

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

In the Matter of the Request for Amendment #3 of
the Site Certificate for the Klondike III Wind Project

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FINAL ORDER ON
AMENDMENT #3

The Oregon Energy Facility Siting Council

November 16, 2007

KLONDIKE III WIND PROJECT:
FINAL ORDER ON AMENDMENT #3

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PROCEDURAL HISTORY AND AMENDMENT PROCESS.....	1
III.	DESCRIPTION OF THE PROPOSED AMENDMENT.....	2
	1. AMENDMENT PROCEDURE	3
	2. AMENDMENTS TO THE SITE CERTIFICATE AS PROPOSED BY KIII	4
	3. DESCRIPTION OF THE FACILITY AS AUTHORIZED BY AMENDMENT #3	4
IV.	THE COUNCIL’S SITING STANDARDS: FINDINGS AND CONCLUSIONS	6
	1. GENERAL STANDARD OF REVIEW	7
	2. STANDARDS ABOUT THE APPLICANT.....	7
	(a) Organizational Expertise	7
	(b) Retirement and Financial Assurance	8
	3. STANDARDS ABOUT IMPACTS OF CONSTRUCTION AND OPERATION	11
	(a) Land Use	11
	(b) Soil Protection	22
	(c) Protected Areas	23
	(d) Scenic Resources	25
	(e) Recreation.....	29
	(f) Public Health and Safety Standards for Wind Energy Facilities	30
	(g) Siting Standards for Wind Energy Facilities	31
	(h) Siting Standards for Transmission Lines.....	33
	4. STANDARDS TO PROTECT WILDLIFE	34
	(a) Threatened and Endangered Species	34
	(b) Fish and Wildlife Habitat	35
	5. STANDARDS NOT APPLICABLE TO SITE CERTIFICATE ELIGIBILITY	38
	(a) Structural Standard.....	39
	(b) Historic, Cultural and Archaeological Resources.....	40
	(c) Public Services	42
	(d) Waste Minimization	43
V.	OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS	43
	1. REQUIREMENTS UNDER COUNCIL JURISDICTION.....	43
	(a) Noise Control Regulations	44
	(b) Removal-Fill Law.....	50
	(c) Ground Water Act.....	50
	(d) State Highway Access and Crossings.....	51
	(e) Public Health and Safety	52
	2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION.....	52
	(a) Federally-Delegated Programs	52
	(b) Requirements That Do Not Relate to Siting.....	53
VI.	GENERAL APPLICATION OF CONDITIONS	53
VII.	GENERAL CONCLUSION	53
	1. THE DEPARTMENT’S RECOMMENDED REVISIONS	54
VIII.	ORDER	68

LIST OF TABLES

Table 1: Site Restoration Cost Estimate (2006 Dollars)	10
Table 2: Area Occupied by the Power Generation Facility.....	21
Table 3: Areas with Identified Scenic Resources.....	26
Table 4: Maximum Area of Affected Higher-Value Habitat (Worst-Case).....	36
Table 5: Predicted Noise Levels.....	48

LIST OF ABBREVIATIONS

Council	Energy Facility Siting Council
CRP	Conservation Reserve Program
Department	Oregon Department of Energy
dBA	The “A-weighted” sound pressure level. The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
DEQ	Oregon Department of Environmental Quality
FAA	Federal Aviation Administration
Figure 1	Revised Figure 1, Project Layout (e-mail from Dana Siegfried, August 15, 2007)
kV	kilovolt or kilovolts
LCDC	Land Conservation and Development Commission
PPM	PPM Energy, Inc.
MHI-1	the turbine location within the new micrositing area addressed by Amendment #2
MW	megawatt or megawatts
O&M	Operations and maintenance
ODFW	Oregon Department of Fish and Wildlife
SCCP	Sherman County Comprehensive Plan
SCZO	Sherman County Zoning Ordinance
WRD	Oregon Water Resources Department

**KLONDIKE III WIND PROJECT:
FINAL ORDER ON AMENDMENT #3**

I. INTRODUCTION

1 The Oregon Energy Facility Siting Council (Council) issues this order in accordance
2 with ORS 469.405 and OAR 345-027-0070. This order addresses a request by the certificate
3 holder for amendment of the site certificate for the Klondike III Wind Project (KWP). The
4 certificate holder is Klondike Wind Power III LLC (KIII).

5 On June 30, 2006, the Council issued a site certificate for the KWP, a wind energy
6 facility with a peak generating capacity of approximately 272 megawatts (MW) to be built in
7 Sherman County, Oregon. On November 3, 2006, the Council approved Site Certificate
8 Amendment #1. On July 27, 2007, the Council approved Site Certificate Amendment #2. The
9 Second Amended Site Certificate became effective on August 1, 2007. The facility is under
10 construction.¹

11 The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this
12 order, except where otherwise stated or where the context indicates otherwise.

II. PROCEDURAL HISTORY AND AMENDMENT PROCESS

13 On June 25, 2007, KIII submitted to the Oregon Department of Energy (Department) a
14 request to amend the site certificate.² On July 3, 2007, the Department notified KIII that the
15 proposed order would be issued no later than August 31, 2007. On July 3, as required under
16 OAR 345-027-0070, the Department instructed the certificate holder to send copies of the
17 request to the appropriate reviewing agencies. The Department requested agency comments
18 by August 1. Also as required under the rule, the Department sent notice of the amendment
19 request to all persons on the Council's mailing list and to persons on an updated list of
20 property owners supplied by KIII. The Department set a deadline of August 1 for public
21 comments on the amendment request. The Department received public comment from the
22 U.S. Fish and Wildlife Service (USFWS) and reviewing agency comment responses from the
23 Oregon Department of Fish and Wildlife, the Oregon Department of Geology and Mineral
24 Industries (DOGAMI) and the Office of the State Fire Marshal:

- 25 • ODFW: Noting that loggerhead shrikes can be found in shrub habitat as well as
26 trees; expressing concern about locating habitat mitigation areas near turbine
27 strings; questioning whether raptor nest surveys should be done within two
28 miles of the expanded site boundary.³

¹ The facility under construction as of August 2007 included 80 GE 1.5-MW turbines, 44 Siemens 2.3-MW turbines and one MHI 2.4-MW turbine. In total, there were 125 turbines with a combined peak generating capacity of 223.6 MW under construction. The current site certificate (not including Amendment #3) authorizes up to 165 turbines with a combined capacity of up to 285 MW.

² "Third Request for Amendment to the Klondike III Wind Project," referred to herein as Request for Amendment #3.

³ E-mail from Keith Kohl, ODFW, July 30, 2007.

- 1 • DOGAMI: Finding the amendment request to be compliant with applicable
2 requirements and requesting that DOGAMI receive the results of future
3 geotechnical investigation and have opportunity to comment at that time.⁴
- 4 • Fire Marshal: Responded with no comments.
- 5 • USFWS: Expressing general concern about cumulative impacts to avian and
6 bat species from wind power development in the region and providing specific
7 recommendations.⁵

8 The Department considered all comments in its review of the applicable Council
9 standards as discussed herein. In addition, the certificate holder responded in writing to the
10 comments from ODFW and USFWS.⁶

11 On August 23, the Department notified KIII that the Department would need
12 additional time to prepare a proposed order and set a working deadline of October 9, subject
13 to the Council's meeting schedule.⁷ A Council meeting has been scheduled for November 16,
14 2007. The Department issued the proposed order on October 11, 2007.

15 On October 11, 2007, the Department issued a public notice of the proposed order and
16 mailed the notice to the certificate holder, to the reviewing agencies, to the property owners in
17 the vicinity of the facility, to all other special lists for the facility and to the Council's general
18 mailing list. The notice specified a deadline of November 12, 2007, for the public to submit
19 comments or requests for a contested case. The Department has not received any comments or
20 contested case requests.

21 The Council considered the amendment request at a meeting on November 16, 2007,
22 and voted to approve the amendment request subject to the revisions discussed herein.

23 **III. DESCRIPTION OF THE PROPOSED AMENDMENT**

24 KIII requests an amendment of the site certificate that, if approved, would:

- 25 1. Authorize the certificate holder to construct an additional 43 turbines (for a
26 facility total of not more than 208 turbines).
- 27 2. Allow the certificate holder to select any turbine type for the 43 new turbines
28 subject to the following limits: peak generating capacity of 3.0 megawatts,
29 tower hub height of 100 meters, rotor diameter of 100 meters, and maximum
30 sound power level of 110 dBA.
- 31 3. Increase the overall peak generating capacity of the facility by not more than
32 90 megawatts (for a facility total of not more than 375 megawatts).
- 33 4. Reconfigure some of the previously-approved micro-siting areas and add new
micro-siting areas.

⁴ Letter from William Burns, DOGAMI, July 10, 2007.

⁵ Letter from Nancy Gilbert, USFWS, August 1, 2007.

⁶ Letter from Andrew Linehan, August 15, 2007 (responding to USFWS comments); E-mail from Phil Rickus, August 30, 2007 (responding to ODFW comments).

⁷ E-mail from John White, August 23, 2007.

- 1 5. Allow construction of an additional Operations and Maintenance (O&M)
- 2 building. Eliminate the 4-acre O&M building site approved in the Final Order
- 3 on the Application.
- 4 6. Increase the area of permanent impact by approximately 25 acres (for a
- 5 facility total of approximately 97 acres).
- 6 7. Increase the area of temporary construction disturbance by approximately 208
- 7 acres (for a facility total of approximately 434 acres).
- 8 8. Modify Condition 102 to allow a different method for analyzing and
- 9 predicting noise effects consistent with OAR 340-035-0035.
- 10 9. Modify site certificate conditions to conform to the changes described above.

1. Amendment Procedure

11 Under OAR 345-027-0050(1), the certificate holder must request a site certificate
12 amendment “to design, construct or operate a facility in a manner different from the
13 description in the site certificate” if the proposed change:

- 14 a) Could result in a significant adverse impact that the Council has not addressed in
- 15 an earlier order and the impact affects a resource protected by Council standards;
- 16 b) Could impair the certificate holder’s ability to comply with a site certificate
- 17 condition; or
- 18 c) Could require a new condition or a change to a condition in the site certificate.

19 In addition, Condition 38 of the site certificate requires an amendment if a proposed
20 change in the facility would increase the electrical generation capacity of the facility and
21 would increase the number of wind turbines or the dimensions of existing wind turbines.

22 The proposed amendment would increase the number of wind turbines authorized for
23 construction within the facility. It would increase the maximum electrical generation capacity.
24 Construction of up to 43 additional turbines, an additional O&M building, associated access
25 roads and collector system infrastructure could have adverse impacts that the Council did not
26 evaluate and address in the Final Order on the Application or in the final orders on
27 Amendments #1 and #2. The proposed amendment would increase the permanent footprint of
28 the facility by approximately 25 acres and would increase construction disturbance by an
29 additional 208 acres. The potential impacts could affect the resources protected by standards
30 in Divisions 22 and 24. The proposed amendment would require changes to current site
31 certificate conditions. For these reasons, an amendment of the site certificate is necessary.

32 The proposed amendment would enlarge the site of the KWP facility. For those areas
33 where the site boundary would be enlarged, the Council must consider whether the facility
34 complies with all Council standards (OAR 345-027-0070(10)(a)). For the parts of the
35 amendment that do not involve enlargement of the site boundary, the Council must consider
36 whether the amendment would affect any finding made by the Council in an earlier order
37 (OAR 345-027-0070(10)(c)). For all site certificate amendments, the Council must consider
38 whether the amount of the bond or letter of credit required under OAR 345-022-0050 is
39 adequate (OAR 345-027-0070(10)(d)).

2. Amendments to the Site Certificate as Proposed by KIII

1 In Attachment 1 of its Request for Amendment #3, KIII proposed specific amendment
2 language for the site certificate. Attachment 1 is incorporated herein by this reference. The
3 Department recommended revisions to the site certificate that incorporate the substance of the
4 language requested by KIII and that include additional language consistent with KIII's
5 request.⁸ The Department's recommended revisions are discussed in Section VII.1.

3. Description of the Facility as Authorized by Amendment #3

6 If the Council approves Amendment #3, the certificate holder would be authorized to
7 construct and operate the KWP facility as described in the Second Amended Site Certificate,
8 except as modified by the changes described below.

9 Turbine Selection

10 In the amendment request, KIII has proposed the construction of up to 43 additional
11 turbines (adding to the previously-approved total of 165). The turbines would be located
12 within four new micrositing areas, identified as turbine strings Y, Z, AA and BB on Figure 1
13 of the Request for Amendment #3.⁹ In addition, the proposed amendment would allow
14 realignment of two previously-approved micrositing areas (turbine strings, N and U). The
15 certificate holder has submitted a preliminary legal description of the proposed new
16 micrositing areas and realigned micrositing areas.¹⁰

17 If approved by the Council, the certificate holder would be permitted to construct any
18 turbine type in strings N, U, Y, Z, AA and BB, subject to the restrictions that the hub height
19 does not exceed 100 meters, the rotor diameter does not exceed 100 meters, the peak
20 generating capacity does not exceed 3.0 megawatts and the maximum sound power level does
21 not exceed the manufacturer's nominal maximum level of 110 dBA, including uncertainty,
22 subject to the requirements of Condition 102.

23 The amendment would increase the maximum number of turbines authorized for
24 construction at the KWP site from 165 to 208. The amendment would increase the overall
25 peak generating capacity of the facility from 285 MW to 375 MW.¹¹

26 The Department recommended that the Council modify Conditions 28 and 92 to allow
27 the certificate holder to construct up to 43 turbines within the new micrositing areas described
28 herein, subject to the restrictions described above. The proposed language for Condition 28 is
29 shown in Revision 8 below at page 57, and the proposed language for Condition 92 is shown
30 in Revision 18 below at page 63.

⁸ KIII submitted the Request for Amendment #3 while the proceedings on Amendment #2 were pending. For that reason, Attachment 1 of the request set forth proposed changes to language in the First Amended Site Certificate. The Department's proposed revisions, discussed herein, address changes to language in the Second Amended Site Certificate, which became effective on August 1, 2007.

⁹ All references herein to "Figure 1" are to the revised Figure 1, Project Description (e-mail from Dana Siegfried, August 15, 2007).

¹⁰ E-mail from Dana Siegfried, August 28, 2007.

¹¹ The proposed new turbine strings could support up to 30 3.0-MW turbines, or a maximum of 90 MW of peak generating capacity. This would increase the maximum generating capacity of the KWP to 375 MW. If smaller turbines are selected, the new turbine strings could support up to 43 1.65-MW turbines, or a maximum of approximately 71 MW. E-mail from Jesse Gronner, August 15, 2007.

1 **Power Collection System**

2 As described in the Final Order on Amendment #1, the power collection system
3 consists of approximately 59 miles of 34.5-kV collector lines. Nearly all of the collector lines
4 would be installed outside of county road right-of way within the leasehold lands of the
5 project. The total length of aboveground segments would not exceed 12 miles. The proposed
6 amendment would increase the overall collection system by 20.2 miles of collector line (for a
7 facility total of about 79 miles). Aboveground collector lines for the facility as a whole would
8 be subject to the previously-approved limit of 12 miles.¹²

9 **Operations and Maintenance Facilities**

10 The Council has previously approved one O&M building and allowed the certificate
11 holder the option of choosing either of two proposed sites for the building. The certificate
12 holder has built an O&M building on the alternate 3-acre site south of the Webfoot
13 intersection as allowed by Amendment #1. The 4-acre site authorized in the Final Order on
14 the Application will not be used and is hereby removed from the facility description.

15 In the Request for Amendment #3, the certificate holder proposes to construct an
16 additional O&M building. The building would be located on Smith lane near the southern end
17 of proposed new turbine string Z. The location is shown on Figure 1. The request describes a
18 10-acre site that would be subject to disturbance during construction. The permanent footprint
19 would be 5 acres, including a 15,000-square-foot building. This larger O&M building would
20 be needed to support maintenance activities for the expanded facility.¹³ On-site power would
21 be supplied by Wasco Electric and would be delivered to the O&M building by a new
22 aboveground distribution line along Smith Lane and Egypt Road, approximately ½-mile in
23 length, from an existing Wasco Electric distribution line west of Highway 206.¹⁴ The
24 distribution line would be subject to site certificate conditions that apply to other electric
25 transmission lines (including Conditions 18, 43, 85, 87, 88 and 90). An on-site well would be
26 constructed to supply water to the new O&M building, and sewage would be discharged to an
27 on-site septic system.

28 **Access Roads**

29 As described in the Final Order on Amendment #1, the previously-approved facility
30 includes approximately 22 miles of access roads. Amendment #3 would allow the certificate
31 holder to construct an additional 9.3 miles of access roads (for a facility total of about 31
32 miles) and widen approximately 0.5 miles of existing roads.¹⁵

33 **Additional Construction Areas**

34 Under the proposed amendment, the total area of potential temporary disturbance
35 during construction would increase by about 208 acres.¹⁶ This area includes laydown areas,
36 crane paths and disturbance areas outside the permanent footprint of the turbines, turbine
37 pads, access roads, existing road improvements and the proposed additional O&M building.
38 The total area of construction disturbance for the KWP facility would be approximately 434

¹² E-mail from Dana Siegfried, August 14, 2007.

¹³ E-mail from Jesse Gronner, August 9, 2007.

¹⁴ E-mail from Jesse Gronner, August 15, 2007. The line may be placed underground if allowed by Wasco Electric and if not cost-prohibitive.

¹⁵ E-mail from Dana Siegfried, August 14, 2007.

¹⁶ Revised Table P-1, e-mail from Dana Siegfried, August 15, 2007.

1 acres. The additional areas of temporary disturbance are shown on Figure 1 of the amendment
2 request.

3 Expansion of the Site and Site Boundary

4 Under the proposed amendment, the area within the site boundary would be increased
5 to include the new micrositing areas for turbine strings Y, Z, AA and BB as shown on Figure
6 1. The micrositing areas for turbine strings N and U would be re-aligned. The site boundary
7 would be enlarged to contain the construction area for the proposed new O&M building as
8 well as additional crane path, access road and collector line construction corridors.

9 Under Condition 2, the certificate holder must provide a legal description of the site 90
10 days after the beginning of facility operation. The certificate holder may begin operation of
11 the previously-approved components of the KWP before the completion of construction of the
12 turbines and related facilities described in Amendment #3. If that occurs, the Council finds
13 that the certificate holder would comply with Condition 2 by providing a legal description of
14 the site of the previously-approved components within 90 days after beginning their operation
15 and an amended legal description including the site of the components approved under
16 Amendment #3 within 90 days after beginning their operation.

17 The facility site (the final footprint area excluding temporary laydown and staging
18 areas) includes all land upon which the energy facility and its related or supporting facilities
19 are located, including site corridors for turbine strings. In addition, the site includes the area
20 within 30 feet of the centerlines of all collector lines and access roads.¹⁷ By approval of
21 Amendment #3, the site is enlarged to include the additional components described herein.
22 The Council has previously defined "turbine site corridors" as corridors centered on the
23 turbine string centerlines defined by the final center-point locations of the turbine towers and
24 has found that the width of turbine site corridors should be determined based on the rotor
25 diameter of the turbines located within the corridor and should equal rotor diameter plus 100
26 feet. The Council finds that the turbine site corridors may be wider, if needed for safe
27 operation and maintenance of the facility, but not less than rotor diameter plus 100 feet.

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

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

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

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

¹⁷ Final Order on Amendment #1, pp. 12-13.

1 In making its decision on an amendment of a site certificate, the Council applies the
2 applicable state statutes, administrative rules and local government ordinances that are in
3 effect on the date the Council makes its decision, except when applying the Land Use
4 Standard. In making findings on the Land Use Standard, the Council applies the applicable
5 substantive criteria in effect on the date the certificate holder submitted the request for
6 amendment. OAR 345-027-0070(10).

1. General Standard of Review

7 OAR 345-022-0000

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

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

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

26 * * *

27 We address the requirements of OAR 345-022-0000 in the findings of fact, reasoning,
28 conditions and conclusions of law discussed in the sections that follow. Upon consideration of
29 all of the evidence in the record, we state our general conclusion regarding the amendment
30 request in Section VII.

2. Standards about the Applicant

(a) Organizational Expertise

31 OAR 345-022-0010

32 *(1) To issue a site certificate, the Council must find that the applicant has the*
33 *organizational expertise to construct, operate and retire the proposed facility in*
34 *compliance with Council standards and conditions of the site certificate. To*
35 *conclude that the applicant has this expertise, the Council must find that the*
36 *applicant has demonstrated the ability to design, construct and operate the*
37 *proposed facility in compliance with site certificate conditions and in a manner*
38 *that protects public health and safety and has demonstrated the ability to restore*
39 *the site to a useful, non-hazardous condition. The Council may consider the*
40 *applicant's experience, the applicant's access to technical expertise and the*

1 *applicant's past performance in constructing, operating and retiring other*
2 *facilities, including, but not limited to, the number and severity of regulatory*
3 *citations issued to the applicant.*

4 *(2) The Council may base its findings under section (1) on a rebuttable*
5 *presumption that an applicant has organizational, managerial and technical*
6 *expertise, if the applicant has an ISO 9000 or ISO 14000 certified program and*
7 *proposes to design, construct and operate the facility according to that program.*

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

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

Findings of Fact

23 In the Final Order on the Application and the Final Order on Amendment #1, the
24 Council found that KIII has the organizational, managerial and technical expertise to construct
25 and operate the KWP. The facility expansion proposed in the Request for Amendment #3
26 would not affect the Council's previous finding.

27 The Council finds that PPM continues to have experience in power project
28 engineering, design, development, construction and operation of wind energy facilities. There
29 has been no other change of circumstances or underlying facts that affects the Council's
30 previous findings under this standard.

Conclusions of Law

31 Based on the findings stated above, the Council concludes that KIII meets the
32 Council's Organizational Expertise Standard.

(b) Retirement and Financial Assurance

OAR 345-022-0050

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

34 *(1) The site, taking into account mitigation, can be restored adequately to a useful,*
35 *non-hazardous condition following permanent cessation of construction or*
36 *operation of the facility.*
37

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

Findings of Fact

A. Site Restoration

4 The Department analyzed the effect of the proposed changes on the cost of site
5 restoration. The following proposed changes to the facility could affect the cost of site
6 restoration:

- 7 • Increased number of turbines
- 8 • Use of larger turbines
- 9 • Eight additional collector line junction boxes¹⁸
- 10 • Increased area of permanent access roads
- 11 • Additional O&M building
- 12 • Increased area of temporary disturbance

13 Site restoration would be done as described in the Final Order on the Application.
14 Approval of Amendment #3 would not affect the Council's previous finding that the site can
15 be adequately restored to a useful, non-hazardous condition.

B. Estimated Cost of Site Restoration

16 To provide a fund that is adequate for the State of Oregon to pay site restoration costs
17 if the certificate holder fails to perform its obligation to restore the site under Condition 32 of
18 the site certificate, the Council assumes circumstances under which the restoration cost would
19 be greatest.

20 In the Final Order on Amendment #2, the Council found that the value of the financial
21 assurance bond or letter of credit for restoring the site of the proposed KWP would be \$7.825
22 million (in 2006 dollars) as shown in Table 2 of the Final Order on Amendment #2 or a lesser
23 amount based on the final design configuration.

24 Under the proposed amendment, the maximum number of turbines allowed under the
25 site certificate would increase to 208. A smaller total number of turbines would be built if
26 larger (2.3-MW to 3.0-MW) turbines are used. The Department's previous site restoration
27 estimates have been based on a calculation that the highest restoration cost would result from
28 a configuration of a larger number of 1.5-MW or 1.65-MW turbines (rather than a smaller
29 number of larger turbines). Using this same approach, the Department estimated the
30 maximum site restoration cost based on the assumption that 208 1.5-MW or 1.65-MW
31 turbines would be built. In addition, the Department assumed that, under the proposed
32 Amendment, an additional 15,000-square-foot O&M building would be built, the total length
33 of access roads would increase to 31.3 miles and the total number of junction boxes would
34 increase to 18. Under the proposed amendment, a distribution line, approximately 0.5 miles in
35 length, would be built to supply electricity to the new O&M building. For the purposes of the
36 site restoration estimate, the Department assumed that the distribution line would be built
37 aboveground and would consist of a single wire.¹⁹ Construction disturbance for the

¹⁸ E-mail from Dana Siegfried, August 14, 2007.

¹⁹ E-mail from Jesse Gronner, September 11, 2007.

1 installation of underground collector and SCADA lines would affect 58.8 acres.²⁰ These lines
 2 would be left in place at the time of site restoration. Accordingly, the Department estimated
 3 that the amendment would increase the area of temporary disturbance during site restoration
 4 to 348 acres.²¹

5 With the changes discussed above and applying the unit costs and adders that the
 6 Council approved by the Council in the Final Order on Amendment #2, the Department
 7 estimated that the total site restoration cost for the KWP with the changes requested in
 8 Amendment #3 as shown in Table 1.

