, p. 41.

1 In addition, approval of the proposed MWPF on agricultural land furthers the state policy
2 embodied in Goal 13 (Energy Conservation). The Guidelines for implementing Goal 13 direct
3 that land use planning utilize renewable energy sources, including wind, "whenever possible."¹⁴⁰
4 EFU land is particularly well suited to the utilization of wind energy, which requires open land
5 with unobstructed access to consistently strong winds. The only areas within Gilliam County that
6 have sufficient open space and strong winds are within the EFU zone.

7 (b) Environmental, Economic, Social and Energy Consequences

8 The Council's standards address the environmental consequences of the proposed
9 facility. In our discussion of each of the standards, we identify the potential adverse impacts of
10 the proposed facility and explain how those impacts would be mitigated. We discuss impacts to
11 soils at page 57; to protected areas at page 60; to scenic resources at page 65; to threatened and
12 endangered species at page 88; to wildlife habitat at page 93; to ambient noise levels at page 126;
13 to waters of the state at page 134; and to water resources at page 136. The facility would have no
14 emissions that would adversely affect air or water quality. Upon retirement of the facility, the
15 site would be restored to a useful, non-hazardous condition (see discussion of the Council's
16 Retirement and Financial Assurance Standard at page 17).

17 The proposed facility would have beneficial economic consequences. The facility would
18 offer local employment opportunities by providing up to 475 jobs during construction and up to
19 30 jobs during operation.¹⁴¹ Annual lease payments in the wind facility lease area would
20 supplement landowner income from other farm operations without significantly reducing the
21 land base available for farming practices. In addition, the proposed facility would provide
22 significant tax revenue to Gilliam County.¹⁴²

23 The MWPF would not have significant adverse social consequences. The proposed
24 facility would not cause any significant adverse impact on the ability of communities in the local
25 area to provide services such as housing, health care, schools, police and fire protection, water
26 and sewer, solid waste management, transportation and traffic safety (see discussion of site
27 certificate conditions related to the Council's Public Services Standard at page 118). The site
28 certificate would include conditions to avoid adverse impact to historic, cultural and
29 archaeological resources (see discussion at page 114). The proposed facility would have no
30 adverse impact on important recreational opportunities in the local area (see discussion of the
31 Council's Recreation Standard at page 74). We address public safety issues related to the
32 proposed facility at page 78 (Public Health and Safety Standards for Wind Energy Facilities),
33 page 86 (Siting Standards for Transmission Lines), page 114 (Structural Standard) and page 138
34 (Public Health and Safety). During construction and operation of the facility, the certificate
35 holder would minimize the generation of solid waste and wastewater and would properly dispose
36 or recycle waste materials (see discussion at page 118).

37 The energy consequences of the proposed facility would be the generation of up to 404
38 MW of electricity that would become available to meet local and regional energy needs. The
39 proposed MWPF would generate electricity from a renewable source (wind), which furthers the
40 State's energy policy "to develop permanently sustainable energy resources" (ORS 469.010).

¹⁴⁰ Oregon Department of Land Conservation and Development, Goal 13
(<http://www.oregon.gov/LCD/docs/goals/goal13.pdf>).

¹⁴¹ App, Exhibit K, p. 42, and Exhibit U, p. 2.

¹⁴² App, Exhibit K, p. 42.

1 In 2007, the Oregon Legislature enacted SB 838. This legislation established a
2 “Renewable Portfolio Standard” (RPS) under which the State’s largest utilities must provide 25
3 percent of their retail sales of electricity from renewable sources of energy by 2025.
4 Development of wind energy facilities in locations where sufficient wind resources and land area
5 exist is consistent with achievement of this public policy goal.

6 (c) Compatibility with Other Adjacent Uses

7 Adjacent uses are primarily crop cultivation and grazing.¹⁴³ The proposed facility is
8 compatible with these farm uses for the reasons discussed above at page 27. The facility would
9 not force a significant change in accepted farm practices on surrounding lands and would not
10 significantly increase the costs of farm practices. The directly affected landowners are willing to
11 enter into land leases to allow the facility to be built. In return, the landowners would receive
12 annual lease payments. Lease payments would provide a stable, supplemental income source that
13 would help maintain the land in farm use by increasing the economic viability of the landowners’
14 farm operations.

15 The Current Rules

16 OAR 660-033-0130(37) became effective on January 2, 2009.¹⁴⁴ In establishing specific
17 standards for wind power generation facilities, LCDRC eliminated the 12-acre and 20-acre
18 restrictions that are contained in OAR 660-033-0130(17) and (22). Instead, OAR 660-033-
19 0130(37) defines a “wind power generating facility” and provides criteria for the approval of a
20 wind power generating facility sited on farmland. The Council has previously found that all of
21 the components of wind energy facilities fit within the definition of “wind power generating
22 facility” in OAR 660-033-0130(37).¹⁴⁵ The Council finds that the proposed MWPF meets the
23 approval criteria for a wind power generating facility, for the reasons discussed below.

24 OAR 660-033-0130(37)

25 *(37) For purposes of this rule a wind power generation facility includes, but is not*
26 *limited to, the following system components: all wind turbine towers and concrete*
27 *pads, permanent meteorological towers and wind measurement devices, electrical*
28 *cable collection systems connecting wind turbine towers with the relevant power*
29 *substation, new or expanded private roads (whether temporary or permanent)*
30 *constructed to serve the wind power generation facility, office and operation and*
31 *maintenance buildings, temporary lay-down areas and all other necessary*
32 *appurtenances. A proposal for a wind power generation facility shall be subject to the*
33 *following provisions:*

34 *(a) For high-value farmland soils described at ORS 195.300(10), the governing*
35 *body or its designate must find that all of the following are satisfied:*

36 *(A) Reasonable alternatives have been considered to show that siting the wind*
37 *power generation facility or component thereof on high-value farmland soils*
38 *is necessary for the facility or component to function properly or if a road*

¹⁴³ App, Exhibit K, p. 43.

¹⁴⁴ The provision became effective upon filing (OAR 660-033-0160).

¹⁴⁵ See *Final Order on Amendment #1 for the Leaning Juniper II Wind Power Facility* (November 20, 2009), p. 38; *Final Order on Amendment #1 for the Shepherds Flat Wind Farm* (September 11, 2009), p. 30; *Final Order on Amendment #4 for the Stateline Wind Project* (March 27, 2009), p. 68.

1 system or turbine string must be placed on such soils to achieve a reasonably
2 direct route considering the following factors:

3 (i) Technical and engineering feasibility;

4 (ii) Availability of existing rights of way; and

5 (iii) The long term environmental, economic, social and energy consequences
6 of siting the facility or component on alternative sites, as determined
7 under OAR 660-033-0130(37)(a)(B).

8 (B) The long-term environmental, economic, social and energy consequences
9 resulting from the wind power generation facility or any components thereof
10 at the proposed site with measures designed to reduce adverse impacts are not
11 significantly more adverse than would typically result from the same proposal
12 being located on other agricultural lands that do not include high-value
13 farmland soils.

14 (C) Costs associated with any of the factors listed in OAR 660-033-
15 0130(37)(a)(A) may be considered, but costs alone may not be the only
16 consideration in determining that siting any component of a wind power
17 generation facility on high-value farmland soils is necessary.

18 (D) The owner of a wind power generation facility approved under OAR 660-
19 033-0130(37)(a) shall be responsible for restoring, as nearly as possible, to
20 its former condition any agricultural land and associated improvements that
21 are damaged or otherwise disturbed by the siting, maintenance, repair or
22 reconstruction of the facility. Nothing in this subsection shall prevent the
23 owner of the facility from requiring a bond or other security from a contractor
24 or otherwise imposing on a contractor the responsibility for restoration.

25 (E) The criteria of OAR 660-033-0130(37)(b) are satisfied.

26 (b) For arable lands, meaning lands that are cultivated or suitable for cultivation,
27 including high-value farmland soils described at ORS 195.300(10), the
28 governing body or its designate must find that:

29 (A) The proposed wind power facility will not create unnecessary negative
30 impacts on agricultural operations conducted on the subject property.
31 Negative impacts could include, but are not limited to, the unnecessary
32 construction of roads, dividing a field or multiple fields in such a way that
33 creates small or isolated pieces of property that are more difficult to farm,
34 and placing wind farm components such as meteorological towers on lands in
35 a manner that could disrupt common and accepted farming practices; and

36 (B) The presence of a proposed wind power facility will not result in
37 unnecessary soil erosion or loss that could limit agricultural productivity on
38 the subject property. This provision may be satisfied by the submittal and
39 county approval of a soil and erosion control plan prepared by an adequately
40 qualified individual, showing how unnecessary soil erosion will be avoided or
41 remedied and how topsoil will be stripped, stockpiled and clearly marked. The

1 approved plan shall be attached to the decision as a condition of approval;
2 and

3 (C) Construction or maintenance activities will not result in unnecessary soil
4 compaction that reduces the productivity of soil for crop production. This
5 provision may be satisfied by the submittal and county approval of a plan
6 prepared by an adequately qualified individual, showing how unnecessary soil
7 compaction will be avoided or remedied in a timely manner through deep soil
8 decompaction or other appropriate practices. The approved plan shall be
9 attached to the decision as a condition of approval; and

10 (D) Construction or maintenance activities will not result in the unabated
11 introduction or spread of noxious weeds and other undesirable weeds species.
12 This provision may be satisfied by the submittal and county approval of a
13 weed control plan prepared by an adequately qualified individual that
14 includes a long-term maintenance agreement. The approved plan shall be
15 attached to the decision as a condition of approval.

16 (c) For nonarable lands, meaning lands that are not suitable for cultivation, the
17 governing body or its designate must find that the requirements of OAR 660-
18 033-0130(37)(b)(D) are satisfied.

19 (d) In the event that a wind power generation facility is proposed on a
20 combination of arable and nonarable lands as described in OAR 660-033-
21 0130(37)(b) and (c) the approval criteria of OAR 660-033-0130(37)(b) shall
22 apply to the entire project.

23 OAR 660-033-0130(37)(a) provides criteria for locating a wind power generating facility
24 on high-value farmland soils. The rule references ORS 195.300(10) for the definition of “high-
25 value farmland soils.” ORS 195.300(10), in turn, references ORS 215.710, which defines “high
26 value farmland.” The definition of “high value farmland” has been discussed above at page 26.
27 There are approximately 186 acres of high-value farmland soils within the site boundary.¹⁴⁶ As
28 shown in Table 3 on page 27, the MWPF components would occupy less than three acres of this
29 high-value farmland.

30 Reasonable Alternatives

31 OAR 660-033-0130(37)(a)(A) requires the applicant to consider “reasonable alternatives”
32 to locating the facility, or components of the facility, on high-value farmland. The applicant
33 holder must “show that siting the wind power generation facility or component thereof on high-
34 value farmland soils is necessary for the facility or component to function properly.” In the case
35 of access roads and turbine strings, the applicant must show that these components must be
36 placed on high-value farmland soils “to achieve a reasonably direct route.” To demonstrate the
37 necessity of using high-value farmland for the facility to “function properly” or for a road or
38 turbine string to “achieve a reasonably direct route,” the applicant must consider the factors
39 listed in subsections (i) through (iii).

¹⁴⁶ App Supp, Exhibit K, p. 7. The location of high-value farmland soils are shown on revised Figure K-6 and Figure K-6a (App Supp, Attachment K-1).

1 The rule first requires the applicant to determine whether “reasonable alternatives” exist
2 on soils that are not “high-value farmland soils.” The applicant must then analyze whether the
3 facility could “function properly” and whether turbine string and roads could “achieve a
4 reasonably direct route” in an alternative location. The certificate holder addressed these
5 questions in Exhibit K of the application and in responses to the Department’s requests for
6 additional information.¹⁴⁷

7 There are no proposed turbine locations on high-value farmland soils. Almost all of the
8 proposed impact on high-value farmland (2,348 acres) would result from the improvement of an
9 existing County road (Eightmile Canyon Road).¹⁴⁸ The location of the road in relation to the
10 high-value farmland soils and other constraints is shown in Figure K-6a of the application.¹⁴⁹
11 Improvements to Eightmile Canyon Road would be confined to the existing County right-of-way
12 (Condition 71). To avoid all impact on high-value farmland soil, the certificate holder would
13 have to build a new road. Construction of a new road would have greater impacts than the
14 proposed improvement of an existing road. A new road cannot be built to the west of the existing
15 road because of Category 1 habitat in that location.¹⁵⁰ Construction of a new road to the east to
16 avoid the high-value farmland soil area would require a new road segment approximately three
17 miles long outside the existing right-of-way. This would significantly increase the area of
18 permanent impact of the proposed facility components. The Council has found that an alternative
19 location or configuration of a proposed wind power generation facility on land that does not
20 contain high-value farmland soils is not a “reasonable” alternative under OAR 660-033-
21 0130(37)(a)(A) if the location or configuration would significantly increase the area permanently
22 occupied by the facility’s components.¹⁵¹ Improvement of the existing County road within high-
23 value farmland soils in the existing public right-of-way is necessary to achieve a reasonably
24 direct route and is consistent with OAR 660-033-0130(37)(a)(A)(ii), which requires
25 consideration of the availability of existing rights-of-way.

26 Approximately 0.003 acres (131 square feet) of high-value farmland would be occupied
27 by the support structures for aboveground collector lines. The collector line cannot be located to
28 the west of the existing County road due to Category 1 habitat in that location. Locating the
29 collector line further to the east to avoid the high-value farmland would significantly increase the
30 length of the aboveground collector line segment. Locating the collector line within high-value
31 farmland is necessary to achieve a reasonably direct route and would have a minimal impact on
32 high-value farmland.

33 The Council finds that the applicant has considered reasonable alternatives and has
34 shown that siting components of the wind power generation facility on high-value farmland soils
35 is necessary as required under OAR 660-033-0130(37)(a)(A). The wind facility components
36 would occupy less than three acres of high-value farmland, and most of the impact would be
37 within an existing public right-of-way.

¹⁴⁷ App, Exhibit K, p. 36; App Supp, Exhibit K, pp. 5-9.

¹⁴⁸ App Supp, Exhibit K, p. 8.

¹⁴⁹ App Supp, Attachment K-1.

¹⁵⁰ See discussion of Category 1 habitat herein at page 93.

¹⁵¹ *Final Order on Amendment #1 for the Leaning Juniper II Wind Power Facility* (November 20, 2009), p. 41.

1 Environmental, Economic, Social and Energy Consequences

2 Under OAR 660-033-0130(37)(a)(B), the applicant must show that “the long term
3 environmental, economic, social and energy consequences” of the facility or its components,
4 taking mitigation into account, “are not significantly more adverse than would typically result
5 from the same proposal being located on other agricultural lands that do not include high-value
6 farmland soils.” The test is similar to that required under ORS 459.504(2)(c)(B) when the
7 Council determines whether to grant a “reasons” exception to a statewide planning goal: “The
8 significant environmental, economic, social and energy consequences anticipated as a result of
9 the proposed facility have been identified and adverse impacts will be mitigated in accordance
10 with rules of the council applicable to the siting of the proposed facility.”

11 As shown in revised Figure K-6 and Figure K-6a, there are a few pockets of high-value
12 soils within the proposed site boundary.¹⁵² Avoidance of impact to high-value farmland would
13 require construction of a new road segment outside of existing public right-of-way and
14 increasing the length of an aboveground collector line segment. This alternative would result in
15 greater environmental and farm use impact and reduced efficiency. The environmental,
16 economic, social and energy consequences of the proposed MWPF are discussed above at page
17 48 as part of the Goal 3 exception analysis. For the reasons addressed there, the Council finds
18 that the long term environmental, economic, social and energy consequences of siting the facility
19 on high-value farmland are not significantly more adverse than would result from locating the
20 components on non-high-value farmland.

21 Costs

22 OAR 660-033-0130(37)(a)(C) provides that costs may be considered in the analysis but
23 “may not be the only consideration in determining that siting any component of a wind power
24 generation facility on high-value farmland soils is necessary.” Considerations other than cost
25 have been discussed above.

26 Restoration

27 OAR 660-033-0130(37)(a)(D) requires the owner of a wind facility to restore agricultural
28 land damaged by the wind power facility. Condition 92 would require the certificate holder to
29 restore all areas disturbed by construction, including farmland, according to the requirements of
30 the *Revegetation Plan*. The Council finds that the proposed facility would comply with OAR
31 660-033-0130(37)(a)(D).

32 Additional Criteria

33 OAR 660-033-0130(37)(a)(E) requires the applicant to demonstrate that the criteria of
34 OAR 660-033-0130(37)(b) are satisfied when determining whether a facility may be sited on
35 high-value farmland soils. These requirements are discussed below.

36 Arable and Nonarable Lands

37 Subsections (b), (c) and (d) of OAR 660-033-0130(37) provide additional criteria for
38 wind power generation facilities located on “arable” or “nonarable” land. Subsection (b) defines
39 “arable land” as “lands that are cultivated or suitable for cultivation, including high-value
40 farmland soils,” and provides criteria for locating a facility on arable land. Subsection (c) defines
41 “nonarable land” as land “not suitable for cultivation” and provides that the criteria in subsection

¹⁵² App Supp, Attachment K-1, Figures K-6 and K-6a.

(b)(D) apply on nonarable land. Subsection (d) provides that when a proposed wind power generation facility is located on a combination of arable and nonarable lands, then all of the criteria in subsection (b) apply to the entire facility. The proposed MWPF would be located on combination of arable and nonarable lands, as shown in Table 6 herein. Accordingly, the criteria in subsection (b) apply to the entire facility. The requirements of OAR 660-033-0130(37)(b) subsections (A) through (D) are discussed below.

Impacts on Agricultural Operations

OAR 660-033-0130(37)(b)(A) provides that the proposed wind power facility must not “create unnecessary negative impacts on agricultural operations conducted on the subject property.” This requirement is substantially equivalent to the approval standards in the Gilliam County zoning ordinance, GCZO Section 4.020(H), discussed above at page 27. For the reasons discussed there, the Council finds that the MWPF would not result in unnecessary negative impacts on agricultural operations.

Soil Erosion and Compaction

OAR 660-033-0130(37)(b)(B) provides that “the presence of a proposed wind power facility” must not result in unnecessary soil erosion or loss that could limit agricultural productivity. OAR 660-033-0130(37)(b)(C) provides that facility construction or maintenance activities must not result in unnecessary soil compaction that reduces the productivity of soil for crop production. Potential adverse impacts to soils and measures to avoid or control soil erosion and compaction are addressed by the Council’s Soil Protection Standard, discussed below at page 57. For the reasons discussed there, the Council finds that construction and operation of the MWPF would not result in unnecessary soil erosion, soil loss or soil compaction that reduces the productivity of soil for crop production.

The Council adopts the site certificate conditions discussed herein, which include conditions that address soil erosion and compaction. Condition 80 requires that construction be conducted in compliance with an Erosion and Sediment Control Plan. Construction truck traffic would be limited to existing and improved road surfaces to avoid soil compaction (Condition 81). The certificate holder would comply with the requirements of the *Revegetation Plan* incorporated in Condition 92, which includes restoration of cropland in consultation with the landowner or farm operator. Condition 85 requires erosion monitoring and control measures during facility operation.

Weed Control

OAR 660-033-0130(37)(b)(D) provides that facility construction or maintenance activities must not result in the “unabated introduction or spread of noxious weeds and other undesirable weeds species.” The Council adopts the site certificate conditions discussed herein, which include conditions that address weed control. Condition 92 addresses construction impacts to agricultural land and requires the certificate holder to implement the *Revegetation Plan*, which includes weed control measures. Condition 43 requires the certificate holder to develop a weed control plan in consultation with the Gilliam County Weed Control Officer and to implement the plan during construction and operation of the facility. The Council finds that construction and operation of the MWPF would not result in unabated introduction or spread of weeds on farmland.

1 Conclusions of Law

2 Based on the findings of fact, reasoning and proposed conditions discussed above, the
3 Council finds that the proposed facility complies with all applicable substantive criteria from
4 Gilliam County except GCZO Section 4.020(D)(14). Accordingly, the Council must proceed
5 with the land use analysis under ORS 469.504(1)(b)(B).

6 For a use located within an EFU zone, the Council finds that the applicable statewide
7 planning goal is Goal 3 (Agricultural Lands) and that the land use rules in OAR Chapter 660,
8 Division 33, apply. If the current LCDC rules apply, the Council finds that the proposed MWPF
9 complies with OAR 660-033-0130(37).¹⁵³ If the old LCDC rules apply, the Council finds that the
10 proposed MWPF does not comply with OAR 660-033-0130(22) and therefore does not comply
11 with the applicable statewide planning goal (Goal 3). The Council finds that an exception to Goal
12 3 is justified under ORS 469.504(2)(c).

13 Based on these findings and the site certificate conditions described herein, the Council
14 concludes that the proposed MWPF complies with the Land Use Standard.

(b) Soil Protection

15 **OAR 345-022-0022**

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

Findings of Fact

21 The applicant provided information regarding potential soil impacts in Exhibit I of the
22 application. The analysis area for the Soil Protection Standard is the area within the site
23 boundary. Based on the proposed current layout of the facility, construction activities would
24 occur on approximately 2,035 acres within the site boundary as shown in Table 6. Of this total
25 area, approximately 1,778 acres would be temporarily disturbed and approximately 257 acres
26 would be occupied by permanent facility structures and roads.

27 The applicant estimated that soil erosion potential within the facility site boundary would
28 be “low to moderate,” considering the existing vegetation, relatively high wind speeds in the area
29 and the types of construction activities.¹⁵⁴ Dominant soil types within the site boundary (Olex,
30 Ritzville, Warden and Willis silt loams) are characterized by variable wind and water erosion
31 potentials.¹⁵⁵

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

¹⁵³ If the current rules apply and the MWPF were found not to comply with OAR 660-033-0130(37), then an exception to Goal 3 would be justified for the reasons discussed herein.

¹⁵⁴ App, Exhibit I, p. 6.

¹⁵⁵ App, Exhibit I, p. 2.

1 does not have a cooling tower or liquid effluent, there is no potential for salt deposition or land
2 application of liquid effluent.

A. Potential Impacts during Construction

3 Wind and water erosion may occur during construction. Construction would include
4 removal of surface vegetation, grading and leveling operations. Movement of construction cranes
5 and other heavy equipment would temporarily increase the potential for soil erosion. Installation
6 of underground communications and power collection systems would require trenching that
7 could expose the affected areas to increased erosion risk.

8 Heavy equipment movement, car and truck traffic and component laydown during
9 construction could cause soil compaction and dust emissions. Soil compaction can reduce
10 agricultural productivity or interfere with revegetation. Dust emissions can adversely affect air
11 quality. During construction, there is a risk of chemical spills from fuels, oils and grease
12 associated with operation and refueling of construction vehicles and equipment. Lubricating oils
13 and antifreeze used in wind turbines (discussed below) would be handled and transported within
14 the site during turbine commissioning.

B. Potential Impacts during Operation

15 Drainage of stormwater from structures and concrete or gravel surfaces could erode
16 nearby soils. In addition, repair or maintenance of underground communications or power
17 collection lines could expose soils to increased erosion. Small amounts of chemicals such as
18 cleaners for the turbines and herbicides for weed control would be used at the facility site and
19 present a risk to soils from accidental spills.¹⁵⁶

20 A significant quantity of lubricating oils (hydraulic oils and gear oils) is used in wind
21 turbines. Each proposed turbine would contain 83 to 304 gallons of lubricating oil, depending on
22 the type of turbine selected for the facility.¹⁵⁷ If 3.0-MW turbines are built, the total amount of
23 oil contained in 134 turbines would be approximately 40,736 gallons. If 1.5-MW turbines are
24 built, the total amount of oil contained in 269 turbines would be approximately 22,327 gallons.
25 Each O&M facility would contain oil storage for 330 gallons of new oil and 330 gallons of waste
26 oil.¹⁵⁸ Waste oil would be held temporarily at the O&M facility and later removed for recycling
27 or disposal by a licensed contractor (see discussion below at page 125). The applicant estimates
28 that approximately 2,640 gallons of waste oil is disposed of on an annual basis. Turbine oil is
29 replenished during routine maintenance. Turbine oil is drained completely only when there are
30 major component changes or turbine overhauls.

31 Each turbine would contain 3.6 gallons to 6 gallons of ethylene glycol (antifreeze),
32 depending on the type of turbine selected for the facility.¹⁵⁹ Ethylene glycol is added to turbines
33 on an as-needed basis during operation.

¹⁵⁶ App, Exhibit G, p. 5.

¹⁵⁷ The 1.5-MW turbine uses 83 gallons of oil, and the 3.0-MW turbine uses 304 gallons of oil. Email from Pauline Sullivan, May 11, 2010.

¹⁵⁸ App Supp, Exhibit B, p. 6.

¹⁵⁹ The 1.5-MW turbine uses 3.6 gallons, and the 3.0-MW turbine uses 6 gallons. Email from Pauline Sullivan, May 11, 2010.

C. Control and Impact Mitigation Measures

1 The Council adopts the site certificate conditions discussed below to control and mitigate
2 potential adverse impacts to soils and to mitigate the risk of soil contamination during
3 construction and operation of the proposed facility.

4 During construction of the facility, the certificate holder would be subject to the
5 requirements of an NPDES 1200-C stormwater permit and associated Erosion and Sediment
6 Control Plan (Condition 80). An Erosion and Sediment Control Plan describes best management
7 practices for erosion and sediment control, spill prevention and response procedures, regular
8 maintenance for vehicles and equipment, employee training on spill prevention and proper
9 disposal procedures. The applicant described management practices that would be implemented
10 to control erosion during construction.¹⁶⁰ The NPDES 1200-C permit is a federal permit issued in
11 Oregon by DEQ. In commenting on the application, DEQ did not express any concerns about
12 issuing the 1200-C permit.¹⁶¹ During operation, the certificate holder would routinely inspect and
13 maintain all roads, pads and trenched areas, and would maintain or repair erosion and sediment
14 control measures (Condition 85).

15 Truck traffic during construction would be kept to improved road surfaces to the extent
16 possible to limit soil compaction (Condition 81). Condition 82 would require the certificate
17 holder to implement best management practices (such as water application to disturbed ground,
18 graveling of permanent roadways and enforcement of speed limits during construction) to reduce
19 dust emissions during construction.

20 The certificate holder would restore temporarily disturbed areas upon completion of
21 construction as described in the *Revegetation Plan* that is incorporated in Condition 92. During
22 construction affecting cultivated land, the certificate holder would consult with landowners and
23 implement measures to avoid or reduce disruption of ongoing farming activities (Condition 38).
24 During operation, the certificate holder would restore areas temporarily disturbed by facility
25 maintenance and repair activities using the same methods as described in the *Revegetation Plan*
26 (Condition 44).

27 Turbine nacelles are designed with spill traps to contain potential spills of lubricating oils
28 and antifreeze and to prevent contamination of the facility site.¹⁶² Condition 55 would prohibit
29 storage of gasoline and diesel fuel on-site during construction or operation.¹⁶³ Construction
30 vehicles would be fueled and maintained only in dedicated areas.¹⁶⁴ Federal law (40 CFR 112)
31 requires the operators of facilities that store quantities of oil and engage in refueling operations
32 onsite to develop and implement a Spill Prevention Control and Countermeasure Plan during
33 construction and operation. The federal regulation may apply to on-site mobile refueling
34 operations.

35 Condition 55 would require that any hazardous materials used on-site be used in a
36 manner that is protective of human health and the environment and in compliance with
37 applicable laws and regulations. Condition 56 addresses preparation for, and response to, spills

¹⁶⁰ App, Exhibit I, pp. 7-9.

¹⁶¹ Email from Todd Hesse, DEQ Water Quality, May 10, 2010.

¹⁶² App, Exhibit B, p. 6.

¹⁶³ App, Exhibit G, p. 5.

¹⁶⁴ App, Exhibit I, p. 9.

1 and accidental releases of hazardous materials. Spill kits would be located on-site during
2 construction and operation for use in the event of an accidental spill of hazardous materials. The
3 spill kits will be located on equipment and in temporary storage facilities.¹⁶⁵ The certificate
4 holder would be required to notify the Department of any spill or release of hazardous material
5 that occurs during construction or operation of the facility.

Conclusions of Law

6 For the reasons discussed above, the Council finds that the design, construction and
7 operation of the proposed facility, taking mitigation into account, are not likely to result in a
8 significant adverse impact to soils. Based on these findings and the site certificate conditions
9 described herein, the Council concludes that the proposed facility complies with the Soil
10 Protection Standard.

(c) Protected Areas

OAR 345-022-0040

11 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site*
12 *certificate for a proposed facility located in the areas listed below. To issue a site*
13 *certificate for a proposed facility located outside the areas listed below, the Council*
14 *must find that, taking into account mitigation, the design, construction and operation*
15 *of the facility are not likely to result in significant adverse impact to the areas listed*
16 *below. References in this rule to protected areas designated under federal or state*
17 *statutes or regulations are to the designations in effect as of May 11, 2007:*

18
19 *(a) National parks, including but not limited to Crater Lake National Park and*
20 *Fort Clatsop National Memorial;*

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

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

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

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

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

36 *(g) National recreation and scenic areas, including but not limited to Oregon*
37 *Dunes National Recreation Area, Hell's Canyon National Recreation Area, and the*

¹⁶⁵ App, Exhibit G, p. 5.

1 *Oregon Cascades Recreation Area, and Columbia River Gorge National Scenic*
2 *Area;*

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

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

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

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

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

15 *(m) Agricultural experimental stations established by the College of Agriculture,*
16 *Oregon State University, including but not limited to:*

17 *Coastal Oregon Marine Experiment Station, Astoria*

18 *Mid-Columbia Agriculture Research and Extension Center, Hood River*

19 *Agriculture Research and Extension Center, Hermiston*

20 *Columbia Basin Agriculture Research Center, Pendleton*

21 *Columbia Basin Agriculture Research Center, Moro*

22 *North Willamette Research and Extension Center, Aurora*

23 *East Oregon Agriculture Research Center, Union*

24 *Malheur Experiment Station, Ontario*

25 *Eastern Oregon Agriculture Research Center, Burns*

26 *Eastern Oregon Agriculture Research Center, Squaw Butte*

27 *Central Oregon Experiment Station, Madras*

28 *Central Oregon Experiment Station, Powell Butte*

29 *Central Oregon Experiment Station, Redmond*

30 *Central Station, Corvallis*

31 *Coastal Oregon Marine Experiment Station, Newport*

32 *Southern Oregon Experiment Station, Medford*

33 *Klamath Experiment Station, Klamath Falls;*

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

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

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

Findings of Fact

The applicant provided information 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. Table 4 shows the protected areas within 20 miles of the proposed facility site, arranged by distance from the site boundary.¹⁶⁶ The table includes a reference to the applicable subparagraph of OAR 345-022-0040(1), the approximate distance from the site boundary, the direction of each protected area from the proposed facility and the state in which each area is located.

Table 4: Protected Areas within 20 Miles

Protected Area	345-022-0040(1) Subparagraph Reference	Distance ¹⁶⁷ (Miles)	Direction from the MWPF	State
Horn Butte Wildlife Area ¹⁶⁸	(o)	0	NE	OR
Arlington State Park	(h)	3.5	NE	OR
John Day Wildlife Refuge	(d)	5	W	OR
John Day Wild and Scenic River	(k)	5	W	OR
John Day State Scenic Waterway	(k)	5	W	OR
John Day (Hildebrand) State Park	(h)	5	W	OR
Willow Creek Wildlife Area	(p)	8	NE	OR

The proposed facility would not be located within any protected area designated under OAR 345-022-0040(1). Potential adverse impacts to protected areas from construction and operation of the facility are described below.

A. Noise

Noise generated by operation of the facility would comply with the DEQ noise control regulations, as discussed below at page 126. With the possible exception of the Horn Butte Wildlife Area, all of the protected areas are farther from the proposed wind turbines than any of the noise sensitive properties (residences) and lie well beyond the 36-dBA noise contour.¹⁶⁹ Noise generated during facility operation would therefore not exceed the 45-dBA standard for

¹⁶⁶ The applicant identified the Horn Butte ACEC, the John Day Wildlife Refuge, the John Day Wild and Scenic River, and the John Day State Scenic Waterway as protected areas (App, Exhibit L, Table L-1). In addition, the Department identified the Arlington State Park, the John Day (Hildebrand) State Park and the Willow Creek Wildlife Area as protected areas located within 20 miles of the site boundary.

¹⁶⁷ The Department estimated the distances from the closest edge of the proposed MWPF site boundary.

¹⁶⁸ The Bureau of Land Management has designated the 6,000-acre Horn Butte Wildlife Area (also known as the Horn Butte Curlew Area) as an "Area of Critical Environmental Concern" (ACEC) to protect nesting habitat for the long-billed curlew. *Two Rivers Resource Management Plan and Record of Decision* (June 1986), p. 28. The Horn Butte ACEC consists of several separate parcels, two of which abut the proposed MWPF site boundary.

¹⁶⁹ The applicant's noise contour maps show contour lines beyond which the predicted noise levels from the facility would be less than 36-dBA (App, Exhibit X, Figures X-1 and X-2).

1 “quiet areas.”¹⁷⁰ The Council finds that noise generated by the operation of the proposed facility
2 would not result in significant adverse noise impacts to protected areas located three miles or
3 more from the nearest MWPF wind turbines.

4 The Horn Butte Wildlife Area provides nesting habitat for long-billed curlews when they
5 are present during the nesting season (approximately March 8 to June 15 each year). The Council
6 has previously found that operational noise from that the Shepherds Flat Wind Farm was “not
7 expected to be a significant source of disturbance to nesting long-billed curlews or to other
8 nesting avian species” in the Horn Butte Wildlife Area.¹⁷¹ This finding was subject to a site
9 certificate condition that prohibited construction activity within a half-mile of the area during the
10 curlew nesting season. The Council adopts Condition 97, which would require a 1,300-foot
11 buffer from the Horn Butte Wildlife Area during the long-billed curlew nesting season.¹⁷²

12 Noise produced during construction is exempt from the DEQ regulations under OAR
13 340-035-0035(5)(g). Considering the distance of construction activity from most of the protected
14 areas as well as the temporary nature of the activity, construction noise is not likely to result in
15 any significant adverse impacts to these areas.

B. Traffic

16 The proposed primary and alternate transporter routes (off of Interstate 84) for
17 construction and operational traffic do not pass through any protected areas.¹⁷³ The closest
18 portion of the primary transporter route to a protected area is a portion of Fourmile Road that
19 passes within two miles of the Horn Butte Wildlife Area. Portions of an alternate transporter
20 route along Oregon Highway 74 may also pass within a mile of portions of the Horn Butte
21 Wildlife Area.

22 Fourmile Road has annual average daily traffic (ADT) volumes of less than 200 vehicles
23 per day, and Oregon Highway 74 has an ADT volume of 110 to 150 vehicles per day.¹⁷⁴ During
24 each day of construction, the applicant estimates that vehicles carrying turbine components,
25 machinery, electrical equipment, water and other materials would make 156 to 269 trips going to
26 or coming from the proposed facility site, depending on the size and number of turbines in the
27 final design of the facility.¹⁷⁵ Not all of these trips, however, would utilize Fourmile Road or
28 Highway 74. Construction traffic is not likely to result in significant traffic impacts affecting the
29 Horn Butte Wildlife Area.

¹⁷⁰ The standard for “quiet areas” is the lowest allowable statistical noise level shown on Table 9, incorporated by reference in OAR 340-035-0035(1)(c). OAR 340-035-0015 defines “quiet area” as “any land or facility designated by the [Environmental Quality] Commission as an appropriate area where the qualities of serenity, tranquility, and quiet are of extraordinary significance and serve an important public need, such as, without being limited to, a wilderness area, national park, state park, game reserve, wildlife breeding area, or amphitheater.”

¹⁷¹ *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 62.

¹⁷² App Supp, Exhibit L, pp. 3-4.

¹⁷³ Access to the proposed facility during construction and operation would be along transporter routes that are described in Exhibit U (App, Exhibit U, p. 3-4). The Arlington State Park and the Willow Creek Wildlife Area are adjacent to I-84. Construction and operation of the facility would not significantly increase traffic volume on I-84 (App, Exhibit U, p. 17).

¹⁷⁴ The applicant estimated the ADT volume for Fourmile Road, based on the 1999 Gilliam County Transportation System Plan. ADT volumes for Highway 74 are based on ODOT 2008 traffic volume data (App, Exhibit U, Table U-3).