Table 1: Site Restoration Cost Estimate (2006 Dollars)

Cost Estimate Component	Quantity	Unit Cost	Extension
<u>Turbines</u>			
Disconnect electrical and ready for disassembly (per turbine)	208	\$981	\$204,048
Remove turbine blades, hubs and nacelles (per turbine)	208	\$5,207	\$1,083,056
Remove turbine towers (per net ton of steel)	45,845	\$67.02	\$3,072,532
Remove and load pad transformers (per turbine)	208	\$2,251	\$468,208
Foundation and transformer pad removal (per cubic yard)	6,240	\$32	\$199,680
Restore turbine pads and turnouts (per turbine)	208	\$1,334	\$277,472
<u>Met Towers</u>			
Dismantle and dispose of met towers (per tower)	3	\$7,298	\$21,894
<u>Substation and O&M Building</u>			
Dismantle and dispose of substation	1	\$136,463	\$136,463
Dismantle and dispose of O&M building (5,000 sf)	1	\$68,488 ²²	\$68,488
Dismantle and dispose of O&M building (15,000 sf)	1	\$129,123	\$129,123
<u>Transmission Line</u>			
Removal of 34.5 kV aboveground transmission line (per mile)	12	\$4,163 ²³	\$49,956
Junction boxes - remove electrical to 4' below grade (each)	18	\$1,322	\$23,796
Removal of distribution line serving O&M building (per mile)	0.5	\$3,106	\$1,553
<u>Access Roads</u>			
Road removal, grading and seeding (per mile)	31.3	\$46,266	\$1,448,126
<u>Temporary Areas</u>			
Restore area disturbed during restoration work (per acre)	348	\$2,775	\$965,700
<u>General Costs</u>			
Permits, mobilization, engineering, overhead, utility disconnects			\$440,702
<u>Subtotal</u>			
Performance Bond		1%	\$ 85, 908
<u>Gross Cost</u>			
Administration and Project Management		10%	\$867,670

²⁰ E-mail from Dana Siegfried, August 14, 2007.

²¹ Based on construction-related temporary disturbance of 434 acres for the facility with the Amendment #3 components, minus approximately 86 acres attributed to the area disturbed for construction of underground collector lines that would be left in place during site restoration.

²² Cost based on the alternate 3-acre O&M building site instead of the previously-approved 4-acre site.

²³ The unit cost assumes that aboveground collector lines would have seven wires. E-mail from Jesse Gronner, September 11, 2007.

Future Developments Contingency	10%	\$867,670
Total Site Restoration Cost (rounded to nearest \$1,000)		\$10,412,000

C. Adjustment of the Financial Assurance Amount

1 The Council finds that the estimated cost of site restoration for the proposed KWP,
2 with the changes proposed under Amendment #3, would be \$10.412 million (2006 dollars) as
3 shown in Table 1 or a lesser amount based on the final design configuration. The Council
4 revises Condition 32 to require the certificate holder to submit a new or amended letter of
5 credit in the amount described above within 60 days after the effective date of the Third
6 Amended Site Certificate. The proposed modification of Condition 32 is described in
7 Revision 10 below at page 58.

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

8 On October 24, 2006, in compliance with the requirements of the original site
9 certificate, the certificate holder provided a letter of credit, in a form satisfactory to the
10 Council, in the amount of \$2.524 million (amount adjusted to 4th quarter 2006). On
11 September 27, 2007, in compliance with Condition 32 as amended in the Second Amended
12 Site Certificate, the certificate holder provided a replacement letter of credit, in a form
13 satisfactory to the Council, for \$8.029 million.²⁴ The certificate holder has provided a letter
14 from the Royal Bank of Scotland that indicates that there is a “reasonable likelihood” that the
15 bank would issue a letter of credit in an amount up to \$8 million, with annual inflation
16 adjustments up to a cap of \$15 million.²⁵ The Council finds that, with the changes that would
17 be allowed under Amendment #3, it is reasonably likely that KIII can obtain a letter of credit
18 in an amount satisfactory to the Council.

Conclusions of Law

19 Based on the findings stated above, the Council concludes that KIII, with the changes
20 allowed under Amendment #3, meets the Council’s Retirement and Financial Assurance
21 Standard.

3. Standards about Impacts of Construction and Operation

(a) Land Use

OAR 345-022-0030

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

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

26 ***

27 (b) *The applicant elects to obtain a Council determination under ORS*
28 *469.504(1)(b) and the Council determines that:*
29

²⁴ Irrevocable Standby Letter of Credit, issued by The Bank of Tokyo-Mitsubishi UFJ, effective September 26, 2007.

²⁵ Request for Amendment #3, Appendix W-2.

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

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

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

13 (3) As used in this rule, the “applicable substantive criteria” are criteria from the
14 affected local government’s acknowledged comprehensive plan and land use
15 ordinances that are required by the statewide planning goals and that are in effect
16 on the date the applicant submits the application. If the special advisory group
17 recommends applicable substantive criteria, as described under OAR 345-021-
18 0050, the Council shall apply them. If the special advisory group does not
19 recommend applicable substantive criteria, the Council shall decide either to make
20 its own determination of the applicable substantive criteria and apply them or to
21 evaluate the proposed facility against the statewide planning goals.

22 (4) The Council may find goal compliance for a proposed facility that does not
23 otherwise comply with one or more statewide planning goals by taking an
24 exception to the applicable goal. Notwithstanding the requirements of ORS
25 197.732, the statewide planning goal pertaining to the exception process or any
26 rules of the Land Conservation and Development Commission pertaining to the
27 exception process, the Council may take an exception to a goal if the Council
28 finds:

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

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

35 (c) The following standards are met:

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

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

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

44 * * *

Findings of Fact

1 In the Final Order on the Application, the Council found the proposed KWP would
2 comply with the statewide planning goals based on a land use analysis under ORS
3 469.504(1)(b)(B). The Council found that the facility complied with the applicable
4 substantive criteria identified by the local government, except for two provisions of the
5 Sherman County Zoning Ordinance (SCZO), Sections 3.1.4 and 5.8.16(d).²⁶

6 The Council then considered whether the facility would comply with the applicable
7 statewide planning goal (Goal 3). The Council found that the facility would not comply with
8 OAR 660-033-0130(22), a Land Conservation and Development Commission (LCDC)
9 administrative rule for implementing the requirements for agricultural land as defined by
10 Goal 3. Under the rule, a “power generation facility” must not preclude more than 20 acres of
11 land from use as a “commercial agricultural enterprise.”

12 Because of the finding that the KWP would not comply with Goal 3, the Council
13 considered whether an exception to the goal was justified. The Council applied the criteria for
14 a “reasons” exception under ORS 469.504(2)(c) and concluded that an exception should be
15 allowed. Based on the exception to Goal 3 and the Council’s other findings, the Council
16 concluded that the KWP would comply with the Land Use Standard.

17 In the Final Orders on Amendments #1 and #2, the Council found that the changes in
18 the facility approved under those amendments would alter design and construction details and
19 would slightly enlarge the facility site but would not change the proposed land use. The
20 Council found that the facility, with the changes proposed in Amendments #1 and #2, met the
21 Land Use Standard.

A. Applicable Substantive Criteria

22 The Council must consider whether the facility would comply with the Land Use
23 Standard if the areas proposed by Amendment #3 were added to the site. The Sherman
24 County Special Advisory Group identified the applicable substantive criteria at the time of the
25 Council’s review of the site certificate application, and those criteria have not changed. Those
26 criteria are contained in Article 5 of the Sherman County Zoning Ordinance (SCZO),
27 specifically Sections 5.2 and 5.8. The County’s zoning ordinance has not changed.

SCZO Section 5.2.1: Compatibility with the Comprehensive Plan

29 In the Final Order on the Application, the Council found that the KWP was compatible
30 with the applicable policies of the Sherman County Comprehensive Plan (SCCP). The
31 changes that would be authorized under Amendment #3 would not substantially alter the
32 underlying facts upon which the Council based its previous findings and conclusions

²⁶ The Special Advisory Group identified Article 5 of the Sherman County Zoning Ordinance (SCZO) as applicable to the KWP. The Council found that the substantive criteria contained in Article 5 of the SCZO are in Sections 5.2 and 5.8 of the ordinance. The other sections of the article are procedural. Final Order on the Application, p. 22-23. Under SCZO Section 5.2.2, the proposed facility must comply with the requirements of the applicable primary zone and any applicable combining zone. The KWP is located entirely within an Exclusive Farm Use zone, which is designated “F-1” under SCZO Section 3.1. Accordingly, the Council also considered whether the facility would comply with the criteria in SCZO Section 3.1. Final Order on the Application, p. 27. In addition, SCZO Section 5.2.2 requires consideration of other provisions of the SCZO that are determined “applicable to the subject use.” The Council found that SCZO Sections 4.2 and 4.9 were applicable to the proposed use. Final Order on the Application, p. 31.

1 regarding the SCCP policies, as discussed at pages 24-27 of the Final Order on the
2 Application.

3 Policy I under Goal VI (Natural Hazards) requires evaluation of potential natural
4 hazard areas before construction of any permanent structure. The certificate holder addressed
5 the Council's Structural Standard in Exhibit H and included a report assessing geologic and
6 seismic conditions in the areas that would be added to the facility under the proposed
7 amendment. The Structural Standard is discussed below at page 39. Conditions 12, 13, 14, 53
8 and 54 require the certificate holder to conduct site-specific geotechnical evaluation before
9 beginning construction and to identify and avoid geological hazards. These conditions would
10 apply to construction of the additional turbines and other facility components proposed in
11 Amendment #3.

12 Policy I under Goal X (Landscape) calls for retaining trees when practical. Although
13 upland trees are present in scattered areas within the analysis area for Amendment #3, no trees
14 exist within the footprint of the proposed new components.²⁷

15 Policy I under Goal XI (Fish and Wildlife) calls for implementation of fish and
16 wildlife management policies. We address compliance of the proposed facility with the
17 ODFW habitat mitigation goals and standards in our discussion of the Council's Fish and
18 Wildlife Habitat Standard, beginning at page 35. As shown in Table 4 below on page 36, the
19 facility would affect primarily agricultural land that has low potential to become important
20 habitat for wildlife. The areas affected by Amendment #3 would significantly increase the
21 acres of higher-value habitat (Categories 2, 3 and 4) that would be permanently or temporarily
22 affected by the KWP. Nevertheless, including the areas proposed to be added to the site by
23 Amendment #3, approximately 88 percent of the land permanently affected and 87 percent of
24 the land temporarily affected by the KWP is cultivated or developed agricultural land.

25 Policy III under Goal XI calls for consideration of retention of fence rows, ditch banks
26 and brush patches for wildlife use. The proposed construction under Amendment #3 would
27 not remove any of these habitats. Policy V addresses the use of pesticides that have "low
28 toxicity to wildlife, fish and people." Pesticides would not be used during construction and
29 operation of the proposed KWP under Amendment #3. Condition 89 requires the certificate
30 holder to implement a weed management plan (which might include the use of herbicides) in
31 consultation with the Sherman County Weed District. This condition would apply to the
32 facility components proposed to be added to the facility under Amendment #3.

33 The policies under Goal XIII (Plant and Animal Diversity) address protection of sites
34 or areas considered "critical habitat," including areas containing threatened or endangered
35 species. The areas proposed to be added to the facility under Amendment #3 would comply
36 with these policies because the certificate holder would avoid such critical habitat areas
37 during construction and operation.

38 Policy X under Goal XIV (Social Services and Public Facilities) requires maintenance
39 and improvement of the County road system "consistent with the needs of the Sherman
40 County citizenry" and Policy XX contains the County's transportation planning policies.
41 Proposed Amendment #3 does not include construction of any new public roads or road

²⁷ Request for Amendment #3, pages P-2 and K-12.

1 improvements. The new construction under Amendment #3 would be subject to Condition 40,
2 which requires repair of any damage to county roads that occurs during construction.

3 Policy XV requires protection of the Wasco State Airport from incompatible land
4 uses. Amendment #3 would authorize construction of wind turbines as close as 3/4-mile from
5 the airport, subject to the conditions of the site certificate.²⁸ Condition 57 requires the
6 certificate holder to submit a Notice of Proposed Construction or Alteration to the Federal
7 Aviation Administration (FAA). The notice identifies the proposed final location of each
8 turbine and met tower. After receiving the notice, the FAA conducts a flight path review to
9 determine whether the proposed turbine locations would interfere with public or private air
10 traffic.²⁹ If the FAA finds that a proposed turbine would not present a safety hazard, the FAA
11 issues a “Determination of No Hazard to Air Navigation” letter. The certificate holder must
12 receive the FAA determination before beginning construction of each turbine. Condition 57
13 requires the certificate holder to notify the Department of the FAA determination. Subject to
14 the FAA determination that is required under federal law and Condition 57, the proposed
15 turbines and other components under Amendment #3 would be compatible with the Wasco
16 Airport. In addition, the certificate holder would install and maintain aviation warning lights
17 on the turbine strings as required by Federal Aviation Administration (FAA) safety
18 regulations (Condition 100).

19 Subsection B.2 requires County notice to the Oregon Department of Transportation
20 (ODOT) of land use applications and development permits for properties that have direct
21 frontage or direct access onto a state highway. Notice has been provided to ODOT regarding
22 frontage along State Highway 206.

23 Policy I under Goal XV (Cultural Resources) identifies specific areas and structures
24 considered historically, archaeologically or culturally significant, and Policy II calls for
25 protection of these areas. The certificate holder conducted a cultural resource survey of the
26 expanded project area and included a report of that survey in the Request for Amendment #3.
27 The certificate holder would avoid impacts on any newly identified cultural resource sites
28 during construction of the components proposed under Amendment #3.³⁰ Conditions 48, 49
29 and 50 provide for protection of historic, cultural and archaeological resources within the site
30 boundary, and these conditions would apply to any new construction allowed under
31 Amendment #3.

32 Policy IV under Goal XIX (Orderly Use of Lands) states that “commercial businesses,
33 except those related to agricultural uses, should be located within incorporated cities.”
34 Approval of Amendment #3 expands the KWP. The facility is a “commercial utility facility,”
35 which is a land use specifically allowable in Sherman County’s Exclusive Farm Use Zone.

36 For the reasons discussed above, the Council finds that the KWP, including the
37 changes proposed under Amendment #3, is compatible with all applicable policies of the
38 SCCP in compliance with SCZO Section 5.2.1.

²⁸ E-mail from Jesse Gronner, August 15, 2007.

²⁹ E-mail from Jesse Gronner, September 12, 2007.

³⁰ See the discussion of the survey for cultural resources at page 40.

1 SCZO Section 5.2.2: Compliance with Zoning Requirements

2 (a) Applicable Primary Zone and Applicable Combining Zone

3 Under SCZO Section 5.2.2, the proposed additions to the facility described in the
4 Request for Amendment #3 must comply with the requirements of the applicable primary
5 zone and any applicable combining zone. The additions to the facility would be located
6 entirely within an Exclusive Farm Use (EFU) zone, which is designated “F-1” under SCZO
7 Section 3.1. There is no applicable combining zone.

8 The additional components that would be allowed under Amendment #3 include wind
9 turbines, expansion of the power collection system and a second O&M building. These
10 components are within the definition of “utility facility” and operations conducted for
11 “commercial utility facilities” are an allowed conditional use in the EFU zone under SCZO
12 Section 3.1.3(e)(17).³¹

13 The conditional uses listed in SCZO Section 3.1.3 and their “accessory uses” are
14 permitted in the EFU zone “when authorized in accordance with the requirements of Article 5
15 of this Ordinance and this Section.” In context, “this Section” includes the dimensional
16 standards of Section 3.1.4. Components that would be added under Amendment #3 (including
17 wind turbines, an O&M building, an aboveground distribution line to provide electrical
18 service to the O&M building and collector line junction boxes) are “buildings” under the
19 definition in SCZO Section 1.4.20 and are therefore subject to the setback requirements in
20 Section 3.1.4. Section 3.1.4 requires a setback of 30 feet from the property line, “except that
21 the front yard setback requirement from the right-of-way line of an arterial or major collector
22 road or street shall be 50 feet unless approved otherwise by the Planning Commission.” To
23 ensure compliance with this County ordinance, the Council adopted Condition 42, which
24 imposes the setback requirements of the ordinance, except as applied to aboveground
25 transmission lines and junction boxes. The Council finds that the aboveground distribution
26 line and junction boxes that would be added under Amendment #3 would not comply with the
27 setback requirements of Section 3.1.4.

28 Under ORS 469.504(1)(b)(B), if a facility does not meet the applicable substantive
29 criteria recommended by the special advisory group pursuant to ORS 469.504(5), the Council
30 may nevertheless approve the facility if it complies with applicable statewide planning goals.
31 The applicable statewide planning goal is Goal 3, which is the state’s Agricultural Lands goal.
32 The facility’s compliance with Goal 3 is discussed below at page 20.

33 The new access roads proposed under Amendment #3 are “transportation
34 improvements” that are separately allowed as a conditional use under SCZO Section 3.1.3(f).
35 In the Final Order on the Application, pages 29-30, the Council found that the facility’s access
36 roads conformed to the County’s requirements for transportation improvements. The reasons
37 for the Council’s previous findings about access roads also apply to the new access roads
38 proposed under Amendment #3.

39 (b) Other Applicable Provisions

40 In addition to consideration of the requirements of the primary zone and any
41 combining zone, SCZO Section 5.2.2 requires consideration of other provisions of the SCZO

³¹ See footnote 39 of the Final Order on the Application, p. 28, regarding the County’s definition of “utility facility.” That footnote is incorporated herein by this reference.

1 that are determined “applicable to the subject use.” For the reasons discussed in the Final
2 Order on the application at page 30, the other ordinance provisions that are applicable to
3 Amendment #3 are Sections 4.2 and 4.9.

4 SCZO Section 4.2 prohibits projections from buildings by more than 2 feet into a
5 required yard, and the facility would not have such projections. The components that would
6 be added under Amendment #3 would be subject to Condition 42, which ensures compliance
7 with Section 4.2 of the County ordinance.

8 SCZO Section 4.9 provides: “Approval of any use or development proposal pursuant
9 to the provisions of this Ordinance shall require compliance with and consideration of all
10 applicable State and Federal agency rules and regulations.” The certificate holder is required
11 by Condition 3 to design, construct, operate and retire the facility (including those
12 components added by Amendment #3) in compliance with all applicable state laws. The
13 Council has no jurisdiction to enforce federal agency rules or regulations; however, the
14 certificate holder must comply with applicable federal law.

15 SCZO Section 5.2.3: Other Local, State and Federal Permits

16 As explained in the Final Order on the Application, SCZO Section 5.2.3 addresses any
17 required approvals or permits from agencies other than the Sherman County Planning
18 Commission. The applicant has applied to the Oregon Department of Environmental Quality
19 (DEQ) for the NPDES 1200-C General Construction Storm Water permit for the areas
20 affected by Amendment #3.³² DEQ has already assigned the previously-approved KWP to the
21 1200-C general permit. New construction under Amendment #3 is subject to Condition 76,
22 which requires that construction conform to the requirements of the 1200-C permit.

23 The certificate holder would notify the FAA before construction of turbine towers
24 proposed under Amendment #3, in conformance with Condition 57.

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

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

31 SCZO Section 5.2.5: Resource Carrying Capacity and Pollution Standards

32 Section 5.2.5 prohibits land use approval if the use exceeds “resource or public facility
33 carrying capacities” or does not comply with “air, water, land, and solid waste or noise
34 pollution standards.” In the Final Order on the Application (page 32), the Council found that
35 the KWP would not exceed resource or public facility carrying capacity and would comply
36 with all air, water, land and solid waste or noise pollution standards. Construction and
37 operation of the additional components under Amendment #3 would not significantly affect
38 the basis for the Council’s earlier findings. For the reasons discussed in the Final Order on the
39 Application, the Council finds that the KWP with the changes requested in Amendment #3
40 would comply with air, water, land, solid waste and noise pollution standards and would not
41 exceed resource or public facility carrying capacity.

³² E-mail from Dana Siegfried, August 15, 2007.

1 SCZO Section 5.2.6: Use Violation

2 Section 5.2.6 prohibits land use approval for “any use violation of this Ordinance.”
3 The changes proposed in Amendment #3 do not involve any use violations. The additional
4 components would be part of the principal use (a commercial utility facility), which is a
5 conditional use allowed in an EFU zone under SCZO Section 3.1.3(e)(17). The additional
6 access roads are “transportation improvements” that are separately allowed as a conditional
7 use under SCZO Section 3.1.3(f).

8 SCZO Section 5.8: Standards Governing Specific Conditional Uses

9 The standards under SCZO Section 5.8 that apply to the additional components
10 proposed in Amendment #3 are the standards in SCZO 5.8.14 (standards for Public Facilities
11 and Services).

12 SCZO Section 5.8.14: Public Facilities and Services

13 SCZO Section 5.8.14(a) requires the location of public facilities to “best serve” the
14 County or area. Section 5.8.14(b) requires that public facilities be designed to be as
15 “unobtrusive as possible” and requires utility components to be placed underground wherever
16 feasible. Section 5.8.14(c) is not applicable because it addresses facilities proposed “within a
17 wetland or riparian area” and none of the additional facility components proposed in
18 Amendment #3 would be located within a wetland or riparian area.

19 In addressing Section 5.8.14(a) in the Final Order on the application, the Council
20 found that the KWP substations, wind turbines and transmission lines were “public facilities”
21 within the scope of the ordinance. The Council found that to serve their intended purpose, the
22 wind turbines must be located to take optimal advantage of the wind resource for power
23 generation. In the Final Order on Amendment #1, the Council found that the KWP facilities
24 would occupy approximately 0.9 percent of actively farmed acres at or adjacent to the site
25 with the changes approved under Amendment #1.³³ In the Final Order on Amendment #2, the
26 Council found less than one acre of additional agricultural land would be occupied by the
27 facility and this would have no effect on the percentage of actively farmed land affected.

28 Based on the figures in Table 4 below at page 36, the areas that would be added to the
29 facility under Amendment #3 would increase the permanent footprint of the facility by
30 approximately 25 acres. The 25 acres includes Conservation Reserve Program (CRP) land and
31 grassland that is not currently used for crop production. Nevertheless, assuming that the entire
32 area of permanent impact is potentially available for crop production, the KWP, including the
33 new areas that would be added under Amendment #3, would occupy approximately 1.4
34 percent of actively farmed acres at or adjacent to the site. The location of the KWP facilities
35 would “best serve” the County or the area because they would use a small fraction of
36 agricultural land to generate tax revenues for the County and income for the landowners of the
37 property leased to the facility.³⁴ For the reasons discussed in the Final Order on the
38 Application, which are also applicable to the additional components proposed in Amendment

³³ Based on the Department’s estimate that there are 7,150 acres of actively farmed land adjacent to the proposed facility (Final Order on the Application, p. 35, fn.47).

³⁴ Revenue to the County is expected to be “in the millions of dollars per year.” Because the amount of revenue is related to the installed generating capacity of the facility, the increase in generating capacity proposed in Amendment #3 (from approximately 285 MW to 375 MW) is expected to increase County revenue from the facility by approximately 32 percent. E-mail from Jesse Gronner, September 12, 2007.

1 #3, the facility meets the other requirements of Section 5.8.14(a) (“minimum impact on
2 neighborhoods” and “consideration for natural or aesthetic values”).

3 The KWP, including the components proposed in Amendment #3, complies with the
4 requirements of Section 5.8.14(b). The certificate holder would make these facilities as
5 unobtrusive as possible by the use of uniform design and neutral colors (Condition 98). The
6 facility complies with the Council’s Scenic Resources Standard, discussed below at page 25.
7 To the extent feasible, the transmission collector system would be located underground.

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

9 Although the SCZO allows commercial utility facilities to be located in an F-1 (EFU)
10 zone, “non-farm uses” must meet the standards contained in SCZO Section 5.8.16. Subsection
11 (a) requires a finding that the proposed use is compatible with farm uses. The reasons for
12 Council’s finding that the construction and operation of the wind energy facility would be
13 compatible with farm use are discussed on page 35 of the Final Order on the Application, and
14 those reasons are applicable to the expansion of the KWP proposed under Amendment #3.
15 The changes proposed in Amendment #3 would increase the maximum area of actively
16 farmed land occupied by the KWP from 0.9 percent to 1.4 percent.³⁵ Aside from this increase
17 in the footprint of the facility, the changes requested in Amendment #3 would not
18 significantly change the facts underlying the Council’s previous findings that the KWP would
19 be compatible with farm uses.

20 Section 5.8.16(b) requires that the proposed use “not interfere seriously with accepted
21 farming practices on adjacent lands.” Section 5.8.16(c) requires a finding that the non-farm
22 use would not materially alter the overall land use pattern of the area. For the reasons
23 discussed in the Final Order on the Application, pages 35-36, the Council finds that the KWP,
24 including the changes requested in Amendment #3, complies with these requirements.

25 Section 5.8.16(d) requires a finding that the proposed use is “situated upon generally
26 unsuitable land for the production of farm crops and livestock.” The certificate holder argues
27 that the land that would be affected by Amendment #3 is “generally unsuitable for the
28 production of farm crops and livestock.”³⁶ Nevertheless, the KWP, including the area added
29 by Amendment #3, would occupy approximately 85 acres of land that is currently used for
30 crop production, as shown in Table 4 herein. Therefore, the Council finds that the KWP is
31 located on land “generally suitable” for crop production and does not comply with SCZO
32 Section 5.8.16(d).

33 Section 5.8.16(e) requires that the proposed non-farm use comply with “other
34 applicable significant resource provisions.” Section 5.8.16(f) requires compliance with “such
35 other conditions as deemed necessary.” For the reasons discussed above, the Council finds
36 that the KWP, including the changes requested in Amendment #3, complies with all other
37 SCZO provisions applicable to the EFU zone and is subject to conditions of the site certificate
38 that would ensure compatibility with farm use.

³⁵ For the purpose of presenting a “worst case,” this calculation assumes that the entire area occupied by the facility could otherwise be actively farmed.

³⁶ Request for Amendment #3, Attachment 3, p. K-24.

B. Applicable Statewide Planning Goals

1 For the reasons discussed above and in the Final Order on the Application, the Council
2 finds that the KWP, with the changes proposed in Amendment #3, complies with all
3 applicable County ordinances except SCZO Sections 3.1.4 (setback requirements) and
4 5.8.16(d) (use of land generally unsuitable for crop production and livestock). Accordingly,
5 the facility, considering those areas where the site boundary would be enlarged, does not
6 comply with all of the applicable substantive criteria. As in the Final Order on the
7 Application, the Council must consider whether the facility would otherwise comply with
8 Goal 3, the applicable statewide planning goal.