¹⁷⁵ App, Exhibit U, p. 16, and email from Sara Parsons, May 5, 2010.

1 Traffic generated by operation of the proposed facility would be minimal. During
2 operation, the proposed facility would employ an estimated 10 to 30 people.¹⁷⁶ Road use by
3 employees and road use for deliveries and other facility-related purposes would not produce a
4 significant traffic impact.

C. Water Use and Wastewater Disposal

5 During construction of the facility, approximately 37 million gallons of water would be
6 needed for dust control, road and earthwork compaction, and concrete mixing.¹⁷⁷ The certificate
7 holder would obtain water for construction purposes from sources subject to an existing water
8 right or a limited water use license, as discussed herein at page 136. No water used on the site
9 would be discharged into streams, wetlands or other water bodies.¹⁷⁸

10 During operation, water would be used for domestic and incidental purposes at the O&M
11 buildings and for washdown of equipment. The applicant estimated that the maximum
12 operational water use would be approximately 2,100 gallons per day.¹⁷⁹ As discussed herein at
13 page 136, the certificate holder would obtain water during facility operation from new on-site
14 wells located at the O&M facilities. Sanitary wastewater would be discharged to an on-site septic
15 system at each O&M facility and stormwater would infiltrate on-site.¹⁸⁰

16 The Council finds that water use and disposal during construction and operation of the
17 proposed facility would not affect water quantity or water quality within any protected area.

D. Visual Impacts

18 The MWPF is not expected to have any significant adverse visual impacts on protected
19 areas. The visual impacts of the proposed MWPF and site certificate conditions to mitigate those
20 impacts are discussed under the Scenic Resources Standard below at page 65.

21 During construction, dust suppression measures would reduce the potential for visible
22 dust clouds. The operation of wind energy facilities does not generate air emissions and has no
23 adverse effects on air quality or visibility.

24 During facility operation, the proposed wind turbines would not be visible from vantage
25 points within the Arlington State Park, the John Day (Hildebrand) State Park or the Willow
26 Creek Wildlife Area.¹⁸¹ Wind turbine towers might be visible from some high-elevation
27 locations within the boundaries of the John Day Wildlife Refuge, the John Day Wild and Scenic
28 River and the John Day State Scenic Waterway, although from a distance of four miles or more,
29 the visual impact of the turbines would be diminished.¹⁸² Many turbines and some of the 230-kV
30 transmission line support structures would be visible from locations within the Horn Butte
31 Wildlife Area. The Horn Butte Wildlife Area is protected because it provides wildlife habitat. It

¹⁷⁶ App, Exhibit U, p. 3.

¹⁷⁷ App, Exhibit O, p. 1.

¹⁷⁸ App, Exhibit L, p. 5.

¹⁷⁹ App, Exhibit O, p. 3.

¹⁸⁰ App, Exhibit L, p. 5.

¹⁸¹ Revised Figure R-1 (App Supp, Attachment T-1).

¹⁸² App, Exhibit L, Figures L-1 and L-2.

1 is not protected or managed for scenic views.¹⁸³ Wind turbines, transmission lines, roads and
2 other structures are visible from many vantage points within the Horn Butte Wildlife Area.¹⁸⁴

Conclusions of Law

3 For the reasons discussed above, the Council finds that the proposed facility is not
4 located in any protected area listed in OAR 345-022-0040 and that the design, construction and
5 operation of the proposed facility, taking mitigation into account, are not likely to result in
6 significant adverse impact to any protected area. Based on these findings and the site certificate
7 conditions described herein, the Council concludes that the proposed facility complies with the
8 Protected Areas Standard.

(d) Scenic Resources

OAR 345-022-0080

9
10 *(1) Except for facilities described in section (2), to issue a site certificate, the Council*
11 *must find that the design, construction and operation of the facility, taking into*
12 *account mitigation, are not likely to result in significant adverse impact to scenic*
13 *resources and values identified as significant or important in local land use plans,*
14 *tribal land management plans and federal land management plans for any lands*
15 *located within the analysis area described in the project order.*

16 ***

Findings of Fact

17 The applicant provided evidence about potential impacts to scenic resources in Exhibit R
18 of the application. The analysis area for the Scenic Resources Standard is the area within the site
19 boundary and 10 miles from the site boundary, including areas outside the state. In applying this
20 standard, the Council focuses on the effects of facility structures on scenic resources described in
21 "local land use plans, tribal land management plans and federal land management plans for any
22 lands located within the analysis area described in the project order." Local land use plans
23 include county comprehensive plans as well as management plans that apply to state-managed
24 areas.

A. Visual Features of the Site and the Proposed Facility

25 The tallest components of the proposed MWPF are the turbine towers, and although these
26 structures are the visual elements of the facility most likely to be visible from a distance, the
27 visual impact diminishes with distance. Within the site boundary, the applicant proposes to
28 construct up to 269 wind turbine towers. The maximum blade tip height of the range of turbine
29 types proposed for the facility would range from 119 meters (389 feet) to 150 meters (492 feet)
30 at.¹⁸⁵ In addition, the applicant proposes up to eight 80-meter (262-foot) meteorological towers,
31 aboveground 230-kV transmission line structures up to 100 feet tall, aboveground collector line
32 structures up to 100 feet tall, two O&M buildings and two substations.

¹⁸³ The Council has found that the visual impact of wind turbines would not result in a significant adverse impact to the Horn Butte Wildlife Area (*Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 64).

¹⁸⁴ App, Exhibit L, p. 7.

¹⁸⁵ App, Exhibit R, p. 2.

B. Mitigation

1 The applicant identified measures for mitigation of the proposed facility's visual effects
2 through best management practices.¹⁸⁶ The wind turbine towers would be smooth, tubular steel
3 structures painted uniformly in a low-reflectivity, neutral white color. The O&M buildings would
4 be designed to blend with the surrounding landscape. Facility lighting would be limited to
5 aviation safety lighting and limited security lighting at the O&M facilities and substations. The
6 Council adopts Conditions 102, 103 and 104 to incorporate these mitigation measures.

C. Effect on Identified Scenic Values

7 The applicant conducted a Zone of Visual Influence (ZVI) analysis using Environmental
8 Systems Research Institute ArcGIS software on areas within a 10-mile radius of the proposed
9 facility site. ZVI analysis is a conservative modeling analysis of line-of-sight visibility.¹⁸⁷ The
10 computer model does not account for screening from vegetation or structures that might block
11 the line-of-sight between a viewpoint and the turbine towers. The model does not account for
12 factors such as weather conditions, haze or background landscape that might obscure visibility.
13 The analysis considers a turbine to be "visible" if any part of a turbine or transmission structure
14 is within a line-of-sight, based on the maximum blade tip or transmission structure height. The
15 results of the analysis are illustrated by color-coded maps, showing the approximate density of
16 turbine towers or structures visible from any angle in the landscape within 10 miles of the site
17 boundary.

18 The applicant used the ZVI analysis to determine whether any part of the proposed
19 MWPF might be visible from viewpoints within the analysis area. The analysis modeled both the
20 maximum turbine layout (269 turbines with a blade tip height of 119 meters) and the minimum
21 turbine layout (134 turbines with a blade tip height of 150 meters). The applicant presented the
22 results of the analysis in Figures R-1 and R-2.¹⁸⁸ A separate ZVI analysis modeled the preferred
23 route and an alternate route of the proposed 230-kV transmission line, and the results were
24 presented in Figures R-3 and R-4.¹⁸⁹ Each of the figures shows the boundary of the 10-mile
25 analysis area.

26 To decide whether the proposed facility would comply with the Council's Scenic
27 Resources standard, the Council must first determine whether any of the land management plans
28 for locations within the analysis area identify "significant or important" scenic resources and
29 values. The Council must then decide whether the proposed facility could be visible from those
30 locations and, if so, whether the visual impact of the proposed facility would result in
31 "significant adverse impact" to the identified scenic resources and values. Land management
32 areas within the analysis area are listed in Table 5 and arranged by management jurisdiction.¹⁹⁰

¹⁸⁶ App, Exhibit R, p. 19.

¹⁸⁷ App, Exhibit R, p. 3.

¹⁸⁸ App, Exhibit R, Figures R-1 and R-1, and App Supp, Attachment T-1, Figure R-1 (revised).

¹⁸⁹ App, Exhibit R, Figures R-3 and R-4.

¹⁹⁰ In comments on the completeness of the preliminary application, the Oregon Parks and Recreation Department (OPRD) noted that three OPRD properties ("Arlington, John Day, Hildebrand, and Cottonwood Canyon State Parks") had not been addressed in the discussion of the Scenic Resources Standard. The applicant responded that none of these areas has a management plan (App Supp, Exhibit R, p.3). The Department notes that these areas are not listed as State Parks on the OPRD website, which lists State Parks in the "Central" and "Eastern" regions of the state (<http://www.oregonstateparks.org/searchpark.php>).

Table 5: Land Management Areas

Area	Management	Location	Distance from the MWPF Site Boundary (miles) ¹⁹¹
City of Arlington	City	Oregon	1.5
City of Ione	City	Oregon	9
Gilliam County	County	Oregon	the entire facility site lies within the county
Morrow County	County	Oregon	the site boundary borders the county
Sherman County	County	Oregon	5
Klickitat County	County	Washington	4
John Day River Wildlife Refuge	State	Oregon	5
Willow Creek Wildlife Area	State	Oregon	8
John Day River	State and Federal	Oregon	5
Horn Butte Wildlife Area	Federal	Oregon	the closest part of the wildlife area abuts the site
Oregon National Historic Trail	Federal	Oregon	the trail alignment crosses the site
Lewis and Clark National Historic Trail	Federal	Oregon	4

City of Arlington, Oregon

The City of Arlington is located north of the proposed MWPF and is within the analysis area. The *City of Arlington Comprehensive Plan* (June 2003) refers to scenic resources under the discussion of Goal 5 (Open Space, Scenic and Historic Areas, and Natural Resources). The Plan identifies scenic views as follows:¹⁹²

F. Outstanding Scenic View and Sites

The views outside the City to the east, west, and north are considered scenic views and the topography of the City tends to protect those views as development occurs.

The proposed MWPF is located south of the City of Arlington. The scenic views identified in the Comprehensive Plan are the views toward the Columbia River and away from the MWPF site (to the east, west and north). The Council finds that the proposed MWPF is not likely to have a significant adverse effect on the identified scenic resources in Arlington.

City of Ione, Oregon

The City of Ione is located within the analysis area approximately 9 miles south of the proposed facility. The applicant's ZVI analysis demonstrates that no MWPF turbines or transmission structures would likely be visible from Ione.¹⁹³ The *City of Ione Comprehensive Plan* does not identify any specific scenic resources and values.¹⁹⁴

¹⁹¹ Distance from the management area to the nearest part of the site boundary estimated by the Department based on revised Figure R-1 (Attachment T-1, Figure R-1).

¹⁹² *City of Arlington Comprehensive Plan* (June 2003), p. 12.

¹⁹³ App, Exhibit R, Figures R-1, R-2, R-3 and R-4.

¹⁹⁴ App, Exhibit R, p. 9.

1 Gilliam County, Oregon

2 The facility is located entirely within Gilliam County and the proposed MWPF turbines
3 and transmission lines would be visible from higher elevations at many locations in the county.
4 The *Gilliam County Comprehensive Plan* (GCCP) is the applicable local land use plan for the
5 County. The GCCP, Part 5, includes the following finding regarding the John Day River as a
6 scenic resource:¹⁹⁵

7 7. Portions of the John Day River from the Wheeler County line to Tumwater Falls have been
8 classified as Scenic or Natural River areas by the State of Oregon under provisions of ORS
9 390.805 to 390.925. Also, within this area of the John Day River, from the mouth up river for
10 about 84 miles to Thirtymile Creek, is the John Day State Wildlife Refuge which provides a
11 resting area for ducks and geese and provides habitat for various raptor species and other wildlife.
12 Land uses, including structures, are regulated within this area by the provisions of the Scenic
13 Waterway designation. No additional regulations on behalf of the County are deemed necessary.

14 The visual impacts of the proposed facility on scenic values identified in the management
15 plans for the John Day River area are described below at page 70.

16 The GCCP, Part 5, contains the following additional finding regarding the county's
17 scenic resources: "The rock outcroppings marking the rim and walls of steep canyon slopes are
18 an important characteristic of the county's landscape." The Council finds that the proposed
19 facility is not likely to have a significant impact on viewing rock outcroppings in Gilliam County
20 and is not likely to have a significant adverse effect on any scenic resources identified in the
21 GCCP.

22 Morrow County, Oregon

23 Although the proposed facility is located entirely within Gilliam County, the analysis
24 area extends into Morrow County. Parts of the proposed MWPF facility would be visible from
25 higher elevations at many locations in the county. The *Morrow County Comprehensive Plan*
26 (MCCP) is the applicable local land use plan for the county. The "Natural Resources Element" of
27 the MCCP addresses scenic resources and states that the County has not designated any
28 significant scenic resources:¹⁹⁶

29 Scenic Views and Sites - 1B: Morrow County contains a variety of landscapes, many of which
30 may be considered to be scenic. The County has not, however, designated any sites or areas as
31 being particularly high in scenic-resource value.

32 The MCCP contains County policies related to natural resources, including General
33 Policy "F" which states: "It shall be the policy of the County to conserve open space and protect
34 natural and scenic resources." The Council finds that the MCCP does not identify any specific
35 "significant or important" scenic resources and values.

36 Sherman County, Oregon

37 A portion of northeast Sherman County lies within the MWPF analysis area but the
38 nearest locations in the county are approximately five miles from the site boundary. The
39 *Sherman County Comprehensive Plan* (SCCP) is the applicable local land use plan for the

¹⁹⁵ GCCP, p. 22.

¹⁹⁶ MCCP, p. 120.

1 county. Section XI, Finding XI, of the SCCP identifies “rock outcroppings, trees, the John Day
2 River Canyon and the Deschutes River Canyon” as “important features of the County’s
3 landscape.” The Finding also notes “scenic highway” designations by the Oregon Department of
4 Transportation (ODOT).

5 The proposed MWPF would not require the removal of any trees in Sherman County.
6 The Council finds that the proposed facility is not likely to have a significant impact on viewing
7 trees or rock outcroppings in the county. The visual impacts of the proposed facility on scenic
8 values identified in the management plans for the John Day River area are described below at
9 page 70. The Deschutes River Canyon is outside the analysis area.

10 The SCCP identifies I-80, US Highway 97 and Oregon Highways 206 and 216 as scenic
11 highways. ODOT is responsible for managing state highways, and state “scenic byways” are
12 designated under OAR 734-032-0000 through OAR 734-032-0070. Portions of US Highway 97
13 and State Highway 218 have been designated a scenic byway and named the “Journey Through
14 Time Scenic Byway.”¹⁹⁷ ODOT does not list I-80, Highway 206 or Highway 216 scenic
15 byways.¹⁹⁸ The “Journey Through Time Scenic Byway” lies outside the analysis area.

16 The Council finds that the proposed MWPF is not likely to have a significant adverse
17 effect on any scenic resources identified in the SCCP.

18 Klickitat County, Washington

19 A portion of southern Klickitat County (Washington) lies within the analysis area,
20 including the community of Roosevelt located on the Columbia River. The *Klickitat County*
21 *Comprehensive Plan* includes the Roosevelt Community Subarea Plan, which contains a general
22 statement about the natural features found in the subarea: “The natural features of the area: the
23 hillsides, the long shoreline, the wet areas, the green alluvial plain, the broad spacious bench
24 covered with grasses, and the irregular terrain covered with thick and thin soils over bedrock
25 create an interesting and pleasing setting for people living in the area.”¹⁹⁹ The Council finds that
26 the *Klickitat County Comprehensive Plan* does not identify any specific scenic resources and
27 values.

28 John Day River Wildlife Refuge

29 The John Day River Wildlife Refuge is managed by ODFW. It includes all public and
30 private land and water within ¼ mile of the John Day River mean high water line from the
31 Columbia River upstream to Thirtymile Creek.²⁰⁰ A segment of the refuge lies within the
32 analysis area. The refuge is open to hunting of upland game birds and big game during
33 authorized seasons. There is no specific management plan for the area that identifies scenic
34 resources and values.

¹⁹⁷ ODOT website, http://egov.oregon.gov/ODOT/HWY/SCENICBYWAYS/docs/driving_guide/journey_time.pdf
(May 21, 2010).

¹⁹⁸ ODOT website, http://egov.oregon.gov/ODOT/HWY/SCENICBYWAYS/docs/driving_guide/toc_map.pdf
(May 21, 2010)

¹⁹⁹ App Supp, Exhibit R, p. 1.

²⁰⁰ Email from Deanna Maley, ODFW, May 24, 2010.

1 Willow Creek Wildlife Area

2 Willow Creek Wildlife Area, located on I-84 about 10 miles east of Arlington, consists of
3 approximately 446 acres of land and 200 acres of water. The wildlife area is visited by wildlife
4 enthusiasts, hunters and fishers. The Willow Creek Wildlife Area is a public viewing area for
5 waterfowl, shorebirds and songbirds.²⁰¹ Game bird and big game hunting is allowed during
6 authorized seasons.²⁰² The Wildlife Area is managed by ODFW. The management plan for the
7 area includes “wildlife viewing” as one of the public uses of the area but does not identify
8 specific scenic resources and values.²⁰³

9 John Day River

10 (a) Federal Management

11 A segment of the John Day River stretching 147.5 miles from Service Creek in Wheeler
12 County to Tumwater Falls at river mile 10 in Sherman County is designated as a “recreational
13 river” under the federal Wild and Scenic Rivers Act. The act defines “recreational river areas”
14 (as distinguished from “wild river areas” or “scenic river areas”) as “rivers or sections of rivers
15 that are readily accessible by road or railroad, that may have some development along their
16 shorelines, and that may have undergone some impoundment or diversion in the past.”²⁰⁴ The
17 portion of the designated recreational river area that lies within the analysis area for the MWPF
18 forms the border between Sherman County and Gilliam County. For lands under Bureau of Land
19 Management (BLM) jurisdiction within the John Day River corridor, the applicable management
20 plan is the *Two Rivers Resource Management Plan and Record of Decision* (June 1986) as
21 amended by the *Record of Decision John Day River Management Plan, Two Rivers, John Day*
22 *and Baker Resource Management Plan Amendments* (February 2001).²⁰⁵ The 1986 document
23 identifies the John Day River Canyons as an “area of high visual and natural quality.”²⁰⁶ The
24 2001 document notes that the scenic value of National Wild and Scenic River (WSR) segments
25 is protected on BLM-managed lands but not on private lands along any portion of the river:
26 “Scenery was identified by Congress as an outstandingly remarkable value in all WSR
27 segments.... In managing scenic qualities, including those of the John Day River, the BLM uses
28 a Visual Resource Management (VRM) system to inventory and manage these values.... The
29 BLM uses the VRM process to preserve scenic qualities on public lands, but has no control over
30 development of private lands along any portion of the river.”

31 (b) State Management

32 The segment of the John Day River that lies within the analysis area is also a State Scenic
33 Waterway. The State Scenic Waterways Act provides for management of scenic waterways “in
34 such manner as to protect and enhance the values which caused such scenic waterway to be
35 included in the system,” including giving “primary emphasis...to protecting the aesthetic, scenic,

²⁰¹ ODFW Visitors’ Guide, www.dfw.state.or.us/resources/visitors/willow_creek_wildlife_area.asp (May 24, 2010).

²⁰² ODFW, 2009-2010 Oregon Game Bird Regulations, p. 31.

²⁰³ ODFW, *Columbia Basin Wildlife Areas Management Plan* (July 2008).

²⁰⁴ 16 U.S.C. 1273.

²⁰⁵ *Record of Decision John Day River Management Plan, Two Rivers, John Day and Baker Resource Management Plan Amendments* (February 2001), p. vii.

²⁰⁶ *Two Rivers Resource Management Plan and Record of Decision*, p. 26.

1 fish and wildlife, scientific and recreation features, based on the special attributes of each
2 area.”²⁰⁷

3 The administrative rules adopted by the Oregon Parks and Recreation Department for the
4 management of State Scenic Waterways protect scenic values “seen from the waters” or “visible
5 from the river.” Lands beyond the boundaries of “related adjacent land” (defined as land within a
6 quarter-mile of the riverbank), whether or not such land is visible from the river, is outside state
7 management jurisdiction.²⁰⁸

8 (c) Visual Impact of the Facility

9 Under both the federal and state management plans, the protected scenic resources and
10 values are scenic areas that lie within the boundaries of the management areas, and the most
11 important visual resources are views of adjacent lands that are visible from the river. The nearest
12 proposed MWPF turbine would be approximately five miles away from the segment of the John
13 Day River that has been designated as a State Scenic Waterway and as a “recreational river”
14 under the federal Wild and Scenic Rivers Act.²⁰⁹ The ZVI analysis suggests that the proposed
15 MWPF turbines would not be visible from viewpoints on the river.²¹⁰ Where visible from
16 vantage points at higher elevations on the canyon rim, the proposed wind turbines would be a
17 relatively small element within the landscape, considering the distance and intervening features.
18 For these reasons, the Council finds that the proposed MWPF would not result in significant
19 adverse impact to the significant or important scenic resources and values within the John Day
20 River area.

21 Horn Butte Wildlife Area

22 The Horn Butte Wildlife Area lies within the analysis area. The area is managed by the
23 BLM, and the applicable federal management plan is the *Two Rivers Resource Management*
24 *Plan and Record of Decision* (June 1986). The BLM has designated the Horn Butte Wildlife
25 Area as an Area of Critical Environmental Concern.²¹¹ Management of the area “will be
26 designed to protect and preserve the important nesting habitat for the long billed curlew.” The
27 management plan does not identify any scenic resources and values for this area.

28 Oregon National Historic Trail

29 The Oregon National Historic Trail (ONHT) passes through six states and covers 2,130
30 miles. The applicable federal land management plan is the *Comprehensive Management and Use*
31 *Plan* (CMP) adopted by the National Park Service in 1999.²¹² As described in the CMP, the
32 purposes of the ONHT are “to identify, preserve, and interpret the sites, route, and history of the
33 Oregon Trail” and “to commemorate the westward movement of emigrants to the Oregon
34 country as an important chapter of our national heritage.” Accordingly, the federal land segments
35 of the Oregon Trail are managed for their historical significance and not primarily as scenic

²⁰⁷ ORS 390.845.

²⁰⁸ OAR 736-040-0015.

²⁰⁹ This segment begins near Tumwater Falls at River Mile 10 and extends upstream through the proposed facility’s
analysis area to approximately River Mile 40 at Cottonwood Bridge (App, Exhibit R, p. 10).

²¹⁰ App, Exhibit R, Figures R-1 and R-2, and App Supp, Exhibit R, p.6.

²¹¹ *Two Rivers Resource Management Plan and Record of Decision* (June 1986), p. 28.

²¹² The National Park Service website (December 2007) states that the document was “finalized” in 1999
(<http://www.nps.gov/oreg/parkmgmt/planning.htm>).

resources. We discuss the potential impacts of the proposed MWPF on historic remnants of the Oregon Trail below at page 117. We discuss the potential impact of the facility on recreational opportunities associated with the Oregon Trail below at page 76.

The ONHT received federal designation as a “historic trail” in 1978 under the National Trails System Act.²¹³ Under the Act, the purpose of historic trail designation on federal lands is to protect the route and any associated “historic remnants and artifacts”.²¹⁴

National historic trails shall have as their purpose the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment. Only those selected land and water based components of an historic trail which are on federally owned lands and which meet the national historic trail criteria established in this chapter are included as Federal protection components of a national historic trail....

Under the Act, portions of the trail or locations along the trail may be identified as “high-potential” segments or sites. High-potential sites are historic sites that provide an opportunity to interpret the historic significance of the trail, and criteria for selection of a high potential historic site include “historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.”²¹⁵ The Act defines “high potential route segments” as segments of a trail that “afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.”

Within the analysis area, there are possibly three high-potential sites and one high-potential segment.²¹⁶ Listed by location from east to west, the high-potential areas are as follows:²¹⁷

- Boardman Segment (a 12-mile segment from the eastern boundary of the Boardman Bombing Range to Immigrant Road, described as “an appealing landscape of rough sagebrush-covered desert”): This segment is mostly contained within the Boardman Bombing Range, which lies at least 8 miles east of the proposed MWPF site boundary at its closest point. Military use of the area restricts public access. The applicant’s ZVI analysis indicates that a large number of turbine towers would likely be visible from points along this segment of the ONHT. Although turbine towers would likely be visible on the western horizon, views of sagebrush-covered desert would not be directly affected.
- Well Spring (described as a campsite and water source): This location is within the Boardman Segment and may be outside the analysis area. The visual features at this location include the remains of a stage station, a graveyard and trail ruts. The

²¹³ 16 U.S.C. 1244 (a)(3).

²¹⁴ 16 U.S.C. 1242 (a)(3).

²¹⁵ 16 U.S.C. 1251.

²¹⁶ CMP, p. 19. Accurate distances from the site boundary cannot be determined given the scale of the map shown in the CMP.

²¹⁷ Descriptions are based on information in the CMP, p. 287 and pp. 307-308.

1 visibility of turbine towers on the western horizon would not directly interfere with
2 views of these nearby historic features.

- 3 • Fourmile Canyon (noted for visible wagon ruts): This location is adjacent to Fourmile
4 Canyon Road within a mile of the proposed MWPF site boundary. The Fourmile
5 Canyon site lies on public land managed by the BLM. The CMP describes the
6 Fourmile Canyon site as follows:²¹⁸

7 Over a mile of deep ruts can be found at a BLM interpretive site where the trail crossed
8 Fourmile Canyon. Emigrants pressed on as rapidly as possible across this country
9 because of dwindling supplies and their concern that winter would soon be upon them.

- 10 • John Day River Crossing (noted for the McDonald Ford river crossing): This location
11 is approximately 5 miles west of the site boundary. The McDonald Ford provided an
12 easy crossing of the river, which is normally only 8 to 12 inches deep during late
13 summer. The ford lies within the river canyon with a hillside to the east that would
14 likely block the view of the proposed MWPF wind turbines.²¹⁹

15 The management plan prepared for the site by the BLM Prineville District describes the
16 Fourmile Canyon location as having “visible, well defined ruts representing a segment of the
17 Trail where immigrants were ‘passing through’ on their way to the next campsite.”²²⁰ The
18 Prineville District plan notes that “much of the surrounding tableland between canyons is being
19 cultivated.” The BLM has erected an ONHT interpretive wayside at this location. Visitors to the
20 BLM interpretive wayside look in a westerly direction to observe the visible ruts of the ONHT
21 on the hillside approximately 100 meters away.²²¹ The Council finds that the important scenic
22 value associated with the ONHT at the Fourmile Canyon site is the view of the visible remnants
23 of the Oregon Trail and the immediate surroundings on public land.

24 To protect the visual qualities of the Fourmile Canyon site, the Prineville District’s
25 management plan proposes a “protective corridor extending ¼ mile either side of the main trail
26 ruts...dependent on the amount of public land surrounding the individual trail segments.”²²² The
27 proposed MWPF turbines would lie outside the ¼-mile trail rut corridor. The applicant’s ZVI
28 analysis indicates that MWPF turbine towers would be visible from the BLM wayside,
29 depending on the direction of an observer’s view. The turbines, however, would not obstruct the
30 view of the trail ruts from the BLM interpretive wayside. The Council finds that the proposed
31 MWPF would not have a significant adverse effect on the view of the ruts, which is the identified
32 scenic value at the Fourmile Canyon site.

33 The BLM management plan describes several separate trail segments exhibiting well
34 defined ruts at the John Day River Crossing.²²³ The ruts “descend a steep and rugged canyon
35 slope.”²²⁴ The east side John Day River Crossing can be accessed via an unmaintained county

²¹⁸ CMP, p. 307.

²¹⁹ The application includes a photograph showing the view to the east/northeast from the McDonald Crossing (App, Exhibit R, Attachment R-1).

²²⁰ *Oregon Trail Management Plan*, Bureau of Land Management, Prineville District, September 1993, p. 3.

²²¹ The applicant provided a photograph of the view from the BLM interpretive site (App, Exhibit R, Attachment R-1).

²²² *Oregon Trail Management Plan*, Bureau of Land Management, Prineville District, September 1993, p. 17.

²²³ *Oregon Trail Management Plan*, Bureau of Land Management, Prineville District, September 1993, p. 4.

²²⁴ *Oregon Trail Management Plan*, Bureau of Land Management, Prineville District, September 1993, p. 15.

road that is "passable only seasonally."²²⁵ Trail ruts on the west side of the crossing are on private land and generally inaccessible to the public. Other than viewing the ruts, the management plan does not identify scenic resources or values at the John Day River Crossing. The Council finds that the proposed MWPF would not have a significant adverse effect on the view of the ruts at this location. The applicant's ZVI analysis indicates that it is unlikely that turbine towers would be visible from the river crossing.

Lewis and Clark National Historic Trail

The analysis area includes a portion of the Lewis and Clark National Historic Trail (LCNHT), which is managed on federal lands as a designated historic trail under the National Trails System Act, described above at page 72. The LCNHT is managed under the *Lewis and Clark National Historic Trail Comprehensive Plan for Management and Use*, which does not identify any specific scenic resources or views related to the LCNHT within the proposed MWPF's analysis area.²²⁶

Conclusions of Law

For the reasons discussed above, the Council finds that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic resources and values identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands located within the analysis area. Based on these findings and subject to the site certificate conditions described herein, the Council concludes that the proposed facility complies with the Scenic Resources 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.

* * *

²²⁵ *Oregon Trail Management Plan*, Bureau of Land Management, Prineville District, September 1993, p. 19.

²²⁶ National Park Service, *Lewis and Clark National Historic Trail Comprehensive Plan for Management and Use* (January 1982).

Findings of Fact

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

4 The area within the site boundary is privately owned, and it contains no County, State or
5 federally designated lands or recreational facilities. Recreational activities in the analysis area
6 include camping, hiking, sightseeing, nature and wildlife observation, boating and fishing, wind
7 surfing, bicycling, and upland bird and big game hunting.²²⁷ Similar opportunities for each of
8 these activities are available on public and private lands outside the analysis area.

City Parks, Roosevelt Park, Port of Arlington, China Creek Golf Course

10 Within the analysis area, but outside the MWPF site boundary, are Roosevelt Park in
11 Washington State, city parks in Arlington (Earl Snell City Park, Alkali Park and City Park), the
12 Port of Arlington Park and Marina, and China Creek Golf Course. The three Arlington parks
13 provide day use facilities such as playground equipment or beach access. Roosevelt Park
14 (operated by the U.S. Army Corps of Engineers) and the Port of Arlington Park and Marina
15 provide boat launch facilities and day-use beach areas for water recreation activities on the
16 Columbia River. The China Creek Golf Course is a 9-hole public course. Each of these facilities
17 provides common and replaceable activities. The Council finds that the recreational opportunities
18 offered by these facilities do not meet the criteria in the standard to be considered "important."²²⁸

State Parks

20 In commenting on the completeness of the application, the Oregon Parks and Recreation
21 Department (OPRD) recommended that the applicant consider the recreational facilities at
22 Arlington State Park and John Day (Hildebrand) State Park.²²⁹ Arlington State Park is a wayside
23 along Interstate 84 that provides travelers a place to stop, to enjoy the landscape and wildlife, and
24 to take photographs. The park has no amenities or structures. John Day (Hildebrand) State Park
25 is an undeveloped property along the John Day River Scenic Waterway accessible to the public
26 only from the river. The park has boating access and may provide sightseeing opportunities.
27 There are no management plans for either of these parks. Although the two parks provide unique
28 recreational sites, demand (usage) is low and the parks have no outstanding or unusual qualities.
29 The Council finds that the recreational opportunities offered by the two parks do not meet the
30 criteria to be considered "important" under the standard.

Lewis and Clark National Historic Trail

32 A portion of the Lewis and Clark National Historic Trail (LCNHT) lies within the
33 analysis area but outside the site boundary.²³⁰ The LCNHT follows the Columbia River to the

²²⁷ App, Exhibit T, p. 1.

²²⁸ The Council has previously found that these opportunities do not qualify as "important" (*Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 76-77).

²²⁹ Email from Jan Houck, OPRD, February 24, 2010. The applicant described the parks (App Supp, Exhibit T, pp. 1-2). The parks are shown in revised Figure R-1 (App Supp, Attachment T-1). The Department notes that these areas are not listed as State Parks on the OPRD website, which lists State Parks in the "Central" and "Eastern" regions of the state (<http://www.oregonstateparks.org/searchpark.php>).

²³⁰ App, Exhibit T, Figure T-1.

1 north of the proposed MWPF.²³¹ Recreational opportunities include driving the approximate
2 route along the Washington State Route 14 or Interstate 84, boating in the river and visiting the
3 Port of Arlington Park and Marina or Roosevelt Park (discussed above). These recreational
4 opportunities have no outstanding or unusual qualities within the analysis area. They are
5 common and “replaceable” opportunities and are not in high demand. The Council finds that the
6 recreational opportunities offered by the LCNHT within the analysis area do not meet the criteria
7 to be considered “important” under the standard.

8 Oregon National Historic Trail

9 The designated route of the Oregon National Historic Trail (ONHT) crosses the site
10 boundary. Visible remnants of the Oregon Trail occur within the analysis area.²³² Two separate
11 visible remnants of the trail are located on private land within the site boundary and are
12 inaccessible to the public. The applicant identified recreational opportunities associated with the
13 ONHT at three locations within the analysis area: (1) a monument within the public right-of-way
14 on Highway 19 marking the approximate alignment of the ONHT, (2) trail markers visible from
15 McDonald Crossing, and (3) the Fourmile Canyon interpretive site.²³³

16 The monument on Highway 19 marks the presumed alignment of the Oregon Trail but
17 otherwise offers no recreational opportunities. No remnants of the Oregon Trail are visible at this
18 location. In addition, there is a small interpretive monument erected by the Oregon-California
19 Trails Association on Highway 74 approximately one mile north of Cecil and within the analysis
20 area. No remnants of the Oregon Trail are visible at the monument, but the monument is located
21 near Willow Creek, which was used as a camping location for those making the journey on the
22 trail.²³⁴ The Council finds that the monuments on Highway 19 and Highway 74 do not provide
23 important recreational opportunities.

24 McDonald Crossing (also known as the John Day River Crossing) is identified as a “high
25 potential site” by the National Park Service.²³⁵ The McDonald Crossing site is located along the
26 John Day River, which forms the border between Gilliam and Sherman Counties, approximately
27 five miles west of the proposed site boundary. Although no visible remnants of the Oregon Trail
28 remain at the McDonald Crossing site, trail markers commemorate the trail’s approximate
29 alignment. The recreational opportunity for viewing the site of the historic McDonald ford where
30 the trail crosses the river is unique, although demand (usage) is low due to the limited access to
31 the site and there are no outstanding qualities (lack of visible trail remnants). Considering its
32 special designation as a “high-potential site,” the Council finds that the McDonald Crossing
33 offers an important recreational opportunity. The applicant’s ZVI analysis indicates that the
34 proposed MWPF would not be visible from the McDonald Crossing site.²³⁶ The Council finds

²³¹ The route of the Lewis and Clark expedition does not cross the site boundary. The westward “trail” used by the expedition in 1805 was by canoe on the Columbia River; in 1806, the expedition returned by land on the Washington side of the river (<http://www.lewisandclarktrail.com/section4/wacities/tricities/mappingboardman.htm>).

²³² App, Exhibit T, pp. 2-4.

²³³ App, Exhibit T, p. 3. The three locations are shown in Figure T-1.

²³⁴ Site Certificate Application Supplement for the Shepherds Flat Wind Farm (November 19, 2007), Attachment S-2.

²³⁵ National Park Service, *Comprehensive Management and Use Plan*, p. 19. See discussion of the management plan above at page 71.

²³⁶ App, Exhibit R, Figures R-1, R-2, R-3 and R-4.

1 that the design, construction and operation of the MWPF are not likely to result in a significant
2 adverse impact to recreational opportunities at the McDonald Crossing site.

3 Intact remnants of the Oregon Trail are visible in Fourmile Canyon less than one mile
4 east of the proposed site boundary.²³⁷ The BLM has constructed an interpretive wayside directing
5 viewers to wagon ruts that extend up a hillside on the west side of the Fourmile Road.²³⁸ The
6 Fourmile Canyon location is designated as a “high-potential site” for public viewing and
7 interpretation (see further discussion of this designation above at page 72). The recreational
8 opportunity is unusual because of the historic significance of the Oregon Trail. Although
9 opportunities to view developed areas of presumed trail alignments are common, opportunities to
10 view visible remnants of the trail in locations accessible to the public are rare and irreplaceable.
11 Demand due to interest in the Oregon Trail may be considered moderate. The Council finds that
12 the Fourmile Canyon interpretive site offers an important recreational opportunity.

13 In the preliminary application, the applicant stated that “to the extent to which turbines
14 may be seen from the Fourmile Canyon interpretive site, they will appear as objects in the
15 background of the view.”²³⁹ The Department requested that the applicant provide a visual
16 simulation of the turbines that would be visible from the interpretive site, based on the proposed
17 layouts using 1.5-MW and 3.0-MW turbines. The applicant provided photo-simulations showing
18 that portions of five turbines would be visible under the proposed 1.5-MW layout and that
19 portions of three turbines would be visible under the proposed 3.0-MW layout.²⁴⁰ These turbines
20 would be located in the proposed V-string, and a meteorological tower near the V-string might
21 also be visible.²⁴¹

22 Under both proposed MWPF layouts, wind turbines would be visible on the horizon
23 within the same line-of-sight from the perspective of viewers looking toward the visible
24 remnants of the Oregon Trail from the BLM interpretive site. The applicant also provided a
25 photo-simulation of the view from the BLM site showing that portions of as many as seven
26 Shepherds Flat South wind turbines (already approved by the Council but not yet built) would be
27 visible to the south. These turbines would be visible, but they would not be located in the same
28 line-of-sight as the wagon ruts and would not occupy the background behind the view of the ruts
29 from the interpretive site.

30 Some people who look toward the trail ruts from the vantage point of the Fourmile
31 Canyon interpretive site could find that the visibility of wind turbines on the horizon interferes
32 with their experience and enjoyment of the historical significance of the Oregon Trail. For
33 others, the opportunity to see the ruts on the ground is the focus of the recreational experience,

²³⁷ App, Exhibit T, p. 3. The location of the BLM interpretive wayside is shown on Figure T-1.

²³⁸ The applicant has provided a photograph of the visible remnants as viewed from the BLM wayside (App, Exhibit R, Attachment R-1).

²³⁹ App, Exhibit T, p. 4.

²⁴⁰ App Supp, Attachment R-1. In response to further Department comment regarding the photo-simulation of the 3.0-MW turbines, the applicant indicated that the simulation mistakenly used the 1.5-MW turbine locations (App Supp, Exhibit R, p. 5). The applicant provided a revised photo-simulation, using the proposed 3.0-MW turbine layout, showing that three turbines in the V-string would be visible (letter from Sara Parsons, June 11, 2010).

²⁴¹ App, Exhibit C, Figure C-5c, and App Supp, Attachment C-1, revised Figure C-7c. The Department did not request that the meteorological tower (identified on the layouts as “PM3”) be shown in the photo-simulation.

1 and the visibility of wind turbines in the distance is not a distraction.²⁴² Modern-day structures,
2 including the paved road and the BLM wayside kiosk itself already intrude on the historic
3 setting.

4 The Department discussed with the applicant alternatives for mitigating the potential
5 impact of the facility on recreational opportunities at the Fourmile Canyon site. The applicant
6 proposed a site certificate condition that would create a buffer area along a line-of-sight from the
7 vantage point of the BLM kiosk.²⁴³ The proposed condition would exclude construction of
8 turbine towers or met towers within 1,000 feet of the centerline of a defined line-of-sight
9 (described below). The Council adopts proposed Condition 105, which incorporates the
10 mitigation proposed by the applicant. Subject to compliance with this condition, the Council
11 finds that the design, construction and operation of the MWPF are not likely to result in a
12 significant adverse impact to recreational opportunities at the BLM Fourmile Canyon
13 interpretive site.

14 Proposed Condition 105 describes a line-of-sight from the point at which a visitor
15 standing at the BLM interpretive kiosk would view the visible wagon ruts that lie on the hillside
16 to the west. The “vantage point” is the BLM Fourmile Canyon interpretive site (latitude,
17 longitude: 45.622047, -120.044112).²⁴⁴ The “line-of-sight” is a linear projection from the
18 vantage point toward the west, projecting up the hill approximately in line with the ruts (bearing
19 S 89-42-34 W from the vantage point). The Condition defines a buffer area within 1,000 feet on
20 either side of the line-of-sight.²⁴⁵

Conclusions of Law

21 Based on these findings and the site certificate conditions described herein, the Council
22 finds that the design, construction and operation of the proposed facility are not likely to result in
23 a significant adverse impact to any important recreational opportunities in the analysis area. The
24 Council concludes that the proposed facility complies with the Recreation Standard.

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

OAR 345-024-0010

25 *To issue a site certificate for a proposed wind energy facility, the Council must find*
26 *that the applicant:*
27

28 *(1) Can design, construct and operate the facility to exclude members of the public*
29 *from close proximity to the turbine blades and electrical equipment.*

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

²⁴² The applicant noted that “a visitor’s recreational experience should not be viewed as being tied solely to a visual observation of the ruts from the sole vantage point of the interpretive wayside” (letter from Sara Parsons, June 11, 2010). The BLM site provides opportunities for the visitor to take a short hike along the trail ruts and to learn from the information posted at the kiosk.

²⁴³ Email from Sara Parsons, June 21, 2010.

²⁴⁴ The applicant’s photo-simulations show the view from this vantage point.

²⁴⁵ The applicant provided a map of the buffer area (Figure 1, email from Sara Parsons, June 21, 2010).

Findings of Fact

1 The applicant addressed the Public Health and Safety Standards for Wind Energy
2 Facilities in Exhibit DD of the application. Because the proposed facility would be located on
3 private property, public access would be restricted. The Council adopts the site certificate
4 conditions described below to address safety issues associated with wind energy facilities.

5 Turbine towers would be located with minimum safety setbacks from residences, public
6 roads, and site boundaries (Condition 42).²⁴⁶ Turbine blade tips would be a minimum of 41
7 meters above ground at the closest point of rotation (Condition 27). The turbine towers would
8 have no exterior ladders or access to the turbine blades, and tower entry doors would be locked
9 (Condition 66).²⁴⁷ There would be no public access to the nacelles or turbine tower interiors or to
10 the electrical equipment contained therein. Pad-mounted step-up transformers would be located
11 within locked cabinets (Condition 68). The substations would be enclosed with fencing and
12 would have locked gates (Condition 69).²⁴⁸

13 Both the Federal Aviation Administration (FAA) and the Oregon Department of Aviation
14 are responsible for determining whether any turbine tower presents a hazard to aviation in
15 Oregon.²⁴⁹ Condition 64 requires the certificate holder to submit a Notice of Proposed
16 Construction or Alteration to the FAA and to the Oregon Department of Aviation for each
17 turbine location when the final design configuration of the facility is known. The notice
18 identifies the proposed final location of each turbine and met tower. After receiving the notices,
19 the FAA conducts a flight path review to determine whether the proposed turbine locations
20 would interfere with public or private air traffic. If the FAA finds that a proposed turbine would
21 not present a safety hazard, the FAA issues a "Determination of No Hazard to Air Navigation"
22 letter. The certificate holder must receive the FAA determination before beginning construction
23 of each turbine. Similarly, in response to a Notice of Proposed Construction or Alteration, the
24 Oregon Department of Aviation makes a determination whether the proposed construction would
25 be a hazard to air navigation and whether further aeronautical study is necessary.²⁵⁰

26 Based on site-specific geotechnical investigation, turbine towers and foundations, as well
27 as aboveground transmission line support structures, would be designed according to applicable
28 building codes to avoid dangers to human safety presented by structural failure or collapse, and
29 seismic hazards (Conditions 12 and 52). The certificate holder would follow manufacturer's
30 recommended handling instructions and procedures to prevent damage to towers or blades that
31 could lead to failure (Condition 65).²⁵¹

32 During operation, the certificate holder would have a safety-monitoring program and
33 would inspect turbine blades on a regular basis for signs of wear (Condition 67). All turbines
34 would have self-monitoring devices, linked to sensors at the O&M building to alert operators to

²⁴⁶ A discussion of the safety setback distance of 1,320 feet (¼ mile) between residences and the nearest wind turbine is found in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 22-25.

²⁴⁷ App, Exhibit DD, p. 1.

²⁴⁸ App, Exhibit DD, p. 1.

²⁴⁹ ORS 836.530 authorizes the Oregon Department of Aviation to adopt rules to "define physical hazards to air navigation and determine whether specific types or classes of objects or structures constitute hazards." The agency has adopted rules in OAR Chapter 738, Division 70, regarding physical hazards to air safety.

²⁵⁰ OAR 738-070-0090.

²⁵¹ App, Exhibit DD, p. 4.

1 potentially dangerous conditions (Condition 58). Condition 23 incorporates Council rule OAR
2 345-026-0170, which requires the certificate holder to notify the Department within 72 hours if
3 there is an attempt by anyone to interfere with the safe operation of the facility, if there is a
4 natural or human-caused event that could threaten public health or safety, or if there is any fatal
5 injury at the facility. Condition 79 requires the certificate holder to notify the Department of
6 Energy and the Gilliam County Planning Department within 72 hours of any accident that could
7 affect public health or safety.²⁵²

Conclusions of Law

8 The Council finds that the applicant can design, construct and operate the facility to
9 exclude members of the public from close proximity to the turbine blades and electrical
10 equipment. The Council further finds that the applicant can design, construct and operate the
11 facility to preclude structural failure of the tower or blades that could endanger public safety, and
12 to have adequate safety devices and testing procedures designed to warn of impending failure
13 and to minimize the consequences of such failure. Based on these findings and subject to the site
14 certificate conditions described herein, the Council concludes that the proposed facility complies
15 with the Public Health and Safety Standards for Wind Energy Facilities.

(g) Siting Standards for Wind Energy Facilities

OAR 345-024-0015

16 *To issue a site certificate for a proposed wind energy facility, the Council must find*
17 *that the applicant can design and construct the facility to reduce cumulative adverse*
18 *environmental effects in the vicinity by practicable measures including, but not*
19 *limited to, the following:*
20

21 *(1) Using existing roads to provide access to the facility site, or if new roads are*
22 *needed, minimizing the amount of land used for new roads and locating them to*
23 *reduce adverse environmental impacts.*

24 *(2) Using underground transmission lines and combining transmission routes.*

25 *(3) Connecting the facility to existing substations, or if new substations are needed,*
26 *minimizing the number of new substations.*

27 *(4) Designing the facility to reduce the risk of injury to raptors or other vulnerable*
28 *wildlife in areas near turbines or electrical equipment.*

29 *(5) Designing the components of the facility to minimize adverse visual features.*

30 *(6) Using the minimum lighting necessary for safety and security purposes and using*
31 *techniques to prevent casting glare from the site, except as otherwise required by the*
32 *Federal Aviation Administration or the Oregon Department of Aviation.*

Findings of Fact

33 The applicant addressed the Siting Standards for Wind Energy Facilities in Exhibit DD of
34 the application and included a cumulative impacts analysis in Attachment P-8. Exhibit DD

²⁵² Under ORS 469.401(2), the site certificate must include conditions “for the protection of public health and safety.”

contains information regarding the measures specified in the standard to reduce cumulative adverse environmental effects.

A. Cumulative Impacts Analysis

The applicant provided a cumulative impacts analysis prepared by Western EcoSystems Technology, Inc. (WEST). The analysis addressed the cumulative impacts of avian and bat fatalities that may be predicted to occur assuming the development of 6,700 MW of wind energy projects in the Columbia Plateau region.²⁵³ WEST defined an adverse “cumulative impact” as “a potential for a long-term reduction in the size of a population of birds or bats.”²⁵⁴ WEST identified 4,159 MW of wind energy facilities that were either built or under construction in Washington and Oregon as of September 2009, most of which is located within the Columbia Plateau region.²⁵⁵ For the purposes of analysis, WEST assumed that 6,700 MW of wind power would be developed in the region, while noting that transmission capacity and other constraints may limit the amount of wind energy development that actually occurs within the next few years.

WEST summarized the data from fatality monitoring studies that had been conducted at 11 operating wind energy facilities in the region and calculated avian and bat fatality rates based on the data.²⁵⁶ WEST used the calculated fatality rates to estimate the cumulative impacts in the region, assuming the development of 6,700 MW of wind energy capacity. To assess the significance of estimated fatalities on individual species, WEST used published data on the estimated size of breeding populations of species likely to be affected by wind energy development in the region. For the purposes of the analysis, WEST assumed that bird and bat communities would be similar across the wind energy facility sites, due to the similarities of land use and habitat within the region.

All Birds

Fatality monitoring data show that individual fatalities representing 89 avian species have occurred at operating wind energy facilities in the region.²⁵⁷ One group of species, known as passerines (or song birds), has been the most affected, making up 67.1 percent of all avian fatalities in the region. Recorded fatalities of one species, horned lark, have significantly exceeded the fatalities of any other single species. Horned lark fatalities represent nearly 30 percent of all avian fatalities in the region.²⁵⁸ Horned larks are one of the most abundant birds in the region.

WEST estimated that the cumulative fatalities of passerines that would result from the construction and operation of 6,700 MW of wind energy facilities in the region would be approximately 11,239 birds per year.²⁵⁹ Horned larks made up 44.3 percent of all recorded passerine fatalities and 29.7 percent of all bird fatalities. WEST estimated that there would be

²⁵³ Johnson and Erickson, *Avian, Bat and Habitat Cumulative Impacts Associated with Wind Energy Development in the Columbia Plateau Ecoregion of Eastern Washington and Oregon*, February 2010 (App Supp, Attachment P-5).

²⁵⁴ App Supp, Attachment P-5, p. 3.

²⁵⁵ App Supp, Attachment P-5, p. 3.

²⁵⁶ App Supp, Attachment P-5, Table 1. Data from the Condon Wind Energy project were not used to calculate mean fatality rates, because the study results were not adjusted for searcher efficiency or scavenger removal.

²⁵⁷ App Supp, Attachment P-5, p. 7.

²⁵⁸ App Supp, Attachment P-5, p. 7 and Table 3.

²⁵⁹ App Supp, Attachment P-5, p. 12. The estimate is based on the calculated mean fatality rate for all bird species (2.5 per MW/year) and the percentage of fatalities that were passerines (67.15%).

1 4,975 horned lark fatalities per year. To place this number of fatalities in context, WEST noted
2 that the estimated breeding population of horned larks in the region is 2,200,000. Assuming that
3 25 percent of the fatalities would occur during the breeding season, the cumulative effect would
4 represent 0.06 percent of the breeding horned lark population. WEST noted that the annual
5 fatality rates for song birds (from all causes) typically range from 30 to 70 percent and therefore
6 concluded that the impact from wind facilities is "not significant from a population standpoint."

7 WEST reported that wind energy facilities do not appear to have a large impact on
8 migratory birds and that "the vast majority of nocturnal migrants fly at altitudes that do not put
9 them at risk of collision with wind turbines."²⁶⁰ Nevertheless, a nocturnal migrant species, the
10 golden-crowned kinglet, represented the second most common species among the avian fatalities
11 found at existing wind energy facilities, after horned larks.²⁶¹ Fatalities of golden-crowned
12 kinglets made up 5.6 percent of all avian fatalities. WEST estimated that there would be 938
13 cumulative fatalities of golden-crowned kinglets per year resulting from 6,700 MW of wind
14 energy facilities in the region. Based on an estimated breeding population of 720,000 in the
15 region, WEST estimated that the fatalities of golden-crowned kinglets would represent 0.13
16 percent of the breeding population. WEST noted that golden-crowned kinglets are associated
17 with forested habitats during the breeding season, making it likely that the affected individuals
18 would come from outside the Columbia Plateau ecoregion. WEST concluded that the cumulative
19 impact on any one population of golden-crowned kinglets would therefore be less. In general,
20 WEST found that the cumulative impacts to migrant avian species "are not considered
21 significant."

22 WEST addressed the cumulative impacts on other species groups, including upland
23 gamebirds, waterfowl/waterbirds/shorebirds, and species classified as sensitive in Oregon or
24 Washington. WEST concluded that there would not be significant population consequences for
25 these species groups.²⁶²

26 Raptors

27 Swainson's hawk is a State Sensitive-Vulnerable species and ferruginous hawk is a State
28 Sensitive-Critical species.²⁶³ We discuss golden eagles, which are federally-protected under the
29 Bald and Golden Eagle Protection Act, below at page 105. Raptor species as a group made up
30 8.5 percent of the reported fatalities at operating wind energy facilities in the region.²⁶⁴ The most
31 affected raptor species has been the American kestrel, representing 31.4 percent of all raptor
32 fatalities.²⁶⁵ Four ferruginous hawk fatalities were found, representing 5.7 percent of raptor
33 fatalities, and six Swainson's hawk fatalities were found, representing 8.6 percent of raptor
34 fatalities.²⁶⁶ Based on a mean fatality rate of 0.077 per MW/year, WEST estimated that there
35 would be approximately 516 raptor fatalities per year resulting from the operation of 6,700 MW
36 of wind energy facilities in the region.

²⁶⁰ App Supp, Attachment P-5, p. 13.

²⁶¹ App Supp, Attachment P-5, Table 3.

²⁶² App Supp, Attachment P-5, pp. 11-13.

²⁶³ App, Exhibit P, Table P-1.

²⁶⁴ App Supp, Attachment P-5, Table 4.

²⁶⁵ App Supp, Attachment P-5, p. 8.

²⁶⁶ App Supp, Attachment P-5, p. 8, and Table 3.

1 The breeding population of ferruginous hawks in the region is estimated to be 1,000.²⁶⁷
2 WEST estimated that there would be 29 ferruginous hawk fatalities per year. Assuming for sake
3 of analysis that all of the fatalities would be to breeding birds, WEST calculated that the fatalities
4 would represent 2.9 percent of the breeding population. WEST noted that the fatalities would
5 likely be spread among migrants, winter residents and juveniles as well as adults, the actual
6 fatality rate among the breeding population of ferruginous hawks in the region would be “likely
7 on the order of” 1 to 2 percent. Considering published studies of annual ferruginous hawk
8 mortality in the range of 24 to 30 percent, WEST concluded that the cumulative impact on the
9 species from wind energy development in the region “would not likely have measurable
10 population consequences.”²⁶⁸

11 WEST conducted a similar analysis for Swainson’s hawks. The estimated breeding
12 population of Swainson’s hawks in the region is much larger, 10,000 birds, compared to the
13 breeding population of ferruginous hawks.²⁶⁹ WEST noted that Swainson’s hawks are present in
14 the region only during the summer and most are resident breeders. WEST estimated that there
15 would be 44 Swainson’s hawk fatalities per year resulting from 6,700 MW of wind energy
16 facilities in the region, based on the fatality data from existing wind energy facilities. Swainson’s
17 hawk fatalities would therefore represent only 0.44 percent of the Swainson’s hawks in the
18 region. WEST concluded that this level of fatalities “would not have measurable population
19 consequences.”

20 The raptor species most likely to be affected by wind energy facilities is the American
21 kestrel. Assuming that 6,700 MW of wind energy facilities are developed in the region, WEST
22 estimated that there would be approximately 162 American kestrel fatalities per year based on
23 the mean fatality rate for raptors at the wind facilities where fatality monitoring studies have
24 been done. Raptor fatalities have occurred throughout the year, but WEST assumed that 43.1
25 percent of fatalities would occur during the breeding season.²⁷⁰ The breeding population of
26 American kestrels in the Columbia Plateau is estimated to be 170,000 birds. WEST estimated
27 that American kestrel fatalities from wind facilities would represent 0.04 percent of the breeding
28 population. Background mortality for American kestrels is much higher (45 percent of adults,
29 according to one published study). WEST concluded that “the additional wind energy related
30 mortality is likely insignificant from a population standpoint.”

31 Bats

32 The bat species most likely to be affected by wind energy development in the region are
33 silver-haired bats and hoary bats.²⁷¹ Most fatalities are found in the fall migration period. WEST
34 calculated a regional mean fatality rate of 1.20 fatalities per MW/year for bat species as a
35 group.²⁷² WEST estimated that fatalities of approximately 3,795 silver haired bats and 3,714
36 hoary bats would occur in the region per year as a result of 6,700 MW of wind energy
37 development. WEST noted that there is little information available about the population sizes of
38 most bat species.

²⁶⁷ App Supp, Attachment P-5, p. 9.

²⁶⁸ App Supp, Attachment P-5, p. 10.

²⁶⁹ App Supp, Attachment P-5, p. 11.

²⁷⁰ App Supp, Attachment P-5, p. 9.

²⁷¹ App Supp, Attachment P-5, p. 14.

²⁷² App Supp, Attachment P-5, p. 6 and Table 5.

1 Hoary bats and silver-haired bats occupy forested habitats during the breeding season,
2 and there is little forested habitat in the region.²⁷³ These two bat species are widely distributed
3 throughout North America. WEST concluded that “mortality levels on the order of one to two
4 bats per MW are likely not significant to populations.” WEST noted, however, that cumulative
5 effects “may have greater consequences for long-lived, low-fecundity species such as bats,”
6 compared to avian species. Research on bat populations and the interactions with wind turbines
7 is ongoing.²⁷⁴

B. Access Roads

8 The Council’s Siting Standards for Wind Energy Facilities (OAR 345-024-0015)
9 encourage the use of existing roads to provide access to the facility site, minimizing the amount
10 of land used for new roads and locating new roads in a manner that reduces adverse
11 environmental impacts. The applicant proposes to use existing roads to access the site to the
12 maximum extent feasible.²⁷⁵ Typical existing farm roads are 8 to 12 feet wide. The applicant
13 proposes to widen approximately 5 miles of existing farm roads to a permanent width of 20
14 feet.²⁷⁶ In addition, and the applicant proposes to construct up to 70 miles of new roads, which
15 would have a permanent width of 20 feet.²⁷⁷ Roads would be the minimum size necessary for
16 safe operation of the facility (Condition 39). The applicant would locate new roads to avoid or
17 minimize significant impacts wildlife habitat (Condition 95).

C. Transmission Lines and Substations

18 The Council standard encourages the use of underground transmission lines, combining
19 transmission routes and minimizing the number of new substations. The applicant proposes that
20 most of the power collection system for the MWPF would be underground. The facility would
21 have up to 103 miles of 34.5-kV collector lines, but a maximum of 27 miles of the collector
22 system would be aboveground.²⁷⁸

23 Two project substations would be needed. One would be located in the western part of
24 the site and the other would be located in the central part of the site centrally-located within the
25 turbine micro-siting area.²⁷⁹ The substations are necessary to convert the 34.5-kV power from the
26 collection system to 230-kV for efficient transmission to the regional power grid.

27 An aboveground, single-circuit 230-kV transmission line up to 9 miles in length would
28 connect the western substation to the central substation. An aboveground, single-circuit 230-kV
29 transmission line up to 10 miles in length would connect the central substation to BPA’s Slatt
30 substation.

²⁷³ App Supp, Attachment P-5, p. 14.

²⁷⁴ The Bat Wind Energy Cooperative is a research effort initiated by Bat Conservation International, the American Wind Energy Association, the U.S. Fish and Wildlife Service and the U.S. Department of Energy National Renewable Energy Laboratory (App Supp, Attachment P-5, p. 15).

²⁷⁵ App, Exhibit DD, p. 5.

²⁷⁶ App, Exhibit C, Table C-2.

²⁷⁷ App, Exhibit B, p. 12.

²⁷⁸ App, Exhibit B, p. 10, and App Supp, Exhibit B, p. 1.

²⁷⁹ App, Exhibit C, Figure C-4, and App Supp, Attachment C-1, revised Figure C-6.

D. Wildlife Protection

1 The standard encourages facility design that reduces the risk of injury to raptors or other
2 vulnerable wildlife in areas near turbines or electrical equipment. Site certificate conditions to
3 mitigate potential adverse impacts to wildlife are discussed below under the Threatened and
4 Endangered Species Standard at page 88 and the Fish and Wildlife Habitat Standard at page 93.
5 The applicant proposes to design the facility to minimize raptor injury by adhering to the 2006
6 Avian Powerline Interaction Committee (APLIC) suggested practices for raptor protection on
7 power lines.²⁸⁰ The creation of artificial habitat for raptors or raptor prey would be avoided. For
8 turbine types having pad-mounted step-up transformers, the transformer cabinets at each turbine
9 would be designed to avoid use by raptors or prey species as artificial habitat (Condition 68).
10 Turbine pad areas would be covered with gravel (10-foot gravel apron on all sides of the turbine
11 tower) for fire protection.²⁸¹ The gravel apron would help to reduce weeds and reduce cover for
12 raptor prey near turbines (Condition 57). The proposed turbine towers would be smooth steel
13 structures rather than lattice structures, limiting avian perching opportunities in proximity to
14 turbine blades (Condition 99).²⁸² Meteorological towers would be freestanding lattice structures
15 without guy-lines.²⁸³

E. Visual Features

16 The standard encourages the certificate holder to design the facility design to minimize
17 adverse visual features. Turbine towers, nacelles and rotors would be uniformly painted in a
18 neutral white color (Condition 102).²⁸⁴ Pad-mounted cabinets at the base of each turbine tower
19 would be uniformly painted in a neutral gray, white, off-white or earth-tone color to help them
20 blend into the landscape.²⁸⁵ Low-reflectivity finishes would be used on the O&M building and
21 substation equipment and fencing. No advertising signs would be posted at the facility. Signs
22 would be minimized, and the facility would not include any unusual visual features.²⁸⁶

F. Lighting

23 The standard requires the use of the minimum lighting necessary for safety and security
24 purposes and the use of techniques to prevent casting glare from the site. The standard does not
25 restrict the use of lighting otherwise required by the FAA or the Oregon Department of Aviation.
26 The facility would have the minimum nighttime turbine tower lighting required by the FAA.²⁸⁷
27 The O&M building and the substations would have security lighting that would be shielded or
28 downward-directed to reduce glare. During construction, lighting would be restricted to the
29 minimum necessary for construction, directed to illuminate the work area and shielded or
30 downward-directed to reduce glare. Minimum lighting would be used for necessary nighttime
31 repairs during operation. The Council adopts Condition 104 to address restrictions on lighting at
32 the facility.

²⁸⁰ App, Exhibit DD, p. 7.

²⁸¹ App, Exhibit B, p. 13.

²⁸² App, Exhibit B, p. 4.

²⁸³ App, Exhibit B, p. 11, and App Supp, Exhibit B, p. 3.

²⁸⁴ App, Exhibit B, p. 4.

²⁸⁵ App, Exhibit R, p. 19.

²⁸⁶ App, Exhibit DD, p. 7.

²⁸⁷ App, Exhibit DD, p. 7.

Conclusions of Law

For the reasons discussed above, the Council finds that the proposed design and construction of the MWPF would reduce cumulative adverse environmental effects in the vicinity by practicable measures in accordance with the requirements of OAR 345-024-0015. Based on these findings and subject to the site certificate conditions described herein, 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

The applicant provided information on the Siting Standards for Transmission Lines in Exhibit AA of the application. These standards address safety hazards associated with electric fields around transmission lines.²⁸⁸ Section (1) of OAR 345-024-0090 sets a limit for electric fields from transmission lines of not more than 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. Section (2) requires measures to reduce the risk of induced current.

A. Electric Fields

The proposed MWPF would include underground and aboveground 34.5-kV collector lines and two segments of aboveground 230-kV transmission lines. For the underground lines, the electric field is contained within the insulation of the cable and the soil over the line.²⁸⁹ There would therefore be no measurable electric field at the surface (or at one meter above the ground surface). The applicant calculated the electric field that would be produced by the aboveground 34.5-kV collector lines on monopole supports using BPA's Corona and Field Effect Program (Version 3).²⁹⁰ For the overhead 34.5-kV and 230-kV transmission lines constructed on H-frame structures, the applicant used the Electric Power Research Institute's "EMFWorkstation: ENVIRO (Version 3.52).

The assumed peak line loading for the aboveground 34.5-kV collector lines was 1,000 amperes per phase conductor.²⁹¹ The minimum conductor ground clearance was assumed to be

²⁸⁸ Magnetic field effects are addressed below at page 139.

²⁸⁹ App, Exhibit AA, pp. 4.

²⁹⁰ App, Exhibit AA, p. 12.

²⁹¹ App, Exhibit AA, p. 5.

20 feet for the double-circuit 34.5-kV H-frame structures and 25 feet for the single and double-circuit monopole structures and single-circuit H-frame structures.²⁹² For the monopole supports, the calculated maximum electric field strength at one meter above ground surface was 0.302 kV per meter for the single-circuit line and 0.232 kV per meter for the double-circuit line.²⁹³ For the H-frame structures, the calculated maximum electric field strength at one meter above ground surface was 0.317 kV per meter for the single-circuit line and 0.306 kV per meter for the double-circuit line on an H-type support.²⁹⁴

For the 230-kV transmission line, the applicant calculated electric field strength for a single-circuit line. The assumed peak line loading was 1,014 amperes per phase.²⁹⁵ The analysis assumed that the minimum ground clearance would be of 30 feet.²⁹⁶ The calculated maximum electric field strength at one meter above ground surface was 2.253 kV per meter on a monopole support structure, and 2.626 kV per meter on an H-type support.²⁹⁷

B. Induced Current

The magnetic and electric fields around alternating current transmission lines can induce current or voltage in nearby objects. Induced *currents* are not hazardous to people but can be a concern for railroad communications and pipeline cathodic protections systems that parallel transmission lines.²⁹⁸ There are no such facilities within a mile of the collector lines or close enough to the 230-kV transmission lines to cause an induced current issue.

An ungrounded fence or metal roof located within an electric field can carry an induced *voltage*. Induced voltage can be a hazard when the ungrounded object is shorted to ground. The induced voltage can result in an electrical shock when a person or animal touches the object, which allows a current to flow to the ground. Grounding of potentially charged structures minimizes the hazard by providing 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.

Because the underground 34.5-kV cables do not create an electric field at the ground surface, they would not present an induced voltage risk. The proposed aboveground 34.5-kV and 230-kV transmission lines could cause induced voltage. Council rule OAR 345-027-0023(4) provides standard condition language to address public safety for transmission lines, including the requirement to design transmission lines to reduce the risks from induced current. The Council adopts Condition 17, which incorporates the language of the rule. The Council adopts Condition 89 to reduce or manage human exposure to electromagnetic fields.

Conclusions of Law

For the reasons discussed above, the Council finds that the applicant 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

²⁹² App, Exhibit AA, p. 12.

²⁹³ App, Exhibit AA, Attachment AA-1.

²⁹⁴ App, Exhibit AA, Attachment AA-2.

²⁹⁵ App, Exhibit AA, p. 5.

²⁹⁶ App, Exhibit AA, Attachment AA-3.

²⁹⁷ App, Exhibit AA, Attachment AA-3.

²⁹⁸ App, Exhibit AA, p. 25.

1 public. The Council further finds that the applicant can design, construct and operate the
2 proposed transmission lines so that induced currents resulting from the transmission lines will be
3 as low as reasonably achievable. Based on these findings and subject to the site certificate
4 conditions described herein, the Council concludes that the proposed facility complies with the
5 Siting Standards for Transmission Lines.

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 and operation 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 and operation 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

21 The applicant provided information about compliance with the Council's Threatened and
22 Endangered Species Standard in Exhibit Q of the application. The analysis area for threatened or
23 endangered plant²⁹⁹ and wildlife³⁰⁰ species is the area within the site boundary and 5 miles from

²⁹⁹ 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.

³⁰⁰ 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:

1 the site boundary. The proposed site is located in Gilliam County. The analysis area lies within
2 the Columbia Plateau Ecoregion of Oregon and Washington.³⁰¹ Although the analysis area
3 includes parts of Washington, the Council's standard addresses only those species listed as
4 threatened or endangered by the responsible agencies in Oregon (referred to in this discussion as
5 "State-listed" species). Although the Council's standard does not directly address federally-listed
6 threatened or endangered species, certificate holders must comply with all applicable federal
7 laws, including laws protecting those species.

A. Plant Species

8 To identify State-listed (threatened or endangered) or candidate plant species³⁰² that
9 could occur within 5 miles of the site boundary, the applicant conducted database searches
10 through the USFWS and the Oregon Natural Heritage Information Center (ORNHIC).³⁰³ The
11 applicant consulted ODFW and biologists knowledgeable about the facility area. In addition, the
12 applicant reviewed technical reports and published sources.³⁰⁴ The Council's standard addresses
13 plant species that the Oregon Department of Agriculture (ODA) has listed as threatened or
14 endangered. ODA has not adopted a protection and conservation program for any plant species
15 in the area.

16 In 2006 and 2009, Northwest Wildlife Consultants (NWC) conducted special-status plant
17 surveys in those areas of the MWPF site that overlap with the Pebble Springs Wind Project and
18 the Leaning Juniper II Wind Power Facility. In October, November and December 2009,
19 CH2M HILL conducted a reconnaissance-level field investigation for plants within the proposed
20 MWPF site.³⁰⁵ The investigation was limited to areas accessible by secondary roadways
21 throughout the site boundary and areas visited in conjunction with the stream and wetland
22 survey. Additional site surveys will be conducted during the period from May through July 2010
23 to identify special-status plant species near proposed MWPF components.³⁰⁶ The Council adopts
24 Condition 95 to ensure that these additional surveys are completed and that construction of the
25 facility would avoid impacts on threatened or endangered plant species.

26 One State-listed threatened plant species (Laurent's milk-vetch) was observed within the
27 MWPF site boundary during surveys conducted for the Leaning Juniper II facility in 2009.³⁰⁷ In
28 addition, one State candidate plant species (sessile mousetail) was observed within the MWPF

(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.

³⁰¹ The "Columbia Plateau Ecoregion" is defined in ODFW, *Conservation Strategy for Oregon*, September 2005. This region is also known as the "Columbia Basin Ecoregion," as defined in ORNHIC, *Rare, Threatened and Endangered Species of Oregon*, March 2007.

³⁰² A "candidate species" is "any plant species designated for study by the director [of the Oregon Department of Agriculture] whose numbers are believed low or declining, or whose habitat is sufficiently threatened and declining in quantity and quality, so as to potentially qualify for listing as a threatened or endangered species in the foreseeable future." OAR 603-073-0002.

³⁰³ App, Exhibit Q, p. 5.

³⁰⁴ App, Exhibit Q, pp. 5-6.

³⁰⁵ *Preliminary Rare Plant Habitat Evaluation, Montague Wind Power Facility, Gilliam County, Oregon*, technical memorandum, January 20, 2010 (App, Exhibit Q, Attachment Q-1).

³⁰⁶ App, Exhibit Q, p. 7; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

³⁰⁷ App, Exhibit Q, p. 1.

1 site boundary during surveys conducted for the Pebble Springs facility in 2006.³⁰⁸ Habitat
2 suitable for another Candidate species (dwarf evening primrose) also exists within the MWPF
3 site boundary, although there are no recent records of the species within the analysis area.³⁰⁹
4 Condition 95 would ensure protection of populations of Laurent's milk-vetch as well as the two
5 Candidate species. The Council finds that the design, construction and operation of the proposed
6 facility are not likely to cause a significant reduction in the likelihood of survival or recovery of
7 Laurent's milk-vetch.

B. Fish and Wildlife Species

8 To identify threatened or endangered wildlife species, the applicant conducted database
9 searches through the USFWS and the ORNHIC. The applicant consulted with ODFW and
10 reviewed technical reports and published sources for information about wildlife species in the
11 analysis area.³¹⁰ The applicant identified State-listed wildlife species that had a potential to occur
12 within the analysis area.³¹¹ In 2006, NWC conducted special-status wildlife surveys in those
13 areas of the MWPF site that overlap with the Pebble Springs Wind Project, and in 2009, NWC
14 conducted special-status wildlife surveys in those areas of the MWPF site that overlap the
15 Leaning Juniper II Wind Power Facility.³¹² NWC conducted additional special-status wildlife
16 surveys in March 2008, primarily to search for Washington ground squirrels.³¹³ Less than half of
17 the area within the site boundary had been surveyed for State-listed wildlife species by the time
18 the preliminary application was submitted in January 2010. The applicant proposes to complete
19 the wildlife surveys in 2010 in all areas within the site boundary that were not previously
20 surveyed.³¹⁴ Condition 95 would ensure that these additional surveys are completed and that
21 construction of the facility would avoid impacts to threatened or endangered wildlife species. Of
22 the wildlife species that could occur within the analysis area, the applicant determined that only
23 bald eagles and Washington ground squirrels (WGS) are likely to occur within the site boundary,
24 based on habitat suitability.³¹⁵

Bald Eagle

26 The bald eagle is a State-listed threatened species.³¹⁶ The northern bald eagle is closely
27 associated with freshwater, estuarine and marine ecosystems. Bald eagles nest and forage along
28 fish-bearing streams throughout Oregon and Washington from late winter to early summer and
29 are known to winter near the Columbia River. The species uses communal night roosts primarily
30 during winter. Communal roosts generally occur in multi-layered mature or old-growth conifer
31 stands that provide protection from weather and human disturbance. Nesting typically begins in
32 January, followed by egg-laying and incubation in February and March. Young are reared
33 throughout April, May and June. Fledging occurs in July and August. Bald eagles are primarily

³⁰⁸ Sessile mousetail is also a federal Species of Concern (App, Exhibit Q, p. 11).