9 In the Final Order on the Application, the Council found that the KWP energy facility
10 (the principal use) is a “commercial utility facility for the purpose of generating power for
11 public use by sale,” which is a use allowed on agricultural land under ORS 215.283(2)(g), and
12 that the power collection system, meteorological towers, control system and O&M building
13 are part of that principal use.³⁷ The Council found that facility access roads are allowable on
14 agricultural land under ORS 215.283(3) and that the access roads are subject to the standards
15 and requirements applicable to the principal use. The Council found that the project substation
16 is a “utility facility necessary for public service,” which is a use allowed on agricultural land
17 under ORS 215.283(1)(d).

18 Amendment #3 would not alter the Council’s previous analysis of compliance with
19 Goal 3. The principal use and access roads are subject to ORS 215.296 and OAR 660-033-
20 0130(5), which provide that a use allowed under ORS 215.283(2) may be approved only if the
21 use would not:

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

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

26 Including the additional facility components that would be allowed under Amendment
27 #3, the KWP would not force a significant change in accepted farm practices on surrounding
28 farm land and would not significantly increase the cost of accepted farm practices. The
29 reasons discussed in the Final Order on the Application apply as well to the additional
30 components that would be allowed under Amendment #3.

31 Under Amendment #3, the permanent footprint of the KWP would occupy
32 approximately 1.4-percent of the actively farmed land adjacent to the facility. In addition, the
33 amount of agricultural land temporarily unavailable for crop production during construction
34 of the KWP would increase by approximately 174 acres to approximately 374 acres or 5.2-
35 percent of the adjacent actively farmed area. In the Final Order on Amendment #1, the
36 Council found that a temporary impact on 2.8 percent of the actively farmed area adjacent to
37 the proposed KWP would not force a significant change in accepted farm practices or
38 significantly increase the cost of accepted farm practices.³⁸ The areas added by Amendment
39 #3 would be subject to Condition 81, which requires implementation of the Revegetation Plan

³⁷ Final Order on the Application, p. 38.

³⁸ Final Order on Amendment #1, p. 23.

(Attachment B). The Revegetation Plan requires restoration of temporarily disturbed areas to begin “as soon as possible after completion of facility construction, maintenance or repair activity in the area to be restored.” Temporarily disturbed crop land could be returned to crop production as soon as practicable once the disturbance activity has been completed and the area is no longer needed for construction purposes. The certificate holder will compensate farmers for loss of crops from any temporary impacts from construction.³⁹ Accordingly, even though construction of the additional components would increase the total area of construction disturbance, the changes requested under Amendment #3 would not affect the Council’s previous finding that the principal use and access roads would comply with the standards of ORS 215.296 and OAR 660-033-0130(5).

In the Final Order on the Application, the Council addressed whether the KWP principal use and access roads would comply with OAR 660-033-0130(22), which provides as follows:

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

The certificate holder estimates that the changes requested under Amendment #3 would add approximately 25 acres to the total area occupied by the facility. As shown in Table 2, under Amendment #3, the principal use and access roads occupy a total of approximately 93 acres.⁴⁰ Thus, the facility precludes commercial agriculture on more than the 20 acres allowed under OAR 660-033-0130(22). Therefore, to issue a site certificate, the Council must find that an exception to Goal 3 is justified.

Table 2: Area Occupied by the Power Generation Facility⁴¹

Structure	Acres
Principal use	
Turbine towers, including pad areas and road turnouts	12.13
Meteorological towers	0.03
Aboveground 34.5 kV collector line ⁴²	0.14
O&M building site	9
Subtotal	21.3
Access roads	72.05
Minus overlapping areas ⁴³	-0.19
Total	93.16

³⁹ Request for Amendment #3, Attachment 3, p. K-23.

⁴⁰ The facility substation occupies an additional 4 acres.

⁴¹ Based on Table 3 in the Final Order on Amendment #2 plus the additional area affected by Amendment #3 components (e-mail from Dana Siegfried, August 15, 2007).

⁴² Calculation based on memorandum from Dana Siegfried, dated December 6, 2005, regarding “Response to 11/22/05 e-mail,” assuming 12 miles of transmission line, 21 transmission poles per mile and 25 sq. ft. of farmland precluded per pole.

⁴³ This adjustment was included in the estimate of the area affected by Amendment #3. E-mail from Dana Siegfried, August 15, 2007.

1 The changes to the facility allowed under Amendment #3 would not significantly
2 affect the analysis that was the basis of the Council's previous findings that an exception to
3 Goal 3 should be allowed under ORS 469.504(2)(c).⁴⁴ Under the amendment, the proposed
4 facility would occupy approximately 85 acres of agricultural land (cultivated land), which is
5 approximately 1.2 percent of the actively farmed land adjacent to the facility. Most of the area
6 added by Amendment #3 would be occupied by the access roads, which would be available
7 for use by the landowner in farm operations. The amendment would not otherwise alter the
8 reasons supporting the exception discussed in the Final Order on the Application. The
9 amendment would add to the beneficial "energy consequences" of the proposed facility by
10 increasing the facility's potential average electric generating capacity from approximately 95
11 megawatts to approximately 125 megawatts. The amendment would not otherwise change the
12 Council's previous findings and analysis of environmental, economic, social and energy
13 consequences or the finding that the proposed facility would be compatible with adjacent land
14 uses.

Conclusions of Law

15 Based on the findings stated above, the Council concludes that, under the proposed
16 amendment, the facility would not comply with SCZO Sections 3.1.4 and 5.8.16(d). Because
17 the facility would not comply with all applicable substantive criteria from Sherman County,
18 the Council must determine whether the facility would comply with the applicable statewide
19 planning goal (Goal 3). The Council find that the facility, including the components that
20 would be allowed under Amendment #3, does not comply with OAR 660-033-0130(22) but
21 that an exception to Goal 3 is justified under ORS 469.504(2)(c). Based on these findings, the
22 Council concludes that the KWP, with the changes allowed under Amendment #3, complies
23 with the Council's Land Use Standard.

(b) Soil Protection

OAR 345-022-0022

24 *To issue a site certificate, the Council must find that the design, construction and*
25 *operation of the facility, taking into account mitigation, are not likely to result in a*
26 *significant adverse impact to soils including, but not limited to, erosion and*
27 *chemical factors such as salt deposition from cooling towers, land application of*
28 *liquid effluent, and chemical spills.*
29

Findings of Fact

30 In the Final Order on the Application and the Final Order on Amendment #1, the
31 Council found that the design, construction, operation and retirement of the proposed KWP,
32 taking into account mitigation and subject to the conditions stated in the order, would not
33 likely cause a significant adverse impact to soils.

34 The changes proposed in the request for Amendment #3 would increase the permanent
35 footprint by approximately 25 acres and would increase the area of potential construction
36 disturbance by approximately 208 acres. Approval of Amendment #3 would not otherwise
37 change the facts on which the Council relied in its previous findings regarding impact to soils.
38 Construction of the additional facility components would be done in compliance with an

⁴⁴ See Final Order on the Application, pp. 44-46, and Final Order on Amendment #1, pp. 24-25.

1 Erosion and Sediment Control Plan satisfactory to DEQ and as required under the National
2 Pollutant Discharge Elimination System Storm Water Discharge General Permit #1200-C
3 (Condition 76). Areas outside the permanent footprint that are disturbed by construction
4 activity would be restored in accordance with the Revegetation Plan (Condition 81). The
5 Council finds that the design, construction and operation of the KWP as modified by
6 Amendment #3 would not likely result in significant adverse impact to soils, taking into
7 account the mitigation required by the site certificate conditions.

Conclusions of Law

8 The Council concludes that the KWP, with the changes allowed under Amendment #3,
9 complies with the Council's Soil Protection Standard.

(c) Protected Areas

OAR 345-022-0040

10
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*
14 *Council must find that, taking into account mitigation, the design, construction*
15 *and operation of the facility are not likely to result in significant adverse impact to*
16 *the areas listed below. References in this rule to protected areas designated under*
17 *federal or state statutes or regulations are to the designations in effect as of May*
18 *11, 2007:*

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.*
25 *1131 et seq. and areas recommended for designation as wilderness areas pursuant*
26 *to 43 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*
29 *Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark,*
30 *Lower Klamath, Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch*
31 *Rocks, Umatilla, Upper Klamath, and William L. Finley;*

32 *(e) National coordination areas, including but not limited to Government*
33 *Island, 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*
38 *the Oregon Cascades Recreation Area, and Columbia River Gorge National*
39 *Scenic Area;*

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

- 1 (i) State natural heritage areas listed in the Oregon Register of Natural
2 Heritage Areas pursuant to ORS 273.581;
- 3 (j) State estuarine sanctuaries, including but not limited to South Slough
4 Estuarine Sanctuary, OAR Chapter 142;
- 5 (k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic
6 rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and
7 rivers listed as potentials for designation;
- 8 (L) Experimental areas established by the Rangeland Resources Program,
9 College of Agriculture, Oregon State University: the Prineville site, the Burns
10 (Squaw Butte) site, the Starkey site and the Union site;
- 11 (m) Agricultural experimental stations established by the College of
12 Agriculture, Oregon State University, including but not limited to:
13 Coastal Oregon Marine Experiment Station, Astoria
14 Mid-Columbia Agriculture Research and Extension Center, Hood River
15 Agriculture Research and Extension Center, Hermiston
16 Columbia Basin Agriculture Research Center, Pendleton
17 Columbia Basin Agriculture Research Center, Moro
18 North Willamette Research and Extension Center, Aurora
19 East Oregon Agriculture Research Center, Union
20 Malheur Experiment Station, Ontario
21 Eastern Oregon Agriculture Research Center, Burns
22 Eastern Oregon Agriculture Research Center, Squaw Butte
23 Central Oregon Experiment Station, Madras
24 Central Oregon Experiment Station, Powell Butte
25 Central Oregon Experiment Station, Redmond
26 Central Station, Corvallis
27 Coastal Oregon Marine Experiment Station, Newport
28 Southern Oregon Experiment Station, Medford
29 Klamath Experiment Station, Klamath Falls;
- 30 (n) Research forests established by the College of Forestry, Oregon State
31 University, including but not limited to McDonald Forest, Paul M. Dunn Forest,
32 the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak
33 area and the Marchel Tract;
- 34 (o) Bureau of Land Management areas of critical environmental concern,
35 outstanding natural areas and research natural areas;
- 36 (p) State wildlife areas and management areas identified in OAR chapter 635,
37 Division 8.
38 * * *

Findings of Fact

39 In the Final Order on the Application and the Final Order on Amendment #1, the
40 Council found that the KWP would not be located in any protected area as defined by OAR
41 345-022-0040(1) within the analysis area (the area within the site boundary or 20 miles from
42 the site boundary). The Council found that the design, construction and operation of the
43 facility would not result in significant adverse impact to any protected area, taking into
44 account mitigation and subject to the conditions included in the site certificate. The Council

1 found that indirect effects of noise, traffic and visual impact from the KWP would not have
2 any significant impact on protected areas.

3 Approval of Amendment #3 allows construction and operation of facility components
4 outside of the previously permitted site boundary. Except for an expansion of the lease
5 boundary in the area underlying proposed turbine strings Y and Z, the proposed Amendment
6 #3 components would be built within the certificate holder's previous lease boundary. The
7 expansion of the site boundary does not significantly change the analysis area.⁴⁵ The changes
8 to the facility under Amendment #3 do not change the facts on which the Council relied in its
9 previous findings regarding potential noise, traffic, water and wastewater impacts.

10 The Council finds that the changes requested in Amendment #3 would have no
11 significant adverse effect on any protected area.

Conclusions of Law

12 For the reasons discussed above, the Council concludes that the KWP, with the
13 changes allowed under Amendment #3, complies with the Council's Protected Areas
14 Standard.

(d) Scenic Resources

OAR 345-022-0080

15 *(1) Except for facilities described in section (2), to issue a site certificate, the*
16 *Council must find that the design, construction and operation of the facility, taking*
17 *into account mitigation, are not likely to result in significant adverse impact to*
18 *scenic resources and values identified as significant or important in local land use*
19 *plans, tribal land management plans and federal land management plans for any*
20 *lands located within the analysis area described in the project order.*
21

22 * * *

Findings of Fact

23 In the Final Order on the Application, the Council described the visual features of the
24 proposed KWP.⁴⁶ Table 5 in the Final Order on the Application listed 13 federal and state
25 land management areas within 30 miles of the site boundary (the analysis area). Eight of the
26 management area plans identify significant or important scenic resources within the analysis
27 area (Table 3).

⁴⁵ The certificate holder provided maps showing the boundaries of the 20-mile protected area analysis area for the Amendment #3 components compared to the analysis area boundary addressed in the site certificate application (e-mail from Dana Siegfried, September 6 and 20, 2007). There are no protected areas within the analysis area for Amendment #3 that were not addressed by the Council in the Final Order on the Application.

⁴⁶ Final Order on the Application, p. 54.

Table 3: Areas with Identified Scenic Resources

Area	Management	Location
Columbia River Gorge	Federal	Oregon Washington
John Day River	Federal/State	Oregon
Oregon National Historic Trail	Federal	Oregon
Lower Deschutes River	Federal/State	Oregon
Lower Klickitat River Wild and Scenic River	Federal	Washington
Sherman County	County	Oregon
Wasco County	County	Oregon
Gilliam County	County	Oregon

1 KIII analyzed the potential visibility of the proposed Amendment #3 components from
 2 vantage points within the analysis area using computer modeling.⁴⁷ For the purpose of the
 3 analysis, KIII assumed that 43 additional turbines with a maximum blade tip height of 150
 4 meters (492 feet) would be built in the locations shown in Figure 1. For the reasons discussed
 5 below, the Council finds that the additional turbines and other changes requested in
 6 Amendment #3 would have no significant adverse effect on scenic resource and values
 7 identified as significant or important in local land use plans, tribal land management plans or
 8 federal land management plans for any lands located within the analysis area.

9 Columbia River Gorge

10 The Columbia River Gorge National Scenic Area (CRGNSA) is a federally managed
 11 area. The management plan describes the area as “world renowned for its outstanding scenic
 12 beauty.”⁴⁸ The plan identifies “key viewing areas” as areas that “are important public vantage
 13 points from which Gorge landscapes are viewed” and emphasizes protection of these areas.
 14 The plan further identifies areas of “landscape significance” as areas that are “both visually
 15 diverse and seen from important viewpoints.” The following key viewing areas lie within the
 16 analysis area:⁴⁹

- 17 • Historic Columbia River Highway
- 18 • Highway I-84, including rest stops
- 19 • Washington State Route 14
- 20 • Washington State Route 142
- 21 • Rowena Plateau and Nature Conservancy Viewpoint
- 22 • Columbia River

23 The nearest boundary of the CRGNSA lies more than ten miles from the proposed
 24 KWP site. In the Final Order on the Application, the Council found that the KWP was not
 25 likely to result in a significant adverse impact to the important scenic values of the CRGNSA.
 26 Although it is possible that parts of the facility would be visible in the distant background

⁴⁷ The certificate holder provided maps showing the boundaries of the 30-mile scenic resource analysis area for the Amendment #3 components compared to the analysis area boundary addressed in the site certificate application (e-mail from Dana Siegfried, September 6 and 20, 2007). There are no scenic resources within the analysis area for Amendment #3 that were not addressed by the Council in the Final Order on the Application.

⁴⁸ *Management Plan for the Columbia River Gorge National Scenic Area.*

⁴⁹ E-mail from Dana Siegfried, September 20, 2007.

1 from some areas, the Council found that the visual impact of the facility would be a
2 subordinate element of the landscape.

3 In the Request for Amendment #3, the certificate holder stated that the proposed new
4 turbines would result in “negligible” visual impact to the CRGNSA, due to the distance of the
5 KWP from the scenic area. Specifically, the certificate holder stated that the additional (and
6 potentially taller) turbines proposed in Amendment #3 would not be visible from most of the
7 key viewing areas within the analysis area, including the Historic Columbia River Highway,
8 I-84 and the Columbia River. Washington State Route 142 and the Rowena Plateau area are at
9 the far western edge of the analysis area, where the nearest KWP turbines would be at least 30
10 miles away. At that distance, the KWP turbines, if visible, would be a subordinate element of
11 the far landscape. Based on the map provided by the certificate holder, there would be a line-
12 of-site to KWP turbines from portions of Washington State Route 14 within the CRGNSA,
13 but these areas are at least 12 miles from the KWP.⁵⁰ The Council finds that the KWP, with
14 the additional components proposed in Amendment #3, would not result in significant adverse
15 impact to scenic resources in the CRGNSA, including key viewing areas.

16 John Day River

17 The Bureau of Land Management (BLM) manages the John Day River Canyon as an
18 “area of high visual quality” and has designated the area as a Visual Resource Management
19 Class II resource.⁵¹ The main stem of the river from its mouth at the Columbia River to river
20 mile 89 lies within the analysis area. This area is also a designated State Scenic Waterway.
21 The Oregon Parks and Recreation Department administers the state’s Scenic Waterways Act,
22 and its regulations are aimed at maintaining the scenic qualities as seen from the river.⁵² Two
23 sites along the John Day River within the analysis area are identified as Special Management
24 Areas: the Oregon Train Historic Sites at Fourmile Canyon and McDonald Crossing and the
25 John Day River Canyon.

26 According to the visibility analysis, KWP turbines would not be visible from the John
27 Day River.⁵³ Turbines would not be visible from the two identified Special Management
28 Areas. Turbines would be visible from vantage points near the ridgeline of the canyon walls at
29 higher elevations within the John Day River corridor, but it is the scenic quality of views from
30 the river that are identified as the important scenic resource. The Council finds that the
31 changes allowed under Amendment #3 would have no adverse effect on important scenic
32 resources within the John Day Federal Wild and Scenic River or the John Day State Scenic
33 Waterway.

34 Oregon National Historic Trail

35 The management plan for the Oregon National Historic Trail identifies only one “high
36 potential” site within 30 miles from the KWP from which any part of the facility might be
37 visible: the John Day River Crossing.⁵⁴ “High potential” sites are sites that have potential to
38 interpret the Trail’s historical significance and that afford a high-quality recreational

⁵⁰ Figure R-1, e-mail from Dana Siegfried, September 20, 2007.

⁵¹ *John Day River Proposed Management Plan* (June 2000), p. 58.

⁵² See, for example, *The Oregon Scenic Waterways Program: A Landowner’s Guide* (Oregon Parks and Recreation Department).

⁵³ Figure R-1, Request for Amendment #3.

⁵⁴ Final Order on the Application, p. 56.

1 experience and greater than average scenic values. Based on the visibility analysis, KWP
2 turbines would not be visible from the John Day River Crossing.⁵⁵

3 Lower Deschutes River

4 The closest wind turbines that would be approved under Amendment #3 are more than
5 eight miles from the Lower Deschutes River Canyon.⁵⁶ The turbines would not be visible.⁵⁷

6 Lower Klickitat River Wild and Scenic River

7 The lower ten miles of the Klickitat River is a Federal Wild and Scenic River. The
8 area lies entirely in the State of Washington approximately 30 miles from the KWP site. The
9 certificate holder states that the proposed KWP would not be visible from the area.⁵⁸

10 Sherman County

11 The Sherman County Comprehensive Plan identifies scenic resources within the
12 County. SCCP Section XI, Finding XI, identifies “rock outcroppings, trees, the John Day
13 River Canyon and the Deschutes River Canyon” as “important features of the County’s
14 landscape.” The Finding also notes “scenic highway” designations by the Oregon Department
15 of Transportation. In the Final Order on the Application, the Council found that the proposed
16 KWP would not result in a significant adverse impact to the scenic resources identified in the
17 local Sherman County land use plan. The additional turbines and other components that
18 would be allowed if Amendment #3 were approved would not change the basis of that
19 finding.

20 Wasco County

21 The Wasco County Comprehensive Plan identifies the following “outstanding scenic
22 and recreational areas”:⁵⁹

- 23 • Columbia River Gorge
- 24 • Deschutes River (areas within the river canyon that can be seen from the river or
25 lands designated under the State Scenic Rivers Act)
- 26 • John Day River (land seen from the river within the river canyon or lands
27 designated under the State Scenic Rivers Act)
- 28 • Rock Creek Reservoir
- 29 • Pine Hollow Lake
- 30 • White River (lands within the river canyon or lands within approximately four
31 miles of the river)

32 In addition, the National Scenic Area Land Use and Development Ordinance for
33 Wasco County addresses implementation of the management plan for areas in the CRGNSA
34 that lie within Wasco County. The visual impacts of the proposed facility on the Columbia
35 Gorge and on the Deschutes and John Day River Canyons have been described above. Rock
36 Creek Reservoir and Pine Hollow Lake are outside the analysis area.⁶⁰ White River Falls State
37 Park lies just at the edge of the 30-mile analysis area, although most of the White River

⁵⁵ Figure R-1, Request for Amendment #3.

⁵⁶ E-mail from Dana Siegfried, September 11, 2007.

⁵⁷ Request for Amendment #3, p. R-2, and e-mail from Dana Siegfried, September 12, 2007.

⁵⁸ Request for Amendment #3, p. R-2.

⁵⁹ Wasco County Comprehensive Plan, Chapter V, Section J (Parks and Recreation and Scenic Areas), Table 11.

⁶⁰ E-mail from Dana Siegfried, September 2, 2007.

1 Canyon itself is not within the analysis area. In the Final Order on the Application, the
2 Council found that the KWP was unlikely to have a significant impact on the visual qualities
3 of the White River Canyon due to the distance from the site and intervening topography. The
4 additional turbines and other components allowed under Amendment #3 would not change the
5 basis of that finding. The Council finds that approval of Amendment #3 would have no
6 adverse effect on important scenic resources identified in Wasco County land use plans.

7 Gilliam County

8 The nearest parts of Gilliam County are east of the John Day River, at least two miles
9 from the KWP site. As described in the Final Order on the Application, the Gilliam County
10 Comprehensive Plan identifies “rock outcroppings marking the rim and walls of steep canyon
11 slopes” as important scenic resources and identifies the John Day River corridor as a scenic
12 resource. Visual impacts within the John Day River corridor are described above. The
13 components that would be allowed under Amendment #3 would have no effect on rock
14 outcroppings in Gilliam County.

Conclusions of Law

15 For the reasons discussed above, the Council concludes that the KWP, with the
16 changes allowed under Amendment #3, complies with the Council’s Scenic Resources
17 Standard.

(e) Recreation

OAR 345-022-0100

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

- 24
25 *(a) Any special designation or management of the location;*
26 *(b) The degree of demand;*
27 *(c) Outstanding or unusual qualities;*
28 *(d) Availability or rareness;*
29 *(e) Irreplaceability or irretrievability of the opportunity.*

30 * * *

Findings of Fact

31 The analysis area for the Recreation Standard is the area within the site boundary and
32 five miles from the site boundary. In the Final Order on the Application, the Council found
33 that recreational opportunities associated with the John Day River, the Journey Through Time
34 Scenic Byway and historic trail alignments are important recreational opportunities within the
35 analysis area. The Council found that the design, construction, operation and retirement of the
36 proposed KWP facilities would not result in significant adverse impact to these recreational
37 opportunities, taking into account the mitigation that is required under site certificate
38 conditions.

39 The additional turbines and other facility components allowed under Amendment #3
40 would not affect the facts upon which the Council relied in making these findings. The

1 Council finds that there has been no change of facts or circumstances that would affect the
2 Council's previous findings regarding the impacts of the KWP on important recreational
3 opportunities.

Conclusions of Law

4 For the reasons discussed above, the Council concludes that the KWP, with the
5 changes allowed under Amendment #3, complies with the Council's Recreation Standard.

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

OAR 345-024-0010

6 *To issue a site certificate for a proposed wind energy facility, the Council must*
7 *find that the applicant:*
8

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

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

Findings of Fact

15 In the Final Order on the Application, the Council found that KIII could design,
16 construct and operate the proposed KWP facilities to exclude members of the public from
17 close proximity to the turbine blades and electrical equipment, to preclude structural failure of
18 the tower or blades that could endanger the public safety and to have adequate safety devices
19 and testing procedures. To ensure public safety, the Council included Conditions 54, 58, 59,
20 60, 61, 62, 63, 64 and 98 in the site certificate.

21 Amendment #3 would allow the certificate holder to build up to 43 additional turbines,
22 an additional O&M building and additional access roads. The facility components that would
23 be added under Amendment #3 would be subject to the public safety conditions listed above.

24 The Council revises Condition 59. In approving a safety setback of 450 feet in the
25 Final Order on the Application, the Council considered the range of turbine types proposed by
26 the applicant. The turbines proposed by the applicant at that time had a maximum blade tip
27 height of approximately 398 feet. In the Final Order on Amendment #1, the Council approved
28 construction of turbines that would have a maximum blade tip height of up to 414 feet. In
29 approving Amendment #1, the Council did not change the safety setback distance. In the
30 Request for Amendment #3, the certificate holder requests the option of installing turbines
31 that would have a maximum blade tip height of approximately 492 feet. Because of the
32 increased height of the proposed turbine types, the Department discussed with the certificate
33 holder the need to increase the safety setback. The certificate holder proposed changing the
34 setback to 110-percent of the maximum blade tip height or 450 feet, whichever is greater.⁶¹ In
35 addition, the certificate holder stated that all KWP turbines constructed so far at the site were
36 at least 2,300 feet from the nearest residence.⁶² The certificate holder stated that a 1,250-foot

⁶¹ E-mail from Jesse Gronner, September 19, 2007.

⁶² E-mail from Jesse Gronner, October 8, 2007.