³⁰⁹ Dwarf evening primrose is also a federal Species of Concern and a Washington Sensitive Species (App, Exhibit Q, p. 12).

³¹⁰ App, Exhibit Q, pp. 5-7.

³¹¹ App, Exhibit Q, Table Q-1.

³¹² App, Exhibit Q, p. 8.

³¹³ App, Exhibit Q, p. 8; App, Exhibit P, Attachment P-7, p. 12.

³¹⁴ App, Exhibit Q, p. 8; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

³¹⁵ App, Exhibit Q, p. 12.

³¹⁶ The bald eagle was removed from the federal endangered species list in 2007. It continues to be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

predators, but they are also opportunistic scavengers that feed on a variety of prey, including salmon, other fish, small mammals, waterfowl, seabirds and carrion. Bald eagles usually forage in large open areas with a wide visual field and suitable perch trees located near the food source. Bald eagles concentrate their foraging and roosting in areas along or close to the Columbia River, but they scavenge on carrion and small mammals in the upland areas.

No bald eagles were observed during the wildlife surveys of the MWPF site.³¹⁷ A few bald eagles have been observed during avian use surveys for the nearby Shepherds Flat, Rattlesnake Road and Willow Creek wind projects. No bald eagles were observed during avian use surveys for the Leaning Juniper II or Pebble Springs wind projects. The nearest known bald eagle nest is more than 22 miles away from the site boundary.

Although potential adverse impact to bald eagles passing through the site could occur from collision with MWPF wind turbines, the applicant notes that there have been no reported instances of bald eagle fatalities at any wind energy facility in the United States.³¹⁸ The likelihood of adverse effects appears to be low due to the limited use of the facility site by bald eagles.

Proposed Condition 88 would mitigate the risk to bald eagles from wire strikes and electrocution by placing most of the facility collector lines underground. Proposed Condition 99 would require the certificate holder to design aboveground transmission lines to minimize raptor injury by adhering to the APLIC suggested practices for raptor protection on power lines.³¹⁹ Met towers would be non-guyed structures to eliminate the risk of avian collision with guy-wires, and turbine towers would be smooth tubular structures rather than lattice towers to avoid creating perching opportunities. Proposed Condition 68 would ensure that step-up transformer cabinets at each turbine would be designed to avoid creation of artificial habitat for raptor prey. Proposed Condition 57 would require a 10-foot gravel apron on all sides of turbine towers to reduce weeds and reduce cover for raptor prey near turbines.

As described in the *Wildlife Monitoring and Mitigation Plan* (WMMP), discussed below at page 111, the certificate holder would conduct standardized fatality searches of turbine tower areas during operation and would conduct ongoing monitoring of all facility structures. The certificate holder would notify USFWS, ODFW and the Department of any bald eagle fatalities attributable to collision with wind turbines or other facility structures. Under the WMMP, the Council may require additional mitigation if the fatality rate for raptor species exceeds a level of concern. Based on the limited use of the facility site by bald eagles and considering the mitigation measures that the certificate holder would implement, the Council finds that the design, construction and operation of the proposed facility are not likely to cause a significant reduction in the likelihood of survival or recovery of the bald eagle species.

Washington Ground Squirrel

The WGS is a State-listed endangered species and a federal candidate species.³²⁰ The WGS is found most often in areas that have good cover (annual grasses and forbs) and deep,

³¹⁷ App, Exhibit Q, p. 15.

³¹⁸ App, Exhibit Q, p. 16.

³¹⁹ App, Exhibit DD, p. 7.

³²⁰ A federal Candidate species is a species for which the USFWS has sufficient information on biological status and threats to propose the species for listing as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

1 loose soils with low clay content, enabling burrow excavation. Historically, this species was
2 abundant in sagebrush and native bunchgrass habitat throughout the Columbia plateau east and
3 south of the Columbia River in Washington and Oregon. The current range of the WGS is
4 unknown. The Council has reviewed previous site certificate applications or amendment requests
5 for five wind energy facilities in which active WGS colonies have been reported within or near
6 the facility site boundaries (Stateline Wind Project, Leaning Juniper II Wind Power Facility,
7 Shepherds Flat South, Shepherds Flat Central and Helix Wind Power Facility).

8 The applicant reported WGS detections at fourteen locations within the proposed MWPF
9 site boundary based on surveys conducted from 2006 through 2009.³²¹ In designing current
10 proposed layout of the facility, the applicant moved turbine strings away from WGS habitat.³²²
11 The applicant proposes to conduct additional WGS surveys in 2010 to confirm WGS activity
12 status at locations where previous detections have occurred and to search areas of suitable habitat
13 within the proposed site boundary that have not been surveyed previously.³²³ The Council adopts
14 Condition 94 to ensure that these additional WGS surveys are completed. Before construction
15 begins, a qualified biologist would survey the WGS habitat area to ensure that the sensitive area
16 is correctly marked with exclusion flagging and avoided during construction (Condition 95).

17 Construction and operational activities might occur near areas where WGS are active.
18 WGS might travel into access roads and could be struck by vehicles. The Council adopts
19 Condition 101, which would impose a reduced speed limit of 10-mph from one hour before
20 sunset to one hour after sunrise on roads near known WGS colonies during the active squirrel
21 season.

22 The proposed *Wildlife Monitoring and Mitigation Plan*, incorporated in Condition 91,
23 includes long-term post-construction monitoring of known WGS areas within the site boundary
24 to collect data on WGS activity within the site boundary.

25 Based on the mitigation measures addressed in the site certificate conditions discussed
26 above, the Council finds that the design, construction and operation of the proposed facility are
27 not likely to cause a significant reduction in the likelihood of survival or recovery of the WGS
28 species.

Conclusions of Law

29 For the reasons discussed above, the Council finds that the design, construction and
30 operation of the proposed facility do not have the potential to significantly reduce the likelihood
31 of the survival or recovery of any threatened or endangered plant or wildlife species listed under
32 Oregon law. Based on these findings and subject to the site certificate conditions described
33 herein, the Council concludes that the proposed facility complies with the Threatened and
34 Endangered Species Standard.

³²¹ Response to RAI P7 and revised table Q-2 (App Supp, Exhibit P, p. 6, and Attachment P-4).

³²² App, Exhibit Q, pp. 16-17.

³²³ App, Exhibit Q, p. 13; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

(b) Fish and Wildlife Habitat

OAR 345-022-0060

To issue a site certificate, the Council must find that the design, construction and operation 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. Habitat Mitigation Goals and Standards

In OAR 635-415-0025, 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 are as follows.³²⁴

"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.³²⁵ In addition, a net benefit of habitat quantity or quality must be provided.

³²⁴ 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."

³²⁵ OAR 635-415-0005 defines "in-kind habitat mitigation" as habitat mitigation measures that "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." OAR 635-415-0005 defines "reliable method" as "a mitigation method that has been tested in areas with site factors similar to those affected by a development action and the area in which the mitigation action is being proposed and that has been found (e.g., through field trials, demonstration projects or scientific studies) to produce the habitat effects required to meet the mitigation goal for that action."

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

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

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

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

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

18 The mitigation goal for Category 5 habitat is to provide a "net benefit in habitat quantity
19 or quality." ODFW interprets the "net benefit" goal in the context of Category 5 as requiring
20 "some improvement in habitat quantity or quality."³²⁶ To clarify the "net benefit" goal, ODFW
21 has advised: "The improvement in habitat quantity or quality achieved need not rise to the level
22 of improvement required to meet a goal of 'no net loss' (i.e. the level required or recommended
23 in the Mitigation Policy for Habitat Categories 2, 3, and 4)." The goal is achieved by avoidance
24 of impacts or by mitigation of unavoidable impacts through "actions that contribute to essential
25 or important habitat."³²⁷ ODFW's most recent guidance on mitigation for Category 5 habitat
26 impacts states: "Project proponent to utilize the flexibility inherent in the Mitigation Policy to
27 identify/propose a net benefit action (no mitigation ratio standard)."³²⁸

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

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

B. Baseline Surveys

32 The applicant gathered information from the USFWS and the ORNHIC to identify plant
33 and wildlife species listed or considered as special status species within the site boundary and
34 within 5 miles from the site boundary.³²⁹ In 2006 and 2009, NWC conducted special-status plant
35 and wildlife surveys in those areas of the MWPF site that overlap with the Pebble Springs Wind
36 Project and the Leaning Juniper II Wind Power Facility. In October, November and December
37 2009, CH2M HILL conducted a reconnaissance-level field investigation for plants within the

³²⁶ Letter from Jon Germond, ODFW, January 24, 2008.

³²⁷ OAR 635-415-0025(5)(b).

³²⁸ Memorandum from Roy Elicker, ODFW, June 13, 2008.

³²⁹ App, Exhibit P, pp. 4-12.

1 proposed MWPF site.³³⁰ The survey was limited to areas accessible by secondary roadways
2 throughout the site boundary and areas visited in conjunction with the stream and wetland
3 survey.

4 As discussed above at page 89, one State-listed threatened plant species (Laurent's milk-
5 vetch) was observed within the proposed MWPF site boundary in 2009, and one State candidate
6 plant species (sessile mouse-tail) was observed within the MWPF site boundary in 2006. Habitat
7 suitable for another candidate species (dwarf evening primrose) exists within the MWPF site.
8 Suitable habitat for woven spore lichen and gray cryptantha (which are listed in Washington as
9 threatened) exists within the proposed site boundary, and three species tracked by the ORNHIC
10 (stalked-pod milk-vetch, Columbia milk-vetch and Columbia bladderpod) have been observed
11 within or near the proposed site boundary.³³¹ Additional site surveys will be conducted during
12 the period from May through July 2010 to identify special-status plant species near proposed
13 MWPF components.³³² The Council adopts Condition 95 to ensure that these additional plant
14 surveys are completed.

15 In March 2008, NWC conducted special-status wildlife surveys in a portion of the
16 proposed MWPF site, within suitable habitat.³³³ The applicant identified the following non-listed
17 wildlife species that might occur within the site: long-billed curlew, burrowing owl, Swainson's
18 hawk, ferruginous hawk, golden eagle, loggerhead shrike, grasshopper sparrow, savannah
19 sparrow and white-tailed jackrabbit.³³⁴ As discussed above at page 91, one State-listed
20 endangered wildlife species (WGS), has been observed within the proposed MWPF site
21 boundary during surveys conducted from 2006 through 2009. The applicant proposes to conduct
22 WGS surveys in 2010 to confirm WGS activity status at locations where previous detections
23 have occurred and to search areas of suitable habitat within the proposed site boundary that have
24 not been surveyed previously (Condition 94).³³⁵ The applicant proposes to conduct additional
25 special-status wildlife surveys in 2010 in all facility areas not previously surveyed.³³⁶ The
26 Council adopts Condition 95 to ensure that these additional wildlife surveys are completed prior
27 to construction.

28 NWC conducted a full year of avian use surveys between September 2008 and August
29 2009.³³⁷ In September 2009, NWC began additional avian use surveys at six plots within or near
30 the proposed MWPF site.³³⁸ These surveys will continue through May 2010.³³⁹ The Council
31 adopts Condition 95 to ensure that these additional avian use surveys are completed prior to
32 construction.

³³⁰ Preliminary Rare Plant Habitat Evaluation, Montague Wind Power Facility, Gilliam County, Oregon, technical memorandum, January 20, 2010 (App, Exhibit Q, Attachment Q-1).

³³¹ App, Exhibit P, p. 14.

³³² App, Exhibit Q, p. 7; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

³³³ NWC, *Wildlife and Habitat Studies for Montague Wind Power Facility*, January 7, 2010 (App, Exhibit P, Attachment P-7).

³³⁴ App, Exhibit P, pp. 14-15.

³³⁵ App, Exhibit Q, p. 13; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

³³⁶ App, Exhibit P, p. 15.

³³⁷ App, Exhibit P, p. 15; NWC, *Wildlife and Habitat Studies for Montague Wind Power Facility*, January 7, 2010 (App, Exhibit P, Attachment P-7).

³³⁸ App, Exhibit P, p. 15; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1). The six plots are shown on Figure P-4 (App, Exhibit P).

³³⁹ Email from Sara Parsons, June 21, 2010.

1 The raptor nest survey area includes the proposed MWPF site and the area within two
2 miles from the site boundary. In 2009, NWC surveyed approximately 35 percent of the raptor
3 nest survey area.³⁴⁰ The applicant proposes to survey the remaining portion of the survey area
4 during May and June 2010.³⁴¹ The 2010 survey will include an aerial search as well as ground
5 surveys of suitable raptor nest sites in conjunction with the special-status wildlife surveys,
6 described above. Condition 95 would ensure that these additional raptor nest surveys are
7 completed prior to construction. The applicant would coordinate with other developers
8 conducting raptor nest surveys in 2010 to avoid duplication. The status of Swainson's hawk and
9 ferruginous hawk nests identified in 2009 will be checked, as requested by ODFW.

C. Habitat in the Analysis Area

10 The applicant provided information about compliance with the Habitat Standard in
11 Exhibit P of the application. The analysis area for potential fish and wildlife habitat impacts is
12 the area within the site boundary and the area within ½-mile of the site boundary. To identify the
13 habitat characteristics of the proposed MWPF site, NWC conducted preliminary site
14 reconnaissance in the fall of 2009.³⁴² NWC had prior experience in the area, including wildlife
15 surveys conducted in 2008 and 2009. Wildlife habitat subtypes within the proposed site
16 boundary are similar to habitats studied by NWC for the Leaning Juniper II and Pebble Springs
17 wind projects. The applicant will field-verify and reassess the habitat types and categories, as
18 necessary, after the 2010 special status wildlife surveys.³⁴³

Estimates of the Area Affected

19 To identify the habitat impacts for the likely facility configuration, the applicant
20 estimated the habitat impacts of the "current layout," as shown in Table 6.³⁴⁴ The table also
21 shows the total acres of each habitat subtype within the site boundary. For the current layout, the
22 applicant assumed that 269 wind turbines would be built as shown in Figure C-4 of the
23 application.³⁴⁵ For each tower, a circular area would be permanently affected by the tower and
24 surrounding graveled area (1,660 square feet per turbine).³⁴⁶ During construction, additional area
25 at each tower would be temporarily disturbed. For the purpose of the habitat impact assessment,
26 the applicant assumed a circular area with a diameter of 253 feet at each tower. The applicant
27 estimated the permanent and temporary impacts associated with other facility components,
28 including the O&M facilities, substations, transmission lines and roads as well as laydown areas
29 and crane paths.
30

³⁴⁰ The surveyed area included approximately 50-percent of the area within the proposed site boundary (App, Exhibit P, pp. 15-16); NWC, *Wildlife and Habitat Studies for Montague Wind Power Facility*, January 7, 2010, pp. 10-11 (App, Exhibit P, Attachment P-7).

³⁴¹ App, Exhibit P, p. 16; response to RAI P2 (App Supp, Exhibit P, p. 3, and Attachment P-1).

³⁴² NWC, *Wildlife and Habitat Studies for Montague Wind Power Facility*, January 7, 2010 (App, Exhibit P, Attachment P-7), p. 15.

³⁴³ App, Exhibit P, p. 17.

³⁴⁴ Based on revised Table P-10 (email from Sara Parsons, June 15, 2010). Permanent disturbance includes segments of access roads that would be shared with LJII. Temporary disturbance includes disturbance due to construction of MWPF connector road segments that join the shared road segments and additional temporary disturbance around shared access roads (built earlier for LJII).

³⁴⁵ App, Exhibit C, Figure C-4.

³⁴⁶ App, Exhibit P, p. 50.

Table 6: Current Layout Habitat Impacts

Category and Habitat Description	Habitat Subtype	Acres Within the Site Boundary	Temporary Impact (Acres)	Permanent Impact (Acres)
Category 1				
Developed – CRP or Other Planted Grassland	DC	88.27	0.00	0.00
Grassland – Exotic Annual	GA	59.29	0.00	0.00
Grassland – Native Perennial	GB	54.93	0.00	0.00
Shrub-steppe – Sagebrush (Big Sage)	SSA	107.54	0.00	0.00
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	199.09	0.00	0.00
Subtotal		509.12	0.00	0.00
Category 2				
Exposed Rock on Slopes – Escarpment	ESC	28.67	0.34	0.09
Grassland – Exotic Annual	GA	571.56	68.81	7.53
Grassland – Native Perennial	GB	429.10	21.66	2.25
Shrub-steppe – Sagebrush (Big Sage)	SSA	2,327.02	72.90	17.89
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	895.44	77.59	14.95
Woodland – Juniper	WJ	244.53	5.58	0.97
Woodland – Riparian	WR	2.49	0.00	0.00
Subtotal		4,498.80	246.88	43.68
Category 3				
Developed – CRP or Other Planted Grassland	DC	1,441.81	93.50	15.30
Grassland – Exotic Annual	GA	1,528.83	138.67	20.24
Grassland – Native Perennial	GB	3,137.61	88.71	12.23
Shrub-steppe – Sagebrush (Big Sage)	SSA	344.16	3.14	3.65
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	7,317.19	336.60	44.79
Woodland – Juniper	WJ	41.11	0.30	0.00
Subtotal		13,792.43	660.92	96.20
Category 4				
Developed – Old Field	DB	7.54	0.00	0.00
Grassland – Exotic Annual	GA	1,049.39	46.86	6.51
Grassland – Native Perennial	GB	193.24	4.82	0.48
Shrub-steppe – Sagebrush (Big Sage)	SSA	21.90	0.04	< 0.01
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	174.77	10.46	1.64
Subtotal		1,446.83	62.18	8.62

Category 6				
Developed – Irrigated Agriculture	DI	270.76	6.32	2.77
Developed – Dryland Wheat	DW	12,700.15	787.04	95.17
Developed – Other	DX	248.6	14.61	10.37
Subtotal		13,219.51	807.98	108.31
Total Area		33,484.97	1,777.95	256.81

For microsites purposes, the applicant estimated the maximum habitat impacts of the proposed MWPF. To estimate maximum impacts, the applicant shifted the component locations shown in Figure C-4 into higher-rated habitats within the microsites areas (excluding Category 1 habitat). The applicant illustrated the hypothetical maximum habitat impacts layout in Figure P-9 of the application.³⁴⁷ The estimated maximum habitat impacts of the facility are shown in Table 7.³⁴⁸

Table 7: Maximum Habitat Impacts

Category and Habitat Description	Habitat Subtype	Temporary Impact (Acres)	Permanent Impact (Acres)
Category 1			
Developed – CRP or Other Planted Grassland	DC	0.00	0.00
Grassland – Exotic Annual	GA	0.00	0.00
Grassland – Native Perennial	GB	0.00	0.00
Shrub-steppe – Sagebrush (Big Sage)	SSA	0.00	0.00
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	0.00	0.00
Subtotal		0.00	0.00
Category 2			
Exposed Rock on Slopes – Escarpment	ESC	0.34	0.09
Grassland – Exotic Annual	GA	81.26	13.36
Grassland – Native Perennial	GB	21.66	2.25
Shrub-steppe – Sagebrush (Big Sage)	SSA	96.30	20.11
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	77.60	14.93
Woodland – Juniper	WJ	16.33	1.99
Woodland – Riparian	WR	0.00	0.00
Subtotal		293.49	52.74

³⁴⁷ App, Exhibit P, Figures P-9 and P-9a through P-9d.

³⁴⁸ Based on Table P-11 (App, Exhibit P, pp. 53-54), modified by adding temporary and permanent disturbance from the shared access roads as shown on revised Table P-10 (email from Sara Parsons, June 15, 2010). Permanent disturbance includes segments of access roads that would be shared with LJII. Temporary disturbance includes disturbance due to construction of MWPF connector road segments that join the shared road segments and additional temporary disturbance around shared access roads (built earlier for LJII).

Category 3			
Developed – CRP or Other Planted Grassland	DC	91.88	15.25
Grassland – Exotic Annual	GA	132.82	14.75
Grassland – Native Perennial	GB	91.10	12.35
Shrub-steppe – Sagebrush (Big Sage)	SSA	3.32	3.65
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	321.49	42.12
Woodland – Juniper	WJ	0.30	0.00
Subtotal		640.91	88.11
Category 4			
Developed – Old Field	DB	0.00	0.00
Grassland – Exotic Annual	GA	36.91	6.30
Grassland – Native Perennial	GB	2.28	0.59
Shrub-steppe – Sagebrush (Big Sage)	SSA	0.04	< 0.1
Shrub-steppe – Rabbitbrush/Snakeweed	SSB	12.96	1.64
Subtotal		52.19	8.53
Category 6			
Developed – Irrigated Agriculture	DI	6.32	2.77
Developed – Dryland Wheat	DW	770.27	94.20
Developed – Other	DX	14.61	10.37
Subtotal		791.20	107.34
Total Area		1,777.79	256.73

The maximum habitat impacts analysis allows for facility micrositing while ensuring that the certificate holder could mitigate for the habitat impacts of any micrositing configuration. The maximum habitat impacts analysis shapes the upper bounds of the quantity and quality of mitigation acres that would be required. The Council adopts Condition 31, which would require the certificate holder to provide to the Department a description of the final design configuration and an assessment of the affected habitats before beginning construction. Condition 31 requires consultation with ODFW at the time of the pre-construction habitat assessment and allows the Department to employ a qualified contractor to confirm the habitat assessment by on-site inspection. The actual habitat impacts and the size of the mitigation area required under the *Habitat Mitigation Plan* that is incorporated in Condition 93 are determined according to the final configuration of facility components.

The proposed facility would have no temporary or permanent impacts on Category 1 habitat. The requirement to avoid Category 1 habitat is incorporated in Condition 95. In the maximum impacts layout, 17-percent of the permanent and temporary impacts would be on Category 2 habitat and 39-percent of the impacts would be on Category 3 and Category 4 habitat. The final design of the facility would likely have less impact on these “essential” or “important” wildlife habitat types. For comparison, under the current layout, based on Table 6, 14-percent of the permanent and temporary impacts would be on Category 2 habitat and 40-percent of the impacts would be on Category 3 and Category 4 habitat.

1 **Description of Habitat in the Analysis Area**

2 **Category 1 Habitat**

3 Category 1 habitat in the analysis area includes grassland, shrub-steppe and developed
4 subtypes that are classified as Category 1 habitat due to detections of WGS in or near these
5 areas.³⁴⁹ Within the site boundary, there are approximately 509 acres of Category 1 habitat.
6 Grassland habitat subtypes include native perennial grassland and exotic annual grasslands that
7 are similar in vegetative cover and ecological condition to the immediately adjacent Category 2,
8 3 or 4 grasslands. This habitat provides essential foraging habitat for various common resident
9 and migratory birds and common mammals. Shrub-steppe habitats include sagebrush (Big Sage)
10 shrub-steppe (SSA) and rabbitbrush/snakeweed shrub-steppe (SSB) subtypes. These two habitat
11 subtypes provide high-quality breeding habitat for shrub obligate species including loggerhead
12 shrike and white-tailed jackrabbit as well as foraging, cover and nesting habitat for grasshopper
13 sparrows and white-tailed jackrabbit, as well as common birds and mammals. The developed
14 land subtype consists of Conservation Reserve Program (CRP) land and other planted
15 grasslands.³⁵⁰ The Category 1 developed land shares the same vegetative cover and ecological
16 conditions as neighboring Category 3 developed habitat within the site boundary. This habitat
17 supports white-tailed jackrabbits and savannah sparrows as well as grasshopper sparrows and
18 western meadowlarks that are commonly found in this habitat subtype.

19 ODFW guidance applies to the classification of habitat near locations where WGS have
20 been detected. ODFW guidance states that “a single occupied WGS burrow and a 785-foot
21 buffer of suitable habitat around the burrow, would all be considered Category 1 habitat, since it
22 is all considered required habitat for squirrel survival.”³⁵¹ ODFW has defined a “colony” as “the
23 cluster of holes as well as the required habitat for squirrel survival” and ODFW defined
24 “required habitat for squirrel survival” as the area “depicted by a 785-foot ring around the
25 outside of the cluster of holes where the Washington ground squirrels are residing.”³⁵² ODFW
26 has advised that “the Category 1 required habitat for squirrel survival can be less than 785 feet
27 from the outer edge of clusters of holes when interrupted by habitat types not suitable for
28 foraging or burrow establishment.”³⁵³

29 In response to the Department’s request for further clarification, ODFW explained that a
30 single WGS burrow hole would be considered Category 1 habitat “as long as there is current
31 activity at the site.”³⁵⁴ ODFW advised that if activity does not persist from one year to the next,
32 then a single hole may lose its Category 1 designation: “For example if a single active WGS hole
33 was found one year and the following year that hole was not active the hole location plus the 785
34 foot buffer surrounding the hole would no longer be considered Category one habitat.” The same
35 determination would apply to a cluster of holes where activity does not persist from year to year.

³⁴⁹ App, Exhibit P, pp. 22-23.

³⁵⁰ 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.

³⁵¹ Letter from Rose Owens, ODFW, December 3, 2009.

³⁵² Letter from Rose Owens, ODFW, September 15, 2008 (App, Exhibit P, Attachment P-2).

³⁵³ Ibid.

³⁵⁴ Letter from Steve Cherry, ODFW, March 15, 2010 (received by email on March 25, 2010).

1 If activity around a cluster of holes persists, but the area of activity is reduced in a later survey,
2 then ODFW would consider "the largest extent of the active colony that has been determined
3 through surveys" to be considered Category 1 habitat. The Department incorporated the ODFW
4 guidance in Condition 94, which requires the certificate holder to determine the boundaries of
5 Category 1 WGS habitat based on the locations where the squirrels were found to be active in the
6 most recent WGS survey prior to the beginning of construction.

7 Category 2 Habitat

8 The areas rated as Category 2 within the site boundary include four habitat subtypes.
9 Shrub-steppe habitats include sagebrush shrub-steppe (SSA) and rabbitbrush/snakeweed shrub-
10 steppe (SSB) subtypes.³⁵⁵ There are approximately 3,222 acres of Category 2 shrub-steppe
11 habitat within the site boundary. The SSA subtype consists of an overstory of mature patches of
12 sagebrush and an occasional western juniper. Understory plants consist of native bunchgrasses
13 and exotic annual grasses. Category 2 SSA has a higher shrub density and greater plant health
14 compared to Category 3 SSA. Category 2 SSA is found on deep soils, usually on slopes or in
15 draws that prevent agricultural use. The habitat offers high-quality breeding habitat for shrub
16 obligate species including loggerhead shrike. The SSB subtype consists of an overstory
17 dominated by gray rabbitbrush. There are small patches of big sagebrush. Snakeweed is the
18 dominant mid-height structure. Understory plants are primarily native and non-native
19 bunchgrasses. Annual cereal rye is present in swales and deeper soils where disturbance has
20 removed most of the native vegetation. Weeds are common in some in parts of the SSB habitat
21 as a result of recent fires or land use practices. Category 2 SSB provides foraging, cover and
22 nesting habitat for grasshopper sparrows and white-tailed jackrabbit as well as common horned
23 lark and western meadowlark.

24 The grassland subtypes include native perennial grassland (GB) and exotic annual
25 grasslands (GA). The GA subtype consists of non-native weeds with occasional patches of native
26 bunchgrass. The high weed content has been caused primarily by recent hot fires, which burned
27 native shrubs and bunchgrasses, followed by heavy grazing and wind erosion. The dense weed
28 areas limit the ability of wildlife species to use these areas for forage or cover. The Category 2
29 GA grasslands occur as a large contiguous area on a broad open flat and provide important
30 nesting habitat for long-billed curlews. The GB subtype consists primarily of perennial
31 bunchgrasses. Soils appear to be generally medium to deep. Some native forbs and low shrubs
32 are present in these areas. Non-native grasses (cheatgrass, bulbous bluegrass and annual cereal
33 rye) and snakeweed are present. The non-native grasses and the snakeweed are typical
34 throughout the Columbia Basin, but non-native plants are generally less extensive in Category 2
35 grasslands than in Category 3 and 4 grasslands. Deep soil native bunchgrass sites in good-to-
36 excellent condition are limited. Category 2 GB grasslands provide essential foraging habitat to
37 common resident and migratory birds and common mammals. There are approximately 1,001
38 acres of Category 2 GA and GB grasslands within the site boundary.

39 There are approximately 247 acres of Category 2 woodland areas, consisting
40 predominantly of the juniper woodland (WJ) subtype. Only about 2.5 acres of riparian woodland
41 (WR) are present. Category 2 WJ consists of an open canopy of mature western juniper. The
42 most common understory is sagebrush or bunchgrass. In more heavily used areas, the understory
43 consists of annual grasses and weeds. Category 2 WJ habitat provides potential nesting habitat

³⁵⁵ App, Exhibit P, pp. 23-26.

1 for ferruginous and Swainson's hawks and potential foraging and nesting habitat for loggerhead
2 shrikes. This habitat also provides potential foraging and breeding habitat for short-horned and
3 sagebrush lizards. The WR subtype is limited to a narrow, intermittent linear stream course in
4 Eightmile Canyon. The primary overstory consists of willows and some black cottonwood trees.
5 This woodland habitat provides essential nesting habitat for ferruginous and Swainson's hawks.
6 Category 2 WR habitat may provide important roosting habitat for bats, important thermal cover
7 for mule deer, and nesting and migration habitat for passerines.

8 The escarpment subtype (ESC) consists of linear basalt outcroppings on steeper slopes on
9 canyon edges and shoulders, such as along Eightmile Canyon. Soils are absent or very shallow,
10 but pockets of deeper soils are present in swales located in areas with less exposed basalt and
11 fewer cliffs. Sparse vegetative cover consists of Sandberg's bluegrass, non-native grasses and
12 various native and non-native forbs. Category 2 ESC habitats provide critical nesting substrate
13 and perching sites for raptors, crevices for bats and habitat for some passerines. Escarpments
14 provide shade and thermal cover for deer and may also provide home sites for wood rats and
15 marmots. There are approximately 29 acres of escarpment habitat within the site boundary.

16 Category 3 Habitat

17 The applicant identified four Category 3 habitat types.³⁵⁶ The largest, shrub-steppe,
18 consists of approximately 7,661 acres of sagebrush shrub-steppe (SSA) and
19 rabbitbrush/snakeweed shrub-steppe (SSB) subtypes. These subtypes are similar to the Category
20 2 SSA and SSB subtypes, described above, but tend to be weedier and less biologically diverse
21 with obvious signs grazing and other ongoing uses. The SSA subtype consists of small patches of
22 mature sagebrush lacking the density and plant health of Category 2 SSA. The understory
23 consists of annual grasses and low weeds. These areas historically were higher-quality habitats
24 but are experiencing degradation caused by land use practices or frequent fires. The mature shrub
25 cover still provides escape and resting cover for common wildlife and high-quality breeding
26 habitat for shrub obligate species. Category 3 SSB is the most abundant shrub-steppe subtype
27 within the site boundary. Native rabbitbrush and other low-stature plants such as snakeweed and
28 buckwheat are common. Many of these areas contain small patches of sagebrush that are less
29 than 1 acre in size. Category 3 SSB provides foraging, cover and nesting habitat for grasshopper
30 sparrows and white-tailed jackrabbit, as well as common horned lark and western meadowlark.

31 There are approximately 4,666 acres of Category 3 native perennial grasslands (GB) and
32 exotic annual grasslands (GA). The Category 3 GA subtype is similar in vegetation composition
33 and ecological condition as the Category 4 GA grasslands described below, but the Category 3
34 areas occur as large contiguous areas on broad open flats and provide important nesting habitat
35 for long-billed curlews. The Category 3 GB subtype is dominated by the same perennial grasses
36 found in Category 2 GB, but these habitats have been altered through land use or wildfires or are
37 more sparsely vegetated. They generally have a higher composition of non-native vegetation.
38 The Category 3 GB subtype generally occurs in locations that have shallower soils and harsher
39 exposures or in areas that have experienced livestock grazing or frequent fires. The GB habitats
40 provide essential foraging habitat for common resident and migratory birds and common
41 mammals.

³⁵⁶ App, Exhibit P, pp. 26-29.

Category 3 CRP or Other Planted Grasslands (DC subtype) are planted grasslands that may be enrolled in the federal CRP. Older plantings may contain a sparse, naturally seeded component of rabbitbrush, snakeweed or sagebrush. Grasshopper sparrows and western meadowlarks are commonly found in this habitat. There are approximately 1,442 acres of Category 3 DC habitat within the site boundary.

There are approximately 41 acres of Category 3 juniper woodland (WJ) habitat within the site boundary. The Category 3 WJ areas are smaller in size and sparser in canopy cover than the Category 2 WJ areas and have a weedier understory. Category 3 WJ habitat is limited and provides potential nesting habitat for ferruginous and Swainson's hawks and potential foraging and nesting habitat for loggerhead shrikes.

Category 4 Habitat

The Category 4 habitat within the site boundary consists of grassland, shrub-steppe and developed habitat areas. There are approximately 1,243 acres of Category 4 native perennial grasslands (GB) and exotic annual grasslands (GA) within the site boundary. The Category 4 GA grasslands are non-native grasslands with a very high weed component. The high weed content has been caused primarily by recent hot fires, which burned native shrubs and bunchgrasses, followed by heavy grazing and wind erosion. Category 4 GA habitat is found commonly throughout the Columbia Basin. It provides important habitat for common species but lacks native grasses. Small patches of Category 4 GB grassland are ecologically similar to the Category 3 GB subtype, but they are classified as Category 4 because of their small size and isolated nature, which limit the value of the habitat for wildlife. Nevertheless, Category 4 GB habitat provides important foraging habitat for various common resident and migratory birds and common mammals.

Category 4 shrub-steppe habitat consists of sagebrush shrub-steppe (SSA) and rabbitbrush/snakeweed shrub-steppe (SSB) subtypes. There are approximately 197 acres of Category 4 SSA and SSB shrub-steppe habitat within the site boundary. Category 4 shrub-steppe habitats provide escape and resting cover for common wildlife. Category 4 SSA consists of mature sagebrush that has been affected to varying degrees from recent wildfires. Category 4 SSB has a greater weed and annual grass component than does Category 3 SSB.

There are approximately 7.5 acres of Category 4 Old Field (DB) habitat within the site boundary. This habitat consists of a small area in the northern portion of the site that was cultivated previously and has been left to reseed naturally. Common vegetation consists of cheatgrass, Russian thistle, tumble mustard, annual cereal rye and bulbous bluegrass. Native vegetation, when present, is a minor component. Category 4 DB provides foraging habitat for horned larks and western meadowlarks.

Category 5 Habitat

The applicant did not identify any Category 5 habitat within the site boundary.

Category 6 Habitat

The applicant identified three Category 6 habitat types. Dryland wheat (DW) habitat is the largest habitat subtype within the site boundary (approximately 12,700 acres). This subtype consists of agricultural fields that are currently in small grain production or fallow. The irrigated agriculture (DI) subtype (approximately 271 acres) consists of agricultural crop or pasture fields that are irrigated for all or a portion of the growing season. The Category 6 Other (DX) subtype

1 (approximately 249 acres) consists of farm or ranch home and shop sites, corrals, structures,
2 feedlots, inactive and active gravel quarries, non-irrigated pastures, gravel and paved roads,
3 rights-of-way and other areas associated with human activities. Special-status or sensitive
4 wildlife species are not likely to frequent Category 6 habitats due to the high level of
5 disturbance.