1 setback from residences would be acceptable. The Council modifies Condition 59 to
2 incorporate the setback distances proposed by the certificate holder and to clarify how the
3 distances are measured. The Department's recommendation is discussed in Revision 14 at
4 page 61 below.

5 Except as discussed above, the Council finds that there has been no change of facts or
6 circumstances that would affect the Council's previous findings regarding public health and
7 safety at the KWP site.

Conclusions of Law

8 For the reasons discussed above and subject to the change to Condition 59 discussed
9 herein, the Council concludes that the KWP, with the changes allowed under Amendment #3,
10 complies with the Council's Public Health and Safety Standards for Wind Energy Facilities.

(g) Siting Standards for Wind Energy Facilities

OAR 345-024-0015

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

15
16 *(1) Using existing roads to provide access to the facility site, or if new roads are*
17 *needed, minimizing the amount of land used for new roads and locating them to*
18 *reduce adverse environmental impacts.*

19 *(2) Using underground transmission lines and combining transmission routes.*
20 *(3) Connecting the facility to existing substations, or if new substations are*
21 *needed, minimizing the number of new substations.*

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

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

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

Findings of Fact

29 In the Final Order on the Application and in the Final Order on Amendment #1, the
30 Council found that the certificate holder could design and construct the KWP facilities to
31 reduce visual impact, to restrict public access and to reduce cumulative adverse environmental
32 impacts in the vicinity to the extent practicable in accordance with the requirements of OAR
33 345-024-0015 in effect at the time of those decisions. Amendment #3 would increase the total
34 number of turbines authorized under the site certificate from 165 to 208.

1 **Roads**

2 Approval of Amendment #3 would increase the overall length of facility access roads
3 from approximately 22 miles to approximately 31 miles. The certificate holder believes the
4 additional nine miles of access roads is the minimum necessary based on appropriate spacing
5 of the turbines.

6 **Transmission**

7 Approval of Amendment #3 would increase the overall length of collector lines within
8 the facility from approximately 59 miles to approximately 79 miles, but the amendment
9 would not increase the limit on how much of the collector system could be built aboveground
10 (12 miles). The amendment would allow construction of an aboveground electric distribution
11 line, about 0.5 miles in length, to supply power to the new O&M Building from the nearest
12 point of connection with the existing Wasco Electric distribution system. This line might be
13 placed underground, depending on the design requirements specified by Wasco Electric.⁶³

14 **Substations**

15 Approval of Amendment #3 would not add a new substation. The Council previously
16 approved one facility substation to be located near the existing Klondike I and II
17 “Schoolhouse” facilities.

18 **Wildlife Protection**

19 The facility would be designed to reduce the risk of injury to raptors or other
20 vulnerable wildlife in areas near turbines or electrical equipment. The creation of artificial
21 habitat for raptors or raptor prey would be avoided. Pad-mounted transformers at each turbine
22 would be designed to avoid use by raptors or prey species as artificial habitat (Condition 64).
23 Turbine pad areas would be graveled to reduce the potential for erosion and weed infestation
24 (Condition 78). The turbines would be mounted on smooth tubular towers rather than lattice
25 towers to avoid creating horizontal perching opportunities. The amendment would not
26 increase the overall length of aboveground collector lines (12 miles) but would authorize an
27 additional half-mile of aboveground transmission (distribution) line to provide electrical
28 service to the O&M building. Condition 90 requires that all transmission line support
29 structures conform to raptor protection guidelines recommended by the Avian Powerline
30 Interaction Committee, including anti-perching devices. No new meteorological towers would
31 be added to the facility under Amendment #3.

32 **Visual Features**

33 The amendment would not alter the site certificate conditions addressing mitigation of
34 visual impacts.⁶⁴ Under Amendment #3, the new turbines would be mounted on a tubular steel
35 towers painted white or light gray, similar to all of the other turbine towers within the facility
36 (Condition 98). No advertising signs would be posted at the facility. There would be no signs
37 at the facility except signs required by law or necessary for health and safety purposes and a
38 sign identifying the facility.

⁶³ E-mail from Jesse Gronner, August 29, 2007.

⁶⁴ Conditions 98, 99 and 100.

1 **Lighting**

2 The turbines that would be added under Amendment #3 would have the minimum
3 lighting required by the FAA or conforming to FAA guidelines. The additional O&M
4 building would have low impact (focused downward) exterior lighting for safety and security
5 purposes (Condition 100). The Council adopts a change to the language of Condition 100 to
6 clarify that it refers to the O&M building proposed under Amendment #3 as well as the
7 previously-approved O&M building, as discussed in Revision 23 below at page 65.

Conclusions of Law

8 For the reasons discussed above, the Council finds that the certificate holder can
9 design and construct the facility, including the components that would be added by
10 Amendment #3, to reduce cumulative adverse environmental effects in the vicinity by
11 practicable measures. The Council concludes that the KWP, with the changes allowed under
12 Amendment #3, complies with the Council's Siting Standards for Wind Energy Facilities.

(h) Siting Standards for Transmission Lines

13 **OAR 345-024-0090**

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

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

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

Findings of Fact

22 In the Final Order on the Application, the Council found that KIII could design,
23 construct and operate the proposed transmission lines in accordance with the standards
24 described in OAR 345-024-0090. Transmission lines for the proposed KWP include
25 underground and aboveground 34.5-kV collector lines. Under Amendment #3, the authorized
26 overall length of the collector system would increase from approximately 59 miles to
27 approximately 79 miles. Most of the collector system would be built underground.
28 Amendment #3 would not affect the previously-approved limit of 12 miles of aboveground
29 collector line. The Council has previously found that underground and aboveground 34.5 kV
30 collector lines can be designed, constructed and operated in compliance with OAR 345-024-
31 0090. The increased length of the collector system allowed under Amendment #3 would not
32 affect the basis for the Council's previous findings.⁶⁵

⁶⁵ The operating voltage of the half-mile distribution line serving the O&M building would not be greater than the voltage of aboveground collector lines and therefore would not produce an electric field that could exceed the standard.

Conclusions of Law

1 For the reasons discussed above, the Council concludes that the KWP, with the
2 changes allowed under Amendment #3, complies with the Council’s Siting Standards for
3 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

20 The analysis area for the Threatened and Endangered Species Standard is the area
21 within the site boundary and five miles from the site boundary. The amendment would
22 enlarge the site boundary of the KWP by approximately 233 acres.⁶⁶ The proposed new
23 facility components would increase the permanent footprint of the KWP by approximately 25
24 acres to a total area of approximately 97 acres. Construction of the proposed new components
25 would affect approximately 208 acres, in addition to the permanent footprint, and this
26 construction area would be restored in accordance with the Revegetation Plan (Condition 81).
27 The Department recommends changes to the Revegetation Plan to reflect the increased area of
28 temporary disturbance, as described in Revision 15 at page 62 and in Attachment B.

Plant Species

30 Based on an investigation for rare plant species described in the Final Order on the
31 Application, no threatened or endangered plant species listed as under ORS 564.105(2) are
32 likely to occur in the analysis area.⁶⁷ In June 2007, the certificate holder conducted a survey
33 of non-agricultural habitat that would be affected by Amendment #3.⁶⁸ No individuals or
34 populations of rare plants were found. Accordingly, the Council finds that the design,

⁶⁶ Revised Table P-1 (e-mail from Dana Siegfried, August 15, 2007).

⁶⁷ Final Order on the Application, p. 69.

⁶⁸ Phil Rickus, Technical Memorandum, July 10, 2007 (e-mail from Dana Siegfried, July 11, 2007).

1 construction and operation of the proposed facility with the changes allowed under
2 Amendment #3 are not likely to adversely affect any endangered or threatened plant species.

3 **Wildlife Species**

4 Table 6 on page 70 of the Final Order on the Application lists the threatened and
5 endangered species that have a potential to occur within the analysis area, based on the
6 investigations described in the order. The American peregrine falcon is no longer listed as
7 threatened or endangered under State or federal law. The USFWS removed the bald eagle
8 from the federal list of threatened species on June 28, 2007. The bald eagle remains on the
9 State list of threatened species, and the species is protected under the Bald Eagle Protection
10 Act and the Migratory Bird Treaty Act.

11 No bald eagle nests, roosting areas or critical habitat areas are known to exist within
12 the analysis area. Bald eagles have been observed feeding on wintering waterfowl along the
13 Columbia River corridor but have not been observed in upland areas within or near the KWP
14 site boundary.⁶⁹ The changes to the facility allowed under Amendment #3 would not affect
15 the basis for the Council's previous finding that the design, construction, operation and
16 retirement of the facility are not expected to have any significant adverse effect on bald
17 eagles.

18 Fatality monitoring, raptor nest monitoring and avian use surveys required under
19 Condition 95 would provide additional data regarding the possible use of the KWP site by
20 bald eagles and would provide for additional mitigation, if necessary. Changes to the Wildlife
21 Monitoring and Mitigation Plan as discussed in Revision 19 below at page 64 and in
22 Attachment A.

23 There is no fish habitat within or near the site boundary, including the expanded area
24 affected under Amendment #3. Therefore, the additional facility components allowed under
25 Amendment #3 would have no significant impact on any of the fish species listed in Table 6
26 of the Final Order on the Application.

27 The Washington ground squirrel (WGS) is a State-listed endangered species. In the
28 Final Order on the Application, the Council found that, although there are small areas of
29 habitat suitable for WGS (native grassland and shrub-steppe habitat) within the site boundary,
30 there have been no reported WGS sightings west of the John Day River and ODFW has
31 concluded that an on-site pre-construction survey for WGS at the KWP is unnecessary.⁷⁰

Conclusions of Law

32 For the reasons discussed above, the Council concludes that the KWP, with the
33 changes allowed under Amendment #3, complies with the Council's Threatened and
34 Endangered Species Standard.

(b) Fish and Wildlife Habitat

OAR 345-022-0060

35 *To issue a site certificate, the Council must find that the design, construction and*
36 *operation of the facility, taking into account mitigation, are consistent with the fish*
37

⁶⁹ Final Order on the Application, pp. 71-72.

⁷⁰ Table 4, Final Order on Amendment #2, p. 26.

1 *and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect*
 2 *as of September 1, 2000.*

Findings of Fact

3 In the Final Order on Amendment #2, the Council made findings regarding the
 4 estimated potential impact of the KWP on wildlife habitat resulting from a “worst-case”
 5 analysis. Under this worst-case analysis, the Council found that the placement of turbines,
 6 access roads and other KWP structures would have a permanent effect on approximately 72
 7 acres of land.⁷¹ The Council found that an additional 226 acres would be temporarily affected
 8 during construction. The Council found that approximately 88 percent of the permanent
 9 impact and 90 percent of the temporary impact would be on cultivated or otherwise developed
 10 agricultural land that is considered Category 6 habitat under the ODFW standards in OAR
 11 625-415-0025.

12 The Request for Amendment #3 describes changes to the facility that would increase
 13 the total area of permanent and temporary impact on habitat. Table 4 shows the revised area
 14 of permanent and temporary impacts for the facility as a whole under Amendment #3, based
 15 on worst-case analysis.

Table 4: Maximum Area of Affected Higher-Value Habitat (Worst-Case)⁷²

Habitat type	Area of temporary impact (acres)	Area of permanent impact (acres)
Category 2		
Grassland	8.98	1.32
Shrub-steppe	0.00	0.03
Category 3		
CRP	32.98	9.35
Grassland	4.81	0.59
Shrub-steppe	3.77	0.26
Upland trees	0.00	0.03
Category 4		
Grassland	5.95	0.39
Category 6		
Developed	3.16	0.00
Agricultural	374.26	85.17
TOTAL	433.91	97.14

16 Under Amendment #3, approximately 88 percent of the permanent impact and 87
 17 percent of the temporary impact would be on cultivated or otherwise developed agricultural
 18 land that is considered Category 6. Under the amendment, the area of higher-value habitat
 19 (Category 4 or better) affected by the permanent footprint would increase by about 3.5 acres,
 20 under worst-case assumptions. Construction of the components allowed under Amendment #3
 21 would affect an additional 34 acres of higher-value habitat. The habitat categories and habitat

⁷¹ The impact of these structures would be “permanent” for the life of the facility until completion of site restoration.

⁷² Based on revised Table P-1 (e-mail from Dana Siegfried, August 15, 2007).

1 types affected by Amendment #3 are shown on Figures P-1 and P-2 of the Request for
2 Amendment #3. ODFW reviewed the habitat maps and did not disagree with the certificate
3 holder's habitat classifications.

4 On August 3, 2007, a wildfire burned approximately 15,000 acres in Sherman County.
5 The fire area included grassland and shrub-steppe habitat along the southern part of the site
6 boundary on both sides of Grass Valley Canyon. The burned area included all of the
7 previously-approved habitat mitigation area. ODFW has concluded that wildfire damage does
8 not change the habitat category of the affected area.⁷³

9 The certificate holder conducted on-site surveys in non-agricultural areas that would
10 be affected by Amendment #3. The surveys included walking transects for rare plants, white-
11 tailed jackrabbits and other target species using the protocol approved by ODFW for the site
12 certificate application.⁷⁴ In addition, in April 2007, biologists surveyed areas within ¼ mile of
13 all turbine strings for raptor nests. Before construction, the certificate holder will conduct
14 raptor nest surveys in all areas within 2 miles of the expanded site boundary.⁷⁵ The certificate
15 holder conducted avian point counts to describe use of the expanded area by birds, in
16 accordance with the protocol approved by ODFW for the site certificate application.⁷⁶

17 The most common species observed in the transect surveys were Western
18 meadowlark, horned lark and magpie. Few grasshopper sparrows were noted within either the
19 native grasslands or the CRP lands. Although a few trees (mostly black locust) were found,
20 which might be suitable for loggerhead shrike, no individuals of this species were observed. A
21 small number of savannah sparrows were observed. California quail, chukar, rock wren,
22 canyon wren and redwinged blackbirds were present on slopes leading to Grass Valley
23 Canyon. Pacific tree frogs were found in a riparian drainage east of Sandon road. A few
24 common raptor species (northern harrier, American kestrel and red-tailed hawk) were
25 observed. Only one raptor nest was found within the Amendment #3 survey area: an active
26 great-horned owl nest north of proposed turbine string Z. Very few burrows were found, and
27 there is little habitat suitable for burrowing owls. Other wildlife, such as gopher snakes,
28 porcupine, deer and coyote were observed during the surveys. No habitat suitable for bats was
29 found within the Amendment #3 survey area. No white-tailed jackrabbits were found during
30 an evening survey in May 2007.

31 The certificate holder proposes to mitigate for the footprint impacts of the additional
32 components that would be allowed by Amendment #3 according to the previously-approved
33 Habitat Mitigation Plan (HMP). In addition, the certificate holder proposes to mitigate for the
34 potential displacement effect on grassland species due to the operation of the additional
35 turbines. The certificate proposes to follow the method described in the HMP for calculation
36 of a reasonable area for displacement mitigation. Implementation of the HMP is required by
37 Condition 97 of the site certificate. Because of the increase in the size of the facility's
38 footprint to include the Amendment #3 components and the increase in the mitigation area for
39 possible displacement effects, the Department recommended changes to the HMP. A revised

⁷³ E-mail from Rose Owens, ODFW, September 13, 2007.

⁷⁴ The protocol specified as "target species" the bald eagle, peregrine falcon, golden eagle, burrowing owl, loggerhead shrike, all raptor species, long-billed curlew and white-tailed jackrabbit.

⁷⁵ Response to comments from ODFW (e-mail from Philip Rickus, August 30, 2007).

⁷⁶ Mabee et al., *Baseline Avian Use at the Proposed Klondike IIIA Wind Power Project, Spring 2007*, August 2007.

1 HMP is attached to this proposed order (Attachment C) and the changes are explained in
2 Revision 20 at page 64. The Council finds that implementation of the HMP, as revised, would
3 provide adequate mitigation for the habitat impacts of the KWP, including the components
4 allowed under Amendment #3, consistent with the ODFW mitigation goals and standards.

5 Condition 81 requires the certificate holder to implement a Revegetation Plan to
6 restore vegetation in areas affected by construction. The certificate holder proposes to restore
7 the Amendment #3 construction area in accordance with the Revegetation Plan. The
8 Revegetation Plan specifies the estimated acres of disturbance due to construction and
9 specifies the acres of that disturbance that is within cultivated or otherwise developed
10 agricultural land. Amendment #3 would increase the total area of construction disturbance
11 from 226 acres to 434 acres and would increase the acres of agricultural land from 203 to 377
12 acres. The Council revises the Revegetation Plan to reflect the increased area of temporary
13 construction disturbance. A revised Revegetation Plan is attached to this proposed order
14 (Attachment B) and the changes are explained in Revision 15 below at page 62.

15 The Wildlife Mitigation and Monitoring Plan (WMMP) that is required under
16 Condition 95 was revised by Amendment #1 to apply to a wind energy facility consisting of
17 up to 165 wind turbines that would become operational at the same time. The certificate
18 holder's initial phase of construction includes 124 turbines. Additional turbines (up to a
19 maximum of 165) could be built in a later phase under the current site certificate. Amendment
20 #3 would add turbines (up to a facility maximum of 208) and add new micro-siting areas to the
21 facility. To address the increased number of authorized turbines and the fact that the turbines
22 will become operational at different times, the certificate holder proposed changing the
23 fatality monitoring schedule. The certificate holder proposed a schedule of monitoring one-
24 third of the 124 initial-phase turbines in each of two years beginning one month after the
25 beginning of commercial operation and monitoring of one-third of the next phase of turbines
26 (up to 84 turbines, including the turbines that would be authorized under Amendment #3) in
27 each of two years beginning one month after the beginning of commercial operation of those
28 turbines. The Department recommended modifications to the WMMP consistent with the
29 certificate holder's proposal. A revised WMMP is attached to this order (Attachment A) and
30 the changes are explained in Revision 19 at page 64.

31 With the changes to the site certificate described above, the Council finds that the
32 KWP would be consistent with the fish and wildlife habitat mitigation goals and standards of
33 OAR 635-415-0025 under the proposed amendment.

Conclusions of Law

34 The Council concludes, subject to the revisions of the mitigation plans referenced in
35 Conditions 81, 95 and 97, that the KWP, with the changes allowed under Amendment #3,
36 complies with the Council's Fish and Wildlife Habitat Standard.

5. Standards Not Applicable to Site Certificate Eligibility

37 Under ORS 469.501(4), the Council may issue a site certificate without making the
38 findings required by the standards discussed in this section (Structural Standard, Historic,
39 Cultural and Archaeological Resources Standard, Public Services Standard and Waste

1 Minimization Standard).⁷⁷ Nevertheless, the Council may impose site certificate conditions
2 based on the requirements of these standards.

(a) Structural Standard

OAR 345-022-0020

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

6 *(a) The applicant, through appropriate site-specific study, has adequately*
7 *characterized the site as to Maximum Considered Earthquake Ground Motion*
8 *identified at International Building Code (2003 edition) Section 1615 and*
9 *maximum probable ground motion, taking into account ground failure and*
10 *amplification for the site specific soil profile under the maximum credible and*
11 *maximum probable seismic events; and*

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

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

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

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

28 * * *

Proposed Conditions

29 In the Final Order on the Application, the Council made findings regarding the site-
30 specific characterization of seismic, geologic and soil hazards for the KWP. The site
31 certificate application included a geologic and seismic evaluation of the project lease area
32 conducted by GRI Geotechnical & Environmental Consultants (GRI). The area that would be
33 affected by construction of the components described in the Request for Amendment #3 lies
34 within the lease area boundary and therefore is included within the previous site evaluation.
35 As required under OAR 345-021-0010(1)(h), GRI consulted with DOGAMI regarding

⁷⁷ This statute provides that the Council may not impose certain standards “to approve or deny an application for an energy facility producing power from wind.” ORS 469.300 defines an “application” as “a request for approval of a particular site or sites for the construction and operation of an energy facility or the construction and operation of an additional energy facility upon a site for which a certificate has already been issued, filed in accordance with the procedures established pursuant to ORS 469.300 to 469.563, 469.590 to 469.619, 469.930 and 469.992.” Although ORS 469.501(4) does not explicitly refer to a request for a site certificate amendment, we assume that the Legislature intended it to apply.

1 appropriate geotechnical work to be performed.⁷⁸ The amendment request included GRI's
2 geological assessment report for the Amendment #3 area, including identification of the
3 Maximum Probable Earthquake (MPE) and Maximum Considered Earthquake (MCE).⁷⁹ In a
4 comment letter, DOGAMI found that the information provided in the amendment request
5 complied with applicable requirements.⁸⁰

6 Condition 53 requires the certificate holder to conduct appropriate site-specific
7 geotechnical investigation before construction. This investigation is to determine the
8 subsurface and foundation support conditions at the locations of the turbine towers and other
9 significant facility structures. In its comment letter, DOGAMI requested the results of site-
10 specific investigations performed before construction begins and the opportunity to comment
11 at that time. Condition 53 requires the certificate holder to consult with DOGAMI before
12 beginning construction and report geotechnical investigation findings to that agency.
13 Condition 53 applies to the new construction allowed under Amendment #3. Condition 54
14 requires the certificate holder to design and construct the facility in accordance with
15 requirements set forth by the State of Oregon's Building Code Division and any other
16 applicable codes and design procedures. In addition, Council rules include mandatory
17 conditions regarding geotechnical investigation and protection of the public from seismic
18 hazards (Conditions 12, 13 and 14).

19 The certificate holder proposed changes to Conditions 53 and 54 that conform to the
20 Council rules as amended in May 2007. The certificate holder's proposed changes pertain to
21 pre-construction geotechnical investigations addressed by Condition 53. The Council
22 incorporates within Condition 53 the substance of the changes proposed by the certificate
23 holder but makes no change to Condition 54. Condition 54 addresses design and construction.
24 The changes are discussed in Revision 13 below at page 61.

(b) Historic, Cultural and Archaeological Resources

OAR 345-022-0090

25
26 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate,*
27 *the Council must find that the construction and operation of the facility, taking*
28 *into account mitigation, are not likely to result in significant adverse impacts to:*

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

31 *(b) For a facility on private land, archaeological objects, as defined in ORS*
32 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

33 *(c) For a facility on public land, archaeological sites, as defined in ORS*
34 *358.905(1)(c).*

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

39 * * *

⁷⁸ E-mail from Dana Siegfried, July 11, 2007.

⁷⁹ Request for Amendment #3, Appendix H-1.

⁸⁰ Letter from William Burns, DOGAMI, July 10, 2007.

Proposed Conditions

1 The Request for Amendment #3 included a confidential survey report from
2 Archaeological Investigations Northwest, Inc., (AINW) regarding the area that would be
3 affected by the additional facility components described in the amendment request. AINW
4 conducted field investigations between January 2007 and May 2007 in areas not previously
5 surveyed. Altogether, the field surveys in the Amendment #3 areas covered approximately
6 2,819 acres. The results of the survey include location information that is protected from
7 public disclosure under ORS 192.501 or ORS 192.502.

8 In summary, the survey identified 34 cultural resources, including 28 archaeological
9 resources and six aboveground resources. In one area that could be affected by construction of
10 Amendment #3 components, AINW found eight prehistoric archaeological resources
11 (consisting of four sites and four associated isolates). AINW assessed this area as a key
12 prehistoric hub of activity and designated it as a Key Activity Area (KAA). AINW
13 recommended avoidance of the resources and a 30-meter buffer area or, where avoidance is
14 not possible, systematic test excavations to assess the significance of the resources.

15 In addition to the resources in the KAA, AINW recommended test excavations of
16 seven other identified archaeological resources if avoidance is not feasible. These seven
17 resources include one prehistoric site and six historic-period sites.⁸¹

18 The survey evaluated six aboveground historic-period resources. AINW recommended
19 one of these resources (an historic homestead) as eligible for listing in the National Register
20 of Historic Places.

21 At the request of the Department, the State Historic Preservation Office (SHPO)
22 reviewed the AINW report. The SHPO concurred with the proposed avoidance of the eight
23 prehistoric resources within the KAA and the seven other resources that AINW recommended
24 for avoidance.⁸² The SHPO concluded that if these 15 resources are avoided with a 30-meter
25 buffer there would be no effect on archaeological resources for the project area. Nevertheless,
26 the SHPO recommended subsurface testing for all 28 archaeological resources identified in
27 the AINW report. For the 16 archaeological sites, this testing would “clarify the current
28 horizontal boundaries as well as provide information regarding site eligibility.” For the 12
29 isolated finds, testing “would address the question as to whether they may indeed be sites.”
30 Further, the SHPO advised “extreme caution” during ground disturbing activities near the 15
31 archeological resources recommended for avoidance (with a 30-meter buffer), if subsurface
32 testing is “not feasible.”

33 The SHPO concurred with the determination that the historic homestead is eligible for
34 the National Register of Historic Places. The SHPO found that this historic property is
35 adversely affected by the location of a Klondike I turbine (approximately 960 feet away).⁸³
36 The Council has no jurisdiction over the Klondike I project and, therefore, cannot address
37 mitigation for the impact identified by the SHPO.

⁸¹ Table 4, AINW, *Cultural Resource Survey for the Proposed Klondike III Wind Project, Sherman County, Oregon: Supplement III, Report No. 1932*, June 21, 2007; as corrected by e-mail from Sara Parsons, October 4, 2007.

⁸² Letter from Susan White, SHPO, September 13, 2007.

⁸³ Letter from Susan White, SHPO, September 13, 2007, and e-mail from Sarah Jalving, SHPO, September 26, 2007.

1 Condition 48 requires additional field investigation of all areas of permanent or
2 temporary disturbance that were not previously surveyed in 2005 or 2006 by AINW. The
3 certificate holder proposed modifying Condition 48 to include a reference to the 2007 AINW
4 survey, and the Department agreed with this change. In addition, the Department
5 recommended modification of Condition 48 to incorporate the AINW recommendations as
6 described below in Revision 12 at page 60.

7 Condition 49 requires construction personnel to be trained in the identification of
8 archeological or cultural materials. Condition 50 requires that earth-disturbing activities be
9 halted if archeological objects are discovered in the course of construction of the facility, in
10 accordance with ORS 97.745 and 358.920. Condition 51 requires that construction of the
11 KWP proceed carefully in the vicinity of the mapped alignment of the Oregon Trail and that
12 any intact physical evidence of the trail discovered during construction be protected from
13 disturbance. Condition 52 requires pre-construction photo-documentation of the setting of the
14 Oregon Trail alignment and enhancement of the existing Oregon Trail historical marker at
15 Biggs. The Council finds that no changes to Conditions 49 through 52 are needed.

(c) Public Services

OAR 345-022-0110

16
17 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate,*
18 *the Council must find that the construction and operation of the facility, taking*
19 *into account mitigation, are not likely to result in significant adverse impact to the*
20 *ability of public and private providers within the analysis area described in the*
21 *project order to provide: sewers and sewage treatment, water, storm water*
22 *drainage, solid waste management, housing, traffic safety, police and fire*
23 *protection, health care and schools.*

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

28 * * *

Proposed Conditions

29 In the Final Order on the Application, the Council discussed the public service impacts
30 of construction and operation of the KWP regarding sewage, storm water, solid waste, water
31 supply, housing, police and fire protection, health care, schools and traffic safety. The Council
32 found that the impacts would not be significant. Conditions adopted to address other Council
33 standards adequately addressed the Council's concerns under the Public Service Standard.⁸⁴

34 The changes allowed under Amendment #3 would increase the number of employees
35 during operation by up to five and would extend the period of time that construction workers
36 would be needed. The amendment would not significantly increase traffic volume on nearby
37 roads during construction or operation compared to traffic volumes without the amendment.
38 The amendment would increase the amount of solid waste generated during construction, but

⁸⁴ Conditions that address the issues under the Public Service Standard include Conditions 39, 40, 41, 44, 63, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 78, 79, 80, 82, 83, 103, 104, 105, 106 and 107.

1 the increase would have an insignificant effect on the Columbia Ridge landfill. The
2 amendment would not significantly change the quantity of wastewater or storm water.
3 Although the increased period of construction might extend the duration of some types of fire
4 risk, it would not add a significant new adverse impact to local emergency response services.
5 For these reasons, the Council concludes that no new or modified conditions are required.

(d) Waste Minimization

OAR 345-022-0120

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

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

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

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

19 * * *

Proposed Conditions

20
21 In the Final Order on the Application, the Council adopted Conditions 105, 106 and
22 107, which address solid waste management on the site during construction and operation.
23 The Council adopted Conditions 73 and 74, which address proper handling of hazardous
24 materials and response to spills and accidental releases of hazardous materials. Conditions 80,
25 83, 103 and 104 address industrial and sanitary wastewater during construction and operation.
26 The changes allowed under Amendment #3 would increase the amount of solid waste and
27 wastewater generated during construction and operation, but the amendment does not affect
28 site certificate conditions related to the Waste Minimization Standard. The Council concludes
29 that no new or modified conditions are required, except for modification of Condition 83 to
30 clarify that the facility would have two wells but that water use would not exceed 5,000
31 gallons per day (Revision 16).

V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS

1. Requirements under Council Jurisdiction

32 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR
33 345-022-0000), the Council must determine that the proposed facility complies with "all other
34 Oregon statutes and administrative rules identified in the project order, as amended, as
35 applicable to the issuance of a site certificate for the proposed facility." Other Oregon statutes
36 and administrative rules that are applicable to the changes requested in Amendment #3
37 include the noise control regulations adopted by the Environmental Quality Commission, the
38 Department of State Lands' regulations for removal or fill of material affecting waters of the

1 state, the Water Resources Department's (WRD) regulations for appropriating ground water,
2 the Oregon Department of Transportation's regulations for access to state highways and
3 utility crossings on state highways and the Council's statutory authority to consider protection
4 of public health and safety.

(a) Noise Control Regulations

5 The applicable noise control regulations are as follows:

6 **OAR 340-035-0035**

7 **Noise Control Regulations for Industry and Commerce**

8 *(1) Standards and Regulations:*

9 * * *

10 *(b) New Noise Sources:*

11 * * *

12 *(B) New Sources Located on Previously Unused Site:*

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

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

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

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

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

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

1 on the sensitive property by more than 10 dBA at the appropriate measurement
2 point.

3 (IV) For purposes of determining whether a proposed wind energy
4 facility would satisfy the ambient noise standard where a landowner has not
5 waived the standard, noise levels at the appropriate measurement point are
6 predicted assuming that all of the proposed wind facility's turbines are operating
7 between cut-in speed and the wind speed corresponding to the maximum sound
8 power level established by IEC 61400-11 (version 2002-12). These predictions
9 must be compared to the highest of either the assumed ambient noise level of 26
10 dBA or to the actual ambient background L10 and L50 noise level, if measured.
11 The facility complies with the noise ambient background standard if this
12 comparison shows that the increase in noise is not more than 10 dBA over this
13 entire range of wind speeds.

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

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

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

36 * * *

Findings of Fact

37 In the Final Order on the Application, the Council found that noise levels generated
38 by the proposed facility would not exceed the "maximum allowable" (Table 8) test described
39 in OAR 340-035-0035(1)(b)(B) at any of seven noise sensitive receivers that have the
40 potential of receiving noise from the proposed facility.⁸⁵ The Council found that the predicted
41 noise levels at five of the seven receivers would exceed the ambient degradation limit
42 described in the regulation. To ensure compliance with the regulation, the Council adopted
43 Condition 102. Under the condition, facility noise levels could exceed the ambient

⁸⁵ Final Order on the Application, pp. 94-100.

1 degradation limit if the certificate holder obtains a legally effective easement or real covenant
2 (a “waiver”) from the affected landowners authorizing the certificate holder’s operation of the
3 facility to increase ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA. For those
4 properties for which the landowner has not signed a waiver of the ambient degradation limit,
5 Condition 102 requires the certificate holder to identify the final turbine locations and provide
6 a noise analysis that demonstrates that the facility would comply with the 10-dBA limit.

7 In the Final Orders on Amendments #1 and #2, the Council approved the option of
8 using larger (and louder) turbines in strings K, L, M, N, R, S, U, V, W and X and at location
9 MHI-1. In the Final Order on Amendment #1, the Council amended the language of
10 Condition 102 to address a single property for which the landowner had not signed a waiver.⁸⁶

11 To approve Amendment #3, the Council must find that the facility could meet the
12 ambient degradation and maximum allowable tests described in OAR 340-035-0035(1)(b)(B)
13 with the additional turbines described in the amendment request. The certificate holder’s
14 Request for Amendment #3 included a noise analysis report by TW Environmental, Inc.,
15 (TW).⁸⁷ In analyzing the potential noise effects if Amendment #3 were approved, TW
16 assumed that the turbines in the proposed new micro-siting corridors for turbine strings Y, Z,
17 AA and BB would have a maximum sound power level of 110 dBA and that the turbines in
18 the re-aligned micro-siting corridors for turbine strings N and U would also have a maximum
19 sound power level of 110 dBA. TW assumed that a turbine would be constructed in location
20 MHI-1, as approved by the Council in Amendment #2, and that this turbine would have a
21 maximum sound power level of 110 dBA. TW assumed worst-case turbine locations within
22 the proposed micro-siting corridors (turbines placed closest to each receiver).⁸⁸ TW identified
23 ten noise sensitive receivers that could be affected by noise from the facility if Amendment #3
24 were approved, including five receivers that the certificate holder had not identified
25 previously in the site certificate application or in the requests for Amendments #1 and #2. The
26 analysis predicted that the ambient degradation limit of 36 dBA would be exceeded at eight of
27 the ten properties.⁸⁹

28 The Department asked the certificate holder to provide additional information to
29 supplement and verify the statements contained in the TW report.⁹⁰ Based on observations by
30 the Department’s expert noise consultant, Kerrie Standlee of Daly Standlee and Associates,
31 the Department asked the certificate holder to identify all noise sensitive properties within one
32 mile of the lease boundary. As a result of these requests, the certificate holder submitted a
33 revised noise analysis prepared by CH2M HILL based on a proposed layout using GE 1.5-
34 MW turbines and showing the predicted noise levels at 18 of 20 identified noise sensitive
35 properties.⁹¹

36 The CH2M HILL analysis assumed turbine locations for the proposed Amendment #3
37 turbines as shown on a figure (“Proposed GE Turbine Layout” dated October 3, 2007) and

⁸⁶ Final Order on Amendment #1, pp. 46-50.

⁸⁷ Request for Amendment #3, Appendix X-1.

⁸⁸ With respect to one property, the TW analysis assumed turbine locations at the centerline of the micro-siting corridor to avoid noise levels at the property in excess of the maximum allowable limit of 50 dBA.

⁸⁹ TW Environmental, Inc., *Noise Analysis for the Klondike IIIa Wind Project*, June 2007, Table 4 (Request for Amendment #3, Appendix X-1, p. 9).

⁹⁰ E-mail messages from John White, August 14 and September 4, 6 and 12, 2007.

⁹¹ E-mail from Jesse Gronner, October 4 and 9, 2007.

1 used actual turbine locations for KWP turbines that were already built. The certificate holder
2 provided data on the coordinates of all of the turbine locations used in the analysis.⁹² The
3 noise analysis was performed using the CADNA/A modeling program, including ground
4 absorption as specified in ISO9613-2 (at the request of Mr. Standlee), temperature of 10°C
5 and relative humidity of 70 percent. The ground was modeled as a flat surface. Based on
6 information from the manufacturers, the modeling assumed that the GE 1.5-MW turbines
7 would have a maximum sound power level of 106 dBA, including uncertainty (104 dBA +2
8 dBA), and assumed a maximum sound power level of 107 dBA for the already installed 2.3-
9 MW Siemens turbines and 110 dBA for the Mitsubishi turbine approved by Amendment #2
10 but not yet installed. The assumed sound power levels for the Siemens and Mitsubishi
11 turbines included +2 dBA for uncertainty.

12 Table 5 shows the predicted noise levels at the 20 identified noise sensitive properties
13 that could be affected by the KWP, including the additional turbines requested by
14 Amendment #3. The data shown in the table are from the CH2M HILL analysis, with the
15 exception of data for properties R3 and R4, which are based on the *Preconstruction Report*
16 *for the Amended Klondike III Wind Project*, August 2006, prepared by TW. All data are
17 rounded to the nearest whole decibel. CH2M HILL's analysis used a different numbering
18 system for the receiver locations ("New ID") than what has been used in the supporting
19 documentation for the Final Orders on the Application and Amendments #1 and #2 ("Old
20 ID"). Kerrie Standlee reviewed the data and the analysis provided by CH2M HILL and agreed
21 that the results are reasonable.⁹³

22 Based on the data summarized in Table 5, the facility would comply with the 50-dBA
23 maximum allowable limit at each affected noise sensitive receiver. Data shown in boldface
24 exceed the 36-dBA ambient degradation limit. The certificate holder has submitted waivers
25 for receivers R4, R10, R11, R12, R13 and R15.⁹⁴ For these properties, noise levels may
26 exceed the 36-dBA ambient degradation limit without violating the noise regulation. The
27 facility would not comply with the ambient degradation limit at R3, R6, R7, R8 and R14.

⁹² E-mail from Jesse Gronner, October 10, 2007.

⁹³ E-mail from Kerrie Standlee, October 10, 2007.

⁹⁴ E-mail from Jesse Gronner, October 10, 2007.

Table 5: Predicted Noise Levels

Receiver (new ID)	Receiver (old ID)	Predicted Noise Level
R1	not shown	30
R2	not shown	36
R3	R5	42*
R4	R4	43* (waiver obtained)
R5	not shown	35
R6	not shown	40
R7	not shown	46
R8	not shown	40
R9	not shown	34
R10	not shown	37 (waiver obtained)
R11	R6	47 (waiver obtained)
R12	R7	46 (waiver obtained)
R13	R2	50 (waiver obtained)
R14	R1	39
R15	R3	44 (waiver obtained)
R16	not shown	36
R17	not shown	32
R18	not shown	35
R19	not shown	31
R20	not shown	33

*Noise level as shown in Table 5, TW Environmental, Inc., *Preconstruction Report for the Amended Klondike III Wind Project*, August 2006.

1 Property R3 (previously identified as R5) is the property that the Council addressed in
2 the revision to Condition 102 in the Final Order on Amendment #1. To ensure compliance
3 with the noise standard, Condition 102 specifies three ways for the certificate holder to
4 demonstrate compliance: (a) obtain a waiver from the property owner, (b) limit construction
5 of turbines in the nearest micro-siting corridors as described in the condition, or (c) design an
6 alternative turbine layout and provide a new noise analysis demonstrating compliance. The
7 certificate holder has built turbines in the nearby micro-siting corridors substantially in
8 conformance with the restrictions described in Condition 102(b).⁹⁵ The certificate holder
9 would like to retain the option to obtain a waiver from the landowner and build turbines at
10 locations F5 through F8 and J1 (as described in the Final Order on Amendment #1).⁹⁶ The
11 Department recommended revision of Condition 102 to reflect the construction that has
12 occurred.

13 The data in Table 5 are based on the use of GE 1.5-MW turbines at the locations for
14 the proposed Amendment #3 turbine strings as shown in the “Proposed GE Turbine Layout”

⁹⁵ The certificate holder has not built turbines J1, F5, F6, F7 or F8 and has built turbines J2 through J-13 within a 16-foot variance from the locations specified in Table 7 of the Final Order on Amendment #1. The variance would not have a significant effect on the predicted noise levels at property R3.

⁹⁶ E-mail from Jesse Gronner, October 11, 2007.

1 described above. If the certificate holder selects a different turbine type with a higher sound
2 power level than the GE 1.5-MW turbine for the proposed Amendment #3 turbine strings,
3 then the noise levels could exceed the values shown in the table. Likewise, if the certificate
4 holder's final design layout for construction locates turbines closer to a receiver, then the
5 noise level at that receiver could exceed the value shown in the table.

6 The certificate holder proposes to use GE 1.5-MW turbines in turbine strings N, U, Y,
7 Z, AA and BB. The certificate holder proposes to submit waivers to the Department for
8 properties R6, R7, R8 and R14 before beginning construction of any of the turbines proposed
9 in Amendment #3.⁹⁷ Alternatively, the certificate holder would provide the final design
10 configuration and turbine selection information to the Department before beginning
11 construction together with a new noise analysis demonstrating compliance with the ambient
12 degradation limit at all noise sensitive properties. The Department agrees with this approach
13 and has incorporated the certificate holder's proposals in the recommended revisions to
14 Condition 102.

15 Property R8 has a predicted noise level of 40 dBA, as shown on Table 5. This property
16 is near turbine location MHI-1 but was not identified by the certificate holder when the
17 Council approved construction of a turbine at that location in the Final Order on Amendment
18 #2. The Department requested an analysis by Kerrie Standlee of the predicted noise level at
19 R8 from operation of the KWP turbines already constructed and the additional turbine
20 proposed to be installed at location MHI-1 (but excluding the proposed Amendment #3
21 turbines). The certificate holder proposes to install a turbine at MHI-1 with a maximum sound
22 power level of 110 dBA, including uncertainty. Mr. Standlee reviewed the noise data supplied
23 by CH2M HILL and concluded that the noise level at R8 would be approximately 39 dBA.⁹⁸
24 CH2M HILL independently analyzed the data and concluded that the noise level at R8 would
25 be 37.9 dBA.⁹⁹ Based on this analysis, the Department concluded that the noise level at R8
26 would exceed the ambient degradation limit of 36 dBA, if the certificate holder constructs the
27 facility as allowed under Amendment #2.

28 The Council modifies Condition 102 to address the compliance of the facility with the
29 noise limits established under OAR 340-035-0035(1)(b)(B). The recommended changes
30 address both the new turbines that would be allowed under Amendment #3 and the potential
31 non-compliance of the previously-approved turbines (including the MHI-1 turbine) with the
32 noise limits at the newly-identified property R8. The changes are discussed in Revision 24
33 below at page 65.

Conclusions of Law

34 Based on the findings above and the revision of Condition 102, the Council finds that
35 the KWP, with the changes allowed under Amendment #3, complies with the applicable noise
36 control regulations in OAR 340-035-0035.

⁹⁷ Request for Amendment #3, Exhibit X, p. X-4, and e-mail from Jesse Gronner, October 10, 2007.

⁹⁸ E-mail from Kerrie Standlee, October 11, 2007.

⁹⁹ E-mail from Mark Bastasch, CH2M HILL, October 11, 2007.

(b) Removal-Fill Law

1 The Oregon Removal-Fill Law (ORS 196.800 through 990) and regulations (OAR
2 141-085-0005 through 141-085-0090) adopted by the Department of State Lands (DSL)
3 require a Removal/Fill Permit if 50 cubic yards or more of material are removed, filled or
4 altered within any “waters of the state” at the proposed site.¹⁰⁰ The Council must determine
5 whether a permit is needed. In addition, the U.S. Army Corps of Engineers administers
6 Section 404 of the Clean Water Act, which regulates the discharge of fill into waters of the
7 United States (including wetlands). Under Section 404, a federal Nationwide or Individual fill
8 permit may be required.

9 In the Final Order on the Application, the Council concluded that a Removal/Fill
10 permit was not needed, subject to the requirements of Condition 79. Condition 79 requires the
11 certificate holder to avoid impacts to waters of the state identified in Appendix J-1 of the site
12 certificate application and to conduct a pre-construction investigation in any locations that
13 would be affected by construction but that have not previously been investigated.

14 The changes requested by Amendment #3 include changes to the site boundary. David
15 Evans and Associates, Inc., (DEA) conducted a wetland delineation investigation for the
16 certificate holder in May 2007 within the proposed new micrositing areas. The Request for
17 Amendment #3 contained the delineation report and was sent to DSL for review. No wetlands
18 or other waters of the state were identified in the investigation. Based on DEA’s delineation
19 report, the components that would be added to the KWP by Amendment #3 would not affect
20 any waters of the state. The Council finds that a Removal/Fill Permit is not needed for the
21 construction allowed under Amendment #3.

Conclusions of Law

22 Based on the findings discussed above, the Council concludes that the KWP, with the
23 changes allowed under Amendment #3, complies with applicable regulations pertaining to
24 jurisdictional waters of the state and that a Removal/Fill Permit is not required.

(c) Ground Water Act

25 Through the provisions of the Ground Water Act of 1955, ORS 537.505 to ORS
26 537.796, and OAR Chapter 690, the Oregon Water Resources Commission administers the
27 rights of appropriation and use of the ground water resources of the state. Under OAR 345-
28 022-0000(1), the Council must determine whether the proposed KWP complies with these
29 statutes and administrative rules.

Findings of Fact

30 In the Final Order on the Application, the Council found that the certificate holder
31 could obtain sufficient water during construction (approximately 18 million gallons) and that
32 no new water right would be needed. The Council found that less than 5,000 gallons per day
33 would be used during facility operation for domestic purposes and blade-washing. This water
34 would come from a new on-site well. No new water right would be needed for this use. The
35 Council adopted Condition 83, which requires the certificate holder to demonstrate to the

¹⁰⁰ OAR 141-085-0010(225) defines “Waters of this State.” The term includes wetlands and certain other water bodies.

1 Department that blade-washing would be authorized under a DEQ general permit or that no
2 permit would be required.

3 The changes allowed under Amendment #3 would increase the number of turbines
4 within the facility. Accordingly, the amendment would increase the quantity of water needed
5 during construction. The certificate holder estimates that approximately 10.6 million gallons
6 of water would be needed for construction of the proposed Amendment #3 components.¹⁰¹
7 The certificate holder confirmed that sufficient water would be available from the City of
8 Wasco under an existing water right.¹⁰²

9 The amendment would increase the number of employees needed for facility operation
10 by up to five workers but would not significantly increase the amount of water use. A new on-
11 site well would be constructed to supply water to the new O&M building. Amendment #3
12 would not affect the quantity of water that is likely to be used for blade-washing during
13 operation. Water use during operation is subject to Condition 83. The Department
14 recommended changes to Condition 83 to clarify that the facility would have two wells but
15 that water use would not exceed 5,000 gallons per day. ORS 537.545(1)(f) provides that a
16 new water right is not required for industrial and commercial uses of up to 5,000 gallons per
17 day. The changes to Condition 83 are discussed in Revision 16 at page 62 below.

Conclusions of Law

18 Based on the findings discussed above, the Council concludes that the KWP, with the
19 changes allowed under Amendment #3, complies with applicable regulations pertaining to
20 water rights.

(d) State Highway Access and Crossings

21 Under OAR Chapter 734, Division 55, the Oregon Department of Transportation
22 (ODOT) regulates the location, installation, construction, maintenance and use of utility
23 structures, including buried cables, within State Highway right-of-way. Under Division 51,
24 ODOT regulates highway approaches and access control.

25 In the Final Order on the Application, the Council found that the proposed KWP
26 would include underground collector lines that would cross under Highway 206 along Smith
27 Lane to the north of turbine string D. For this utility crossing, the Council required the
28 certificate holder to obtain the necessary permit from ODOT before beginning construction
29 (Condition 86). The additional facility components proposed under Amendment #3 would
30 include: (1) an underground collector line that would cross under Highway 206 between
31 proposed turbine location Y4 and proposed turbine string Z, (2) an underground or overhead
32 distribution line to provide electrical service to the proposed new O&M building from
33 existing Wasco Electric lines on the west side of the highway and (3) an approach to the
34 highway for a facility access road to proposed turbine location Y4.¹⁰³

35 The Department consulted with ODOT staff regarding the permits. Although ODOT
36 indicated that the permits likely could be issued, ODOT staff could not determine specific

¹⁰¹ E-mail from Jesse Gronner, September 12, 2007.

¹⁰² Letter from Cassie Strege, City of Wasco, September 12, 2007 (attached to e-mail from Jesse Gronner, September 17, 2007).

¹⁰³ As shown on Figure 1.

1 permit conditions without reviewing detailed design drawings, which the certificate holder
2 cannot provide until final facility design decisions have been made. ODOT indicated,
3 however, that permit conditions for utility crossings are defined by OAR Chapter 734,
4 Division 55 and permit conditions for approach roads (for highway access) are defined by
5 OAR Chapter 734, Division 51.

6 The Council finds that ODOT permits for utility crossings and an access road
7 approach would be needed for components that would be added to the facility under
8 Amendment #3. The Council finds that the permits should be issued, subject to conditions
9 imposed by ODOT but limited by OAR Chapter 734, Divisions 51 and 55. The Council
10 adopts a change to Condition 86 to address these requirements, as discussed below in
11 Revision 17 at page 62.

(e) Public Health and Safety

12 Under ORS 469.310, the Council is charged with ensuring that the “siting,
13 construction and operation of energy facilities shall be accomplished in a manner consistent
14 with protection of the public health and safety...” State law further provides that “the site
15 certificate shall contain conditions for the protection of the public health and safety...” ORS
16 469.401(2).

Findings of Fact

17 The Council addresses the safety of wind energy facilities under its Public Health and
18 Safety Standards for Wind Energy Facilities (OAR 345-024-0010) discussed above at page
19 30. In addition, in the Final Order on the Application, the Council made findings regarding
20 public safety addressing fire protection, magnetic field effects from transmission lines,
21 highway safety and coordination with the Oregon Public Utility Commission. The site
22 certificate contains conditions regarding public safety that address fire protection (Conditions
23 65 through 70), magnetic field effects from transmission lines (Condition 88), highway safety
24 (Conditions 59 and 75) and coordination with the Oregon Public Utility Commission
25 (Condition 85). The changes allowed under Amendment #3 would not affect any of the
26 Council’s previous findings. The Department did not recommend any changes to the public
27 safety conditions in the site certificate.

Conclusions of Law

28 Based on the findings discussed above, the Council concludes that the KWP, with the
29 changes allowed under Amendment #3, complies with requirements to protect public health
30 and safety.

2. Requirements That Are Not Under Council Jurisdiction

(a) Federally-Delegated Programs

31 Under ORS 469.503(3), the Council does not have jurisdiction for determining
32 compliance with statutes and rules for which the federal government has delegated the
33 decision on compliance to a state agency other than the Council. Nevertheless, the Council
34 may rely on the determinations of compliance and the conditions in the federally-delegated
35 permits issued by these state agencies in deciding whether the proposed facility meets other
36 standards and requirements under its jurisdiction. As required under Condition 76, the

1 certificate holder would conduct all construction work in compliance with an Erosion and
2 Sediment Control Plan satisfactory to the Oregon Department of Environmental Quality and
3 as required under the federally-delegated National Pollutant Discharge Elimination System
4 Storm Water Discharge General Permit #1200-C. The requirements of the 1200-C permit
5 would apply to the facility as described under the amendment.

(b) Requirements That Do Not Relate to Siting

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

VI. GENERAL APPLICATION OF CONDITIONS

13 The conditions referenced in this proposed order include conditions that are
14 specifically required by OAR 345-027-0020 (Mandatory Conditions in Site Certificates),
15 OAR 345-027-0023 (Site Specific Conditions), OAR 345-027-0028 (Monitoring Conditions)
16 or OAR Chapter 345, Division 26 (Construction and Operation Rules for Facilities). The
17 conditions referenced herein include conditions based on representations in the request for
18 amendment and the supporting record. The Council deems these representations to be binding
19 commitments made by the certificate holder. Also included are conditions the Council finds
20 necessary to ensure compliance with the siting standards of OAR Chapter 345, Divisions 22
21 and 24, or to protect public health and safety.