D. Sensitive Wildlife Species in the Analysis Area

6 State-listed threatened and endangered wildlife species are discussed above at page 90. In
7 addition, under OAR 635-100-0040, a wildlife species is eligible to be included on the Sensitive
8 Species list if “its numbers are declining at a rate such that it may become eligible for listing as a
9 threatened species” or if “its habitat is threatened or declining in quantity or quality such that it
10 may become eligible for listing as a threatened species.” ODFW has established four categories
11 of Sensitive Species: “Critical” (species for which listing as Threatened or Endangered is
12 pending or may be appropriate if immediate conservation actions are not taken), “Vulnerable”
13 (species for which listing as Threatened or Endangered is not believed to be imminent and can be
14 avoided through continued or expanded use of adequate protective measures and monitoring),
15 “Peripheral or Naturally Rare” (peripheral species are species whose Oregon populations are on
16 the edge of their range; naturally rare species have had low population numbers historically in
17 Oregon because of naturally limiting factors) and “Undetermined Status” (scientific study is
18 needed to determine if the species is susceptible to population decline and qualified for
19 Threatened, Endangered, Sensitive - Critical or Sensitive - Vulnerable status).

20 Table 8 lists State Sensitive Species that have been observed within the proposed MWPF
21 site boundary or within a 5-mile buffer outside the site boundary.³⁵⁷

³⁵⁷ Based on Table P-1 (App, Exhibit P, pp. 5-12). Federal “Species of Concern” are species whose conservation status is of concern to the USFWS but for which further information is needed. Such species have no legal protection. The term “Species of Concern” is not defined in the federal Endangered Species Act. “Birds of Conservation Concern” are species of migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act. The USFWS lists species as “Birds of Conservation Concern” under a 1988 amendment to the Fish and Wildlife Conservation Act.

Table 8: State Sensitive Wildlife Species Observed

Species	Federal Status	State Status
Birds		
Ferruginous hawk (<i>Buteo regalis</i>)	Species of Concern (SoC) and Birds of Conservation Concern (BCC)	Sensitive – Critical (SC)
Western burrowing owl (<i>Athene cunicularia</i>)	SoC and BCC	SC
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	none	Sensitive - Vulnerable (SV)
Loggerhead shrike (<i>Lanius ludovicianus</i>)	BCC	SV
Long-billed curlew (<i>Numenius americanus</i>)	BCC	SV
Sage sparrow (<i>Amphispiza belli</i>)	BCC	SC
Swainson's hawk (<i>Buteo swainsoni</i>)	BCC	SV
Mammals		
Fringed myotis (<i>M. thysanodes</i>)	SoC	SV
White-tailed jackrabbit (<i>Lepus townsendii</i>)	none	Sensitive - Undetermined Status (SU)
Reptiles		
Northern sagebrush lizard (<i>Sceloporus graciosus graciosus</i>)	SoC	SV

Golden Eagle

The golden eagle is not a State-listed or federally-listed threatened or endangered species; nor is it a State Sensitive Species. Golden eagles, however, are protected under the federal Migratory Bird Treaty Act and under the Bald and Golden Eagle Protection Act. In commenting on the application, USFWS recommended golden eagle surveys, project design to avoid golden eagle fatalities and monitoring consistent with USFWS interim protocols.³⁵⁸

Golden eagles may be present at times within the site boundary, but the closest known historic nest site is approximately 1.9 miles from the site.³⁵⁹ The nest was not active in 2009. Unlike bald eagles, which tend to feed on fish or scavenge, golden eagles are predators and move through the landscape in search of upland prey.³⁶⁰ No golden eagles were formally observed within the search areas during avian use surveys in 2008 and 2009, but investigators recorded two golden eagle sightings while in transit during the winter and fall surveys and a third sighting in the fall outside a survey plot. In addition, golden eagles have been observed infrequently

³⁵⁸ Letter from Nancy Gilbert, USFWS, May 28, 2010. The USFWS protocols are as described in *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (February 2010).

³⁵⁹ App, Exhibit P, p. 75.

³⁶⁰ App, Exhibit P, Attachment P-7, p. 37.

1 during the avian use studies conducted for the Leaning Juniper II, Pebble Springs and Willow
2 Creek wind projects.³⁶¹

3 The applicant's cumulative impacts analysis included an estimate of the impact of
4 regional wind energy development on golden eagles.³⁶² WEST found that only one golden eagle
5 fatality has been recorded at a wind energy facility in the Columbia Plateau region.³⁶³ This single
6 fatality represents 1.4 percent of the recorded raptor fatalities in the region.³⁶⁴ Based on the
7 estimate of 516 raptor fatalities per year resulting from the operation of 6,700 MW of wind
8 energy, WEST calculated that there could be seven golden eagle fatalities per year. The breeding
9 population of golden eagles in the region is estimated to be 1,770.³⁶⁵ Assuming for sake of
10 analysis that all of the fatalities would be to breeding birds, WEST calculated that the fatalities
11 would represent 0.4 percent of the breeding population. WEST noted that actual fatalities would
12 likely be spread among migrants, winter residents and juveniles as well as adults and that the
13 fatalities of adult golden eagles that breed in the region would likely be less than 0.4 percent.
14 Considering published data on background golden eagle mortality, WEST concluded that
15 additional losses of less than 0.4 percent "would not likely have measurable population
16 consequences for golden eagles."

17 Based on the data collected on golden eagles and other raptors, the applicant designed the
18 MWPF to avoid high avian use areas and cliff faces.³⁶⁶ The Council adopts Condition 99, which
19 addresses facility design measures to reduce potential adverse effects to avian species. Condition
20 91 incorporates the WMMP, which would require the certificate holder to conduct short-term
21 and long-term raptor nest monitoring to determine whether operation of the facility results in a
22 reduction of nesting activity or nesting success in the local populations of golden eagles and
23 other raptors. In addition, the WMMP includes two years of fatality monitoring for all avian
24 species at the facility site during operation and provides for additional mitigation if fatality rates
25 for golden eagles (or any individual species) are found to be higher than expected and at a level
26 of biological concern. The WMMP also requires the certificate holder to report to the USFWS on
27 any fatalities of species protected under the Migratory Bird Treaty Act found during fatality
28 monitoring or found anytime by maintenance personnel.

E. Potential Habitat Impacts

Construction

30 Construction of the proposed MWPF would result in permanent loss of wildlife habitat
31 (during the life of the facility) for the area that facility components would occupy. As shown in
32 Table 6 and Table 7, there would be a permanent loss of approximately 149 acres of habitat rated
33 as "important" or "essential" to wildlife species (Categories 2 through 4). There would be no
34 impact on Category 1 habitat (Condition 95). Permanent loss of Category 6 habitat would
35 amount to approximately 108 acres under the current layout. Altogether, the permanent footprint
36 of facility components in the current layout would occupy approximately 257 acres of habitat in

³⁶¹ App, Exhibit P, Attachment P-7, p. 47.

³⁶² App Supp, Attachment P-5 pp. 8-11. See further discussion of the WEST cumulative impacts analysis above at page 80.

³⁶³ App Supp, Attachment P-5, Table 3.

³⁶⁴ App Supp, Attachment P-5, p. 8.

³⁶⁵ App Supp, Attachment P-5, p. 11.

³⁶⁶ Email from Jeffrey Durocher, June 10, 2010.

all categories within a microsite area of 33,485 acres, or less than 1-percent of the land within the site boundary.

The temporary use of laydown areas during construction, widening of roads, trenching for underground collector lines and other ground-disturbing construction activities would result in temporary impacts. In the current layout, these temporary impacts would affect approximately 970 acres of "important" or "essential" wildlife habitat (Categories 2 through 4) under the current layout ranging up to 987 acres in the maximum-impact layout. Temporary disturbance of Category 6 habitat (mostly cultivated fields) under the current layout would affect approximately 808 acres.

Some areas of temporary disturbance would be heavily affected by construction, resulting in loss of vegetation and heavy soil compaction. In other areas, the construction impacts would be lighter, resulting in crushed (but viable) vegetation and less soil compaction. Although the certificate holder would be required to restore the areas of temporary disturbance, the habitat would be in a degraded condition for the period after completion of construction activities until restoration success is achieved. The Department refers to this period as a "temporal impact" on habitat quality resulting from facility construction.

In addition to direct habitat disturbance, potential impacts to wildlife include wildlife fatalities or injuries as a result of incidental strikes by construction equipment. Because large construction equipment, such as cranes, would be stationary for much of the time or would move slowly across the site, there is likely to be a low risk of avian and bat fatalities from such equipment. There could be an increased risk of avian fatalities from destruction of nest sites for ground-nesting species, unless nesting habitat is avoided during construction. Construction would increase the volume of truck and small vehicle traffic on roads throughout the site, increasing the risk that vehicles could strike wildlife resulting in injuries or death. Construction activity and noise could cause wildlife to avoid nearby habitat areas and could affect breeding and fledging success.

If construction activities are scheduled to occur during the sensitive breeding season for raptors, construction noise and human activity near active nests could adversely affect raptor nesting or fledging success. In 2009, 42 active raptor nests were identified within the proposed MWPF site boundary and a 2-mile buffer outside the site boundary.³⁶⁷ Approximately 65 percent of the raptor nest survey area has not been searched, and surveys of this remaining area will be conducted in 2010 (Condition 95). Because the surveys are incomplete, raptor nest density cannot be calculated. Raptor nest density is likely to be similar to neighboring projects, such as Leaning Juniper II (0.41 nests per square mile), Pebble Springs (0.26 nests per square mile) and Shepherds Flat (0.11 nests per square mile).³⁶⁸

The applicant reported WGS detections at fourteen locations within the proposed MWPF site boundary based on surveys conducted in between 2006 and 2009.³⁶⁹ Additional WGS surveys will be conducted in 2010 (Condition 94). Construction activities within or near WGS

³⁶⁷ App, Exhibit P, Attachment P-7, p. 31.

³⁶⁸ App, Exhibit P, Attachment P-7, Table 14.

³⁶⁹ Thirteen detections are listed in Table 15 of the wildlife and habitat report (App, Exhibit P, Attachment P-7). The table notes that an additional detection (site 25) was described in the "Leaning Juniper IIB documents" (Leaning Juniper II Request for Amendment #1, Attachment 7, Table 12).

colonies could adversely affect WGS if construction occurs during the spring season when WGS are active.

Operation

Operation of the proposed MWPF could have adverse impacts on avian and bat species. Resident birds flying within the site and migrating birds and bats flying through the area could be injured or killed by collisions with the wind turbine towers or blades. Guy-wires that are sometimes used to support met towers are a potential flight obstacle and source of injury to avian species. Electrocution due to contact with inappropriately designed aboveground transmission lines could affect certain avian species. Potential avian and bat injuries or fatalities due to interaction with wind turbines, guy-wires and transmission lines (or with vehicles or other equipment) may be viewed as an indirect impact on the quality of the surrounding habitat. Other potential impacts include abandonment of habitat near wind turbines due to disturbance caused by turbine operation, noise and facility maintenance activities. Disturbance could cause displacement of wildlife from nesting, burrowing, breeding or foraging sites

The applicant's cumulative impacts analysis (discussed above at page 81) included estimated turbine-related avian and bat fatality rates for the region based on data collected at 11 wind energy facilities in the region. Estimates of the fatalities anticipated to occur at the proposed MWPF may be made by applying the mean fatality rates from the cumulative impacts analysis to the maximum MWPF build-out of 404 MW of generating capacity. The predicted annual avian fatalities at the MWPF would be approximately 1,010 birds, including 32 raptor fatalities, and the predicted annual bat fatalities would be approximately 485 bats.³⁷⁰

F. Mitigation and Monitoring

ODFW Mitigation Standards

In OAR 635-415-0025, ODFW has established the following levels of mitigation for each habitat category:

Table 9: 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 5	A net benefit in habitat quantity or quality through actions that contribute to essential or important habitat.
Category 6	Minimize direct habitat loss and avoid impacts to off-site habitat.

³⁷⁰ The Department calculated these estimates by multiplying the maximum generating capacity of the proposed MWPF (404 MW) by the mean fatality rates per MW/year shown in the cumulative impacts analysis (App Supp, Attachment P-5, pp. 5-6) and rounding up to the nearest whole number.

1 The Council has previously approved site certificates for wind energy facilities before the
2 final layout has been decided and the actual habitat impacts are known. This practice has enabled
3 the wind energy industry to obtain construction financing before the final micro-siting and design
4 engineering decisions are made. Micro-siting considerations include the size of the turbine
5 selected and available for the project, optimization of capture of the wind energy resource,
6 geotechnical factors, avoidance of higher-value wildlife habitat and reduction of adverse impacts
7 on accepted farm practices in the area. The Council follows the same practice for the proposed
8 MWPF. Under Condition 31, the certificate holder would provide to the Department a
9 description of the final design layout of facility components and an assessment of the affected
10 habitat before beginning construction. The actual habitat impacts would be determined according
11 to the final layout.

12 **Avoidance**

13 The ODFW goals and standards in OAR 635-415-0025 indicate a preference for
14 avoidance of impacts on habitat in Categories 1 through 5. The applicant has proposed to avoid
15 permanent and temporary disturbance to all Category 1 habitat within the site boundary.³⁷¹
16 Condition 95 would require the certificate holder to avoid disturbance of Category 1 habitat.
17 Under either the maximum-impact layout or the current layout, the proposed MWPF would have
18 both permanent and temporary impacts on habitat in Categories 2, 3, 4 and 6. In the current
19 layout, 55-percent of permanent and temporary impacts (1,118 acres) would occur on habitat in
20 Categories 2, 3 and 4, and 45-percent of the permanent and temporary impacts (916 acres) would
21 occur on Category 6 habitat (see discussion above at page 96). The applicant proposes to locate
22 facility components to avoid or minimize temporary and permanent impacts to high quality
23 native habitat and to retain habitat cover in the general landscape (Condition 95).³⁷²

24 **Mitigation of Permanent Impacts**

25 The permanent footprint of the proposed facility would potentially affect habitat in
26 Categories 2, 3, 4 and 6. Category 2 habitat is considered "essential" habitat that is "limited."
27 The ODFW mitigation goal is "no net loss" of either habitat quality or quantity plus a "net
28 benefit" of quality or quantity. Category 3 and Category 4 habitats are considered "essential" or
29 "important" wildlife habitats, and the ODFW mitigation standard is "no net loss." Category 6
30 habitat has "low potential to become essential or important wildlife habitat," and the ODFW
31 mitigation goal is to minimize impacts.

32 Reducing the impact on higher-value wildlife habitat necessarily results in an increase in
33 impact on agricultural lands (Category 6 habitat). The Council adopts Condition 39, which
34 would require the certificate holder to design components of the facility to occupy the minimum
35 area needed for safe operation and to locate components to minimize disturbance of farming
36 practices.

37 The applicant proposes to establish a habitat mitigation area (HMA) to address the
38 permanent impacts to habitat in Categories 2, 3 and 4.³⁷³ The protected mitigation area would
39 replace wildlife habitat lost due to the footprint of permanent facility components within the
40 facility site and offset the temporal loss of habitat quality due to construction disturbance,

³⁷¹ App, Exhibit P, p. 83.

³⁷² App, Exhibit P, p. 83.

³⁷³ App, Exhibit P, p. 87.

1 discussed below. The HMA would include 2 acres of protected habitat for every acre of
2 permanent impact to Category 2 habitat (a 2:1 ratio).³⁷⁴ The land in the HMA designated for
3 mitigation of Category 2 impacts would have to be of Category 2 quality or be capable of
4 enhancement to achieve Category 2 quality within a reasonable time. The HMA would include 1
5 acre for every acre of permanent impacts to Category 3 and 4 habitats (a 1:1 ratio). As with the
6 Category 2 mitigation, the portion of the HMA designated as mitigation for Category 3 and 4
7 impacts would have to currently possess, or be capable of achieving, habitat quality matching the
8 quality category of the land it is serving to mitigate.

9 Habitat Mitigation Plan

10 The applicant proposed to use a portion of a 440-acre parcel of land that has already been
11 approved by the Department and ODFW for use, in part, as a mitigation area for Leaning Juniper
12 II.³⁷⁵ Within the 440-acre parcel, 252 acres are protected by conservation easements for Leaning
13 Juniper II and other wind energy projects, leaving 188 acres potentially available for use as a
14 mitigation area for the proposed MWPF.³⁷⁶ The applicant has identified an additional potential
15 mitigation site that could be used if more than 188 acres are needed for mitigation of the MWPF
16 habitat impacts. The additional site, near Olex in Gilliam County, includes habitat enhancement
17 opportunities adjacent to or near CRP lands and other conservation easements in native
18 habitat.³⁷⁷ Together with these other conserved lands, the site could potentially create a large
19 block of grassland and shrub-steppe habitat (800 acres or more) with a nearby perennial stream.
20 ODFW has agreed that the site is suitable for habitat mitigation.³⁷⁸

21 The Council adopts Condition 93, which would require the certificate holder to protect
22 and enhance a mitigation area as described in the *Habitat Mitigation Plan*. The *Habitat*
23 *Mitigation Plan* is incorporated herein as Attachment C. ODFW has reviewed and approved the
24 plan.³⁷⁹ Before beginning construction, the certificate holder would calculate the size of the
25 HMA according to the final design configuration of the facility and the estimated areas of habitat
26 affected in each ODFW category, and the certificate holder would acquire the legal right to
27 create, enhance, maintain and protect the HMA for the life of the facility. The certificate holder
28 may use either of the two potential mitigation areas described above or may select a different
29 area that is consistent with the *Habitat Mitigation Plan* and approved by ODFW.

30 The purpose of the *Habitat Mitigation Plan* is to enhance and protect the habitat quality
31 of the mitigation area by implementing the actions described in the plan. The certificate holder
32 would monitor the mitigation area to assess progress toward meeting success criteria. The plan
33 describes monitoring and reporting procedures and the criteria for evaluating the success of
34 habitat mitigation.

³⁷⁴ Draft Habitat Mitigation Plan (App Supp, Attachment P-6).

³⁷⁵ A detailed description of the characteristics of the 440-acre parcel is included in the *Final Order on the Application for the Leaning Juniper II Wind Power Facility*, September 21, 2007, pp. 97-100.

³⁷⁶ App Supp, Exhibit P, p. 13. The 440-acre parcel is shown in Figures P-10 and P-11 of the application (App, Exhibit P).

³⁷⁷ Email from Sara Parsons, May 20, 2010.

³⁷⁸ Email from Steve Cherry, ODFW, May 20, 2010.

³⁷⁹ Email from Steve Cherry, ODFW, March 18, 2010.

1 **Mitigation of Temporary Impacts**

2 Habitat in Categories 2, 3 and 4 would be disturbed during construction of the facility.
3 This additional disturbance area would be temporary, until successful habitat restoration has
4 been achieved.

5 The applicant proposes to minimize temporary construction disturbance by limiting
6 construction activity to the approved and surveyed areas as shown on maps provided to the
7 construction contractors.³⁸⁰ The Council adopts Condition 98, which incorporates this
8 commitment. The applicant proposes to restore habitat temporarily affected by construction
9 activities.³⁸¹ The Council adopts Condition 92, which would require the certificate holder to
10 restore vegetation in temporarily disturbed areas according to the *Revegetation Plan*. The
11 *Revegetation Plan* is incorporated herein as Attachment B. ODFW has reviewed and approved
12 the plan.³⁸²

13 Restoration of SSA shrub-steppe-sagebrush habitat could take 10 to 30 years before
14 desirable shrubs such as sagebrush achieve maximum height and vertical branching.³⁸³ In the
15 meantime, there would be a reduction in habitat quality compared to the pre-disturbance
16 conditions. There would be a similar temporal impact to juniper woodland (WJ) habitat that may
17 be disturbed during construction. Under the maximum habitat impact layout, construction would
18 have a temporal impact on approximately 96 acres of Category 2 SSA habitat, 3 acres of
19 Category 3 SSA habitat, 16 acres of Category 2 WJ habitat and 0.3 acres of Category 3 WJ
20 habitat. To mitigate for this impact, the applicant proposed to add ½-acre to the HMA for every
21 acre of impact (a 0.5:1 ratio). This additional mitigation has been included in the *Habitat*
22 *Mitigation Plan*.

23 **Wildlife Monitoring and Mitigation Plan**

24 A common element of the ODFW mitigation goals and standards is the protection of
25 habitat quality as well as quantity. The proposed *Habitat Mitigation Plan* would address the
26 permanent and temporal impacts of the MWPF on wildlife habitat by measures that would
27 achieve the ODFW goals of no net loss of Category 2, 3 and 4 habitat quantity or quality and a
28 “net benefit” for permanent impacts to Category 2 habitat. To further address the issue of habitat
29 quality and ensure that facility operation complies with the Council standard, the applicant
30 proposed to conduct wildlife monitoring during operation of the proposed facility.³⁸⁴ ODFW has
31 reviewed and approved the proposed WMMP.³⁸⁵ The Council adopts Condition 91, which would
32 require the certificate holder to conduct wildlife monitoring as described in the WMMP, which is
33 incorporated herein as Attachment A. The overall objectives for wildlife monitoring are:

- 34 • To estimate the number of bird and bat fatalities that are attributable to facility
35 operation as an indicator of the impact of the facility on habitat quality.
- 36 • To assess the status of the Washington ground squirrel colonies and use areas
37 located within the site boundary.

³⁸⁰ App, Exhibit P, p. 85.

³⁸¹ App, Exhibit P, p. 86; response to RAI P9 (App Supp, Exhibit P, pp. 7-8, and Attachment P-6).

³⁸² Email from Steve Cherry, ODFW, March 18, 2010.

³⁸³ Response to RAI P9 (App Supp, Exhibit P, pp. 7-8, and Attachment P-6).

³⁸⁴ App, Exhibit P, pp. 90-91; response to RAI P9 (App Supp, Exhibit P, pp. 7-8, and Attachment P-6).

³⁸⁵ Email from Steve Cherry, ODFW, March 18, 2010.

- To determine whether the operation of the facility results in a reduction of nesting activity or nesting success of specific raptor species.
- To implement an ongoing monitoring program for bird and bat casualties found during operation of the facility.

The WMMP describes wildlife monitoring components, statistical analysis and data reporting that the certificate holder would implement during operation of the proposed facility. The requirement of monitoring during the operation of the MWPF 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 monitoring or mitigation, subject to approval by the Council, if the monitoring results show significant fatalities of avian or bat species, adverse impact to raptor nesting or other significant loss of habitat quality.

Other Related Conditions

The Council adopts the following conditions that would further mitigate the impacts of the proposed facility on wildlife and wildlife habitat. Measures to avoid impacts to Category 1 habitat and to avoid or minimize temporary and permanent impacts to high quality native habitat are incorporated in Condition 95. In addition, Condition 95 would require pre-construction wildlife surveys. Condition 39 would require the certificate holder to design and construct facility components to occupy the minimum area needed for safe operation. Condition 96 would require avoidance of construction impacts to raptors during the nesting season. Condition 98 would restrict construction activities to surveyed and approved areas. Condition 99 addresses specific facility design measures to avoid or mitigate possible adverse impacts to avian species. Condition 100 would require the certificate holder to have a qualified environmental professional instruct construction and operations personnel about sensitive species present onsite and about exclusion areas, permit requirements and other environmental issues. It would require construction and operations personnel who find any injured or dead wildlife on the site to report the information to the appropriate onsite environmental manager. Condition 101 would require the certificate holder to instruct construction and operations personnel to observe caution when driving through the facility area and to maintain posted driving speeds. Conditions that address on-site fire protection measures are discussed below at page 138. Condition 80 would require the certificate holder to implement an Erosion and Sediment Control Plan during construction, and Condition 85 would require the certificate holder to monitor and control erosion during operation. Condition 43 would require the certificate holder to control noxious weeds on-site during construction and operation.

In addition, in 2008, IBR developed and adopted an Avian and Bat Protection Plan.³⁸⁶ The plan describes company practices and policies to minimize impacts to birds and bats from IBR's wind energy projects in the United States. The plan encourages consultation with USFWS and state wildlife agencies early in the process of evaluating potential wind projects at particular locations. The plan addresses a range of wildlife and wildlife habitat protection measures,

³⁸⁶ Iberdrola Renewables, *Avian and Bat Protection Plan* (October 10, 2008), available on-line at http://www.iberdrolarenewables.us/rel_08.10.29.html.

1 including preliminary site assessment, facility design, post-construction monitoring and impact
2 assessment, mitigation, environmental training and research.

G. General Findings of Consistency with ODFW Goals and Standards

3 Design

4 The proposed facility would be designed to occupy a permanent footprint of
5 approximately 257 acres. No facility components would be located within Category 1 habitat.
6 The certificate holder would provide mitigation for the impacts to wildlife habitat in Categories
7 2, 3 and 4 by protection and enhancement of a habitat mitigation area in accordance with a
8 *Habitat Mitigation Plan* approved by the Council (Condition 93). Before beginning construction,
9 the certificate holder would acquire the legal right to create, maintain and protect the habitat
10 mitigation area for the life of the facility. The proposed facility would be designed to using the
11 minimum land area necessary for safe construction and operation. To the extent feasible, facility
12 components would be located to minimize disturbance of farming operations thereby reducing
13 Category 6 habitat loss to the extent practicable, consistent with the objective of reducing impact
14 to higher-value habitat (Conditions 39 and 95). The Council finds that the design of the proposed
15 MWPF is consistent with ODFW's habitat mitigation goals and standards.

16 Construction

17 Construction of the facility would affect habitat within the permanent footprint area plus
18 additional area of temporary disturbance outside the footprint. There would be no construction
19 impacts on Category 1 habitat. The area of permanent impacts would be approximately 257 acres
20 and the area of temporary impacts would be approximately 1,778 acres. The certificate holder
21 would mitigate the permanent habitat impacts by implementing the *Habitat Mitigation Plan*
22 incorporated in Condition 93. Upon completion of construction, the certificate holder would
23 restore the temporarily disturbed areas in accordance with the *Revegetation Plan* incorporated in
24 Condition 92. Considering that it could take ten years or more to achieve revegetation success of
25 Category 2 and Category 3 shrub-steppe and juniper woodland habitat, the certificate holder
26 would provide mitigation for temporal habitat impacts by increasing the size of the habitat
27 mitigation area based on a 0.5:1 ratio, as described in the *Habitat Mitigation Plan*. The certificate
28 holder would avoid or minimize temporary and permanent construction impacts in high-value
29 habitat areas (Condition 95). The Council finds that construction would be carried out in a
30 manner consistent with OAR 635-415-0025.

31 Operation

32 During operation, the certificate holder would implement monitoring for wildlife impacts
33 in accordance with the *Wildlife Monitoring and Mitigation Plan* approved by the Council
34 (Condition 91). If analysis of monitoring data indicates significant unanticipated impacts, the
35 Council may require additional monitoring or mitigation. The Council finds that operation of the
36 facility would be consistent with OAR 635-415-0025.

Conclusions of Law

37 For the reasons discussed above, the Council finds that the design, construction and
38 operation of the proposed facility would be consistent with ODFW's habitat mitigation goals and
39 standards (OAR 635-415-0025). Based on these findings and subject to the site certificate
40 conditions described herein, the Council concludes that the proposed facility complies with the
41 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 Maximum Considered Earthquake Ground Motion identified at International Building Code (2003 Edition) Section 1615 and maximum probable ground motion, taking into account ground failure and amplification for the site specific soil profile under 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 maximum probable ground motion events. As used in this rule "seismic hazard" includes ground shaking, ground failure, 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

The applicant 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. The Facility is located in the Columbia Plateau Physiographic Province, which consists of a large plateau underlain by a series of basalt flows. The top of the plateau tends to be relatively flat to gently rolling, but streams have dissected the plateau into steep-sided canyons. Elevations at the site range from approximately 600 feet in Alkali Canyon to 1,200 feet above mean sea level on the plateau in the southern part of the site. Most of the site is located on a relatively flat plateau. Ephemeral streams have eroded

1 drainages. Ephemeral streams flow generally north to northwest from the site toward the
2 Columbia River, which is located northwest of the site boundary.

3 The applicant's consultant, CH2M HILL, conducted a limited geotechnical and
4 geological site reconnaissance to supplement a literature review.³⁸⁷ Three sources of potential
5 seismic hazards exist in the analysis area: interplate events at the interface between the Juan de
6 Fuca and North American plates in the Cascadia Subduction Zone (CSZ), intraslab events
7 originating within the subducting Juan de Fuca plate in the CSZ, and movements along crustal
8 faults.³⁸⁸ CH2M HILL reported that ruptures of the interplate or intraslab CSZ could result in
9 earthquakes with a moment magnitude of approximately 9.0 or 7.5, respectively.³⁸⁹ The primary
10 potentially active crustal faults are within the Wallula Fault system, a prominent northwest-
11 striking fault zone that extends from near Milton-Freewater, Oregon, to near Kennewick,
12 Washington.

13 Under OAR 345-021-0010(1)(h)(F)(ii), the Council requires applicants to identify
14 earthquake sources capable of generating median peak ground accelerations (PGA) greater than
15 0.05g on rock at the site. CH2M HILL calculated the maximum considered earthquake (MCE).
16 The design MCE event has a 2-percent probability of exceedance in 50 years. The estimated
17 MCE, with a mean moment magnitude of 6.2 Mw, would have a PGA of 0.19g with a mean
18 epicentral distance of 39 miles. CH2M HILL estimated the maximum probable earthquake
19 (MPE), which is considered to be an earthquake that has a 10 percent probability of exceedance
20 in 50 years.³⁹⁰ The estimated MPE considered both the crustal and subduction zone sources. The
21 crustal MPE has a magnitude of 5.2 Mw, and a PGA of 0.09 g with an epicentral distance of 9
22 miles. The subduction MPE has a magnitude of 9.0 Mw with an epicentral distance of 175 miles.
23 CH2M HILL characterized the risk of seismic hazards to human safety at the proposed facility as
24 "low," considering the remote location and the absence of continually occupied facilities (other
25 than the O&M buildings).³⁹¹

26 The applicant assessed the risk of non-seismic geological hazards, such as landslides,
27 erosion potential, collapsing soils and volcanic eruptions. The applicant characterized the risks of
28 non-seismic geological hazards to be low.³⁹² The facility would be located on relatively flat
29 plateau and stable uplands. The soils within the site boundary are susceptible to erosion from
30 wind and water. Based on data from the NRCS soil survey for Gilliam County, the applicant
31 characterized the site as moderate to highly erodible and subject to sheet erosion and rill erosion
32 by water.³⁹³ Loess soils have a structure that can be susceptible to collapse or swelling, but the
33 applicant estimated the risk of soil collapse or swelling on the site to be low. Direct or indirect
34 effects could be experienced at the proposed site as a result of volcanic eruption. Mount St.

³⁸⁷ App, Exhibit H, p. 5.

³⁸⁸ App, Exhibit H, p. 9.

³⁸⁹ 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.

³⁹⁰ App, Exhibit H, p. 10.

³⁹¹ App, Exhibit H, p. 21.

³⁹² App, Exhibit H, p. 22.

³⁹³ App, Exhibit H, p. 17.

Helens, which erupted in 1980, is approximately 75 miles from the site. Other volcanoes considered to be active are within 100 miles from the site.³⁹⁴

The applicant consulted with DOGAMI regarding the appropriate scope and methods for on-site geotechnical investigations.³⁹⁵ The certificate holder would conduct a detailed geotechnical exploration of the facility site prior to construction. The exploration would assess subsurface soil and geologic conditions and provide information that would be used to identify geological or geotechnical hazards. The certificate holder would use this information to design turbine foundations and foundations of related and supporting facilities and to design the installation of underground collector cables and overhead collector and transmission lines.

The Council adopts site certificate conditions to address potential seismic and non-seismic geologic hazards at the facility site. Council rules include mandatory conditions regarding geotechnical investigation and protection of the public from seismic hazards (Conditions 12, 13 and 14). Condition 52 would require the certificate holder to perform appropriate site-specific geotechnical investigations before beginning construction to evaluate the subsurface and foundation support characteristics at the locations of the turbine towers and other significant facility structures. Condition 53 would require the certificate holder to design all components of the facility to meet or exceed the minimum standards required by the Oregon Structural Specialty Code (OSSC 2007) and the 2006 International Building Code. Condition 54 would require the certificate holder to design and build the facility to avoid dangers to human safety presented by non-seismic hazards.

(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 and operation 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

The applicant provided information regarding historic, cultural and archaeological resources in Exhibit S of the application. The analysis area for potential impacts to these

³⁹⁴ App, Exhibit H, p. 18.

³⁹⁵ App, Exhibit H, p. 6.

resources is the area within the site boundary. The facility would be built entirely on private lands.

A. Surveys of the Site

The applicant hired CH2M HILL to conduct a survey for historic, cultural and archaeological resources.³⁹⁶ CH2M HILL reviewed archaeological records maintained by the Oregon State Historic Preservation Office (SHPO) relevant to the proposed site of the MWPF and reviewed General Land Office maps archived by the BLM. CH2M HILL conducted a literature review, including records of twelve previous cultural resource investigations of areas within the proposed MWPF site boundary and a 1-mile buffer outside the site boundary.

The proposed MWPF site is located on the ceded lands and traditional use area of the Confederated Tribes of the Warm Springs Indian Reservation (CTWSR), and the ceded lands and traditional use area of the Confederated Tribes of the Umatilla Reservation (CTUIR) are located just east proposed site boundary. CH2M HILL provided maps and background information to cultural resource officials of the CTWSR and the CTUIR.³⁹⁷ Copies of the site certificate application and confidential cultural resource studies were sent to the CTWSR and the CTUIR for comment. SHPO reviewed the cultural resource survey report.

CH2M HILL conducted on-site reconnaissance surveys within the proposed site boundary during October, November and December, 2009. The surveys were conducted within survey corridors that encompassed the proposed wind turbine strings, collector lines, O&M facilities, substations, staging areas, access roads, and the preferred and one alternate transmission line.³⁹⁸ The survey area covered more than 23,100 acres.

CH2M HILL identified 24 historic or prehistoric era sites within the survey area.³⁹⁹ Three of the sites are operational farmsteads. In addition, CH2M HILL identified 20 prehistoric or historic era isolates.⁴⁰⁰ None of the sites identified in the survey are currently listed in the National Register of Historic Places.⁴⁰¹ The applicant identified six of the sites as "eligible for listing on the NRHP."⁴⁰²

The presumed alignment of the Oregon Trail crosses the site boundary.⁴⁰³ CH2M HILL recorded two visually intact remnants of the Oregon Trail as one historic site. The applicant proposed to implement measures to avoid adverse impacts to the historic trail alignment.⁴⁰⁴ The Council adopts Condition 48, which incorporates the measures proposed by the applicant.

³⁹⁶ CH2M HILL, *Cultural Resources Survey for the Montague Wind Power Facility, Gilliam County, Oregon*, revised March 2010 (App Supp, Attachment S-1 [confidential]).

³⁹⁷ App, Exhibit S, p. 8.

³⁹⁸ App, Exhibit S, p. 9.

³⁹⁹ App Supp, Attachment S-1 [confidential], p. 5-2 and Table 5-1. The preliminary application listed 23 sites. After consultation with SHPO, one identified site (a relatively recent trash dump) was removed from the list and two isolates were re-classified as sites (App Supp, Exhibit S, p. 4).

⁴⁰⁰ App Supp, Attachment S-1 [confidential], p. 5-2 and Table 5-2.

⁴⁰¹ App, Exhibit S, p. 2.

⁴⁰² App, Exhibit S, pp. 2-7.

⁴⁰³ The presumed alignment of the Oregon Trail is shown in the application (App, Exhibit S, Figure S-1).

⁴⁰⁴ Response to RAI S3 (App Supp, Exhibit S, p. 2).

B. Mitigation

The applicant proposes to avoid all identified archaeological or cultural sites, regardless of eligibility for listing on the NRHP.⁴⁰⁵ The applicant proposes to implement an environmental training course for construction workers, including information on avoiding impacts to these resources.⁴⁰⁶ If the final design of the facility would result in potential impacts outside the surveyed area, the applicant proposes to conduct on-site pre-construction investigations of those areas.⁴⁰⁷ In accordance with Oregon law (ORS 97.745 and ORS 358.920), the applicant proposes to 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.⁴⁰⁸ The Council adopts Conditions 47, 48, 49, 50 and 51, which incorporate the applicant's proposed mitigation measures. SHPO reviewed and approved the proposed conditions.⁴⁰⁹

(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

The applicant provided information in Exhibit U about the potential impacts of the facility on public services. The analysis area for public services is the area within the site boundary and 10 miles from the site boundary in Oregon and Washington. The analysis area includes portions of Gilliam, Morrow and Sherman Counties in Oregon and Klickitat County in Washington. The Council adopts the site certificate conditions discussed below.

⁴⁰⁵ Response to RAI S1 (App Supp, Exhibit S, p. 1).