22 In addition to all other conditions referenced or included in this proposed order, the
23 site certificate holder is subject to all conditions and requirements contained in the rules of the
24 Council and in local ordinances and state law in effect on the date the amended site certificate
25 is executed.¹⁰⁴ Under ORS 469.401(2), upon a clear showing of a significant threat to the
26 public health, safety or the environment that requires application of later-adopted laws or
27 rules, the Council may require compliance with such later-adopted laws or rules.

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

VII. GENERAL CONCLUSION

32 The amendment would allow the changes to the design and construction of the KWP
33 as described herein. In approving Amendment #3, the Council finds that revisions to
34 Conditions 8, 26, 27, 28, 31, 32, 33, 48, 53, 59, 83, 86, 92, 98, 99, 100, 102 and 104 and
35 revisions to the *Wildlife Monitoring and Mitigation Plan* (Attachment A, referenced in

¹⁰⁴ With regard to land use, the applicable local criteria are those in effect on the date the certificate holder submitted the request for amendment.

1 Condition 95), the *Revegetation Plan* (Attachment B, referenced in Condition 81) and the
2 *Habitat Mitigation Plan* (Attachment C, referenced in Condition 97) are needed.

3 Based on the findings and conclusions discussed above regarding the proposed
4 amendment, the Council makes the following findings:

- 5 1. The proposed Amendment #3 complies with the requirements of the Oregon
6 Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to
7 469.619.
- 8 2. The proposed Amendment #3 complies with the standards adopted by the Council
9 pursuant to ORS 469.501.
- 10 3. The proposed Amendment #3 complies with all other Oregon statutes and
11 administrative rules applicable to the amendment of the site certificate for the
12 Klondike III Wind Project and within the Council's jurisdiction.

13 Accordingly, the Council finds that the facility, with the changes allowed under
14 Amendment #3, complies with the General Standard of Review (OAR 345-022-0000). The
15 Council concludes, based on a preponderance of the evidence on the record, that the site
16 certificate may be amended as requested by the certificate holder, subject to the revisions
17 recommended by the Department and set forth below, which the Council hereby adopts.

1. The Department's Recommended Revisions

18 New text proposed by the Department is shown with single underline. New text
19 proposed by KIII with concurrence by the Department is shown with double underline.
20 Deletions are shown with a strikethrough. Page and line references are to the Second
21 Amended Site Certificate.

Revision 1

22 *Page 1, lines 6-14:*

23 The findings of fact, reasoning and conclusions of law underlying the terms and conditions of
24 this site certificate are set forth in the following documents related to the facility, which are
25 incorporated herein by this reference: (a) the Council's Final Order on the Application and (b)
26 the Council's Final Orders on Amendments #1, ~~and #2 and #3~~. In interpreting this site
27 certificate, any ambiguity will be clarified by reference to the following, in order of priority:
28 (1) this ~~Second~~Third Amended Site Certificate, (2) the Final Order on Amendment #3, (23)
29 the Final Order on Amendment #2, (34) the Final Order on Amendment #1, (45) the Final
30 Order on the Application and (56) the record of the proceedings that led to the Final Orders on
31 the Application, Amendment #1, ~~and~~ Amendment #2 and Amendment #3. [Amendments #1,
32 ~~and #2 and #3~~]

Explanation

33 This revision includes a reference in the site certificate to the findings of fact,
34 reasoning and conclusions in support of the present amendment. The revision establishes the
35 order of priority in which the underlying documents should be considered in resolving any
36 ambiguity. The parenthetical reference at the end of the paragraph follows standard practice
37 and provides a historical reference of when these changes were made to the site certificate.

Revision 2

1 *Page 1, lines 25-31:*

- 2 3. This site certificate does not address, and is not binding with respect to, matters that were
3 not addressed in the Council's Final Orders on the Application and Amendments #1, and
4 #2 and #3. Such matters include, but are not limited to: building code compliance, wage,
5 hour and other labor regulations, local government fees and charges and other design or
6 operational issues that do not relate to siting the facility (ORS 469.401(4)) and permits
7 issued under statutes and rules for which the decision on compliance has been delegated
8 by the federal government to a state agency other than the Council. 469.503(3).
9 [Amendments #1, and #2 and #3]

Explanation

10 The revision includes the Final Order on Amendment #3 in the scope of matters
11 addressed in the site certificate.

Revision 3

12 *Page 2, lines 22-29:*

13 The energy facility is an electric power generating plant with an average electric generating
14 capacity of approximately 95125 megawatts and a peak generating capacity of not more than
15 285375 megawatts that produces power from wind energy. The facility consists of not more
16 than 165208 wind turbines, each with a peak generating capacity of not more than 2.4
17 megawatts. Turbines are mounted on tubular steel towers. The turbine towers are about 263
18 feet tall at the turbine hub and have an overall height of not more than 415 feet including the
19 radius swept by the turbine blades. The energy facility is described further in the Final Orders
20 on Amendments #1, and #2 and #3. [Amendments #1, and #2 and #3]

Explanation

21 This revision of the facility description reflects the increased generating capacity and
22 increased number of turbines authorized under Amendment #3. It adds a reference to the
23 additional energy facility description in the Final Order on Amendment #3. Because the
24 facility may include several different turbine types, the Department recommended deleting
25 details about individual turbines for the purpose of simplifying this general description of the
26 energy facility. These details are included in the final orders that are incorporated in the site
27 certificate by reference. Selection of turbine types is further described by Conditions 28 and
28 92.

Revision 4

29 *Page 3, lines 18-19:*

30 The facility includes antwo operations and maintenance (O&M) buildings, one of
31 approximately 5,000 square feet and one of approximately 15,000 square feet. [Amendment #3]

Explanation

32 This revision adds the O&M building authorized under Amendment #3.

Revision 5

1 *Page 4, lines 1-18:*

2 This section lists conditions required by OAR 345-027-0020 (Mandatory Conditions in Site
3 Certificates), OAR 345-027-0023 (Site Specific Conditions), OAR 345-027-0028 (Monitoring
4 Conditions) and OAR Chapter 345, Division 26 (Construction and Operation Rules for
5 Facilities). These conditions should be read together with the specific facility conditions listed
6 in Section V to ensure compliance with the siting standards of OAR Chapter 345, Divisions 22
7 and 24, and to protect the public health and safety. In these conditions, "Office of Energy"
8 means the Oregon Department of Energy, and the other definitions in OAR 345-001-0010
9 apply. [Amendment #3]

10 The obligation of the certificate holder to report information to the Department or the Council
11 under the conditions listed in this section and in Section V is subject to the provisions of ORS
12 192.502 et seq. and ORS 469.560. OAR 345-001-0040, which addresses information that may
13 be exempt under the Oregon Public Records Law. To the extent permitted by law, the
14 Department and the Council will not publicly disclose information that may be exempt from
15 public disclosure ~~under ORS 192.502 et seq. or ORS 469.560~~ if the certificate holder has
16 clearly labeled such information and stated the basis for the exemption at the time of
17 submitting the information to the Department or the Council. If the Council or the Department
18 receives a request for the disclosure of the information, the Council or the Department, as
19 appropriate, will make a reasonable attempt to notify the certificate holder and will refer the
20 matter to the Attorney General for a determination of whether the exemption is applicable,
21 pursuant to ORS 192.450. [Amendment #3]

Explanation

22 This revision corrects typographical errors in the Second Amended Site Certificate.
23 This revision deletes a reference to OAR 345-001-0040. The Council repealed the referenced
24 rule in May 2007.

Revision 6

25 *Page 5, lines 32-38:*

26 (8) OAR 345-027-0020(8): Before beginning construction of the facility, the certificate holder
27 shall submit to the State of Oregon, through the Council, a bond or letter of credit in a
28 form and amount satisfactory to the Council to restore the site to a useful, non-hazardous
29 condition. The certificate holder shall maintain a bond or letter of credit in effect at all
30 times until the facility has been retired. The Council may specify different amounts for the
31 bond or letter of credit during construction and during operation of the facility. (*See*
32 *Condition (32).*) [Amendments #2 and #3]

Explanation

33 This revision corrects a typographical error in the Second Amended Site Certificate.

Revision 7

34 *Page 10, lines 4-17:*

35 (26) The certificate holder shall begin construction of the facility by July 12, 2009 ~~within three~~
36 ~~years after the effective date of the site certificate.~~ Under OAR 345-015-0085(9), a site
37 certificate is effective upon execution by the Council Chair and the applicant. The Council
38 may grant an extension of the deadline to begin construction in accordance with OAR

1 345-027-0030 or any successor rule in effect at the time the request for extension is
2 submitted. [Amendment #3]

3 (27) The certificate holder shall complete construction of the facility, including components
4 authorized under Amendments #1 through #3, by July 12, 2011 ~~within five years after the~~
5 ~~effective date of the site certificate.~~ Construction is complete when: 1) the facility is
6 substantially complete as defined by the certificate holder's construction contract
7 documents, 2) acceptance testing has been satisfactorily completed and 3) the energy
8 facility is ready to begin continuous operation consistent with the site certificate. The
9 certificate holder shall promptly notify the Department of the date of completion of
10 construction. The Council may grant an extension of the deadline for completing
11 construction in accordance with OAR 345-027-0030 or any successor rule in effect at the
12 time the request for extension is submitted. [Amendment #3]

Explanation

13 This revision specifies the construction beginning and completion dates, based on the
14 effective date of the original site certificate (July 12, 2006), but does not substantively alter
15 those deadlines. The Department recommended this revision to eliminate any ambiguity that
16 might arise due to the later-occurring effective dates of amended site certificates. This
17 revision specifies that the additional facility components authorized under Amendment #3 are
18 subject to the same deadline for completion of construction.

Revision 8

19 *Page 10, lines 18-37:*

20 (28) The certificate holder shall construct a facility that includes up to ~~165~~208 wind turbines
21 substantially as described in the site certificate, subject to the following restrictions on
22 turbine selection and subject to the requirements of Condition 102:

23 (a) For any turbine string, the certificate holder may select any combination of GE
24 1.5-megawatt or Vestas V82 1.65-megawatt wind turbines.

25 (b) For turbine strings K, L, ~~M, N~~, R, S, ~~U~~, V, W and X as identified in Table 1 of the
26 Final Order on Amendment #1, in addition to the turbine types listed in (a), the certificate
27 holder may select any turbine type such that the hub height does not exceed 80 meters, the
28 rotor diameter does not exceed 92.5 meters, the peak generating capacity does not exceed
29 2.4 megawatts and the maximum sound power level does not exceed 107 dBA, including
30 uncertainty.

31 (c) Notwithstanding the restriction described in (b) and in addition to the turbine types
32 listed in (a), the certificate holder may select any turbine type for locations K-02 as shown
33 on Figure B-1 as described in the Final Order on Amendment #1 or MHI-1 as described in
34 the Final Order on Amendment #2, such that the hub height does not exceed 80 meters,
35 the rotor diameter does not exceed 92.5 meters, the peak generating capacity does not
36 exceed 2.4 megawatts and the maximum sound power level does not exceed 110 dBA
37 including uncertainty.

38 (d) For turbine strings N, U, Y, Z, AA and BB as shown on Figure 1 as described in
39 the Final Order on Amendment #3, the certificate holder may select any turbine type such
40 that the hub height does not exceed 100 meters, the rotor diameter does not exceed 100
41 meters, the peak generating capacity does not exceed 3.0 megawatts and the maximum
42 sound power level does not exceed 110 dBA, including uncertainty, subject to the
43 requirements of Condition 102.

1 (e) Before beginning construction of turbines, the certificate holder shall identify
2 all the turbine types selected for the project construction and provide evidence satisfactory
3 to the Department that the selected turbine types comply with this condition.

4 [Amendments #1, and #2 and #3]

Explanation

5 This revision modifies Condition 28 to allow the certificate holder greater flexibility to
6 select turbine types for strings N, U, Y, Z, AA and BB as authorized under Amendment #3.
7 The revision in paragraph (e) reflects the fact that construction of the facility has already
8 begun and requires the certificate holder to identify the selected turbine types before
9 beginning construction of any turbines that are not already under construction.

Revision 9

10 *Page 11, lines 3-18:*

11 (31) Before beginning construction and after considering all micrositing factors, the certificate
12 holder shall provide to the Department a detailed map of the proposed facility, showing
13 the final locations where facility components are proposed to be built in relation to the
14 300-foot and 900-foot corridors having centerlines defined by the endpoints shown on
15 Table 1 of the Final Order on Amendment #1. ~~In accordance with Condition (2), the~~
16 ~~certificate holder must submit a legal description of the site to the Department. For the~~
17 ~~purposes of this site certificate, the term "legal description" means a description of~~
18 ~~location by reference to a map and geographic data that clearly and specifically identifies~~
19 ~~the physical location of all parts of the facility. Notwithstanding OAR 345-027-0020(2),~~
20 ~~for the purposes of this site certificate, construction of parts of a wind facility within~~
21 ~~micrositing corridors is comparable to construction of pipelines or transmission lines~~
22 ~~within Council-approved corridors as described in OAR 345-027-0023(6). Before~~
23 ~~beginning operation of the facility, the certificate holder shall submit to the Department a~~
24 ~~legal description for those parts of the facility constructed within micrositing corridors.~~
25 ~~The final site of the facility includes the final turbine site corridors and other facility~~
26 ~~components as described in the Final Order on Amendment #1 and in this site certificate.~~
27 [Amendments #1 and #3]

Explanation

28 This revision removes language from Condition 31 that describes the nature of the
29 legal description to be submitted by the certificate holder. This language was included in the
30 original site certificate before the amendment of OAR 345-027-0020(2) in May 2007 to
31 explain the form of legal description that would be acceptable. Under the rule as amended, the
32 explanation in Condition 31 is no longer needed. The retained language in Condition 31,
33 requires the certificate holder to map the final locations of facility components in relation to
34 the corridors described in the Final Order on Amendment #1.

Revision 10

35 *Page 11, lines 19-45, and page 12, lines 1-11:*

36 (32) Within 60 days following the effective date of the ~~Second~~Third Amended Site Certificate,
37 the certificate holder shall submit to the State of Oregon through the Council an amended
38 or replacement bond or letter of credit in the amount described herein naming the State of
39 Oregon, acting by and through the Council, as beneficiary or payee. This bond or letter of
40 credit will replace or amend the financial assurance required under the Second Amended

1 Site Certificate. The amended or replacement bond or letter of credit amount is either
2 \$7.825\$10.412 million (2006 dollars), to be adjusted to the date of issuance as described
3 in (b), or the amount determined as described in (a). The certificate holder shall adjust the
4 amount of the bond or letter of credit on an annual basis thereafter as described in (b).

5 (a) The certificate holder may adjust the amount of the bond or letter of credit based
6 on the final design configuration of the facility by applying the unit costs and general
7 costs shown in Table 21 of the Final Order on Amendment #23 to the final design and
8 calculating the financial assurance amount as described in that order, adjusted to the date
9 of issuance as described in (b) and subject to approval by the Department.

10 (b) The certificate holder shall adjust the amount of the bond or letter of credit, using
11 the following calculation and subject to approval by the Department:

12 (i) Adjust the ~~gross cost~~Subtotal component of the bond or letter of credit amount
13 (expressed in 2006 dollars) to present value, using the U.S. Gross Domestic Product
14 Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of
15 Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor
16 agency (the "Index") and using the annual average index value for 2006 dollars and the
17 quarterly index value for the date of issuance of the new bond or letter of credit. If at any
18 time the Index is no longer published, the Council shall select a comparable calculation to
19 adjust 2006 dollars to present value.

20 (ii) Add 1 percent of the adjusted ~~gross cost~~Subtotal (i) for the adjusted
21 performance bond amount to determine the adjusted Gross Cost.

22 (iii); Add 10 percent of the adjusted ~~g~~Gross ~~e~~Cost (ii) for the adjusted
23 administration and project management costs; and 10 percent of the adjusted ~~g~~Gross ~~e~~Cost
24 for the adjusted future developments contingency.

25 (iiiiv) Add the adjusted ~~g~~Gross ~~e~~Cost (ii) to the sum of the percentages (iii) and
26 round the resulting total to the nearest \$1,000 to determine the adjusted financial
27 assurance amount.

28 (c) The certificate holder shall use a form of bond or letter of credit approved by the
29 Council.

30 (d) The certificate holder shall use an issuer of the bond or letter of credit approved by
31 the Council.

32 (e) The certificate holder shall describe the status of the bond or letter of credit in the
33 annual report submitted to the Council under Condition 22.

34 (f) The bond or letter of credit shall not be subject to revocation or reduction before
35 retirement of the facility site.

36 [Amendments #1, and #2 and #3]

Explanation

37 This revision modifies Condition 32 to change the financial assurance amount from
38 \$7.825 million in 2006 dollars to \$10.412 million in 2006 dollars based on the estimate of site
39 restoration costs discussed herein. This amount is the "highest-cost" estimate to restore the
40 facility, assuming construction of all facility components, including those components
41 authorized by Amendment #3.

Revision 11

42 *Page 12, lines 13-20:*

43 (33) If the certificate holder elects to use a bond to meet the requirements of Condition 32, the
44 certificate holder shall ensure that the surety is obligated to comply with the requirements
45 of applicable statutes, Council rules and this site certificate when the surety exercises any

1 legal or contractual right it may have to assume construction, operation or retirement of
2 the energy facility. The certificate holder shall also ensure that the surety is obligated to
3 notify the Council that it is exercising such rights and to obtain any Council approvals
4 required by applicable statutes, Council rules and this site certificate before the surety
5 commences any activity to complete construction, operate or retire the energy facility.
6 [Amendment #3]

Explanation

7 This revision corrects a typographical error in the Second Amended Site Certificate.

Revision 12

8 *Page 14, lines 1-17:*

9 (48) Before beginning construction, the certificate holder shall provide to the Department a
10 map showing the final design locations of all components of the facility and areas that
11 would be temporarily disturbed during construction and also showing the areas that
12 Archaeological Investigations Northwest, Inc. (AINW) surveyed in 2005, ~~and 2006~~ and
13 2007, as described in the site certificate application and the Requests for Amendments #1,
14 #2 and #3. In addition, the certificate holder shall comply with the following
15 requirements:

16 (a) If the final design of the facility could result in ground disturbance at specific
17 resource sites or within high-probability areas identified by AINW in the June 2006
18 survey report, the certificate holder shall hire qualified personnel to conduct the resurvey
19 or test excavations recommended by AINW in ~~that~~ the report on that survey.

20 (b) ~~In addition, the~~ The certificate holder shall hire qualified personnel to conduct field
21 investigation of all areas of permanent or temporary disturbance that AINW did not
22 previously survey.

23 (c) The certificate holder shall provide ~~a~~ written reports of the surveys, excavations
24 and field investigations required under (a) and (b) to the Department and to the State
25 Historic Preservation Office (SHPO). If any historic, cultural or archaeological resources
26 are found and are determined significant by the SHPO, the certificate holder shall ensure
27 that construction and operation of the facility will have no impact on the resources. The
28 certificate holder shall instruct all construction personnel to avoid the areas where the
29 resources were found and shall implement other appropriate measures to protect the
30 resources.

31 (d) The certificate holder shall avoid impacts within a 30-meter buffer area around the
32 15 archaeological resources recommended for avoidance in the June 2007 AINW report.
33 If avoidance is not feasible, the certificate holder shall hire qualified personnel to conduct
34 systematic test excavations to assess the significance of the resources affected.

35 (e) The certificate holder shall avoid impacts to the area of the historic homestead
36 recommended as eligible for listing in the National Register of Historic Places in the 2007
37 AINW report.

38 [Amendments #1 and #3]

Explanation

39 This revision adds references to the on-site survey work performed by AINW in 2007
40 in the areas affected by the facility components proposed in Amendment #3. The revision re-
41 formats the condition for clarity and adds a requirement to maintain a no-impact buffer
42 around identified resources.

Revision 13

Page 15, lines 1-7:

(53) Before beginning construction, the certificate holder shall submit a description of site-specific geotechnical work that will be performed before construction. The certificate holder shall conduct the pre-construction site-specific geotechnical investigation and shall report its findings to the Oregon Department of Geology & Mineral Industries (DOGAMI). The certificate holder shall conduct the geotechnical investigation after consultation with DOGAMI and shall submit a geologic report meeting the guidance contained in the DOGAMI Open File 00-04 (2000) "Guidelines for Engineering Geologic Reports and Site-Specific Seismic Hazard Reports." ~~in general accordance with the site-specific seismic hazard report and the engineering geologic report guidelines that have been adopted by the Oregon Board of Geologist Examiners. The guidelines are available through the Board and in the DOGAMI publication O-00-04 (2000).~~ [Amendment #3]

Explanation

This revision incorporates the changes to Conditions 53 and 54 that were proposed by the certificate holder in the Request for Amendment #3.

Revision 14

Page 15, lines 23-24:

(59) ~~For those turbines constructed as of November 16, 2007, the certificate holder shall not locate~~ maintain a minimum distance of 450 feet between the centerline of the turbine tower and the centerline of any public road. For those turbines constructed after November 16, 2007, the certificate holder shall maintain a minimum distance of 450 feet or 110-percent of the maximum blade tip height of the nearest turbine, whichever is greater, between the centerline of the turbine towers within 450 feet of and the centerline of any residence or public road. The certificate holder shall maintain a minimum distance of 1,250 feet between the nearest turbine tower and any residence existing at the time of construction, measured from the centerline of the turbine tower to the center of the house. [Amendment #3]

Explanation

This revision increases the safety setback for wind turbines. The Department recommended this change based on the maximum blade tip height for turbines that would be authorized by Amendment #3 and based on discussion with the certificate holder of acceptable setback limits.

On October 10, 2007, the certificate holder reported that eight turbines had been constructed within 450 feet of public roads, measured from the edge of the turbine foundation to the edge of the road. Two of the eight turbines were less than the required setback distance of 450 feet when measured from the centerline of the turbine to the centerline of the road, based on calculations using GIS data. Upon review of this information, the Department concluded that the language of Condition 59 was ambiguous as to how the setback distance was to be measured. Although two turbines deviated from the required setback when measured center-to-center, the Department concluded that the size of the deviation did not compromise public safety. The Department notified the certificate holder that the Department would not recommend to the Council that a Notice of Violation be issued.

1 Based on later survey information submitted to the Department on November 8, the
2 certificate holder determined that three turbines were less than 450 feet from public roads
3 when measured center-to-center. For turbine J13, the surveyed deviation is 4.87 feet; for
4 turbine L1, the deviation is 1.98 feet; and for turbine S4, the deviation is 4.57 feet. The
5 revision of Condition 59 clarifies how the distance should be measured and applies a new
6 limit of 110-percent of maximum blade tip height prospectively to turbines not built as of the
7 date scheduled for Council action on Amendment #3.

Revision 15

8 The Department recommended revisions to the Revegetation Plan, which is
9 incorporated by reference in Condition 81 of the site certificate. The revisions were shown in
10 the Proposed Order, Attachment B. Attachment B to this Final Order shows the Revegetation
11 Plan as revised, incorporated herein by this reference.

Explanation

12 The revisions would change the total acres and acres of cultivated or developed land
13 temporarily affected by construction. These revisions are consistent with the increased area of
14 temporary and permanent disturbance as shown in Table 4 herein.

Revision 16

15 *Page 18, lines 13-20:*

16 (83) During operation, the certificate holder shall not use more than a combined total of 5,000
17 gallons of water per day from the facility's on-site wells. The certificate holder shall not
18 use any water or chemicals for washing turbine blades unless the certificate holder
19 demonstrates to the satisfaction of the Department before any blade-washing begins that:

20 (a) Oregon Department of Environmental Quality (DEQ) regulations do not require a
21 permit for the proposed blade-washing activity or, if a permit is required, that the
22 proposed blade-washing activity is authorized under a general permit issued by DEQ; and

23 (b) In conducting blade-washing activities, the certificate holder will use water only
24 from its approved on-site wells ~~and that the use of water will not exceed 5,000 gallons per~~
25 ~~day.~~

26 [Amendment #3]

Explanation

27 Amendment #3 would authorize construction of an on-site well to serve the second
28 O&M facility. This revision modifies Condition 83 to clarify that total water use from all on-
29 site wells must not exceed 5,000 gallons per day to comply with the exemption in ORS
30 537.545(1)(f) for industrial and commercial uses described herein.

Revision 17

31 *Page 18, lines 33-37:*

32 (86) Before beginning construction of facility components authorized by the Final Order on
33 the Application, the certificate holder shall obtain a permit, substantially in the form of the
34 draft permit incorporated in the Final Order on the Application as Attachment D, from the
35 Oregon Department of Transportation (ODOT) authorizing the location, installation,
36 construction, maintenance and use of buried cables within the right-of-way of State
37 Highway 206. Before beginning construction of facility transmission or distribution lines
38 crossing Highway 206 authorized by the Final Order on Amendment #3, the certificate

1 holder shall obtain a permit or permits from ODOT after submitting the necessary
2 applications in a form satisfactory to ODOT and the Department and subject to conditions
3 required under OAR 734 Chapter 55, authorizing the location, installation, construction,
4 maintenance and use of buried or aboveground transmission or distribution lines crossing
5 Highway 206. Before beginning construction of a new highway approach authorized by
6 the Final Order on Amendment #3, the certificate holder shall obtain a permit or permits
7 from ODOT after submitting the necessary applications in a form satisfactory to ODOT
8 and the Department and subject to conditions required under OAR 734 Chapter 51,
9 authorizing the location, construction and maintenance of an approach to State Highway
10 206 for access to turbines located west of the highway. [Amendment #3]

Explanation

11 This revision authorizes the issuance by ODOT of permits for highway utility
12 crossings and the highway approach necessary for the construction and operation of facility
13 components approved under the Final Order on Amendment #3, subject to conditions
14 specified in ODOT administrative rules.

Revision 18

15 *Page 19, lines 28-43:*

16 (92) The certificate holder may construct turbines and other facility components within 900-
17 foot corridors having centerlines defined by the endpoints shown on Table 1 of the Final
18 Order on Amendment #1, ~~or~~ within the MHI-1 micrositing area described in the Final
19 Order on Amendment #2 and within the micrositing areas for turbine strings N, U, Y, Z,
20 AA and BB as described in the Final Order on Amendment #3, subject to the following
21 requirements addressing potential habitat impact and subject to the requirements of
22 Condition 102:

23 (a) The certificate holder shall not construct any facility components within areas of
24 Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

25 (b) The certificate holder shall design and construct facility components that are the
26 minimum size needed for safe operation of the energy facility.

27 (c) To the extent possible, the certificate holder shall construct facility components,
28 not including components authorized by the Final Order on Amendment #3, in the
29 locations shown on Figure C-2 of the site certificate application.

30 (d) If the certificate holder must change the layout of facility components, not
31 including components authorized by the Final Order on Amendment #3, from what is
32 shown on Figure C-2 due to micrositing considerations, the certificate holder shall, to the
33 extent possible, construct facility components within 300-foot corridors having centerlines
34 defined by the endpoints shown on Table 1 of the Final Order on Amendment #1 or within
35 the MHI-1 micrositing area described in the Final Order on Amendment #2.

36 (e) The certificate holder may construct facility components outside the 300-foot
37 corridors if necessary due to micrositing considerations, except that the certificate holder
38 shall not construct any facility components, not including components authorized by the
39 Final Order on Amendment #3, outside the areas within the 900-foot corridors having
40 centerlines defined by the endpoints shown on Table 1 of the Final Order on Amendment
41 #1 or the MHI-1 micrositing area described in the Final Order on Amendment #2 or cause
42 any temporary disturbance outside those areas.

43 [Amendments #1, and #2 and #3]

Explanation

1 This revision modifies Condition 92 to allow construction within the new micro-siting
2 areas described in Amendment #3.

Revision 19

3 The Department recommended revisions to the Wildlife Monitoring and Mitigation
4 Plan, which is incorporated by reference in Condition 95 of the site certificate. The proposed
5 revisions were shown in the Proposed Order, Attachment A. Attachment A to this Final Order
6 shows the Wildlife Monitoring and Mitigation Plan as revised, incorporated herein by this
7 reference.

Explanation

8 The changes conform the plan to the expansion of the facility under Amendment #3.
9 The changes revise the total number of turbines that could be built and reflect that
10 construction will occur in two phases. Based on the greater number of turbines at the facility,
11 the changes include an increase in the sample size for the fatality monitoring component of
12 the plan. The revisions include changes to the procedures for removal trials and searcher
13 efficiency trials. The certificate holder requested these changes to match the procedures
14 approved for the Leaning Juniper II Wind Power Facility.¹⁰⁵

Revision 20

15 The Department recommended revisions to the Habitat Mitigation Plan, which is
16 incorporated by reference in Condition 97 of the site certificate. The proposed revisions were
17 shown in the Proposed Order, Attachment C. Attachment C to this Final Order shows the
18 Habitat Mitigation Plan as revised, incorporated herein by this reference.

Explanation

19 The revisions would change the worst-case estimate of the acres of higher-value
20 habitat occupied by the facility (page C-1, line 12, of the Habitat Mitigation Plan revised July
21 27, 2007). The revision would change the calculation of the size of the mitigation area based
22 on worst-case estimates of affected habitat as described in Table 4 herein (page C-2, lines 23-
23 39).

Revision 21

24 *Page 21, lines 17-28:*

25 (98) To reduce the visual impact of the facility, the certificate holder shall:

26 (a) Mount nacelles on smooth, hollow steel towers, approximately 20 feet in diameter
27 at the base.

28 (b) Paint all towers uniformly in a neutral white or light gray color.

29 (c) Paint the substation buildings in a neutral color to blend with the surrounding
30 landscape.

31 (d) Not allow any advertising to be used on any part of the facility or on any signs
32 posted at the facility, except that the turbine manufacturer's logo may appear on turbine
33 nacelles.

¹⁰⁵ Attachment A, Final Order on the Application for Leaning Juniper II, September 21, 2007.

1 (e) Use only those signs required for facility safety or required by law, except that the
2 certificate holder may erect a sign near ~~the~~each operations and maintenance building to
3 identify the wind energy facility.

4 (f) Maintain any signs allowed under this condition in good repair.

5 [Amendment #3]

Explanation

6 This revision is necessary because Amendment #3 would authorize a second O&M
7 building.

Revision 22

8 *Page 21, lines 29-32:*

9 (99) The certificate holder shall design and construct the operation and maintenance buildings
10 to be generally consistent with the character of similar buildings used by commercial
11 farmers or ranchers in the area and shall paint the buildings in a neutral color to blend with
12 the surrounding landscape. [Amendment #3]

Explanation

13 This revision is necessary because Amendment #3 would authorize a second O&M
14 building.

Revision 23

15 *Page 23, lines 33-37:*

16 (100) The certificate holder shall not use exterior nighttime lighting except:

17 (a) The minimum turbine tower lighting required by the Federal Aviation
18 Administration.

19 (b) Security lighting at the operations and maintenance buildings and at the
20 substations, provided that such lighting is shielded or downward-directed to reduce glare.

21 (c) Minimum lighting necessary for repairs or emergencies.

22 [Amendment #3]

Explanation

23 This revision is necessary because Amendment #3 would authorize a second O&M
24 building.

Revision 24

25 *Page 22, lines 5-39:*

26 (102) ~~Before beginning construction, the~~The certificate holder shall present information
27 demonstrating to the satisfaction of the Department that the requirements of (a), (b) ~~or~~and
28 (c) have been met ~~at property R5 (as shown on the Noise Buffer and Receptor Locations~~
29 ~~map in the Application Supplement, Tab X, Item vi):~~

30 (a) ~~Before beginning construction of turbines F-05, F-06, F-07, F-08 and J-01 as~~
31 ~~shown on Figure B-1 described in the Final Order on Amendment #1, The~~ certificate
32 holder ~~has obtained~~ must obtain a legally effective easement or real covenant from the
33 owner of property R3 (as identified in the Final Order on Amendment #3) pursuant to
34 which the owner of the property authorizes the certificate holder's operation of the facility
35 to increase ambient statistical noise levels L10 and L50 by more than 10 dBA at the
36 appropriate measurement point. A legally effective easement or real covenant shall:

1 include a legal description of the burdened property (the noise sensitive property); be
2 recorded in the real property records of the county; expressly benefit the certificate holder;
3 expressly run with the land and bind all future owners, lessees or holders of any interest in
4 the burdened property; and not be subject to revocation without the certificate holder's
5 written approval. If the certificate holder cannot obtain the legally effective easement or
6 real covenant described above, the certificate holder must identify the turbine type and the
7 final design locations of all turbines to be built in the F and J strings and perform a noise
8 analysis, in accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV) and using input
9 parameters approved by the Department, demonstrating to the satisfaction of the
10 Department that the total noise generated by the facility would meet the ambient
11 degradation test at the appropriate measurement point when all turbines are placed in their
12 final design locations.

13 (b) If the certificate holder has not obtained a legally effective easement or real
14 covenant as described in (a) and has not met the requirements of (c), the certificate holder
15 shall not construct turbines F-05, F-06, F-07, F-08 and J-01 as shown on Figure B-1
16 described in the Final Order on Amendment #1, shall construct turbines F-01, F-02, F-03
17 and F-04 within the approved micro-siting corridor at least 7,990 feet away from R5 and
18 shall construct turbines J-02 through J-13 in the locations specified in Table 7 of the Final
19 Order on Amendment #1. Before installing a turbine tower in the MHI-1 micro-siting area
20 (as identified in the Final Order on Amendment #2), the certificate holder must obtain a
21 legally effective easement or real covenant (as described in (a)) from the owner of
22 property R8 (as identified in the Final Order on Amendment #3) pursuant to which the
23 owner of the property authorizes the certificate holder's operation of the facility to
24 increase ambient statistical noise levels L10 and L50 by more than 10 dBA at the
25 appropriate measurement point. If the certificate holder cannot obtain the legally effective
26 easement or real covenant described above, the certificate holder must identify the turbine
27 type and the final design location of the turbine to be built in the MHI-1 micro-siting area
28 and perform a noise analysis, in accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV)
29 and using input parameters approved by the Department, demonstrating to the satisfaction
30 of the Department that the total noise generated by the facility would meet the ambient
31 degradation test at the appropriate measurement point when all turbines are placed in their
32 final design locations.

33 (c) If the certificate holder has not obtained a legally effective easement or real
34 covenant as described in (a), the certificate holder may, instead of meeting the
35 requirements of (b), identify the final design locations of all turbines to be built in the F
36 and J strings and perform a noise analysis, in accordance with OAR 340-035-
37 0035(1)(b)(B)(iii)(IV), demonstrating that the total noise generated by the facility would
38 meet the ambient degradation test at the appropriate measurement point when all turbines
39 are placed in their final design locations. The certificate holder shall perform the noise
40 analysis using the Sound Propagation Model for Outdoor Noise Sources (SPM 9613,
41 Version 2) and shall assume the following input parameters:

- 42 (i) The maximum sound power level guaranteed by the manufacturer.
- 43 (ii) Temperature of 52° F (11° C).
- 44 (iii) Relative humidity of 70 percent.
- 45 (iv) No ground effect.
- 46 (v) No barrier effects.

47 The certificate holder shall not install turbines that have a maximum sound power level
48 greater than 106 dBA, including uncertainty, in strings N, U, Y, Z, AA and BB, except as
49 allowed in this condition. The certificate holder shall locate the turbines within these
50 strings according to the "Proposed GE Turbine Layout" (as described in the Final Order
51 on Amendment #3). Before beginning construction of turbines in these strings, the

1 certificate holder must obtain a legally effective easement or real covenant (as described
2 in (a)) from the owners of properties R6, R7, R8 and R14 (as identified in the Final Order
3 on Amendment #3) pursuant to which the owners of the properties authorize the certificate
4 holder's operation of the facility to increase ambient statistical noise levels L10 and L50
5 by more than 10 dBA at the appropriate measurement points. If the certificate holder
6 cannot obtain the legally effective easements or real covenants described above or if the
7 certificate holder elects to use turbines that have a maximum sound power level greater
8 than 106 dBA or to deviate from the "Proposed GE Turbine Layout," the certificate holder
9 must identify the turbine type and the final design location of the turbines to be built in
10 strings N, U, Y, Z, AA and BB and perform a noise analysis, in accordance with OAR
11 340-035-0035(1)(b)(B)(iii)(IV) and using input parameters approved by the Department,
12 demonstrating to the satisfaction of the Department that the total noise generated by the
13 facility would meet the ambient degradation test at the appropriate measurement points
14 when all turbines are placed in their final design locations.

15 [Amendments #1 and #3]

Explanation

16 This revision addresses the issues of compliance with the noise control regulations of
17 OAR 340-035-0035(1)(b)(B) as discussed herein. The revisions in subsection (a) address
18 compliance with the noise limits at property R3 (previously identified as "R5") and reflect the
19 fact that the certificate holder has already constructed turbines in the F and J strings. The
20 revisions retain the certificate holder's option to build additional turbines in these strings,
21 based on a waiver from the property owner or a noise analysis demonstrating, to the
22 satisfaction of the Department, that a proposed turbine configuration would comply with the
23 noise limits.

24 In subsection (b), the revision addresses compliance with the noise limits at property
25 R8, as discussed herein. The revision requires the certificate holder to provide a waiver for
26 property R8 before installing the proposed turbine at location MHI-1. Alternatively, the
27 certificate holder could select a different turbine type or modify the turbine location within the
28 micrositing area and provide a new noise analysis demonstrating compliance of the facility
29 with the noise limits.

30 In subsection (c), the revisions address compliance with the noise limits if turbines are
31 built in strings N, U, Y, Z, AA and BB as proposed in Amendment #3. The revisions restrict
32 the selection of turbines in these strings to the GE 1.5-MW turbines described herein (or other
33 turbines having a maximum sound power level no greater than 106 dBA) and restrict the
34 locations of these turbines to the "Proposed GE Turbine Layout" discussed herein. The
35 Council adds the words "except as allowed in this condition" to clarify that the condition
36 allows the certificate holder to use turbines that have a maximum sound power level greater
37 than 106 dBA, if the certificate holder demonstrates compliance with the noise regulations to
38 the Department's satisfaction. The revisions require the certificate holder to obtain waivers
39 from the owners of properties R6, R7, R8 and R14. Alternatively, the certificate holder could
40 select a different turbine type or modify the turbine locations within the micrositing areas for
41 strings N, U, Y, Z, AA and BB and provide a new noise analysis demonstrating compliance of
42 the facility with the noise limits.

Revision 25

1 Page 23, lines 1-4:

2 (104) During operation, the certificate holder shall discharge sanitary wastewater generated at
3 the O&M buildings to a licensed on-site septic systems in compliance with county permit
4 requirements. The certificate holder shall design the septic systems ~~design with~~for a
5 capacity ~~that is~~of less than 2,500 gallons per day at each O&M building. [Amendment #3]

Explanation

6 This revision is necessary because Amendment #3 would authorize a second O&M
7 building.

VIII. ORDER

8 The Council approves Amendment #3 and issues an amended site certificate for the
9 Klondike III Wind Project, subject to the terms and conditions set forth above.

Issued this 16th day of November, 2007.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: _____

David Ripma, Chair
Oregon Energy Facility Siting Council

Attachments

- Attachment A: Wildlife Monitoring and Mitigation Plan
- Attachment B: Revegetation Plan
- Attachment C: Habitat Enhancement Plan

Notice of the Right to Appeal

You have the right to appeal this order to the Oregon Supreme Court pursuant to ORS 469.403. To appeal you must file a petition for judicial review with the Supreme Court within 60 days from the day this order was served on you. If this order was personally delivered to you, the date of service is the date you received this order. If this order was mailed to you, the date of service is the date it was mailed, not the day you received it. If you do not file a petition for judicial review within the 60-day time period, you lose your right to appeal.

Klondike III Wind Project: Wildlife Monitoring and Mitigation Plan

[NOVEMBER 16, 2007]

1 This plan describes wildlife monitoring that the certificate holder shall conduct during
2 operation of the Klondike III Wind Project (KWP).¹ The monitoring objectives are to determine
3 whether the facility causes significant fatalities of birds and bats and to determine whether the
4 facility results in a loss of habitat quality. The KWP facility consists of up to 208 wind turbines,
5 three non-guyed meteorological towers and other related or supporting facilities as described in
6 the site certificate. The certificate holder completed construction of 124 turbines authorized
7 under the Second Amended Site Certificate in October 2007.

8 The certificate holder shall use experienced personnel to manage the monitoring required
9 under this plan and properly trained personnel to conduct the monitoring, subject to approval by
10 the Oregon Department of Energy (Department) as to professional qualifications. For all
11 components of this plan except PPM Energy's Klondike III Wind Project Wildlife Reporting and
12 Handling System, the certificate holder shall hire an independent third party (not employees of
13 the certificate holder) to perform monitoring tasks.

14 The Wildlife Monitoring and Mitigation Plan for the Klondike III Wind Project has the
15 following components:

- 16 1) Fatality monitoring program including:
 - 17 a) Removal trials
 - 18 b) Searcher efficiency trials
 - 19 c) Fatality search protocol
 - 20 d) Statistical analysis
- 21 2) Raptor nesting surveys
- 22 3) Avian use surveys
- 23 4) PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling
24 System

25 Following is a discussion of the components of the monitoring plan, statistical analysis
26 methods for fatality data, data reporting and potential mitigation.

27 The selection of the mitigation actions that the certificate holder may be required to
28 implement under this plan should allow for flexibility in creating appropriate responses to
29 monitoring results that cannot be known in advance. If the Department determines that
30 mitigation is needed, the certificate holder shall propose appropriate mitigation actions to the
31 Department and shall carry out mitigation actions approved by the Department, subject to review
32 by the Oregon Energy Facility Council (Council).

¹ This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 **1. Fatality Monitoring**

2 (a) Definitions and Methods

3 Seasons

4 This plan uses the following dates for defining seasons:

Season	Dates
Spring Migration	March 16 to May 15
Summer/Breeding	May 16 to August 15
Fall Migration	August 16 to October 31
Winter	November 1 to March 15

5 Search Plots

6 The certificate holder shall conduct fatality monitoring within search plots. The
7 certificate holder, in consultation with the Oregon Department of Fish and Wildlife (ODFW),
8 shall select search plots based on a systematic sampling design that ensures that the selected
9 search plots are representative of the habitat conditions in different parts of the site. Each search
10 plot will contain one turbine. Search plots will be square or circular. Circular search plots will be
11 centered on the turbine location and will have a radius equal to the maximum blade tip height of
12 the turbine contained within the plot. "Maximum blade tip height" is the turbine hub-height plus
13 one-half the rotor diameter. Square search plots will be of sufficient size to contain a circular
14 search plot as described above. The certificate holder shall provide maps of the search plots to
15 the Department before beginning fatality monitoring at the facility. The certificate holder shall
16 use the same search plots for each search conducted during a monitoring year.

17 Scheduling

18 In each monitoring year, the certificate holder shall conduct fatality monitoring searches
19 at the rates of frequency shown below. Over the course of one monitoring year, the certificate
20 holder would conduct 16 searches, as follows:

Season	Frequency
Spring Migration	2 searches per month (4 searches)
Summer/Breeding	1 search per month (3 searches)
Fall Migration	2 searches per month (5 searches)
Winter	1 search per month (4 searches)

21 For the 124 turbines built as of October 2007, the certificate holder shall conduct fatality
22 monitoring for two years (32 searches), beginning November 1, 2007. For turbines built after
23 October 2007 (up to 84 turbines), the certificate holder shall conduct fatality monitoring for two
24 years (32 searches) beginning one month after the start of commercial operation of those
25 turbines.

26 Sample Size

27 The sample size for fatality monitoring is the number of turbines searched per monitoring
28 year for each phase of construction. Phase 1 consists of turbines built as of October 2007; Phase
29 2 consists of turbines built after October 2007. During each monitoring year, the certificate

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 holder shall search a minimum of one-third of the total number of turbines that are built in the
2 applicable phase.

3 As described in the site certificate, the certificate holder may choose to build the KWP
4 using turbine types in two size classes:

- 5 • Small: turbines having a rotor diameter of 82 meters or less
- 6 • Large: turbines having a rotor diameter greater than 82 meters

7 If the final design of the KWP includes both small and large turbines, the certificate
8 holder shall, at a minimum, sample one-third of the total number of turbines in each monitoring
9 year for each phase of construction. Before beginning fatality monitoring, the certificate holder
10 shall consult with an independent expert with experience in statistical analysis of avian fatality
11 data to determine whether it would be possible to sample a sufficient number of the KWP
12 turbines in each size class to allow a statistical comparison of fatality rates for all birds as a
13 group. The certificate holder shall submit the expert's written conclusions to the Department. If
14 sampling of one-third of the total number of all turbines per phase in each monitoring year would
15 provide a sufficient number of turbines in each size class to allow the comparison, the certificate
16 holder will sample the appropriate number of turbines from each class and conduct the analysis.
17 The certificate holder may choose to sample more than one-third of the total number of all
18 turbines in each monitoring year for each phase of construction to allow the comparison.

19 **(b) Removal Trials**

20 The objective of the removal trials is to estimate the length of time avian and bat
21 carcasses remain in the search area. Carcass removal studies will be conducted during each
22 season in the vicinity of the search plots. Estimates of carcass removal rates will be used to
23 adjust carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from
24 the search area due to predation, scavenging or other means such as farming activity. Removal
25 rates will be estimated by habitat and season.

26 The certificate holder shall conduct carcass removal trials within each of the seasons
27 defined above during the years in which fatality monitoring occurs. During the first year in
28 which fatality monitoring occurs, the certificate holder shall conduct one removal trial per season
29 (four removal trials per year). For each trial, at least 10 small bird carcasses and at least 10 large bird
30 carcasses will be distributed throughout the project area (approximately 80 trial carcasses per year).

31 Before beginning removal trials for the second year of fatality monitoring, the certificate
32 holder shall report the results of the first year removal trials to the Department and ODFW. In the
33 report, the certificate holder shall analyze whether four removal trials per year, as described
34 above, provides sufficient data to accurately estimate adjustment factors for carcass removal. The
35 number of removal trials for the second year of fatality monitoring may be adjusted up or down,
36 subject to the approval of the Department.

37 The "small bird" size class will use carcasses of house sparrows, starlings, commercially
38 available game bird chicks or legally obtained native birds to simulate passerines. The "large
39 bird" size class will use carcasses of raptors provided by agencies, commercially available adult
40 game birds or cryptically colored chickens to simulate raptors, game birds and waterfowl. If
41 fresh bat carcasses are available, they may also be used.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 To avoid confusion with turbine-related fatalities, planted carcasses will not be placed in
2 fatality monitoring search plots. Planted carcasses will be placed in the vicinity of search plots
3 but not so near as to attract scavengers to the search plots. The planted carcasses will be located
4 randomly within the carcass removal trial plots.

5 Carcasses will be placed in a variety of postures to simulate a range of conditions. For
6 example, birds will be: 1) placed in an exposed posture (e.g., thrown over the shoulder), 2)
7 hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass) and, 3) partially
8 hidden. Trial carcasses will be marked discreetly for recognition by searchers and other
9 personnel. Trial carcasses will be left at the location until the end of the carcass removal trial.

10 It is expected that carcasses will be checked as follows, although actual intervals may
11 vary. Carcasses will be checked for a period of 40 days to determine removal rates. They will be
12 checked approximately every day for the first 4 days, and then on day 7, day 10, day 14, day 20,
13 day 30 and day 40. This schedule may vary depending on weather and coordination with the
14 other survey work. At the end of the 40-day period, the trial carcasses and scattered feathers will
15 be removed.

16 (c) Searcher Efficiency Trials

17 The objective of searcher efficiency trials is to estimate the percentage of bird and bat
18 fatalities that searchers are able to find. The certificate holder shall conduct searcher efficiency
19 trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated
20 agriculture habitat types. Searcher efficiency will be estimated by size class, habitat type and
21 season. A pooled estimate of searcher efficiency will be used to adjust carcass counts for
22 detection bias.

23 The certificate holder shall conduct searcher efficiency trials within each of the seasons
24 defined above during the years in which the fatality monitoring occurs. During each season of
25 the years in which fatality monitoring occurs, the certificate holder shall use approximately 25
26 carcasses for searcher efficiency trials (approximately 100 carcasses per year). The certificate
27 holder shall vary the number of trials per season and the number of carcasses per trial so that the
28 searchers will not know the total number of trial carcasses being used in any trial. The certificate
29 holder shall distribute trial carcasses in varied habitat in rough proportion to the habitat types
30 within the facility site. During each season, both small bird and large bird carcasses will be used
31 in approximately equal numbers. "Small bird" and "large bird" size classes and carcass selection
32 are as described above for the removal trials.

33 Before beginning searcher efficiency trials for the second year of fatality monitoring, the
34 certificate holder shall report the results of the first year efficiency trials to the Department and
35 ODFW. In the report, the certificate holder shall analyze whether the efficiency trials as described
36 above (using approximately 100 carcasses per year) provides sufficient data to accurately estimate
37 adjustment factors for carcass removal. The number of removal trials for the second year of fatality
38 monitoring may be adjusted up or down, subject to the approval of the Department.

39 Personnel conducting searches will not know in advance when trials are conducted; nor
40 will they know the location of the trial carcasses. If suitable trial carcasses are available, trials
41 during the fall season will include several small brown birds to simulate bat carcasses. Legally
42 obtained bat carcasses will be used if available.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 On the day of a standardized fatality monitoring search (described below) but before the
2 beginning of the search, efficiency trial carcasses will be placed at random locations within areas
3 to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be
4 distributed before dawn.

5 Efficiency trials will be spread over the entire season to incorporate effects of varying
6 weather and vegetation growth. Carcasses will be placed in a variety of postures to simulate a
7 range of conditions. For example, birds will be: 1) placed in an exposed posture (thrown over the
8 shoulder), 2) hidden to simulate a crippled bird and 3) partially hidden.

9 Each non-domestic carcass will be discreetly marked so that it can be identified as an
10 efficiency trial carcass after it is found. The number and location of the efficiency trial carcasses
11 found during the carcass search will be recorded. The number of efficiency trial carcasses
12 available for detection during each trial will be determined immediately after the trial by the
13 person responsible for distributing the carcasses.

14 If new searchers are brought into the search team, additional detection trials will be
15 conducted to ensure that detection rates incorporate searcher differences.

16 (d) Coordination with the Biglow Canyon Wind Farm

17 The proposed Biglow Canyon Wind Farm lies to the north of the Klondike III Wind
18 Power Project on similar terrain and habitat. If the Council approves site certificates for both
19 facilities and requires similar wildlife monitoring, coordination of removal trials and searcher
20 efficiency trials would be possible. Subject to the approval of both certificate holders and the
21 Department, the number of trials at each site and the number of trial carcasses used at each site
22 can be reduced by combining the removal data and efficiency data from both projects, if the
23 certificate holder can demonstrate that the calculation of fatality rates would continue to have
24 statistical validity for both facilities and that combining the data would not affect any other
25 requirements of the monitoring plans for either facility.

26 (e) Fatality Monitoring Search Protocol

27 The objective fatality monitoring is to estimate the number of bird and bat fatalities that
28 are attributable to facility operation. The goal of bird and bat fatality monitoring is to obtain a
29 precise estimate of the fatality rate and associated variances. The certificate holder shall conduct
30 fatality monitoring using standardized carcass searches.