⁴⁰⁶ App, Exhibit S, p. 11.

⁴⁰⁷ App, Exhibit S, p. 10.

⁴⁰⁸ App, Exhibit S, p. 13. The applicant would implement an Inadvertent Discovery Plan addressing procedures to be followed if cultural resources or human remains are discovered during construction (App Supp, Attachment S-2, responses to RAI RAC4, request #7, and RAC 6, request #4).

⁴⁰⁹ Email from Susan White, SHPO, June 16, 2010.

A. Sewage, Storm Water, and Solid Waste

During construction of the MWPF, the impact on sewage treatment would be minimal. No community in the analysis area currently provides storm water drainage service or solid waste management services to the facility site, with the exception of minimal storm water drainage facilities associated with public roads maintained by Gilliam County. Condition 109 would require that the certificate holder provide and maintain portable toilets for on-site sewage handling during construction.⁴¹⁰ During operation, sewage from the O&M buildings would be discharged to on-site septic systems (Condition 110).⁴¹¹

Condition 80 would require the certificate holder to conduct construction activities in accordance with an NPDES 1200-C stormwater permit, which would ensure appropriate on-site handling of storm water and measures to reduce erosion.⁴¹² The certificate holder would use appropriate measures to avoid or reduce erosion from storm water run-off during construction and operation of the facility.

Solid waste generated during construction and operation would be recycled to the extent practical. Conditions 111 and 112 would require the certificate holder to use licensed, commercial waste-hauling services to remove non-recyclable solid waste to a local landfill.⁴¹³ The nearest landfill is the Columbia Ridge Landfill south of Arlington. Solid waste management is discussed further below at page 123.

B. Water

The applicant estimates that up to 37 million gallons of water would be used during construction of the MWPF.⁴¹⁴ The water would be used for dust control, road and earthwork compaction, and concrete mixing during the construction.⁴¹⁵ To show that adequate water is available in the area, the applicant provided a letter from the Public Works Superintendent of the City of Arlington, indicating that the city could supply water in sufficient quantity for facility construction.⁴¹⁶ Alternatively, the certificate holder could obtain water from an existing or newly constructed on-site well under a limited license issued to the landowner or construction contractor. Water uses and sources are discussed further below at page 136.

During operation, less than 5,000 gallons of water per day would be needed for incidental uses (kitchen and bathroom) at the O&M buildings.⁴¹⁷ This water would come from new on-site wells. Condition 86 would limit the use of well-water to no more than 5,000 gallons per day. The facility's use of water during operation would have no impact on municipal water systems. The small volume of water needed during facility operation is not likely to have an impact on other wells that serve local landowners.

⁴¹⁰ App, Exhibit U, p. 11.

⁴¹¹ App, Exhibit U, p. 11. The on-site septic system would be subject to a DEQ Construction/Installation Permit.

⁴¹² App, Exhibit U, p. 12.

⁴¹³ App, Exhibit U, p. 7.

⁴¹⁴ App, Exhibit U, p. 11.

⁴¹⁵ App, Exhibit O, p. 1.

⁴¹⁶ App Supp, Attachment O-1.

⁴¹⁷ App, Exhibit U, p. 11.

C. Housing

1 The applicant estimates that construction of the MWPF would employ 200 (average
2 workforce) to 475 (maximum during peak construction months) resident and transient
3 workers.⁴¹⁸ Based on a conservative assumption that up to 70 percent of the construction
4 workforce would come from outside the area, as many as 333 workers (80 households) might
5 need temporary housing within 50 miles, a commutable distance to the facility.⁴¹⁹ Construction
6 of the facility is expected to take approximately one year. The applicant believes that most
7 construction workers would seek lodging in area motels, hotels, and trailer or RV parks. The
8 applicant estimated that 1,000 motel or hotel units are available in The Dalles, Hermiston and
9 Goldendale (Washington). The applicant estimated that 100 units are available at RV parks in
10 nearby Memaloose and Deschutes State Parks.⁴²⁰

11 The applicant estimates that, during operation, the MWPF would employ approximately
12 10 to 30 people.⁴²¹ Assuming that half of these workers are new residents who move into the
13 area, the addition of 15 households would not have a significant adverse effect on available
14 housing.⁴²²

D. Police and Fire Protection

15 Police services for the facility site would be provided by the Gilliam County Sheriff's
16 Office. Backup law enforcement service is available from the Oregon State Police.⁴²³ The
17 applicant consulted with the Gilliam County Sheriff about police services during construction
18 and operation of the proposed facility.⁴²⁴ The Sheriff expressed no concerns about police
19 services. Condition 78 would require the certificate holder to establish and maintain
20 communication with the local law enforcement personnel during construction and operation of
21 the MWPF.

22 The North Gilliam County Rural Fire Protection District (RFPD) is the primary fire and
23 emergency response provider for the area where the proposed MWPF is located.⁴²⁵ The applicant
24 provided a letter from the Gilliam County Fire Services Coordinator concluding that the MWPF
25 would not have a significant impact on North Gilliam County RFPD operations.⁴²⁶ The letter
26 noted that North Gilliam County RFPD could not provide confined-space or high-angle rescue.
27 During construction, the certificate holder's construction contractors would be trained and
28 equipped for tower rescue.⁴²⁷ During operation, the certificate holder's operations personnel
29 would be trained and equipped for tower rescue. Conditions 76 and 77 would require the
30 certificate holder to provide appropriate tower rescue training and equipment during construction

⁴¹⁸ App, Exhibit U, p. 2.

⁴¹⁹ App, Exhibit U, pp. 2 and 23, and response to RAI U2 (App Supp, Exhibit U, p. 2).

⁴²⁰ App, Exhibit U, pp. 23.

⁴²¹ Assuming that up to 15 of the operations and maintenance positions would be filled by workers coming from outside the analysis area and assuming a household size of three people for each worker, the applicant estimates that approximately 45 new permanent residents could be added to the local population (App, Exhibit U, p. 3).

⁴²² The applicant provided information about housing supply in the analysis area (App, Exhibit U, Table U-2).

⁴²³ App, Exhibit U, p. 9.

⁴²⁴ App, Exhibit U, Attachment U-1.

⁴²⁵ App, Exhibit U, p. 9.

⁴²⁶ App, Exhibit U, Attachment U-2.

⁴²⁷ Response to RAI U3 (App Supp, Exhibit U, p. 2).

1 and operation of the facility. Additional site certificate conditions and measures to reduce fire
2 risk and to respond to fire emergencies are discussed below at page 138.

E. Health Care

3 Conditions 76 and 77 would require the certificate holder to implement on-site health and
4 safety plans during construction and operation of the facility.⁴²⁸ The hospitals nearest the
5 proposed facility are Klickitat Valley Hospital in Goldendale (Washington), Pioneer Memorial
6 Hospital in Heppner, the Mid-Columbia Medical Center in The Dalles and the Good Sheppard
7 Hospital in Hermiston.⁴²⁹ Ambulance service in the area is provided by private service providers
8 that contract with Gilliam County. The number of construction workers temporarily locating in
9 the area and the number of permanent employees (and households) moving into the area are not
10 likely to adversely affect the ability of these providers to deliver health services.

F. Schools

11 There are 11 schools in the analysis area.⁴³⁰ Construction workers who are not already
12 living in the analysis area are not likely to move their families to the area for the temporary
13 duration of the work. Facility construction, therefore, is not likely to increase the number of
14 students attending area schools. The estimated increase within the area of up to fifteen new
15 households during operation of the proposed facility would not have a significant adverse impact
16 on local schools.⁴³¹

G. Traffic Safety

17 During each day of construction, the applicant estimates that vehicles carrying turbine
18 components, machinery, electrical equipment, water and other materials would make 156 to 269
19 trips going to or coming from the proposed facility site, depending on the size and number of
20 turbines in the final design of the facility.⁴³² Oversized trucks would be needed for transport of
21 turbine tower sections, nacelles, blades and large construction equipment such as cranes and
22 bulldozers.

23 Most heavy equipment would be delivered via I-84. From I-84, the applicant describes
24 one primary and two secondary transporter routes for deliveries during construction.⁴³³ The
25 primary transporter route would exit I-84 at Arlington and proceed south on Highway 19 to the
26 western project area via county roads (Cedar Springs Lane, Berthold Road and Weatherford
27 Road). Transporters would access the project area east of Highway 19 via Eightmile Road,
28 Fourmile Road, Montague Lane, Tree Lane and Baseline Road. One secondary route would exit
29 I-84 onto Blalock Canyon Road and access the western part of the site from Cedar Springs Road.
30 A second secondary route would exit I-84 onto Highway 74 (Heppner Highway) and access the
31 eastern part of the site from Fairview Road and Fourmile Road. Private roads (including Plateau
32 Farms Road and turbine access roads constructed for Leaning Juniper II) might be used as
33 secondary transport routes for turbine component deliveries.⁴³⁴ Gravel may be added to the

⁴²⁸ The applicant described company policies related to employee health and safety (App, Exhibit U, pp. 25-26).

⁴²⁹ App, Exhibit U, p. 9.

⁴³⁰ App, Exhibit U, p. 9.

⁴³¹ App, Exhibit U, p. 19 and p. 27.

⁴³² App, Exhibit U, p. 16, and email from Sara Parsons, May 5, 2010.

⁴³³ App, Exhibit U, p. 4, and Figure U-1.

⁴³⁴ Email from Sara Parsons, May 14 and May 20, 2010.

1 private roads, but they would not be widened or otherwise improved. Use of the private roads,
2 would reduce construction traffic on Highway 19.

3 The applicant states that some County roadways might need to be improved before
4 facility construction begins.⁴³⁵ Improvements to County roads would be restricted to the County
5 rights-of-way and would be subject to County road design standards.⁴³⁶ Modifications to State
6 roads or highways might also be needed. Modifications to State roads or highways would be
7 restricted to the State rights-of-way and would be subject to ODOT approval. Condition 71
8 incorporates these restrictions.

9 County roads within and around the site would be used heavily during facility
10 construction. Damage to county roads could have an adverse effect on traffic safety. The
11 certificate holder would be responsible for repair of any unusual damage or wear to County roads
12 caused by facility construction.⁴³⁷ Condition 75 would require the certificate holder to cooperate
13 with the Gilliam County Road Department and (if Morrow County roads are used) the Morrow
14 County Public Works Department in assessing road conditions before and after construction and
15 in repairing any unusual damage or wear caused by facility construction to the satisfaction of
16 county officials.

17 During operation, the anticipated permanent staff of up to 30 employees would not
18 significantly increase traffic in the analysis area. The use of area highways and local roads by
19 employees during operation is not likely to result in any significant adverse impacts on traffic
20 safety.

21 Based in part on commitments made by the applicant in the application, the Council
22 adopts the following site certificate conditions related to traffic safety:⁴³⁸

- 23 • Condition 28 would require the certificate holder to obtain all necessary federal, State
24 and local permits required for construction. Such permits may include county road
25 access permits and Oregon Department of Transportation oversize and overweight
26 permits.
- 27 • Condition 73 would require the certificate holder to implement measures to reduce
28 traffic impacts.
- 29 • Condition 74 would ensure that no equipment or machinery is parked or stored on any
30 county road.⁴³⁹
- 31 • Condition 81 would require the certificate holder to limit truck traffic to designated
32 and existing and improved road surfaces to avoid soil compaction, to the extent
33 possible.
- 34 • Condition 42 would require turbine locations to be set back from public roads. The
35 minimum setback distance would be 110-percent of maximum blade tip height,
36 measured from the centerline of the turbine tower to the nearest edge of any public
37 road right-of-way (assuming a minimum 60-foot right-of-way). Based on the turbine

⁴³⁵ App, Exhibit U, p. 6.

⁴³⁶ Response to RAI U1 (App Supp, Exhibit U, p. 1).

⁴³⁷ App, Exhibit U, pp. 18 and 28, and response to RAI U4 (App Supp, Exhibit U, p. 3).

⁴³⁸ App, Exhibit U, p. 28.

⁴³⁹ Response to RAI U5 (App Supp, Exhibit U, pp. 3-4).

types proposed by the applicant as shown in Table 1, this setback distance would range from approximately 131 meters to 165 meters (428 feet to 541 feet).

(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 and operation 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

The applicant provided information about waste minimization in Exhibits G and V of the site certificate application. Exhibit V included the applicant's plans for solid waste and wastewater management during construction and operation of the proposed facility. Exhibit G included additional information about management of potentially hazardous materials.

The accumulation, storage, disposal and transportation of waste generated by construction and operation of the proposed facility are not likely to have an adverse impact on surrounding and adjacent areas for the reasons discussed below. Most waste would be removed from the site and reused, recycled or disposed of at an appropriate facility. Water used on-site during construction for dust suppression and road compaction would evaporate or infiltrate into the ground. Wastewater produced during operation would be discharged to an on-site septic system. Potentially hazardous materials that could be used on the project site during construction or operation include lubricating oils, antifreeze, cleaners and pesticides.

A. Solid Waste

Solid waste generated during construction would consist primarily of concrete waste from construction of concrete turbine and transformer pads, meteorological towers, transmission line support structures, O&M buildings and substations; wood waste from the O&M buildings and wood forms used for concrete pad construction; and scrap metal from construction of turbine towers, meteorological towers and transmission line support structures. Other solid waste generated during construction could include erosion control materials (straw mulch, straw wattles and silt fencing) and packaging materials for associated turbine parts and other electrical

1 equipment.⁴⁴⁰ The applicant proposes to minimize the generation of waste from construction
2 through detailed estimating of materials needs and through efficient construction practices.⁴⁴¹

3 No waste concrete would be disposed of on-site except concrete solids contained in the
4 concrete chute washout water.⁴⁴² Waste concrete solids contained in washout water when
5 delivery trucks are rinsed on site would be contained within a confined area of the foundation
6 excavation and buried as part of backfilling the turbine foundation (as described below under
7 “Wastewater”).⁴⁴³ Batches of concrete that do not meet specification would be sent back to the
8 concrete plant.

9 Solid waste would be recycled to the extent practicable, and the remainder would be
10 transported to the local landfill.⁴⁴⁴ The Council adopts Condition 111, which summarizes the
11 applicant’s solid waste management plan during construction.

12 Little solid waste would be generated from facility operations. Office waste, such as
13 paper and food packaging and scraps, would be generated at the O&M building. In addition,
14 repair or replacement of electrical or turbine equipment could generate incidental solid waste
15 materials. The operations personnel would be responsible for the waste management program
16 during operation. Waste from the O&M buildings and other solid waste generated on site would
17 be collected and recycled, as feasible.⁴⁴⁵ Non-recyclable wastes would be collected and
18 transported to a local landfill. The Council adopts Condition 112, which summarizes the
19 applicant’s solid waste management plan during operation.

B. Wastewater

20 During construction, water loss would occur primarily through evaporation from wetted
21 road surfaces and from drying concrete. No water used on the site would be discharged into
22 wetlands, streams or other waterways.⁴⁴⁶

23 Concrete delivery trucks would be rinsed at the time of pour, and the rinse water would
24 be discharged into a dedicated concrete washout area located within each turbine foundation
25 excavation.⁴⁴⁷ The soil used to construct washout area berms would be buried along with waste
26 concrete solids as part of the turbine foundation backfill. The applicant consulted with DEQ and
27 received approval of the proposed concrete washout procedure.⁴⁴⁸

28 During construction of the facility, the certificate holder would be subject to the NPDES
29 1200-C permit and its associated Erosion and Sediment Control Plan. This requirement is
30 included in Condition 80. An Erosion and Sediment Control Plan describes best management
31 practices for erosion and sediment control, spill prevention and response procedures, regular

⁴⁴⁰ App, Exhibit V, pp. 1-2.

⁴⁴¹ App, Exhibit V, p. 4.

⁴⁴² App, Exhibit G, pp. 5-6. The applicant initially proposed to dispose of waste concrete on-site as “clean fill” in accordance with a variance or permit exemption under OAR 340-093-0080 (App, Exhibit V, p. 8). The applicant later stated that no variance or exemption would be needed, consistent with the approach employed for the Helix Wind Power Facility (App Supp, Exhibit V, p. 1).

⁴⁴³ App, Exhibit G, pp. 5-6.

⁴⁴⁴ App, Exhibit V, p. 7.

⁴⁴⁵ App, Exhibit V, p. 7.

⁴⁴⁶ App, Exhibit O, p. 5.

⁴⁴⁷ App, Exhibit G, pp. 5-6, and Exhibit V, p. 2.

⁴⁴⁸ App, Exhibit V, p. 2.

1 maintenance for vehicles and equipment, employee training on spill prevention and proper
2 disposal procedures.

3 Portable toilets would be provided for onsite sewage handling during construction. The
4 toilets would be pumped and cleaned regularly by the construction contractor.⁴⁴⁹ No other
5 wastewater would be generated during construction. The Council adopts Condition 109, which
6 would require that a licensed contractor pump and clean portable toilets and dispose of the
7 wastewater off-site.

8 The applicant proposes to construct septic systems to serve the sanitary uses at the
9 proposed O&M buildings during operation. The design capacity of each proposed new septic
10 system would be less than 2,500 gallons per day. The Council adopts Condition 110, which
11 would require the certificate holder to discharge sanitary wastewater generated at the O&M
12 facilities to licensed on-site septic systems in compliance with State permit requirements.⁴⁵⁰

13 No industrial wastewater would be generated during operation. If blade-washing becomes
14 necessary, the limited quantity of water used would evaporate or infiltrate into the ground near
15 the point of use (Condition 87). Water would not be discharged into wetlands, streams or other
16 waterways.

C. Hazardous Materials

17 Hazardous materials that might be used on-site during construction and operation include
18 lubricating oils, antifreeze, cleaners and pesticides.⁴⁵¹ Each turbine would contain lubricating oil
19 and hydraulic oil. Depending on the turbine type selected, the amount of oils in each turbine
20 ranges from 83 to 304 gallons.⁴⁵² Turbines contain 3.6 gallons to 6 gallons of ethylene glycol
21 (antifreeze), depending on the type of turbine selected for the facility.

22 As part of routine maintenance during operation, turbine oil is replenished. Turbine oil is
23 drained completely only when there are major component changes or turbine overhauls. Each
24 O&M facility would contain oil storage for 330 gallons of waste oil. Waste oil would be held
25 temporarily at the O&M facility and later removed for recycling or disposal by a licensed
26 contractor. The applicant estimates that approximately 2,640 gallons of waste oil is disposed of
27 on an annual basis. Hazardous wastes such as oily rags or similar wastes related to turbine
28 lubrication and other maintenance during construction and operation would be collected in
29 sealable drums and removed for recycling or disposal by a licensed contractor.⁴⁵³

30 Hazardous materials would be stored at the O&M facilities within a secondary
31 containment area to prevent any contamination from leaks or spills.⁴⁵⁴ No diesel fuel or gasoline
32 would be stored on-site during construction or operation.⁴⁵⁵ The applicant would use and dispose
33 of hazardous materials in a manner that is protective of human health and the environment and

⁴⁴⁹ App, Exhibit V, p. 2.

⁴⁵⁰ Gilliam County does not administer construction permits for onsite septic systems (App, Exhibit V, pp. 2-3).

⁴⁵¹ App, Exhibit G, Table G-1.

⁴⁵² The 1.5-MW turbine uses 83 gallons of oil, and the 3.0-MW turbine uses 304 gallons of oil. Email from Pauline Sullivan, May 11, 2010.

⁴⁵³ App, Exhibit G, p. 5, and Exhibit V, p. 4.

⁴⁵⁴ App, Exhibit V, p. 4.

⁴⁵⁵ App, Exhibit G, p. 5. Construction vehicles would be fueled and maintained only in dedicated areas (App, Exhibit V, p. 6).

1 would comply with all applicable local, state and federal environmental laws and regulations.⁴⁵⁶
2 If accidental spills of hazardous materials were to occur, the spill would be cleaned up
3 immediately. Contaminated soil or other materials would be disposed of and treated according to
4 applicable regulations. Spill kits containing items such as absorbent pads would be located on
5 equipment and in onsite temporary storage facilities to respond to accidental spills, if any were to
6 occur. Employees handling hazardous materials would be instructed in the proper handling and
7 storage of these materials as well as location of spill kits. The Council adopts Condition 55,
8 which addresses proper handling of hazardous materials, and Condition 56, which addresses
9 preparation for, and response to, spills and accidental releases of hazardous materials.

V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS

1. Requirements under Council Jurisdiction

10 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-
11 022-0000), the Council must determine whether the proposed facility complies with "all other
12 Oregon statutes and administrative rules identified in the project order, as amended, as applicable
13 to the issuance of a site certificate for the proposed facility." Applicable Oregon statutes and
14 administrative rules that are not otherwise addressed in Section V of this order include the noise
15 control regulations of the Department of Environmental Quality, the Department of State Lands'
16 regulations for removal or fill of material affecting waters of the state, the Water Resources
17 Department's regulations for water use, the Oregon Department of Transportation's regulations
18 for State highway approaches and access control and the Council's statutory authority to
19 consider protection of public health and safety.

(a) Noise Control Regulations

20 The applicable noise control regulations are as follows:

OAR 340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

24 * * *

(b) New Noise Sources:

26 * * *

(B) New Sources Located on Previously Unused Site:

28 *(i) No person owning or controlling a new industrial or commercial noise source*
29 *located on a previously unused industrial or commercial site shall cause or permit*
30 *the operation of that noise source if the noise levels generated or indirectly caused by*
31 *that noise source increase the ambient statistical noise levels, L10 or L50, by more*
32 *than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured*

⁴⁵⁶ App, Exhibit G, p. 5.

1 at an appropriate measurement point, as specified in subsection (3)(b) of this rule,
2 except as specified in subparagraph (1)(b)(B)(iii).

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

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

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

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

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

28 (IV) For purposes of determining whether a proposed wind energy facility would
29 satisfy the ambient noise standard where a landowner has not waived the standard,
30 noise levels at the appropriate measurement point are predicted assuming that all of
31 the proposed wind facility's turbines are operating between cut-in speed and the wind
32 speed corresponding to the maximum sound power level established by IEC 61400-11
33 (version 2002-12). These predictions must be compared to the highest of either the
34 assumed ambient noise level of 26 dBA or to the actual ambient background L10 and
35 L50 noise level, if measured. The facility complies with the noise ambient background
36 standard if this comparison shows that the increase in noise is not more than 10 dBA
37 over this entire range of wind speeds.

38 (V) For purposes of determining whether an operating wind energy facility
39 complies with the ambient noise standard where a landowner has not waived the
40 standard, noise levels at the appropriate measurement point are measured when the
41 facility's nearest wind turbine is operating over the entire range of wind speeds
42 between cut-in speed and the windspeed corresponding to the maximum sound power
43 level and no turbine that could contribute to the noise level is disabled. The facility

1 *complies with the noise ambient background standard if the increase in noise over*
2 *either the assumed ambient noise level of 26 dBA or to the actual ambient*
3 *background L10 and L50 noise level, if measured, is not more than 10 dBA over this*
4 *entire range of wind speeds.*

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

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

15 * * *

Findings of Fact

A. Applicable Regulations

16 The applicant addressed compliance with the DEQ noise regulations in Exhibit X of the
17 application. The proposed facility would be a "new industrial or commercial noise source" under
18 OAR 340-035-0035 because construction of the facility would begin after January 1, 1975.⁴⁵⁷
19 The noise control regulations impose different limits on new noise sources constructed on a
20 "previously used industrial or commercial site" compared to the limits imposed on new sources
21 constructed on a "previously unused industrial or commercial site." A site is considered a
22 "previously unused industrial or commercial site" if the site has not been in an industrial or
23 commercial use at any time during the 20 years preceding the construction of a new noise source
24 on the site.⁴⁵⁸ The applicant has assumed that the proposed MWPF site is a "previously unused"
25 site.⁴⁵⁹ Therefore, the noise generated by the proposed MWPF must comply with OAR 340-035-
26 0035(1)(b)(B).

27 Under the regulation, the noise generated by a new wind energy facility located on a
28 previously unused site must comply with two tests: the "ambient degradation test" and the
29 "maximum allowable test." Facility-generated noise must not increase the ambient hourly L₁₀ or
30 L₅₀ noise levels at any noise sensitive receiver by more than 10 decibels (dBA) when turbines are
31 operating "between cut-in speed and the wind speed corresponding to the maximum sound

⁴⁵⁷ OAR 340-035-0015(33) defines "new industrial or commercial noise source."

⁴⁵⁸ OAR 340-035-0015(47) defines "previously unused industrial or commercial site."

⁴⁵⁹ App, Exhibit X, p. 3.

power level.”⁴⁶⁰ This requirement is the “ambient degradation” test. To show that a proposed facility complies with this test, the applicant may use an assumed ambient hourly L₅₀ 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” (a “noise waiver”).

The potential for a waiver of the ambient degradation test at particular noise sensitive receivers does not relieve the wind facility operator from compliance with the second test imposed under OAR 340-035-0035(1)(b)(B) at all noise sensitive receivers. Facility-generated noise must not exceed the noise limits specified in Table 8 of the regulation. This is known as the “Table 8” or “maximum allowable” test. Table 8 of the regulation provides the following limits:

Table 10: Hourly Statistical Noise Limits for Industrial and Commercial Sources

Statistical Descriptor	Maximum Permissible Hourly 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 statistical noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively.		

Because the proposed energy facility would operate on a 24-hour basis, the noise generated by the facility must not exceed the maximum allowable nighttime noise limits (10:00 PM to 7:00 AM). To comply with the “maximum allowable” test, the noise radiating from the MWPF must not exceed an hourly L₅₀ noise level of 50 dBA at any noise sensitive receiver. For the purpose of assessing whether the 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.”

B. Construction Noise

OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities. Construction of the proposed MWPF would produce localized, short duration noise levels similar

⁴⁶⁰ In this discussion, “dBA” refers to sound levels in decibels as measured on a sound level meter using the A-weighted filter network, which corresponds closely to the frequency response of the human ear. 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 MWPF. We refer to these as the “noise sensitive receivers.”

1 to those produced by any large construction project with heavy construction equipment. Much of
2 the construction would be far from any noise sensitive receivers. Nevertheless, to mitigate noise
3 impacts at local residences, the Council adopts Condition 106, which would require the
4 certificate holder to confine the noisiest construction activities to daylight hours and to establish
5 a complaint response system to address noise complaints during construction.

C. Compliance with the Regulations

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

12 The applicant is proposing a wind energy facility that would contain between 134 and
13 269 wind turbines. To represent the range of turbine types that may be used at the proposed
14 facility, the applicant provided total and octave band sound power level data for two turbine
15 types: the GE Energy 1.5-MW turbine and the Vestas V100 3.0-MW turbine.⁴⁶¹ The applicant
16 requests the design flexibility to locate the turbines anywhere within the proposed site boundary,
17 subject to the conditions of the site certificate. Because the final design configuration is not yet
18 known, the analysis discussed herein is preliminary.

19 The applicant submitted two turbine layouts under consideration within the site
20 boundary; one that included 269 GE 1.5-MW turbines and one that included 134 Vestas V100
21 turbines. The applicant retained acoustical consultant Mark Bastasch, P.E., of CH2MHILL, to
22 calculate the sound pressure level expected at each noise sensitive receiver within proximity of
23 the site boundary. The Department consulted with Kerrie G. Standlee, P.E., of Daly Standlee &
24 Associates, Inc. to review and confirm Mr. Bastasch's findings.

25 The applicant's noise analysis used the CADNA/A Version 3.5 program supplied by
26 Datakustik, GmbH of Munich, Germany to make the predictions of noise levels at noise
27 sensitive receivers. The program includes sound propagation factors adopted from ISO 9613
28 (ISO, 1993) and VDI 2714 (VDI, 1988) to account for distance attenuation, atmospheric
29 attenuation, ground attenuation and terrain attenuation. In predicting the maximum noise levels
30 at the noise sensitive receivers, the analysis included distance attenuation and atmospheric
31 attenuation associated with conditions of 50 degrees Fahrenheit (10 degrees Celsius) and 70
32 percent relative humidity. The analysis used ground attenuation associated with the Simple
33 Ground attenuation procedure proposed in ISO 9613-2 and adopted by the Department as
34 appropriate for wind turbine noise predictions. Barrier attenuation provided by the topography at
35 the site was included in the predictions where appropriate.

36 Octave band sound power level reference data supplied by the turbine manufacturers
37 were used in predicting the maximum noise levels at the noise sensitive receivers. The analysis
38 increased the sound power levels by 2 dB to account for the uncertainty associated with the
39 manufacturer's warranted data. Accordingly, the applicant assumed that the GE 1.5-MW turbines
40 would have a maximum overall A-weighted sound power level output of 106.0 dBA and that the

⁴⁶¹ App, Exhibit X, p. 6.

1 Vestas 3.0-MW turbines would have a maximum A-weighted sound power level output of 112
2 dBA.

3 In addition to calculating the noise generated by the wind turbines, the applicant
4 calculated and included the noise that would radiate to each receiver from the power
5 transformers located at two proposed substations. The applicant used a maximum A-weighted
6 sound power level of 106 dBA as the total sound power level that could radiate from three
7 transformers located at the two substations.

8 The application includes tables showing the results of the noise analysis for the two
9 proposed turbine layouts.⁴⁶² Table X-7 shows predicted noise levels at 40 noise sensitive
10 receivers expected to experience noise levels of 32 dBA or higher from the proposed 1.5-MW
11 turbine layout. In response to further inquiry, the applicant provided data showing that predicted
12 noise levels would be 32 dBA or higher at two additional receivers.⁴⁶³ Table X-8 shows
13 predicted noise levels at 47 noise sensitive receivers expected to experience noise levels of 32
14 dBA or higher from the proposed 3.0-MW turbine layout.

15 After completing the noise impact analysis, the applicant found that two noise sensitive
16 receivers had been omitted from the analysis.⁴⁶⁴ Because these two receivers are located near
17 other receivers that had been included in the analysis, the applicant assumed that the noise levels
18 would be similar.⁴⁶⁵ Under both of the analyzed turbine layouts, therefore, the applicant assumed
19 that noise levels would exceed 36 dBA but would not exceed 50 dBA at the omitted receivers.
20 As a visual aid, the applicant provided revised figures that show the 36-dBA and 50-dBA noise
21 contours around the proposed wind energy facility.⁴⁶⁶

22 Based on the applicant's data, the maximum predicted noise levels generated by the
23 MWPF are as shown in Table 11 below.⁴⁶⁷ Data shown in boldface exceed the 36-dBA ambient
24 degradation limit that applies when the assumed background ambient hourly L₅₀ noise level of 26
25 dBA is used. The data are presented in two columns, representing the two turbine layouts that
26 were analyzed. Where no value is shown, the predicted noise level is below 32 dBA. Receiver
27 identification numbers match those shown on Figures X-1 and X-2 in the application.

⁴⁶² App, Exhibit X, Tables X-7 and X-8.

⁴⁶³ App Supp, Attachment X-1 [confidential].

⁴⁶⁴ In response to the comments of Wayne Hughes, the applicant determined that his residence (R355) had been omitted as well as another residence (R354). In addition, the applicant determined that one structure (R278) had been mistakenly identified as a residence in the analysis.

⁴⁶⁵ Email from Sara Parsons, June 9, 2010.

⁴⁶⁶ Figure X-1 shows the noise contours around the proposed 1.5-MW turbine layout, and Figure X-2 shows the noise contours around the proposed 3.0-MW turbine layout (email from Sara Parsons, June 9, 2010). The revised figures include the previously-omitted receivers.

⁴⁶⁷ Assumed levels for R354 and R355 are based on proximity to R332 and R276 respectively.

Table 11: Predicted Noise Levels

Receiver	1.5-MW Turbine Layout Predicted Maximum Hourly L ₅₀ Noise Level (dBA)	3.0-MW Turbine Layout Predicted Maximum Hourly L ₅₀ Noise Level (dBA)
R001	34	38
R002	37	40
R003	37	40
R004	38	40
R005	40	44
R006	42	45
R086	43	44
R091	42	43
R092	41	42
R093	44	47
R268	38	40
R269	32	35
R271	45	44
R273	44	46
R274	32	36
R275	40	44
R276	41	45
R277	45	45
R279	45	47
R280	45	47
R281	44	47
R282	38	40
R283	38	40
R284	38	40
R286	33	35
R288	44	45
R289	43	45
R290	43	42
R291	41	46
R292	44	47
R293	44	46
R294	45	47
R295	33	37
R310		35
R324	38	40
R332	44	46
R337		32
R338		33
R339	33	35
R340	33	35

R341	34	36
R342	35	36
R343		32
R346	41	46
R347	44	47
R348		35
R354	44 (assumed)	46 (assumed)
R355	41 (assumed)	45 (assumed)

For both proposed layouts, the predicted or assumed noise levels shown in Table 11 comply with the 50-dBA maximum allowable test at all noise sensitive receivers. For the 1.5-MW turbine layout, the predicted or assumed noise levels at 34 receivers exceed the 36-dBA ambient degradation limit; that is, operation of the facility could increase the ambient statistical noise level by more than 10 dBA above the assumed background L_{50} ambient noise level of 26 dBA. For the 3.0-MW turbine layout, the predicted or assumed noise levels at 36 receivers exceed 36-dBA ambient degradation limit. The facility would not comply with the ambient degradation test under either proposed layout, unless the certificate holder acquired noise waivers from the owners of those properties where the predicted or assumed noise levels exceed the 36-dBA ambient degradation limit.⁴⁶⁸ Otherwise, the certificate holder would have to change the layout or reduce the number of turbines to reduce noise levels to levels that would not exceed the ambient degradation limit.

To ensure that the facility as built would comply with the noise control regulations, the Council adopts Condition 107, which would require the certificate holder to provide information to the Department about the turbines selected and the final design layout before beginning construction. The condition requires the certificate holder to demonstrate to the satisfaction of the Department that the final design layout of the facility would comply with the applicable noise control regulations and to provide noise waivers, if necessary.

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 operation of the MWPF, the Council has the authority to act in the place of DEQ to enforce this provision to verify that the certificate holder is operating the facility in compliance with the noise control regulations. Under Condition 3, the certificate holder would be required to operate the facility in accordance with all applicable state laws and administrative rules.⁴⁶⁹ The Council adopts Condition 108, which would require the certificate holder to notify the Department of any complaints received about noise from the facility as well as the actions taken to address them.

⁴⁶⁸ The certificate holder would have the option to conduct measurements to determine the actual ambient L_{10} and L_{50} background noise levels rather than using an assumed background L_{10} and L_{50} ambient noise level of 26 dBA. If the predicted noise generated by the facility would not increase the actual ambient background noise levels at a noise sensitive receiver by more than 10 dBA, the certificate holder would not need a waiver for that receiver.

⁴⁶⁹ Condition 3 is a mandatory condition that is required under OAR 345-027-0020(3).

Conclusions of Law

Based on the findings and site certificate conditions discussed above, the Council finds that the proposed facility would comply with the applicable State noise control regulations.

(b) Removal-Fill Law

The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR 141-085-0500 through 141-085-0785) adopted by DSL require a permit if 50 cubic yards or more of material is removed, filled or altered within any “waters of the state” at the proposed site.⁴⁷⁰ The Council must determine whether a permit is needed and should be issued. 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), and Section 10 of the Rivers and Harbors Appropriation Act of 1899, which regulates placement of fill in navigable waters. Federal law may require a Nationwide or Individual fill permit for the proposed facility if waters of the United States are affected. A single application form (a Joint Permit Application Form) is used to apply for both the State and federal permits.

Findings of Fact

Delineation of Waters of the State

The applicant provided information about wetlands and other waters of the state in Exhibit J of the application. The analysis area for Exhibit J is the area within the site boundary. The applicant’s contractor, CH2M HILL, conducted field investigation following the procedures in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (U.S. Army Corps of Engineers (USACE), 2008) and the *Oregon Streamflow Duration Assessment Method Interim Version* (2009).⁴⁷¹ Before conducting the field investigation, CH2M HILL reviewed available literature on the area, including U.S. Geological Survey topographic maps, Pacific Northwest Hydrography Framework digital water course mapping (PNWHF, 2008) and National Wetlands Inventory (NWI) digital data (USFWS, 2008). CH2M HILL previously had conducted wetland and other waters delineations in 2007-2008 for the Pebble Springs Wind Project and in 2009 for the Leaning Juniper II Wind Power Facility, and the study areas for those projects overlapped portions of the proposed MWPF site boundary.

CH2M HILL established survey corridors around proposed MWPF components and construction areas identified in a preliminary layout available at the time the survey began. An additional survey corridor was added for an alternate transmission line route as the field study was being completed.⁴⁷² The survey corridors did not include all of the area within the site boundary.⁴⁷³ To ensure that a Removal/Fill Permit would not be needed for construction that might occur elsewhere within the site boundary, Condition 83 would require the certificate holder to submit a pre-construction investigation report to DSL after determining the final design locations of facility components and construction disturbance. The condition would ensure that

⁴⁷⁰ ORS 196.800(14) defines “Waters of this state.” The term includes wetlands and certain other water bodies.

⁴⁷¹ *Montague Wind Power Facility Wetlands and Other Waters Delineation Report Gilliam County, Oregon*, January 20, 2010 (App, Exhibit J, Attachment J-1).

⁴⁷² App, Exhibit J, p. 3.

⁴⁷³ Figure J-1 shows the survey corridors (App, Exhibit J, Figure J-1).

1 the facility would have no impact on any State-jurisdictional waters identified in the pre-
2 construction investigation.

3 Six wetlands that were delineated for Pebble Springs are located within the MWPF
4 survey corridor.⁴⁷⁴ DSL determined in 2008 that four of these wetlands are State-jurisdictional,
5 but DSL has not made jurisdictional determinations for the remaining two wetlands.⁴⁷⁵ In
6 addition, portions of two ephemeral streams delineated for Leaning Juniper II are located within
7 the MWPF site boundary, but outside the survey corridor. In 2009, DSL determined that these
8 ephemeral streams are not jurisdictional.

9 Based on the review of existing information, CH2M HILL identified more than 300
10 drainages within the survey corridor. Field investigations were conducted on 18 days between
11 October 12 and December 17, 2009.⁴⁷⁶ Each drainage identified from the review of existing
12 information was field-verified to determine whether it contained stream channels, wetlands or
13 other waters. Wetland biologists walked the entire survey corridor to identify isolated wetlands
14 or other waters outside of drainages.

15 CH2M HILL's determinations of potential State jurisdiction for delineated wetlands and
16 other waters are preliminary until they are confirmed by DSL.⁴⁷⁷ CH2M HILL delineated 22
17 wetlands and 26 streams within the survey corridors.⁴⁷⁸ As noted above, DSL has previously
18 determined that four of the identified wetlands are jurisdictional. In addition, CH2M HILL made
19 preliminary jurisdictional determinations for seven other identified wetlands.⁴⁷⁹ The applicant
20 proposes to microsite the MWPF components to avoid any temporary or permanent impacts to
21 any of the identified wetlands.⁴⁸⁰

22 CH2M HILL made preliminary determinations that none of the 26 identified streams is
23 jurisdictional under State law.⁴⁸¹ Based on the current layout, proposed MWPF access roads
24 would cross identified ephemeral streams in 14 locations, and underground collector lines would
25 cross identified ephemeral streams in 15 locations.⁴⁸² Construction of access road and
26 underground collector line crossings would involve removal and fill of material in the identified
27 stream channels.⁴⁸³ If any of the identified streams are determined by DSL to be jurisdictional, a
28 Removal/Fill permit would be required if 50 cubic yards or more of material is removed from or
29 filled into the jurisdictional stream channels. DSL had not completed its review of the
30 delineation report as of the date the Department issued the Draft Proposed Order. DSL approved
31 the delineation report on June 28, 2010.⁴⁸⁴

⁴⁷⁴ App, Exhibit J, Figure J-2a.

⁴⁷⁵ The USACE determined in 2009 that none of the six wetlands are jurisdictional under the federal Clean Water Act.

⁴⁷⁶ App, Exhibit J, p. 3.

⁴⁷⁷ Likewise, CH2M HILL's preliminary determinations of federal jurisdiction are subject to confirmation by the USACE.

⁴⁷⁸ The wetlands and streams are described in the application (App, Exhibit J, pp. 4-6).

⁴⁷⁹ App, Exhibit J, Attachment J-1, Table 3.

⁴⁸⁰ App, Exhibit J, p. 7.

⁴⁸¹ App, Exhibit J, Attachment J-1, pp. 13-14 and Table 4.

⁴⁸² App, Exhibit J, p. 7.

⁴⁸³ The application includes the estimated volume of removal and fill material for each crossing (App, Exhibit J, Table J-1).

⁴⁸⁴ Email from Sara Parsons, July 7, 2010.

1 On March 1, 2010, the applicant submitted a Joint Permit Application (JPA) to DSL and
2 USACE for anticipated impacts from stream crossings.⁴⁸⁵ The JPA described permanent impacts
3 from 14 access road culvert crossings. In addition, the JPA described temporary impacts for two
4 stream crossings for equipment movement and 15 underground collector line crossings.
5 Aboveground collector lines would cross ephemeral streams in 13 locations and aboveground
6 230-kV transmission lines would cross ephemeral streams in 5 locations. The applicant proposes
7 to locate the support poles for these aboveground lines outside of the stream channels and avoid
8 in-channel impacts.⁴⁸⁶

9 The Council adopts Condition 84, which would incorporate the measures proposed by the
10 applicant to avoid impacts to delineated wetlands and ephemeral streams. The condition
11 prohibits removal and fill of material from jurisdictional waters of the State in excess of the 50
12 cubic yard limit for the project as a whole so that a Removal/Fill permit would not be needed.

Conclusions of Law

13 Based on the findings discussed above and the site certificate conditions described herein,
14 the Council concludes that the proposed facility would not need a Removal-Fill Permit.

(c) Water Rights

15 Under ORS Chapters 537 and 540 and OAR Chapter 690, OWRD administers water
16 rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1),
17 the Council must determine whether the proposed MWPF would comply with these statutes and
18 administrative rules.

Findings of Fact

19 The applicant provided information about anticipated water use for construction and
20 operation of the proposed facility in Exhibit O of the application. Up to 36.9 million gallons of
21 water would be needed for dust control, road and earthwork compaction and concrete mixing
22 during the construction of the MWPF.⁴⁸⁷ Water for construction purposes would be obtained
23 from the City of Arlington under an existing municipal water right or from an existing well or a
24 new well permitted under a limited water use license.⁴⁸⁸ In the application, the applicant included
25 a copy a letter from the City's Public Works Superintendent indicating that the City could supply
26 the water needed during construction.⁴⁸⁹ The certificate holder's construction contractor would
27 be responsible for obtaining any water right or license needed for supplying construction water
28 from a new or existing well (a third-party permit).

29 During operation, water would be used for domestic and incidental purposes at the O&M
30 buildings and for washdown of equipment. The applicant estimated that the maximum
31 operational water use would be approximately 2,100 gallons per day.⁴⁹⁰ This water would come
32 from new on-site wells located at the O&M facilities (Condition 86). ORS 537.545(1)(f)

⁴⁸⁵ Letter from Joel Shaich, CH2M HILL, February 26, 2010, with attached JPA materials.

⁴⁸⁶ App, Exhibit J, p. 7.

⁴⁸⁷ App, Exhibit O, p. 1.

⁴⁸⁸ App, Exhibit O, p. 1.

⁴⁸⁹ App Supp, Attachment O-1.

⁴⁹⁰ App, Exhibit O, p. 3.

1 provides that a new water right is not required for industrial and commercial uses of up to 5,000
2 gallons per day.⁴⁹¹ Although blade washing is not recommended by the turbine manufacturer, if
3 blade washing were to occur at any time during facility operation, a limited amount of water
4 would be used.⁴⁹² The certificate holder may use water from the on-site wells for blade washing,
5 but the total water use from the wells would not exceed 5,000 gallons per day.

6 A DEQ WPCF 1700-B Wash Water Permit would not be needed for blade-washing, so
7 long as there would be no runoff of wash water from the site or discharges to surface waters,
8 storm sewers or dry wells and provided that no acids, bases or metal brighteners would be used
9 with the wash water.⁴⁹³ DEQ recommends cleaning only with cold water. Biodegradable,
10 phosphate-free cleaners are allowed, but all chemicals, soaps or detergents should be used
11 sparingly. The Council adopts Condition 87, which allows blade-washing, subject to the
12 restrictions recommended by DEQ.

Conclusions of Law

13 Based on these findings above and the site certificate conditions described herein, the
14 Council concludes that the proposed use of ground water for the construction and operation of
15 the proposed MWPF complies with the Ground Water Act of 1955 and the rules of the Water
16 Resources Department.

(d) State Highway Access and Crossings

17 Under OAR Chapter 734, Division 55, ODOT regulates the location, installation,
18 construction, maintenance and use of utility structures, including buried cables, within State
19 Highway right-of-way. Under Division 51, ODOT regulates highway approaches and access
20 control.

Findings of Fact

21 In the application, the applicant identified five locations where modifications to State
22 roads or highways might be needed.⁴⁹⁴ Possible modifications are located at the intersections of
23 Highway 19 with Tree Lane, Weatherford Lane, Montague Road and on a private access near the
24 proposed O&M facility (near Highway 19 north of Cedar Springs Lane). In addition, a new
25 access road would intersect Highway 16 south of Tree Lane.

26 The applicant met with ODOT staff and the Gilliam County Roadmaster at the site on
27 May 19, 2010.⁴⁹⁵ Based on that site visit, it was determined that modifications would not be
28 needed at the intersections of Highway 19 with Weatherford Lane and Montague Road or at the
29 intersection of Highway 19 with the private access road near the proposed O&M building.
30 ODOT permits would not be needed for modifications of Tree Lane and Baseline Road, which

⁴⁹¹ ORS 537.545 requires the owner of land on which an exempt well is drilled to provide a map to WRD showing the exact location of the well and to file the exempt water use with WRD for recording with submittal of a fee. ORS 537.765 requires that a well log be submitted to the Water Resources Commission within 30 days after completion of construction of a water well.

⁴⁹² App, Exhibit O, p. 4.

⁴⁹³ Letter from Walter West, DEQ, December 13, 2006 (App, Exhibit G, Attachment G-1).

⁴⁹⁴ App Supp, Exhibit U, p. 1, and Attachment U-1.

⁴⁹⁵ Email from Sara Parsons, June 4, 2010.

1 are county roads.⁴⁹⁶ An ODOT permit would be needed to request the new access point south of
2 Tree Lane.

3 The proposed 230-kV transmission line from the western substation to the central
4 substation would cross Highway 19. An ODOT utility crossing permit would be needed for an
5 overhead crossing in this location.

6 The Council finds that an ODOT access permit (for the new access south of Tree Lane)
7 and an ODOT utility crossing permit would be needed for the proposed MWPF facility. The
8 Council finds that the permits should be issued, subject to conditions imposed by ODOT but
9 limited by OAR Chapter 734, Divisions 51 and 55. The Council adopts Condition 70 to address
10 these requirements.

Conclusions of Law

11 Based on the findings discussed above and subject to the site certificate condition
12 discussed herein, the Council concludes that the MWPF would comply with requirements for
13 State Highway access and crossings.

(e) Public Health and Safety

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

Findings of Fact

18 We discuss the Council’s Public Health and Safety Standards for wind energy facilities
19 above at page 78. In this section below, we discuss the issues of fire protection, magnetic fields
20 and coordination with the Oregon Public Utility Commission.

A. Fire Protection

21 We discuss the potential impact of the proposed facility on fire and emergency response
22 services above at page 120. Based on consultation with local fire control authorities, the
23 certificate holder would develop and implement fire safety plans during construction and
24 operation of the MWPF (Condition 60). The plans would include measures to reduce the risk of
25 wildfire and to respond appropriately to any fires that occur on the facility site.

26 Turbine towers and pad-mounted transformers would be constructed on concrete
27 foundations with a surrounding gravel apron of 10 feet in radius from the turbine base (Condition
28 57).⁴⁹⁷ The turbines would have built-in equipment protection features that shut down the turbine
29 automatically to minimize the chance of a mechanical problem causing major damage or a fire
30 (Condition 58). The O&M buildings and service vehicles used for regular maintenance or
31 construction at the site would be equipped with shovels and portable fire extinguishers of a
32 4A50BC or equivalent rating (Condition 59).⁴⁹⁸ During construction and operation, the

⁴⁹⁶ Email from Patrick Smith, ODOT, June 8, 2010.

⁴⁹⁷ App, Exhibit B, p. 7.

⁴⁹⁸ App, Exhibit B, p. 7.

1 certificate holder would ensure that vehicles and equipment are operated on graveled areas and
2 off dry grassland to the extent possible (Conditions 62 and 63).

3 When operation of the facility begins, the certificate holder would provide to the North
4 Gilliam County Rural Fire Protection District copies of the site plan indicating the identification
5 number assigned to each turbine and the actual location of all facility structures.⁴⁹⁹ During
6 operation, the certificate holder would make sure that appropriate fire protection agency
7 personnel have an up-to-date list of the names and telephone numbers of facility personnel
8 available to respond on a 24-hour basis in case of an emergency on the facility site (Condition
9 61). During operation, all on-site employees would receive annual fire prevention and response
10 training by qualified instructors or members of local fire departments (Condition 63).⁵⁰⁰

B. Magnetic Fields

11 The proposed MWPF includes aboveground 230-kV transmission lines. Single-circuit
12 230-kV lines would run from the facility's western collector substation to the central collector
13 substation and from the central collector substation to BPA's Slatt substation (described above at
14 page 8). In addition, the proposed facility would have a power collection system consisting of
15 34.5-kV single-circuit or double-circuit transmission lines to transport the power from each
16 turbine to the substations (described above at page 7). Up to 27 miles of collector line could be
17 installed aboveground (Condition 88). There are no known occupied buildings, residences, or
18 other sensitive receptors within 200 feet of the preferred routes of the proposed 230-kV lines or
19 the proposed aboveground collector lines.⁵⁰¹

20 Electric transmission lines create both electric and magnetic fields. The electric fields
21 associated with the proposed transmission lines are addressed above at page 86, and for the
22 reasons discussed there, the proposed 34.5-kV and 230-kV transmission lines would not exceed
23 the Council's electric field standard of 9 kV per meter at one meter above the ground surface in
24 areas accessible to the public.

25 The strength of a magnetic field is a function of the current (amperage) in the electric
26 transmission line: the higher the current, the greater the strength of the magnetic field. Magnetic
27 field strength decreases as the distance from the conductor increases. Magnetic field strength is
28 at its maximum directly below transmission lines. The strength of a magnetic field fluctuates
29 hourly and daily with changes in the amount of current in the transmission line. Magnetic field
30 strength is measured in units of milligauss (mG).⁵⁰²

31 The application includes data on estimated magnetic field strength surrounding the
32 different aboveground transmission line configurations proposed for the MWPF. The analysis
33 assumed that the minimum ground clearance for the 230-kV transmission lines would be 30
34 feet.⁵⁰³ The minimum conductor ground clearance was assumed to be 20 feet for the double-
35 circuit 34.5-kV segments on H-frame structures and 25 feet for the single and double-circuit
36 segments on monopole structures and single-circuit segments on H-frame structures.⁵⁰⁴ For

⁴⁹⁹ App, Exhibit B, p. 7.

⁵⁰⁰ App, Exhibit B, p. 6, and Exhibit K, p. 18.

⁵⁰¹ App, Exhibit AA, pp. 2-3.

⁵⁰² In some research reports, magnetic fields are measured in units of microtesla. One microtesla is equal to 10 mG.

⁵⁰³ App, Exhibit AA, Attachment AA-3.

⁵⁰⁴ App, Exhibit AA, p. 12.

double-circuit segments, the phasing of circuits can be arranged to reduce the magnetic field compared to a single-circuit segment.

Based on the analysis provided by the applicant, the predicted maximum magnetic field strengths for the 230-kV line between the western collector substation and the central collector substation were 41.4 mG on monopole support structures and 65 mG on H-frame structures.⁵⁰⁵ The estimated magnetic field strength diminishes to 1.7 mG or less at a distance of 200 feet from the centerline. The predicted maximum magnetic field strengths for the 230-kV line between the central collector substation and the Slatt substation were 140.9 mG (monopole structures) and 218.8 mG (H-frame structures).⁵⁰⁶ The estimated magnetic field strength diminishes to 5.8 mG or less at a distance of 200 feet from the 230-kV lines.

For the aboveground single-circuit 34.5-kV lines, the predicted maximum field strengths were 98.7 mG (monopole structures) and 137.9 mG (H-frame structures).⁵⁰⁷ For the aboveground double-circuit 34.5-kV lines, the predicted maximum field strengths were 59.8 mG (monopole structures) and 144 mG (H-frame structures). The estimated magnetic field strength diminishes to 3.5 mG or less at a distance of 200 feet from the 34.5-kV lines. The applicant did not provide an analysis of the magnetic field strength above underground 34.5-kV transmission lines, but the Council has previously found that the maximum field strength above similar underground collector lines would be approximately 41 mG.⁵⁰⁸

The Council has previously considered whether exposure to magnetic fields causes health risks, and this issue has been the subject of considerable scientific research and discussion.⁵⁰⁹ The Council has not found sufficient information upon which to set health-based limits for exposure to magnetic fields.⁵¹⁰ Nevertheless, the Council has encouraged applicants to propose and implement low-cost ways to reduce or manage public exposure to magnetic fields from transmission lines under the Council's jurisdiction. The Council adopts Condition 89, which addresses reasonable steps to reduce or manage human exposure to electric and magnetic fields.

C. Coordination with the PUC

The Oregon Public Utility Commission Safety and Reliability Section (PUC) has requested that the Council ensure that certificate holders coordinate with PUC staff on the design and specifications of electrical transmission lines. Under ORS 757.035, the PUC administers power line safety rules contained in OAR Chapter 860, Division 24.⁵¹¹ The PUC has explained that others in the past have made inadvertent, but costly, mistakes in the design and specifications of power lines and pipelines that could have easily been corrected early if the

⁵⁰⁵ The analysis assumed a peak load of 301 amperes (App, Exhibit AA, Attachment AA-3). The calculated magnetic field strengths are shown in the data tables as "RMS resultant" values (App Supp, Exhibit AA, p. 3).

⁵⁰⁶ The analysis assumed a peak load of 1,014 amperes.

⁵⁰⁷ For collector lines on monopole structures, the analysis assumed a peak load of 1,000 amperes (App, Exhibit AA, Attachment AA-1). For collector lines on H-frame structures the analysis assumed a peak load of 1,004 amperes (App, Exhibit AA, Attachment AA-2).

⁵⁰⁸ *Final Order on the Application for the Klondike III Wind Project* (June 30, 2006), p. 104.

⁵⁰⁹ A recent discussion of magnetic field effects is included in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 139-141.

⁵¹⁰ A recent review of the scientific literature confirmed the Council's earlier findings (Golder Associates, *EMF Report*, November 23, 2009). Nevertheless, Florida has set a standard of 150 mG at the edge of the right-of-way for 230-kV transmission lines (*EMF Report*, p. 18).

⁵¹¹ Email from Jerry Murray, PUC, February 22, 2010.

1 developer had consulted with the PUC staff responsible for the safety codes and standards.
2 Under the PUC rules, the certificate holder would be an “operator” of power lines and would be
3 subject to ongoing requirements for the operation, maintenance, emergency response and
4 alteration of the facility power lines.⁵¹² The certificate holder would be required to coordinate the
5 design of electric transmission lines with the PUC (Condition 90). Compliance with ongoing
6 requirements regarding power lines during facility operation would be required under Condition
7 3.

Conclusions of Law

8 Based on the findings above and the site certificate conditions described herein, the
9 Council concludes that the siting, construction and operation of the proposed MWPF are
10 consistent with protection of public health and safety.

2. Summary of Monitoring Requirements

11 This section summarizes site certificate requirements for monitoring that would apply to
12 the proposed facility. As required under Council rule OAR 345-027-0028, Condition 19 requires
13 the certificate holder to have specific monitoring programs for impacts to resources protected by
14 Council standards and to resources addressed by other applicable statutes, administrative rules
15 and local ordinances. The certificate holder’s monitoring programs should include the
16 requirements listed below and any other monitoring necessary to comply with site certificate
17 conditions.

- 18 • **Cultural resources:** The certificate holder must monitor construction activities to
19 ensure that construction personnel cease all ground-disturbing activities in the
20 immediate area if any archaeological or cultural resources are found (Condition 51).
- 21 • **Operational safety:** The certificate holder must have an operational safety
22 monitoring program, including inspection of turbine blades on a regular basis for
23 signs of wear (Condition 67).
- 24 • **Fire control and prevention:** The certificate holder must have fire safety plans for
25 construction and operation of the facility, including monitoring the site to minimize
26 the risk of fire and to respond appropriately to any fires that occur on the site
27 (Condition 60).
- 28 • **Hazardous materials:** The certificate holder must monitor the use of hazardous
29 materials to ensure protection of public health, safety and the environment (Condition
30 55).
- 31 • **Soil impacts:** The certificate holder must implement an Erosion and Sediment
32 Control Plan during construction to minimize adverse impacts to soils (Condition 80)
33 and must monitor the facility site during operation to maintain or repair erosion
34 control measures (Condition 85).
- 35 • **Post-construction revegetation:** The certificate holder must restore areas
36 temporarily disturbed during construction as described in the *Revegetation Plan*,

⁵¹² The PUC has outlined some of these operational requirements (email from Jerry Murray, PUC, February 22, 2010).

1 including monitoring of the revegetated areas to ensure that success criteria are met
2 (Condition 92).

- 3 • **Weed control:** The certificate holder must monitor the facility site during
4 construction and operation to control the spread of noxious weeds (Condition 43).
- 5 • **Raptor nest avoidance:** The certificate holder must monitor raptor nest locations
6 during construction to comply with restrictions on construction activity within 1,300
7 feet of active nests (Condition 96).
- 8 • **Wildlife monitoring:** The certificate holder must monitor the facility site for impacts
9 to wildlife species in accordance with a Wildlife Monitoring and Mitigation Plan
10 (Condition 91).
- 11 • **Habitat mitigation:** The certificate holder must monitor the habitat mitigation area to
12 ensure that success criteria are met and maintained for the life of the facility
13 (Condition 93).

3. Requirements That Are Not Under Council Jurisdiction

(a) Federal Programs

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

(b) Requirements That Do Not Relate to Siting

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

VI. CONDITIONS REQUIRED BY COUNCIL RULES

28 This section lists conditions to be included in the site certificate as specifically required
29 by OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site
30 Specific Conditions), OAR 345-027-0028 (Monitoring Conditions) and OAR Chapter 345,
31 Division 26 (Construction and Operation Rules for Facilities). These conditions should be read
32 together with the specific facility conditions listed in Section VII to ensure compliance with the
33 siting standards of OAR Chapter 345, Divisions 22 and 24, and to protect the public health and
34 safety. References in preceding sections to specific conditions are included for convenience only.
35 Such references do not relieve the certificate holder from the obligation to comply with all site
36 certificate conditions.

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

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

11 1 OAR 345-027-0020(1): The Council shall not change the conditions of the site certificate
12 except as provided for in OAR Chapter 345, Division 27.

13 2 OAR 345-027-0020(2): The certificate holder shall submit a legal description of the site to
14 the Department of Energy within 90 days after beginning operation of the facility. The legal
15 description required by this rule means a description of metes and bounds or a description of
16 the site by reference to a map and geographic data that clearly and specifically identifies the
17 outer boundaries that contain all parts of the facility.

18 3 OAR 345-027-0020(3): The certificate holder shall design, construct, operate and retire the
19 facility:

20 (a) Substantially as described in the site certificate;

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

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

25 4 OAR 345-027-0020(4): The certificate holder shall begin and complete construction of the
26 facility by the dates specified in the site certificate. (*See Conditions 24 and 25.*)

27 5 OAR 345-027-0020(5): Except as necessary for the initial survey or as otherwise allowed for
28 wind energy facilities, transmission lines or pipelines under this section, the certificate holder
29 shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any
30 part of the site until the certificate holder has construction rights on all parts of the site. For
31 the purpose of this rule, "construction rights" means the legal right to engage in construction
32 activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder
33 does not have construction rights on all parts of the site, the certificate holder may
34 nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a
35 part of the site if the certificate holder has construction rights on that part of the site and:

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

40 (b) The certificate holder would construct and operate part of a wind energy facility on that
41 part of the site even if other parts of the facility were modified by amendment of the site
42 certificate or were not built.

- 1 6 OAR 345-027-0020(6): If the Council requires mitigation based on an affirmative finding
2 under any standards of Division 22 or Division 24 of this chapter, the certificate holder shall
3 consult with affected state agencies and local governments designated by the Council and
4 shall develop specific mitigation plans consistent with Council findings under the relevant
5 standards. The certificate holder must submit the mitigation plans to the Department and
6 receive Department approval before beginning construction or, as appropriate, operation of
7 the facility.
- 8 7 OAR 345-027-0020(7): The certificate holder shall prevent the development of any
9 conditions on the site that would preclude restoration of the site to a useful, non-hazardous
10 condition to the extent that prevention of such site conditions is within the control of the
11 certificate holder.
- 12 8 OAR 345-027-0020(8): Before beginning construction of the facility, the certificate holder
13 shall submit to the State of Oregon, through the Council, a bond or letter of credit, in a form
14 and amount satisfactory to the Council to restore the site to a useful, non-hazardous
15 condition. The certificate holder shall maintain a bond or letter of credit in effect at all times
16 until the facility has been retired. The Council may specify different amounts for the bond or
17 letter of credit during construction and during operation of the facility. (*See Condition 32.*)
- 18 9 OAR 345-027-0020(9): The certificate holder shall retire the facility if the certificate holder
19 permanently ceases construction or operation of the facility. The certificate holder shall retire
20 the facility according to a final retirement plan approved by the Council, as described in
21 OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a
22 useful, non-hazardous condition at the time of retirement, notwithstanding the Council's
23 approval in the site certificate of an estimated amount required to restore the site.
- 24 10 OAR 345-027-0020(10): The Council shall include as conditions in the site certificate all
25 representations in the site certificate application and supporting record the Council deems to
26 be binding commitments made by the applicant.
- 27 11 OAR 345-027-0020(11): Upon completion of construction, the certificate holder shall restore
28 vegetation to the extent practicable and shall landscape all areas disturbed by construction in
29 a manner compatible with the surroundings and proposed use. Upon completion of
30 construction, the certificate holder shall remove all temporary structures not required for
31 facility operation and dispose of all timber, brush, refuse and flammable or combustible
32 material resulting from clearing of land and construction of the facility.
- 33 12 OAR 345-027-0020(12): The certificate holder shall design, engineer and construct the
34 facility to avoid dangers to human safety presented by seismic hazards affecting the site that
35 are expected to result from all maximum probable seismic events. As used in this rule
36 "seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami
37 inundation, fault displacement and subsidence.
- 38 13 OAR 345-027-0020(13): The certificate holder shall notify the Department, the State
39 Building Codes Division and the Department of Geology and Mineral Industries promptly if
40 site investigations or trenching reveal that conditions in the foundation rocks differ
41 significantly from those described in the application for a site certificate. After the
42 Department 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 Department, 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 Department 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 Department 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 Department to prepare a proposed 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 OAR 345-027-0020(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 facility includes any 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.

18 OAR 345-027-0023(5): 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.

19 OAR 345-027-0028: The following general monitoring conditions apply:

1 (a) The certificate holder shall consult with affected state agencies, local governments and
2 tribes and shall develop specific monitoring programs for impacts to resources protected by
3 the standards of divisions 22 and 24 of OAR Chapter 345 and resources addressed by
4 applicable statutes, administrative rules and local ordinances. The certificate holder must
5 submit the monitoring programs to the Department of Energy and receive Department
6 approval before beginning construction or, as appropriate, operation of the facility.

7 (b) The certificate holder shall implement the approved monitoring programs described in
8 OAR 345-027-0028(1) and monitoring programs required by permitting agencies and local
9 governments.

10 (c) For each monitoring program described in OAR 345-027-0028(1) and (2), the
11 certificate holder shall have quality assurance measures approved by the Department before
12 beginning construction or, as appropriate, before beginning commercial operation.

13 (d) If the certificate holder becomes aware of a significant environmental change or impact
14 attributable to the facility, the certificate holder shall, as soon as possible, submit a written
15 report to the Department describing the impact on the facility and any affected site certificate
16 conditions.

17 20 OAR 345-026-0048: Following receipt of the site certificate or an amended site certificate,
18 the certificate holder shall implement a plan that verifies compliance with all site certificate
19 terms and conditions and applicable statutes and rules. As a part of the compliance plan, to
20 verify compliance with the requirement to begin construction by the date specified in the site
21 certificate, the certificate holder shall report promptly to the Department of Energy when
22 construction begins. Construction is defined in OAR 345-001-0010. In reporting the
23 beginning of construction, the certificate holder shall describe all work on the site performed
24 before beginning construction, including work performed before the Council issued the site
25 certificate, and shall state the cost of that work. For the purpose of this exhibit, "work on the
26 site" means any work within a site or corridor, other than surveying, exploration or other
27 activities to define or characterize the site or corridor. The certificate holder shall document
28 the compliance plan and maintain it for inspection by the Department or the Council.

29 21 OAR 345-026-0080: The certificate holder shall report according to the following
30 requirements:

31 (a) General reporting obligation for energy facilities under construction or operating:

32 (i) Within six months after beginning construction, and every six months thereafter
33 during construction of the energy facility and related or supporting facilities, the certificate
34 holder shall submit a semiannual construction progress report to the Department of Energy.
35 In each construction progress report, the certificate holder shall describe any significant
36 changes to major milestones for construction. The certificate holder shall include such
37 information related to construction as specified in the site certificate. When the reporting date
38 coincides, the certificate holder may include the construction progress report within the
39 annual report described in OAR 345-026-0080.

40 (ii) By April 30 of each year after beginning construction, the certificate holder shall
41 submit an annual report to the Department addressing the subjects listed in OAR 345-026-
42 0080. The Council Secretary and the certificate holder may, by mutual agreement, change the
43 reporting date.

44 (iii) To the extent that information required by OAR 345-026-0080 is contained in
45 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.

(b) 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, the plant availability and capacity factors for the reporting year. The certificate holder shall describe any equipment failures or plant breakdowns that had a significant impact on those factors and shall describe any actions taken to prevent the recurrence of such problems.

(iii) Fuel Use: For thermal power plants:

(A) 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

(B) 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).

(iv) 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.

(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.

(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).

22 OAR 345-026-0105: The certificate holder and the Department 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 Department.

23 OAR 345-026-0170: The certificate holder shall notify the Department 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.

1. Certificate Administration Conditions

24 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.

25 The certificate holder shall complete construction of the facility within six 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.

26 Before beginning construction of the facility, the certificate holder shall notify the Department whether the turbines identified as H1, H2, H3, H4, L8, L9, L10, L11 and L12 on Figure C-3a of the site certificate application will be built as part of the Montague Wind Power Facility or whether the turbines will be built as part of the Leaning Juniper II Wind Power Facility.

27 The certificate holder shall construct a facility substantially as described in the site certificate and may select turbines of any type, subject to the following restrictions and compliance with all other site certificate conditions. Before beginning construction, the certificate holder shall provide to the Department a description of the turbine types selected for the facility demonstrating compliance with this condition.

(a) The total number of turbines at the facility must not exceed 269 turbines.

(b) The combined peak generating capacity of the facility must not exceed 404 megawatts and the peak generating capacity of any individual turbine must not exceed 3.0 megawatts.

1 (c) The turbine hub height must not exceed 100 meters and the maximum blade tip height
2 must not exceed 150 meters.

3 (d) The minimum blade tip clearance must be 41 meters above ground.

4 (e) The certificate holder shall request an amendment of the site certificate to increase the
5 combined peak generating capacity of the facility beyond 404 megawatts, to increase the
6 number of wind turbines to more than 269 wind turbines or to install wind turbines with a
7 hub height greater than 100 meters, a blade tip height greater than 150 meters or a blade tip
8 clearance less than 41 meters above ground.

9 28 The certificate holder shall obtain all necessary federal, state and local permits or approvals
10 required for construction, operation and retirement of the facility or ensure that its contractors
11 obtain the necessary federal, state and local permits or approvals.

12 29 Before beginning construction, the certificate holder shall provide confirmation to the
13 Department that the construction contractor or other third party has obtained all necessary
14 permits or approvals and shall provide to the Department proof of agreements between the
15 certificate holder and the third party regarding access to the resources or services secured by
16 the permits or approvals.

17 30 Before beginning construction, the certificate holder shall notify the Department in advance
18 of any work on the site that does not meet the definition of "construction" in ORS 469.300,
19 excluding surveying, exploration or other activities to define or characterize the site, and
20 shall provide to the Department a description of the work and evidence that its value is less
21 than \$250,000.

22 31 Before beginning construction and after considering all micro-siting factors, the certificate
23 holder shall provide to the Department, to the Oregon Department of Fish and Wildlife
24 (ODFW) and to the Planning Director of Gilliam County detailed maps of the facility site,
25 showing the final locations where the certificate holder proposes to build facility
26 components, and a table showing the acres of temporary and permanent habitat impact by
27 habitat category and subtype, similar to Table 6 in the *Final Order on the Application*. The
28 detailed maps of the facility site shall indicate the habitat categories of all areas that would be
29 affected during construction (similar to Figures P-8a through P-8d in the site certificate
30 application). In classifying the affected habitat into habitat categories, the certificate holder
31 shall consult with the ODFW. The certificate holder shall not begin ground disturbance in an
32 affected area until the habitat assessment has been approved by the Department. The
33 Department may employ a qualified contractor to confirm the habitat assessment by on-site
34 inspection.

35 32 Before beginning construction, the certificate holder shall submit to the State of Oregon
36 through the Council a bond or letter of credit in the amount described herein naming the State
37 of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or
38 letter of credit amount is either \$21.511 million (3rd Quarter 2010 dollars), to be adjusted to
39 the date of issuance as described in (b), or the amount determined as described in (a). The
40 certificate holder shall adjust the amount of the bond or letter of credit on an annual basis
41 thereafter as described in (b).

42 (a) The certificate holder may adjust the amount of the bond or letter of credit based on the
43 final design configuration of the facility and turbine types selected by applying the unit costs
44 and general costs illustrated in Table 2 in the *Final Order on the Application* and calculating

1 the financial assurance amount as described in that order, adjusted to the date of issuance as
2 described in (b) and subject to approval by the Department.

3 (b) The certificate holder shall adjust the amount of the bond or letter of credit, using the
4 following calculation and subject to approval by the Department:

5 (i) Adjust the Subtotal component of the bond or letter of credit amount (expressed in
6 mid-2004 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price
7 Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services'
8 "Oregon Economic and Revenue Forecast" or by any successor agency (the "Index") and
9 using the average of the 2nd Quarter and 3rd Quarter 2004 index values (to represent mid-
10 2004 dollars) and the quarterly index value for the date of issuance of the new bond or letter
11 of credit. If at any time the Index is no longer published, the Council shall select a
12 comparable calculation to adjust mid-2004 dollars to present value.

13 (ii) Add 1 percent of the adjusted Subtotal (i) for the adjusted performance bond
14 amount to determine the adjusted Gross Cost.

15 (iii) Add 10 percent of the adjusted Gross Cost (ii) for the adjusted administration and
16 project management costs and 10 percent of the adjusted Gross Cost (ii) for the adjusted
17 future developments contingency.

18 (iv) Add the adjusted Gross Cost (ii) to the sum of the percentages (iii) and round the
19 resulting total to the nearest \$1,000 to determine the adjusted financial assurance amount.

20 (c) The certificate holder shall use a form of bond or letter of credit approved by the
21 Council.

22 (d) The certificate holder shall use an issuer of the bond or letter of credit approved by the
23 Council.

24 (e) The certificate holder shall describe the status of the bond or letter of credit in the
25 annual report submitted to the Council under Condition 21.

26 (f) The bond or letter of credit shall not be subject to revocation or reduction before
27 retirement of the facility site.

28 33 If the certificate holder elects to use a bond to meet the requirements of Condition 32, the
29 certificate holder shall ensure that the surety is obligated to comply with the requirements of
30 applicable statutes, Council rules and this site certificate when the surety exercises any legal
31 or contractual right it may have to assume construction, operation or retirement of the energy
32 facility. The certificate holder shall also ensure that the surety is obligated to notify the
33 Council that it is exercising such rights and to obtain any Council approvals required by
34 applicable statutes, Council rules and this site certificate before the surety commences any
35 activity to complete construction, operate or retire the energy facility.

36 34 Before beginning construction, the certificate holder shall notify the Department of the
37 identity and qualifications of the major design, engineering and construction contractor(s) for
38 the facility. The certificate holder shall select contractors that have substantial experience in
39 the design, engineering and construction of similar facilities. The certificate holder shall
40 report to the Department any change of major contractors.

41 35 The certificate holder shall contractually require all construction contractors and
42 subcontractors involved in the construction of the facility to comply with all applicable laws
43 and regulations and with the terms and conditions of the site certificate. Such contractual
44 provisions shall not operate to relieve the certificate holder of responsibility under the site
45 certificate.

- 1 36 To ensure compliance with all site certificate conditions during construction, the certificate
2 holder shall have a full-time, on-site assistant construction manager who is qualified in
3 environmental compliance. The certificate holder shall notify the Department of the name,
4 telephone number and e-mail address of this person.
- 5 37 Within 72 hours after discovery of conditions or circumstances that may violate the terms or
6 conditions of the site certificate, the certificate holder shall report the conditions or
7 circumstances to the Department.

2. Land Use Conditions

- 8 38 The certificate holder shall consult with area landowners and lessees during construction and
9 operation of the facility and shall implement measures to reduce or avoid any adverse
10 impacts to farm practices on surrounding lands and to avoid any increase in farming costs.
- 11 39 The certificate holder shall design and construct the facility using the minimum land area
12 necessary for safe construction and operation. The certificate holder shall locate access roads
13 and temporary construction laydown and staging areas to minimize disturbance of farming
14 practices and, wherever feasible, shall place turbines and transmission interconnection lines
15 along the margins of cultivated areas to reduce the potential for conflict with farm operations.
- 16 40 The certificate holder shall install gates on private access roads in accordance with Gilliam
17 County Zoning Ordinance Section 7.020(T)(4)(d)(6) unless the County has granted a
18 variance to this requirement.
- 19 41 Before beginning construction of the facility, the certificate holder shall record in the real
20 property records of Gilliam County a Covenant Not to Sue with regard to generally accepted
21 farming practices on adjacent farmland consistent with GCZO Section 7.020(T)(4)(a)(5).
- 22 42 The certificate holder shall construct all facility components in compliance with the
23 following setback requirements:
- 24 (a) All facility components must be at least 3,520 feet from the property line of properties
25 zoned residential use or designated in the Gilliam County Comprehensive Plan as residential.
- 26 (b) Where (a) does not apply, the certificate holder shall maintain a minimum distance of
27 110-percent of maximum blade tip height, measured from the centerline of the turbine tower
28 to the nearest edge of any public road right-of-way. The certificate holder shall assume a
29 minimum right-of-way width of 60 feet.
- 30 (c) Where (a) does not apply, the certificate holder shall maintain a minimum distance of
31 1,320 feet, measured from the centerline of the turbine tower to the center of the nearest
32 residence existing at the time of tower construction.
- 33 (d) Where (a) does not apply, the certificate holder shall maintain a minimum distance of
34 110-percent of maximum blade tip height, measured from the centerline of the turbine tower
35 to the nearest boundary of the certificate holder's lease area.
- 36 (e) The certificate holder shall maintain a minimum distance of 250 feet measured from the
37 center line of each turbine tower to the nearest edge of any railroad right-of-way or electrical
38 substation.
- 39 (f) The certificate holder shall maintain a minimum distance of 250 feet measured from the
40 center line of each meteorological tower to the nearest edge of any public road right-of-way
41 or railroad right-of-way, the nearest boundary of the certificate holder's lease area or the
42 nearest electrical substation.

1 (g) The certificate holder shall maintain a minimum distance of 50 feet measured from any
2 facility O&M building to the nearest edge of any public road right-of-way or railroad right-
3 of-way or the nearest boundary of the certificate holder's lease area.

4 (h) The certificate holder shall maintain a minimum distance of 50 feet measured from any
5 substation to the nearest edge of any public road right-of-way or railroad right-of-way or the
6 nearest boundary of the certificate holder's electrical substation easement or, if there is no
7 easement, the nearest boundary of the certificate holder's lease area.

8 43 During construction and operation of the facility, the certificate holder shall implement a
9 weed control plan approved by the Gilliam County Weed Control Officer or other
10 appropriate County officials to control the introduction and spread of noxious weeds.

11 44 During operation of the facility, the certificate holder shall restore areas that are temporarily
12 disturbed during facility maintenance or repair activities using the same methods and
13 monitoring procedures described in the *Revegetation Plan* referenced in Condition 92.

14 45 Within 90 days after beginning operation, the certificate holder shall provide to the
15 Department and to the Gilliam County Planning Department the actual latitude and longitude
16 location or Stateplane NAD 83(91) coordinates of each turbine tower, connecting lines and
17 transmission lines and a summary of as-built changes in the facility compared to the original
18 plan.

19 46 The certificate holder shall deliver a copy of the annual report required under Condition 21 to
20 the Gilliam County Planning Commission on an annual basis unless specifically discontinued
21 by the County.

3. Cultural Resource Conditions

22 47 Before beginning construction, the certificate holder shall label all identified historic, cultural
23 or archaeological resource sites on construction maps and drawings as "no entry" areas. If
24 construction activities will occur within 200 feet of an identified site, the certificate holder
25 shall flag a 30-meter no-entry buffer around the site. The certificate holder may use existing
26 private roads within the buffer areas but may not widen or improve private roads within the
27 buffer areas. The no-entry restriction does not apply to public road rights-of-way within the
28 buffer areas or to operational farmsteads.

29 48 In reference to the alignment of the Oregon Trail described in the *Final Order on the*
30 *Application*, the certificate holder shall comply with the following requirements:

31 (a) The certificate holder shall not locate facility components on visible remnants of the
32 Oregon Trail and shall avoid any construction disturbance to those remnants.

33 (b) The certificate holder shall not locate facility components on undeveloped land where
34 the trail alignment is marked by existing Oregon-California Trail Association markers.

35 (c) Before beginning construction, the certificate holder shall provide to the State Historic
36 Preservation Office (SHPO) and the Department documentation of the presumed Oregon
37 Trail alignments within the site boundary.

38 (d) The certificate holder shall ensure that construction personnel proceed carefully in the
39 vicinity of the presumed alignments of the Oregon Trail. If any physical evidence of the trail
40 is discovered, the certificate holder shall avoid any disturbance to the intact segments by
41 redesign, re-engineering or restricting the area of construction activity and shall flag a 30-
42 meter no-entry buffer around the intact Trail segments. The certificate holder shall promptly

1 notify the SHPO and the Department of the discovery. The certificate holder shall consult
2 with the SHPO and the Department to determine appropriate mitigation measures.

3 49 Before beginning construction, the certificate holder shall provide to the Department a map
4 showing the final design locations of all components of the facility, the areas that would be
5 temporarily disturbed during construction and the areas that were surveyed in 2009 as
6 described in the *Final Order on the Application*. The certificate holder shall hire qualified
7 personnel to conduct field investigations of all areas to be disturbed during construction that
8 lie outside the previously-surveyed areas. The certificate holder shall provide a written report
9 of the field investigations to the Department and to the Oregon State Historic Preservation
10 Office (SHPO) for review and approval. If any potentially significant historic, cultural or
11 archaeological resources are found during the field investigation, the certificate holder shall
12 instruct all construction personnel to avoid the identified sites and shall implement
13 appropriate measures to protect the sites, including the measures described in Condition 47.

14 50 The certificate holder shall ensure that a qualified archaeologist, as defined in OAR 736-051-
15 0070, instructs construction personnel in the identification of cultural materials and
16 avoidance of accidental damage to identified resource sites.

17 51 The certificate holder shall ensure that construction personnel cease all ground-disturbing
18 activities in the immediate area if any archaeological or cultural resources are found during
19 construction of the facility until a qualified archaeologist can evaluate the significance of the
20 find. The certificate holder shall notify the Department and the Oregon State Historic
21 Preservation Office (SHPO) of the find. If the SHPO determines that the resource is
22 significant, the certificate holder shall make recommendations to the Council for mitigation,
23 including avoidance, field documentation and data recovery, in consultation with the
24 Department, SHPO, interested Tribes and other appropriate parties. The certificate holder
25 shall not restart work in the affected area until the certificate holder has demonstrated to the
26 Department and the SHPO that it has complied with archaeological resource protection
27 regulations.

4. Geotechnical Conditions

28 52 Before beginning construction, the certificate holder shall conduct a site-specific
29 geotechnical investigation and shall report its findings to the Oregon Department of Geology
30 & Mineral Industries (DOGAMI) and the Department. The certificate holder shall conduct
31 the geotechnical investigation after consultation with DOGAMI and in general accordance
32 with DOGAMI open file report 00-04 "Guidelines for Engineering Geologic Reports and
33 Site-Specific Seismic Hazard Reports."

34 53 The certificate holder shall design and construct the facility in accordance with requirements
35 of the Oregon Structural Specialty Code (OSSC 2007) and the 2006 International Building
36 Code.

37 54 The certificate holder shall design, engineer and construct the facility to avoid dangers to
38 human safety presented by non-seismic hazards. As used in this condition, "non-seismic
39 hazards" include settlement, landslides, flooding and erosion.

5. Hazardous Materials, Fire Protection & Public Safety Conditions

55 The certificate holder shall handle hazardous materials used on the site 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. The certificate holder shall not store diesel fuel or gasoline on the facility site.

56 If a spill or release of hazardous material 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 at the O&M buildings. The certificate holder shall instruct employees about proper handling, storage and cleanup of hazardous materials.

57 The certificate holder shall construct turbines and pad-mounted transformers on concrete foundations and shall cover the ground within a 10-foot radius with non-flammable material. The certificate holder shall maintain the non-flammable pad area covering during operation of the facility.

58 The certificate holder shall install and maintain self-monitoring devices on each turbine, linked to sensors 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.

59 During construction and operation of the facility, the certificate holder shall ensure that the O&M buildings and all service vehicles are equipped with shovels and portable fire extinguishers of a 4A50BC or equivalent rating.

60 During construction and operation of the facility, the certificate holder shall develop and implement fire safety plans in consultation with the North Gilliam County Rural Fire Protection District to minimize the risk of fire and to respond appropriately to any fires that occur on the facility site. In developing the fire safety plans, the certificate holder shall take into account the dry nature of the region and shall address risks on a seasonal basis. The certificate holder shall meet annually with local fire protection agency personnel to discuss emergency planning and shall invite local fire protection agency personnel to observe any emergency drill or tower rescue training conducted at the facility.

61 Upon the beginning of operation of the facility, the certificate holder shall provide a site plan to the North Gilliam County Rural Fire Protection District. The certificate holder shall indicate on the site plan the identification number assigned to each turbine and the actual location of all facility structures. The certificate holder shall provide an updated site plan if additional turbines or other structures are later added to the facility. During operation, the certificate holder shall ensure that appropriate fire protection agency personnel have an up-to-date list of 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.

62 During construction, the certificate holder shall ensure that construction personnel are trained in fire prevention and response, that construction vehicles and equipment are operated on

1 graveled areas to the extent possible and that open flames, such as cutting torches, are kept
2 away from dry grass areas.

3 63 During operation of the facility, the certificate holder shall ensure that all on-site employees
4 receive annual fire prevention and response training by qualified instructors or members of
5 the local fire districts. The certificate holder shall ensure that all employees are instructed to
6 keep vehicles on roads and off dry grassland, except when off-road operation is required for
7 emergency purposes.

8 64 Before beginning construction, the certificate holder shall submit a Notice of Proposed
9 Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon
10 Department of Aviation identifying the proposed final locations of turbine towers and
11 meteorological towers. The certificate holder shall promptly notify the Department of the
12 responses from the FAA and the Oregon Department of Aviation.

13 65 The certificate holder shall follow manufacturers' recommended handling instructions and
14 procedures to prevent damage to turbine or turbine tower components that could lead to
15 failure.

16 66 The certificate holder shall construct turbine towers with no exterior ladders or access to the
17 turbine blades and shall install locked tower access doors. The certificate holder shall keep
18 tower access doors locked at all times, except when authorized personnel are present.

19 67 During operation of the facility, the certificate holder shall have a safety-monitoring program
20 and shall inspect all turbine and turbine tower components on a regular basis. The certificate
21 holder shall maintain or repair turbine and turbine tower components as necessary to protect
22 public safety.

23 68 For turbine types having pad-mounted step-up transformers, the certificate holder shall install
24 the transformers at the base of each tower in locked cabinets designed to protect the public
25 from electrical hazards and to avoid creation of artificial habitat for raptor prey.

26 69 To protect the public from electrical hazards, the certificate holder shall enclose the facility
27 substations with appropriate fencing and locked gates.

28 70 Before beginning construction of any new State Highway approaches or utility crossings, the
29 certificate holder shall obtain all required permits from the Oregon Department of
30 Transportation (ODOT) subject to the applicable conditions required by OAR Chapter 734,
31 Divisions 51 and 55. The certificate holder shall submit the necessary application in a form
32 satisfactory to ODOT and the Department for the location, construction and maintenance of a
33 new approach to State Highway 19 for access to the site south of Tree Lane. The certificate
34 holder shall submit the necessary application in a form satisfactory to ODOT and the
35 Department for the location, construction and maintenance of transmission lines crossing
36 Highway 19.

37 71 The certificate holder shall design and construct new access roads and private road
38 improvements to standards approved by the Gilliam County Road Department or, where
39 applicable, the Morrow County Public Works Department. Where modifications of County
40 roads are necessary, the certificate holder shall construct the modifications entirely within the
41 County road rights-of-way and in conformance with County road design standards subject to
42 the approval of the Gilliam County Road Department or, where applicable, the Morrow
43 County Public Works Department. Where modifications of State roads or highways are

1 necessary, the certificate holder shall construct the modifications entirely within the public
2 road rights-of-way and in conformance with Oregon Department of Transportation (ODOT)
3 standards subject to the approval of ODOT.

4 72 The certificate holder shall construct access roads with a finished width of up to 20 feet,
5 designed under the direction of a licensed engineer and compacted to meet equipment load
6 requirements.

7 73 During construction of the facility, the certificate holder shall implement measures to reduce
8 traffic impacts, including:

9 (a) Providing notice to adjacent landowners when heavy construction traffic is anticipated.

10 (b) Providing appropriate traffic safety signage and warnings.

11 (c) Requiring flaggers to be at appropriate locations at appropriate times during
12 construction to direct traffic.

13 (d) Using traffic diversion equipment (such as advance signage and pilot cars) when slow
14 or oversize construction loads are anticipated.

15 (e) Maintaining at least one travel lane at all times to the extent reasonably possible so that
16 roads will not be closed to traffic because of construction vehicles.

17 (f) Encouraging carpooling for the construction workforce.

18 (g) Including traffic control procedures in contract specifications for construction of the
19 facility.

20 (h) Keeping Highway 19 free of gravel that tracks out onto the highway at facility access
21 points.

22 74 The certificate holder shall ensure that no equipment or machinery is parked or stored on any
23 County road whether inside or outside the site boundary. The certificate holder may
24 temporarily park equipment off the road but within County rights-of-way with the approval
25 of the Gilliam County Road Department or, where applicable, the Morrow County Public
26 Works Department.

27 75 The certificate holder shall cooperate with the Gilliam County Road Department and with the
28 Morrow County Public Works Department to ensure that any unusual damage or wear to
29 county roads that is caused by construction of the facility is repaired by the certificate holder.
30 Upon completion of construction, the certificate holder shall restore public roads to pre-
31 construction condition or better to the satisfaction of the applicable county departments. If
32 required by Morrow County or Gilliam County, the certificate holder shall post bonds to
33 ensure funds are available to repair and maintain roads affected by the proposed facility.

34 76 During construction, the certificate holder shall require that all on-site construction
35 contractors develop and implement a site health and safety plan that informs workers and
36 others on-site about first aid techniques and what to do in case of an emergency and that
37 includes important telephone numbers and the locations of on-site fire extinguishers and
38 nearby hospitals. The certificate holder shall ensure that construction contractors have
39 personnel on-site who are trained and equipped for tower rescue and who are first aid and
40 CPR certified.

41 77 During operation of the facility, the certificate holder shall develop and implement a site
42 health and safety plan that informs employees and others on-site about first aid techniques
43 and what to do in case of an emergency and that includes important telephone numbers and

the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that operations personnel are trained and equipped for tower rescue.

78 During construction and operation of the facility, the certificate holder shall provide for on-site security and shall establish good communications between on-site security personnel and the Gilliam County Sheriff's Office. During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of 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.

79 The certificate holder shall notify the Department of Energy and the Gilliam County Planning 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.

6. Water, Soils, Streams & Wetlands Conditions

80 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 or storm water management requirements.

81 During construction, the certificate holder shall limit truck traffic to improved road surfaces to avoid soil compaction, to the extent practicable.

82 During construction, the certificate holder shall implement best management practices to control any dust generated by construction activities, such as applying water to roads and disturbed soil areas.

83 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 the areas that would be disturbed during construction and showing the wetlands and stream channels previously surveyed by CH2M HILL as described in the *Final Order on the Application*. For areas to be disturbed during construction that lie outside of the previously-surveyed areas, the certificate holder shall hire qualified personnel to conduct a pre-construction investigation to determine whether any jurisdictional waters of the State exist in those locations. The certificate holder shall provide a written report on the pre-construction investigation to the Department and the Department of State Lands for approval before beginning construction. The certificate holder shall ensure that construction and operation of the facility will have no impact on any jurisdictional water identified in the pre-construction investigation.

84 The certificate holder shall avoid impacts to waters of the state in the following manner:

(a) The certificate holder shall avoid any disturbance to delineated wetlands.

(b) The certificate holder shall construct stream crossings for roads and underground collector lines substantially as described in the *Final Order on the Application*. In particular, the certificate holder shall not remove material from waters of the State or add new fill material to waters of the State such that the total volume of removal and fill exceeds 50 cubic yards for the project as a whole.

(c) The certificate holder shall construct support poles for aboveground lines outside of delineated stream channels and shall avoid in-channel impacts.

85 During facility operation, the certificate holder shall routinely inspect and maintain all roads, pads and trenched areas and, as necessary, maintain or repair erosion and sediment control measures.

86 During facility operation, the certificate holder shall obtain water for on-site uses from on-site wells located near the O&M buildings. The certificate holder shall construct on-site wells subject to compliance with the provisions of ORS 537.765 relating to keeping a well log. The certificate holder shall not use more than 5,000 gallons of water per day from the on-site wells. The certificate holder may use other sources of water for on-site uses subject to prior approval by the Department.

87 During facility operation, if blade-washing becomes necessary, the certificate holder shall ensure that there is no runoff of wash water from the site or discharges to surface waters, storm sewers or dry wells. The certificate holder shall not use acids, bases or metal brighteners with the wash water. The certificate holder may use biodegradable, phosphate-free cleaners sparingly.

7. Transmission Line & EMF Conditions

88 The certificate holder shall install the 34.5-kV collector system underground to the extent practical. The certificate holder shall install underground lines at a minimum depth of three feet. Based on geotechnical conditions or other engineering considerations, the certificate holder may install segments of the collector system aboveground, but the total length of aboveground segments must not exceed 27 miles.

89 The certificate holder shall take reasonable steps to reduce or manage human exposure to electromagnetic fields, including but not limited to:

(a) Constructing all aboveground transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line.

(b) Providing to landowners a map of underground and overhead transmission lines on their property and advising landowners of possible health risks from electric and magnetic fields.

(c) Designing and maintaining all 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.

(d) Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable.

90 In advance of, and during, preparation of detailed design drawings and specifications for 230-kV and 34.5-kV transmission lines, the certificate holder shall consult with the Utility Safety and Reliability Section of the Oregon Public Utility Commission to ensure that the designs and specifications are consistent with applicable codes and standards.

8. Plants, Wildlife & Habitat Protection Conditions

91 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.

1 92 The certificate holder shall restore areas disturbed by facility construction but not occupied
2 by permanent facility structures according to the methods and monitoring procedures
3 described in the *Revegetation Plan* that is incorporated in the *Final Order on the Application*
4 as Attachment B and as amended from time to time.

5 93 The certificate holder shall acquire the legal right to create, enhance, maintain and protect a
6 habitat mitigation area as long as the site certificate is in effect by means of an outright
7 purchase, conservation easement or similar conveyance and shall provide a copy of the
8 documentation to the Department. Within the habitat mitigation area, the certificate holder
9 shall improve the habitat quality as described in the *Habitat Mitigation Plan* that is
10 incorporated in the *Final Order on the Application* as Attachment C and as amended from
11 time to time.

12 94 The certificate holder shall determine the boundaries of Category 1 Washington ground
13 squirrel (WGS) habitat based on the locations where the squirrels were found to be active in
14 the most recent WGS survey prior to the beginning of construction in habitat suitable for
15 WGS foraging or burrow establishment ("suitable habitat"). The certificate holder shall hire a
16 qualified professional biologist who has experience in detection of WGS to conduct surveys
17 using a survey protocol approved by the Oregon Department of Fish and Wildlife (ODFW).
18 The biologist shall survey all areas of suitable habitat where permanent facility components
19 would be located or where construction disturbance could occur. Except as provided in (a),
20 the biologist shall conduct the protocol surveys in the active squirrel season (March 1 to May
21 31) in 2010 and in the active squirrel seasons in subsequent years until the beginning of
22 construction in suitable habitat. The certificate holder shall provide written reports of the
23 surveys to the Department and to ODFW and shall identify the boundaries of Category 1
24 WGS habitat. The certificate holder shall not begin construction within suitable habitat until
25 the identified boundaries of Category 1 WGS habitat have been approved by the Department.
26 Category 1 WGS habitat includes the areas described in (b) and (c).

27 (a) The certificate holder may omit the WGS survey in any year if the certificate holder
28 avoids all permanent and temporary disturbance within suitable habitat until a WGS survey
29 has been completed in the following year and the boundaries of Category 1 habitat have been
30 determined and approved based on that survey.

31 (b) Category 1 WGS habitat includes the area within the perimeter of multiple active WGS
32 burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS
33 foraging or burrow establishment. If the multiple-burrow area was active in a prior survey
34 year, then Category 1 habitat includes the largest extent of the active burrow area ever
35 recorded (in the current or any prior-year survey), plus a 785-foot buffer.

36 (c) Category 1 WGS habitat includes the area containing single active burrow detections
37 plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or
38 burrow establishment. Category 1 habitat does not include single-burrow areas that were
39 found active in a prior survey year but that are not active in the current survey year.

40 95 The certificate holder shall implement measures to mitigate impacts to sensitive wildlife
41 habitat during construction including, but not limited to, the following:

42 (a) The certificate holder shall not construct any facility components within areas of
43 Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

44 (b) Before beginning construction, the certificate holder shall provide to the Department a
45 map showing the final design locations of all components of the facility and the areas that

1 would be disturbed during construction and identifying the survey areas for all plant and
2 wildlife surveys conducted in 2010 or earlier as described in the *Final Order on the*
3 *Application*. The certificate holder shall hire a qualified professional biologist to conduct a
4 pre-construction plant and wildlife investigation of all areas that would be disturbed during
5 construction that lie outside of the previously surveyed areas. The certificate holder shall
6 provide a written report of the investigation to the Department and to the Oregon Department
7 of Fish and Wildlife (ODFW). Based on consultation with the Department and ODFW, the
8 certificate holder shall implement appropriate measures to avoid impacts to any Category 1
9 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any
10 State Candidate plant species.

11 (c) Before beginning construction, the certificate holder's qualified professional biologist
12 shall survey the Category 1 Washington ground squirrel habitat to ensure that the sensitive
13 use area is correctly marked with exclusion flagging and avoided during construction. The
14 certificate holder shall maintain the exclusion markings until construction has been
15 completed.

16 (d) Before beginning construction, certificate holder's qualified professional biologist shall
17 complete the avian use studies that began in September 2009 at six plots within or near the
18 facility site as described in the *Final Order on the Application*. The certificate holder shall
19 provide a written report on the avian use studies to the Department and to ODFW.

20 (e) Before beginning construction, certificate holder's qualified professional biologist shall
21 complete raptor nest surveys within the raptor nest survey area as described in the Final
22 Order on the Application. The purposes of the survey are to identify any sensitive raptor
23 nests near construction areas and to provide baseline information on raptor nest use for
24 analysis as described in the Wildlife Monitoring and Mitigation Plan referenced in Condition
25 91. The certificate holder shall provide a written report on the raptor nest surveys to the
26 Department and to ODFW.

27 (f) In the final design layout of the facility, the certificate holder shall locate facility
28 components, access roads and construction areas to avoid or minimize temporary and
29 permanent impacts to high quality native habitat and to retain habitat cover in the general
30 landscape where practicable.

31 96 During construction, the certificate holder shall avoid all construction activities within a
32 1,300-foot buffer around potentially-active nest sites of the following species during the
33 sensitive period, as provided in this condition:

<u>Species</u>	<u>Sensitive Period</u>	<u>Early Release Date</u>
Swainson's hawk	April 1 to August 15	May 31
Ferruginous hawk	March 15 to August 15	May 31
Burrowing owl	April 1 to August 15	July 15

34 During the year in which construction occurs, the certificate holder shall use a protocol
35 approved by the Oregon Department of Fish and Wildlife (ODFW) to determine whether
36 there are any active nests of these species within a half-mile of any areas that would be
37 disturbed during construction. The certificate holder shall begin monitoring potential nest
38 sites by March 15 and shall continue monitoring until at least May 31 to determine whether
39 any potentially-active nest sites become active during the sensitive period.

40 If any nest site is determined to be unoccupied by the early release date (May 31), then
41 unrestricted construction activities may occur within 1,300 feet of the nest site after that
42 date. If a nest is occupied by any of these species after the beginning of the sensitive period,

1 the certificate holder will flag the boundaries of a 1,300-foot buffer area around the nest site
2 and shall instruct construction personnel to avoid disturbance of the buffer area. During the
3 sensitive period, the certificate holder shall not engage in high-impact construction
4 activities (activities that involve blasting, grading or other major ground disturbance) within
5 the buffer area. The certificate holder shall restrict construction traffic within the buffer,
6 except on public roads, to vehicles essential to the limited construction activities allowed
7 within the buffer.

8 If burrowing owl nests are occupied during the sensitive period, the certificate holder may
9 adjust the 1,300-foot buffer around these nests after consultation with ODFW and subject to
10 the approval of the Department.

11 The certificate holder shall hire a qualified independent professional biologist to observe
12 the active nest sites during the sensitive period for signs of disturbance and to notify the
13 Department of any non-compliance with this condition. If the biologist observes nest site
14 abandonment or other adverse impact to nesting activity, the certificate holder shall
15 implement appropriate mitigation, in consultation with ODFW and subject to the approval
16 of the Department, unless the adverse impact is clearly shown to have a cause other than
17 construction activity.

18 The certificate holder may begin or resume construction activities within the buffer area
19 before the ending day of the sensitive period with the approval of ODFW, after the young
20 are fledged. The certificate holder shall use a protocol approved by ODFW to determine
21 when the young are fledged (the young are independent of the core nest site).

22 97 The certificate holder shall protect the area within 1,300 feet of the BLM Horn Butte Wildlife
23 Area during the long-billed curlew nesting season (March 8 through June 15), as described in
24 this condition. Before beginning construction, the certificate holder shall provide to the
25 Department a map showing the areas of potential construction disturbance in the vicinity of
26 the BLM lands that are part of the Horn Butte Wildlife Area and showing a 1,300-foot buffer
27 from those areas. During the nesting season, the certificate holder shall not engage in high-
28 impact construction activities (activities that involve blasting, grading or other major ground
29 disturbance) or allow high levels of construction traffic within the buffer area. The certificate
30 holder shall flag the boundaries of the 1,300-foot buffer area and shall instruct construction
31 personnel to avoid any unnecessary activity within the buffer area. The certificate holder
32 shall restrict construction traffic within the buffer, except on public roads, to vehicles
33 essential to the limited construction activities allowed within the buffer. The certificate
34 holder may engage in construction activities within the buffer area at times other than the
35 nesting season.

36 98 The certificate holder shall implement measures to avoid or mitigate impacts to sensitive
37 wildlife habitat during construction including, but not limited to, the following:

38 (a) Preparing maps to show exclusion areas that are off-limits to construction personnel,
39 such as nesting or denning areas for sensitive wildlife species.

40 (b) Avoiding unnecessary road construction, temporary disturbance and vehicle use.

41 (c) Limiting construction work to approved and surveyed areas shown on facility
42 constraints maps.

(d) Ensuring that all construction personnel are instructed to avoid driving cross-country or taking short-cuts within the site boundary or otherwise disturbing areas outside of the approved and surveyed construction areas.

99 The certificate holder shall reduce the risk of injuries to avian species by:

(a) Installing turbine towers that are smooth steel structures that lack features that would allow avian perching.

(b) Locating turbine towers to avoid areas of increased risk to avian species, such as cliff edges, narrow ridge saddles and gaps between hilltops.

(c) Installing meteorological towers that are non-guyed structures to eliminate the risk of avian collision with guy-wires.

(d) Designing and installing all aboveground transmission line support structures following the most current suggested practices for avian protection on power lines published by the Avian Power Line Interaction Committee.

100 The certificate holder shall hire a qualified environmental professional to provide environmental training during construction and operation. Environmental training includes information on the sensitive species present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements and other environmental issues. The certificate holder shall instruct construction and operations personnel to report any injured or dead wildlife detected while on the site to the appropriate onsite environmental manager.

101 The certificate holder shall impose and enforce a construction and operation speed limit of 20 miles per hour throughout the facility site and, during the active squirrel season (March 1 to May 31), a speed limit of 10 miles per hour from one hour before sunset to one hour after sunrise on private roads near known Washington ground squirrel (WGS) colonies. The certificate holder shall ensure that all construction and operations personnel are instructed to watch out for and avoid WGS and other wildlife while driving through the facility site.

9. Visual Effects Conditions

102 To reduce the visual impact of the facility, the certificate holder shall:

(a) Mount nacelles on smooth, steel structures, painted uniformly in a low-reflectivity, neutral white color.

(b) Paint the substation structures in a low-reflectivity neutral color to blend with the surrounding landscape.

(c) Not allow any advertising to be used on any part of the facility.

(d) Use only those signs required for facility safety, required by law or otherwise required by this site certificate, except that the certificate holder may erect a sign near the O&M buildings to identify the facility, may paint turbine numbers on each tower and may allow unobtrusive manufacturers' logos on turbine nacelles.

(e) Maintain any signs allowed under this condition in good repair.

103 The certificate holder shall design and construct the O&M buildings 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 low-reflectivity, neutral color to blend with the surrounding landscape.

104 The certificate holder shall not use exterior nighttime lighting except:

1 (a) The minimum turbine tower lighting required or recommended by the Federal Aviation
2 Administration.

3 (b) Security lighting at the O&M buildings and at the substations, provided that such
4 lighting is shielded or downward-directed to reduce glare.

5 (c) Minimum lighting necessary for repairs or emergencies.

6 (d) Minimum lighting necessary for construction directed to illuminate the work area and
7 shielded or downward-directed to reduce glare.

8 105 The certificate holder shall maintain a minimum distance of 1,000 feet measured from the
9 centerline of each turbine tower or meteorological tower to the centerline of the line-of-sight
10 from the vantage point of the Fourmile Canyon interpretive site looking toward the visible
11 Oregon Trail ruts (bearing S 89-42-34 W from latitude, longitude: 45.622047, -120.044112)
12 as described in the *Final Order on the Application*.

10. Noise Control Conditions

13 106 To reduce construction noise impacts at nearby residences, the certificate holder shall:

14 (a) Confine the noisiest operation of heavy construction equipment to the daylight hours.

15 (b) Require contractors to install and maintain exhaust mufflers on all combustion engine-
16 powered equipment; and

17 (c) Establish a complaint response system at the construction manager's office to address
18 noise complaints.

19 107 Before beginning construction, the certificate holder shall provide to the Department:

20 (a) Information that identifies the final design locations of all turbines to be built at the
21 facility.

22 (b) The maximum sound power level for the substation transformers and the maximum
23 sound power level and octave band data for the turbines selected for the facility based on
24 manufacturers' warranties or confirmed by other means acceptable to the Department.

25 (c) The results of noise analysis of the facility to be built according to the final design
26 performed in a manner consistent with the requirements of OAR 340-035-0035(1)(b)(B)(iii)
27 (IV) and (VI) demonstrating to the satisfaction of the Department that the total noise
28 generated by the facility (including the noise from turbines and substation transformers)
29 would meet the ambient degradation test and maximum allowable test at the appropriate
30 measurement point for all potentially-affected noise sensitive properties.

31 (d) For each noise-sensitive property where the certificate holder relies on a noise waiver
32 to demonstrate compliance in accordance with OAR 340-035-0035(1)(b)(B)(iii)(III), a copy
33 of the a legally effective easement or real covenant pursuant to which the owner of the
34 property authorizes the certificate holder's operation of the facility to increase ambient
35 statistical noise levels L_{10} and L_{50} by more than 10 dBA at the appropriate measurement
36 point. The legally-effective easement or real covenant must: include a legal description of the
37 burdened property (the noise sensitive property); be recorded in the real property records of
38 the county; expressly benefit the certificate holder; expressly run with the land and bind all
39 future owners, lessees or holders of any interest in the burdened property; and not be subject
40 to revocation without the certificate holder's written approval.

41 108 During operation of the facility, the certificate holder shall maintain a complaint response
42 system to address noise complaints. The certificate holder shall promptly notify the
43 Department of any complaints received regarding facility noise and of any actions taken by

1 the certificate holder to address those complaints. In response to a complaint from the owner
2 of a noise sensitive property regarding noise levels during operation of the facility, the
3 Council may require the certificate holder to monitor and record the statistical noise levels to
4 verify that the certificate holder is operating the facility in compliance with the noise control
5 regulations.

11. Waste Management Conditions

6 109 The certificate holder shall provide portable toilets for on-site sewage handling during
7 construction and shall ensure that they are pumped and cleaned regularly by a licensed
8 contractor who is qualified to pump and clean portable toilet facilities.

9 110 During operation of the facility, the certificate holder shall discharge sanitary wastewater
10 generated at the O&M buildings to licensed on-site septic systems in compliance with State
11 permit requirements. The certificate holder shall design the septic systems for a discharge
12 capacity of less than 2,500 gallons per day.

13 111 The certificate holder shall implement a waste management plan during construction that
14 includes but is not limited to the following measures:

15 (a) Recycling steel and other metal scrap.

16 (b) Recycling wood waste.

17 (c) Recycling packaging wastes such as paper and cardboard.

18 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste
19 hauler.

20 (e) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials,
21 mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a
22 licensed firm specializing in the proper recycling or disposal of hazardous wastes.

23 (f) Confining concrete delivery truck rinse-out within the foundation excavation,
24 discharging rinse water into foundation holes and burying other concrete waste as part of
25 backfilling the turbine foundation.

26 112 The certificate holder shall implement a waste management plan during facility operation
27 that includes but is not limited to the following measures:

28 (a) Training employees to minimize and recycle solid waste.

29 (b) Recycling paper products, metals, glass and plastics.

30 (c) Recycling used oil and hydraulic fluid.

31 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste
32 hauler.

33 (e) Segregating all hazardous, non-recyclable wastes such as used oil, oily rags and oil-
34 absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries
35 for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous
36 wastes.

VIII. GENERAL CONCLUSION

37 The applicant has submitted an application to construct a wind energy facility consisting
38 of up to 269 wind turbines having a combined peak electric generating capacity of not more than
39 404 megawatts. The Council hereby adopts the site certificate the conditions listed in Sections VI
40 and VII of this final order. The Council finds that a preponderance of evidence on the record
41 supports the following conclusions:

1. The proposed MWPF complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to 469.520.
2. The proposed MWPF complies with the standards adopted by the Council pursuant to ORS 469.501.
3. The proposed MWPF complies with the statewide planning goals adopted by the Land Conservation and Development Commission.
4. The proposed MWPF 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 discussed in this final order, the Council concludes that the applicant has satisfied the requirements for issuance of a site certificate for the proposed MWPF, subject to the conditions stated in this order.

IX. ORDER

The Council grants issuance of a site certificate, subject to the terms and conditions set forth above, to Montague Wind Power Facility LLC for the proposed Montague Wind Power Facility.

Issued this 10th day of September, 2010.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: W. Bryan Wolfe
W. Bryan Wolfe, Chair
Oregon Energy Facility Siting Council

Attachments

Attachment A: Wildlife Monitoring and Mitigation Plan

Attachment B: Revegetation Plan

Attachment C: Habitat Enhancement Plan

Attachment D: Draft Proposed Order Comments and Department Responses

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.