31 The certificate holder shall use a worst-case analysis to resolve any uncertainty in the
32 results and to determine whether the data indicate that additional mitigation should be
33 considered. The Department may require additional, targeted monitoring if the data indicate the
34 potential for significant impacts that cannot be addressed by worst-case analysis and appropriate
35 mitigation. On an annual basis, the certificate holder shall report an estimate of fatalities in seven
36 categories: 1) all birds, 2) small birds, 3) large birds, 4) raptors, 5) grassland birds, 6) nocturnal
37 migrants, 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. If there is
38 sufficient sampling of large and small turbines, the certificate holder shall compare the fatality
39 rates in the "all birds" category for each of the turbine size classes. The certificate holder shall
40 calculate fatality rates using the statistical methods described in Sections (a) and (f).

41 The certificate holder shall estimate the number of avian and bat fatalities attributable to
42 operation of the facility based on the number of avian and bat fatalities found at the facility site.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 All carcasses located within areas surveyed, regardless of species, will be recorded and, if
2 possible, a cause of death determined based on blind necropsy results. If a different cause of
3 death is not apparent, the fatality will be attributed to facility operation. The total number of
4 avian and bat carcasses will be estimated by adjusting for removal and searcher efficiency bias.

5 Personnel trained in proper search techniques (“the searchers”) will conduct the carcass
6 searches by walking parallel transects within the search plots.² Transects will be initially set at 6
7 meters apart in the area to be searched. A searcher will walk at a rate of approximately 45 to 60
8 meters per minute along each transect searching both sides out to three meters for casualties.
9 Search area and speed may be adjusted by habitat type after evaluation of the first searcher
10 efficiency trial. The searchers will record the condition of each carcass found, using the
11 following condition categories:

- 12 ▪ Intact – a carcass that is completely intact, is not badly decomposed and shows no
13 sign of being fed upon by a predator or scavenger
- 14 ▪ Scavenged – an entire carcass that shows signs of being fed upon by a predator or
15 scavenger, or portions of a carcass in one location (e.g., wings, skeletal remains,
16 legs, pieces of skin, etc.)
- 17 ▪ Feather Spot – 10 or more feathers at one location indicating predation or
18 scavenging or 2 or more primary feathers

19 All carcasses (avian and bat) found during the standardized carcass searches will be
20 photographed, recorded and labeled with a unique number. Each carcass will be bagged and
21 frozen for future reference and possible necropsy. A copy of the data sheet for each carcass will
22 be kept with the carcass at all times. For each carcass found, searchers will record species, sex
23 and age when possible, date and time collected, location, condition (e.g., intact, scavenged,
24 feather spot) and any comments that may indicate cause of death. Searchers will photograph each
25 carcass as found and will map the find on a detailed map of the search area showing the location
26 of the wind turbines and associated facilities. The certificate holder shall coordinate collection of
27 state endangered, threatened or protected species with ODFW. The certificate holder shall
28 coordinate collection of federal endangered, threatened or protected species with the U.S. Fish
29 and Wildlife Service (USFWS). The certificate holder shall obtain appropriate collection permits
30 from ODFW and USFWS.

31 The searchers might discover carcasses incidental to formal carcass searches (e.g., while
32 driving within the project area). For each incidentally discovered carcass, the searcher shall
33 identify, photograph, record data and collect the carcass as would be done for carcasses within
34 the formal search sample during scheduled searches. If the incidentally discovered carcass is
35 found within a formal search plot, the fatality data will be included in the calculation of fatality
36 rates. If the incidentally discovered carcass is found outside a formal search plot, the data will be
37 reported separately. The certificate holder shall coordinate collection of incidentally discovered
38 state endangered, threatened or protected species with ODFW. The certificate holder shall
39 coordinate collection of incidentally discovered federal endangered, threatened or protected
40 species with the USFWS.

² Where search plots are adjacent, the search area may be rectangular.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 Any injured native birds found on the facility site will be carefully captured by a trained
2 project biologist or technician and transported to Jean Cypher (wildlife rehabilitator) in The
3 Dalles, the Blue Mountain Wildlife Rehabilitation Center in Pendleton or the Audubon Bird Care
4 Center in Portland in a timely fashion. The certificate holder shall pay costs, if any, charged for
5 time and expenses related to care and rehabilitation of injured native birds found on the site,
6 unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

7 (f) Statistical Methods for Fatality Estimates

8 The certificate holder shall estimate the total number of wind facility-related fatalities for
9 each phase of construction based on:

- 10 (1) The observed number of carcasses found during standardized searches during the
11 two monitoring years (for the applicable phase) for which the cause of death is
12 attributed to the facility.³
- 13 (2) Searcher efficiency expressed as the proportion of planted carcasses found by
14 searchers.
- 15 (3) Removal rates expressed as the estimated average probability a carcass is expected
16 to remain in the study area and be available for detection by the searchers during
17 the entire survey period.

18 Definition of Variables

19 The following variables are used in the equations below:

20	c_i	the number of carcasses detected at plot i for the study period of interest (e.g., one
21		year) for which the cause of death is either unknown or is attributed to the facility
22	n	the number of search plots
23	k	the number of turbines searched (includes the turbines centered within each
24		search plot and a proportion of the number of turbines adjacent to search plots to
25		account for the effect of adjacent turbines on the 90-meter search plot buffer area)
26	\bar{c}	the average number of carcasses observed per turbine per year
27	s	the number of carcasses used in removal trials
28	s_c	the number of carcasses in removal trials that remain in the study area after 40
29		days
30	se	standard error (square of the sample variance of the mean)
31	t_i	the time (days) a carcass remains in the study area before it is removed
32	\bar{t}	the average time (days) a carcass remains in the study area before it is removed
33	d	the total number of carcasses placed in searcher efficiency trials
34	p	the estimated proportion of detectable carcasses found by searchers
35	I	the average interval between searches in days

³ If a different cause of death is not apparent, the fatality will be attributed to facility operation.

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1
$$\hat{\pi} = \frac{\bar{t} \cdot p}{I} \cdot \left[\frac{\exp\left(\frac{I}{t}\right) - 1}{\exp\left(\frac{I}{t}\right) - 1 + p} \right]. \quad (4)$$

2 The estimated per MW annual fatality rate (m) is calculated by:

3
$$m = \frac{m_t}{C}. \quad (5)$$

4 For each phase of construction, the certificate holder shall calculate fatality estimates for:
5 (1) all birds, (2) small birds, (3) large birds, (4) raptors, (5) grassland birds, (6) nocturnal
6 migrants 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. If there is
7 sufficient sampling of large and small turbines, the certificate holder shall compare the fatality
8 rates in the “all birds” category for each of the turbine size classes. The final reported estimates
9 of m , associated standard errors and 90% confidence intervals will be calculated using
10 bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for
11 calculating point estimates, variances and confidence intervals for complicated test statistics. For
12 each iteration of the bootstrap, the plots will be sampled with replacement, trial carcasses will be
13 sampled with replacement and \bar{c} , \bar{t} , p , $\hat{\pi}$ and m will be calculated. A total of 5,000 bootstrap
14 iterations will be used. The reported estimates will be the means of the 5,000 bootstrap estimates.
15 The standard deviation of the bootstrap estimates is the estimated standard error. The lower 5th
16 and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the lower limit and
17 upper limit of 90% confidence intervals.

18 Nocturnal Migrant and Bat Fatalities

19 Differences in observed nocturnal migrant and bat fatality rates for lit turbines, unlit
20 turbines that are adjacent to lit turbines and unlit turbines that are not adjacent to lit turbines will
21 be compared graphically and statistically.

22 (g) Mitigation

23 Mitigation may be appropriate if fatality rates exceed a “threshold of concern.” For the
24 purpose of determining whether a threshold has been exceeded, the certificate holder shall
25 calculate the average annual fatality rates for species groups for each phase of construction after
26 two years of monitoring. Based on current knowledge of the species that are likely to use the
27 habitat in the area of the facility, the following thresholds apply to the Klondike III facility:

Klondike III Wildlife Monitoring and Mitigation Plan
 [NOVEMBER 16, 2007]

Species Group	Threshold of Concern (fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson's hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl and any federal threatened or endangered raptor species.)	0.06
Grassland species (All native bird species that rely on grassland habitat and are either resident species, occurring year round, or species that nest in the area, excluding horned lark, burrowing owl and northern harrier.)	0.59
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above.)	0.2

1 If the data show that a threshold of concern for a species group has been exceeded, the
 2 certificate holder shall implement additional mitigation if the Department determines that
 3 mitigation is appropriate based on analysis of the data, consultation with ODFW and
 4 consideration of any other significant information available at the time. In addition, mitigation
 5 may be appropriate if the Department determines that fatality rates for individual avian or bat
 6 species (especially State Sensitive Species) are higher than expected and at a level of biological
 7 concern. If mitigation is appropriate, the certificate holder, in consultation with the Department
 8 and ODFW, shall propose mitigation measures designed to benefit the affected species. The
 9 certificate holder shall implement mitigation as approved by the Council. The Department may
 10 recommend additional, targeted data collection if the need for mitigation is unclear based on the
 11 information available at the time. The certificate holder shall implement such data collection as
 12 approved by the Council.

13 Mitigation should be designed to benefit the affected species group. Mitigation may
 14 include, but is not limited to, protection of nesting habitat for the affected group of native species
 15 through a conservation easement or similar agreement. Tracts of land that are intact and
 16 functional for wildlife are preferable to degraded habitat areas. Preference should be given to
 17 protection of land that would otherwise be subject to development or use that would diminish the
 18 wildlife value of the land. In addition, mitigation measures might include: enhancement of the
 19 protected tract by weed removal and control; increasing the diversity of native grasses and forbs;
 20 planting sagebrush or other shrubs; constructing and maintaining artificial nest structures for
 21 raptors; improving wildfire response; and local research that will aid in understanding more
 22 about the species and conservation needs. In considering whether additional mitigation is
 23 appropriate for bat fatalities, the Department will take into account the mitigation that the
 24 certificate holder has already implemented under Condition 96 of the site certificate (a
 25 contribution of \$10,000 per year for three years, beginning in the first year of operation, to fund
 26 research toward better understanding wind facility impacts to bats and to develop mitigation
 27 solutions).

28 **2. Raptor Nest Surveys**

29 The objectives of raptor nest surveys are to estimate the size of the local breeding
 30 populations of tree or other above-ground-nesting raptor species in the vicinity of the facility and
 31 to determine whether operation of the facility results in a reduction of nesting activity or nesting

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 success in the local populations of the following raptor species: Swainson’s hawk, golden eagle
2 and ferruginous hawk.

3 (a) Survey Protocol

4 For the species listed above, aerial and ground surveys will be used to gather nest success
5 statistics on active nests, nests with young and young fledged. The certificate holder will share
6 the data with state and federal biologists. The certificate holder will conduct two years of post-
7 construction raptor nest surveys. One year of surveys will be done in 2008. The second year of
8 surveys will be done in 2012.

9 During each monitoring year, the certificate holder will conduct a minimum of one
10 helicopter survey in late May or early June and additional surveys as described in this section.
11 All nests discovered during pre-construction surveys and any nests discovered during post-
12 construction surveys, whether active or inactive, will be given identification numbers. Nest
13 locations will be recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global
14 positioning system coordinates will be recorded for each nest. Locations of inactive nests will be
15 recorded as they may become occupied during future years.

16 The certificate holder shall conduct the aerial surveys within the Klondike III site and a
17 2-mile buffer around the turbines to determine nest occupancy. Determining nest *occupancy* will
18 likely require two helicopter visits to each nest. For occupied nests, the certificate holder shall
19 determine nesting *success* by a minimum of one ground visit to determine species, number of
20 young and nesting success. “Nesting success” means that the young have successfully fledged
21 (the young are independent of the core nest site). Nests that cannot be monitored due to the
22 landowner denying access will be checked from a distance where feasible.

23 (b) Mitigation

24 The certificate holder shall analyze the raptor nesting data collected after two monitoring
25 years to determine whether a reduction in either nesting success or nest use has occurred in the
26 vicinity of the Klondike III facility. If the analysis indicates a reduction in nesting success by
27 Swainson’s hawk, golden eagle or ferruginous hawk within 2 miles of the facility, then the
28 certificate holder shall propose appropriate mitigation and shall implement mitigation as
29 approved by the Council. At a minimum, if the analysis shows that any of these species has
30 abandoned a nest territory within ½ mile of the facility or has not fledged any young over the
31 two-year period within a ½ mile of the facility, the certificate holder shall assume the
32 abandonment or unsuccessful fledging is the result of the facility unless another cause can be
33 demonstrated convincingly.

34 Given the very low *buteo* nesting densities in the area, statistical power to detect a
35 relationship between distance from a wind turbine and nesting parameters (e.g., number of
36 fledglings per reproductive pair) will be very low. Therefore, impacts may have to be judged
37 based on trends in the data, results from other wind energy facility monitoring studies and
38 literature on what is known regarding the populations in the region.

39 If the analysis shows that mitigation is appropriate, the certificate holder shall propose
40 mitigation for the affected species in consultation with the Department and ODFW. Mitigation
41 should be designed to benefit the affected species or contribute to overall scientific knowledge
42 and understanding what stimulates nest abandonment. Mitigation may be designed to proceed in

Klondike III Wildlife Monitoring and Mitigation Plan

[NOVEMBER 16, 2007]

1 phases over several years. It may include, but is not limited to, additional raptor nest monitoring,
2 protection of natural nest sites from human disturbance or cattle activity (preferably within two
3 miles of the facility) or participation in research projects designed to improve scientific
4 understanding of the needs of the affected species.

5 (c) Long-term Raptor Nest Monitoring and Mitigation Plan

6 In addition to the two years of post-construction raptor nest surveys described in
7 paragraph (a), the certificate holder shall conduct long-term raptor nest surveys at five-year
8 intervals for the life of the facility. The certificate holder shall conduct the first long-term raptor
9 nest survey in 2017. In conducting long-term surveys, the certificate holder shall follow the same
10 survey protocol that is described above in paragraph (a) unless the certificate holder proposes an
11 alternative protocol that is approved by the Department. In developing an alternative protocol,
12 the certificate holder shall consult with ODFW and may collaborate with the certificate holder
13 for any other wind energy facility.

14 The certificate holder shall analyze the long-term survey data as described above in
15 paragraph (b). If the analysis shows that mitigation is appropriate, the certificate holder shall
16 propose mitigation for the affected species in consultation with the Department and ODFW as
17 described in paragraph (b) and shall implement mitigation as approved by the Council. Any
18 reduction in nesting success could be due to operation of the KWP, operation of another wind
19 facility in the vicinity or some other cause. The reduction shall be attributed to the KWP if the
20 wind turbine closest to the affected nest site is a KWP turbine unless the certificate holder
21 demonstrates, and the Department agrees, that the reduction was due to a different cause.

22 **3. Avian Use Surveys**

23 During each fatality monitoring search, observers will record birds detected in a ten-
24 minute period at approximately one-third of the turbines within the fatality monitoring sample
25 using standard variable circular plot point count survey methods. The purpose of observing and
26 recording avian use while conducting the fatality monitoring is to identify additional species that
27 may not have been listed in the original baseline survey report. In addition, avian use surveys
28 provide a basis to evaluate, in general terms, whether the species with the highest fatality
29 numbers are also the most common species at the site.

30 **4. PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System**

31 PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System
32 (WRHS) is a monitoring program to search for and handle avian and bat casualties found by
33 maintenance personnel during construction and operation of the facility. A similar system is in
34 place for Klondike I and II. Construction and maintenance personnel will be trained in the
35 methods. This monitoring program includes the initial response, the handling and the reporting
36 of bird and bat carcasses discovered incidental to construction and maintenance operations
37 ("incidental finds").

38 All carcasses discovered by maintenance personnel will be photographed and recorded. If
39 maintenance personnel discover incidental finds at turbines that are not within search plots for
40 the fatality monitoring searches, the data will be reported separately from fatality monitoring
41 data. For such incidental finds, the maintenance personnel will notify a project biologist. The
42 project biologist must be a qualified independent professional biologist who is not an employee

Klondike III Wildlife Monitoring and Mitigation Plan
[NOVEMBER 16, 2007]

1 of the certificate holder. The project biologist (or the project biologist's experienced wildlife
2 technician) will collect the carcass or will instruct maintenance personnel to have an on-site
3 carcass handling permittee collect the carcass. The certificate holder's on-site carcass handling
4 permittee must be a person who is listed on state and federal scientific or salvage collection
5 permits and who is available to process (collect) the find on the day it is discovered. The find
6 must be processed on the same day as it is discovered.

7 If maintenance personnel discover carcasses within search plots, the data will be included
8 in the calculation of fatality rates. The maintenance personnel will notify a project biologist. The
9 project biologist will collect the carcass or will instruct maintenance personnel to have an on-site
10 carcass handling permittee collect the carcass. As stated above, the on-site permittee must be
11 available to process the find on the day it is discovered. The certificate holder shall coordinate
12 collection of state endangered, threatened or protected species with ODFW. The certificate
13 holder shall coordinate collection of federal endangered, threatened or protected species with the
14 USFWS.

15 **5. Data Reporting**

16 The certificate holder will report the monitoring data and analysis to the Department.
17 Monitoring data include fatality data, raptor nest survey data, avian use point counts and data on
18 incidental finds by fatality searchers and KWP personnel. The report may be included in the
19 annual report required under OAR 345-026-0080 or may be submitted as a separate document at
20 the same time the annual report is submitted. In addition, the certificate holder shall provide to
21 the Department any data or record generated in carrying out this monitoring plan upon request by
22 the Department.

23 The certificate holder shall notify USFWS and ODFW immediately in the event that any
24 federal or state endangered or threatened species are killed or injured on the facility site.

25 The public will have an opportunity to receive information about monitoring results and
26 to offer comment. Within 30 days after receiving the annual report of monitoring results, the
27 Department will make the report available to the public on its website and will specify a time in
28 which the public may submit comments to the Department.⁴

29 **6. Amendment of the Plan**

30 This Wildlife Monitoring and Mitigation Plan may be amended from time to time by
31 agreement of the certificate holder and the Council. Such amendments may be made without
32 amendment of the site certificate. The Council authorizes the Department to agree to
33 amendments to this plan and to mitigation actions that may be required under this plan. The
34 Department shall notify the Council of all amendments and mitigation actions, and the Council
35 retains the authority to approve, reject or modify any amendment of this plan or mitigation action
36 agreed to by the Department.

⁴ The certificate holder may establish a Technical Advisor Committee (TAC) but is not required to do so. If the certificate holder establishes a TAC, the TAC may offer comments to the Council about the results of the monitoring required under this plan.

Klondike III Wind Project: Revegetation Plan
[NOVEMBER 16, 2007]

I. Introduction

This plan describes methods and standards for restoration of areas temporarily disturbed during the construction, maintenance or repair of the Klondike III Wind Project (KWP).¹ The objective of revegetation is to restore the temporarily disturbed areas to pre-construction condition or better. Restoration of these areas is required by the site certificate for the facility.

An estimated 434 acres of land will be temporarily affected during construction of the facility.² Approximately 377 acres of the temporarily disturbed area is cultivated or otherwise developed agricultural land and the remainder is grassland, shrub-steppe or CRP.³ The certificate holder shall maintain erosion and sediment control measures put in place during construction until the affected areas are restored as described in this plan and the risk of erosion has been eliminated.

This plan has been prepared to guide the revegetation efforts. Seed mixes, planting methods and weed control techniques have been developed for the project area in consultation with the Oregon Department of Fish and Wildlife (ODFW). The plan specifies monitoring procedures to evaluate revegetation success and recommended remediation if revegetation appears unsuccessful in certain areas.

II. Description of the Project Area

The facility is located in Sherman County, Oregon. The project area is on private agricultural land used primarily for dry land winter wheat production. Soils are typically loess formations of well-drained, moderately permeable, fertile silt loams over basalt. Some areas are used for livestock grazing. Depth to bedrock is generally 20 to 60 inches. The area receives approximately 11 inches of precipitation annually, most of which occurs between October 1 and March 31.

The project area is within the Deschutes-Columbia Plateau physiographic province. Topography within the area is typically gently rolling to level ground with steep slope areas at the northeast and southern margins of the site. Elevation ranges from 1,250 to 1,500 feet. Most of the native vegetation in the project area has been modified by human activities. Very little native plant area exists, occurring predominantly along the plateau margins and steep side slopes of Grass Valley Canyon. Plant communities in these areas consist of sagebrush and rabbitbrush dominated shrub lands and native bunchgrass grasslands, each with varying degrees of invasive species present. CRP areas have been planted with a mix of native and non-native bunch grasses.

III. Revegetation Methods

The certificate holder shall restore areas of temporary disturbance by preparing the soil and seeding using common application methods. The certificate holder shall use mulching and

¹ This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

² In addition to the area permanently occupied by facility structures.

³ "CRP" is formerly cultivated land that the landowner has enrolled in the Conservation Reserve Program.

Klondike III Revegetation Plan
[NOVEMBER 16, 2007]

1 other appropriate practices to control erosion and sediment during facility construction and
2 during revegetation work. The certificate holder shall restore agricultural topsoil to pre-
3 construction condition. The certificate holder shall select the seed mix to apply based on the pre-
4 construction land use, as described below.

5 **1. Seed Planting Methods**

6 Restoration of temporarily disturbed areas should begin as soon as possible after
7 completion of facility construction, maintenance or repair activity in the area to be restored.
8 Planting should be done at the appropriate time of year based on weather conditions and the time
9 of year when ground disturbance occurs. The certificate holder shall choose planting methods
10 based on site-specific factors such as slope, erosion potential and the size of the area in need of
11 revegetation. Disturbed ground may require chemical or mechanical weed control before weeds
12 have a chance to go to seed. Two common application methods are described as follows.

13 (a) Broadcasting

14 Broadcast the seed mix at the specified application rate. Where feasible, apply half of the
15 total mix in one direction and the second half of mix in direction perpendicular to first half.
16 Apply weed free straw from a certified field or sterile straw at a rate of two tons per acre
17 immediately after applying seed. Crimp straw into the ground to a depth of two inches using a
18 crimping disc or similar device. As an alternative to crimping, a tackifier may be applied using
19 hydroseed equipment at a rate of 100 pounds per acre. Prior to mixing the tackifier, visually
20 inspect the tank for cleanliness. If remnants from previous hydroseed applications exist, wash
21 tank to remove remnants. Include a tracking dye with the tackifier to visibly aid uniform
22 application. Broadcasting should not be used if winds exceed five miles per hour.

23 (b) Drilling

24 Using an agricultural or range seed drill, drill seed at 70 percent of the recommended
25 application rate to a depth of ¼ inch or as recommended by the seed supplier. Where feasible,
26 apply half of the total mix in one direction and the second half of mix in direction perpendicular
27 to first half. If mulch has been previously applied, seed may be drilled through the mulch
28 provided the drill is capable of penetrating the straw resulting in seed-to-soil contact conducive
29 for germination.

30 **2. Seed Mix**

31 (a) Seed Mix 1 – Dry Land Wheat

32 The certificate holder shall seed temporarily disturbed agricultural areas with wheat or
33 other crop seed. The certificate holder shall consult with the landowner and farm operator to
34 determine species composition, seed and fertilizer application rates and application methods.

35 (b) Seed Mix 2 – CRP

36 The certificate holder shall seed temporarily disturbed CRP areas with a mix compatible
37 with the CRP goals. The certificate holder shall consult with ODFW and the landowner to
38 determine the species composition, application rate, use of fertilizers and application methods.

Klondike III Revegetation Plan
[NOVEMBER 16, 2007]

1 (c) Seed Mix 3 – Grassland

2 The certificate holder shall apply Seed Mix 3 to all temporarily disturbed areas that are
3 not cultivated farmland or CRP areas. The composition and application rate of Seed Mix 3 will
4 be determined in consultation with ODFW and the landowners and will be subject to the
5 approval of the Oregon Department of Energy (Department). The certificate holder shall use seed
6 provided by a reputable supplier and complying with the Oregon Seed Law. The mix should
7 contain native species selected based on relative availability and compatibility with local
8 growing conditions. Factors that will be taken into consideration are soil erosion potential, soil
9 type, seed availability and the need for using native or native-like species.

10 **IV. Monitoring**

11 **1. Monitoring Procedures**

12 In the year following each seeding, the certificate holder shall employ a qualified
13 investigator (an independent botanist or revegetation specialist) to examine all seeded grassland
14 and CRP areas to assess vegetation cover (species, structural stage, etc.) and progress toward
15 meeting the success criteria. The qualified investigator shall revisit the revegetation areas on an
16 annual basis until the certificate holder and the Department agree that the areas are trending
17 toward meeting the success criteria. Thereafter, the qualified investigator shall revisit the
18 revegetation areas every five years for the life of the KWP to assess vegetation cover and
19 success. The certificate holder shall report the investigator's findings and recommendations
20 regarding revegetation progress and success to the Department on an annual basis as part of the
21 annual report on the KWP.

22 In consultation with the ODFW, the certificate holder's qualified investigator shall
23 choose reference sites near the revegetated areas to represent the target conditions for the
24 revegetation effort. The target conditions for each revegetated area are conditions that would be
25 realistically attainable for the area. Land use patterns, soil type, local terrain and noxious weed
26 densities should be considered in selecting reference sites. It is likely that several reference sites
27 will be necessary to adequately represent the various habitat conditions within the project area.

28 Once the reference sites are chosen, they will be used for comparison during all
29 subsequent monitoring visits, unless some event (such as wildfire) significantly changes
30 vegetation conditions so that a particular reference site no longer represents a realistically
31 attainable goal for the associated revegetated area. In that case, the qualified investigator shall
32 choose a new reference site.

33 At each monitoring location, the investigator shall evaluate the following parameters
34 (both within the revegetated area and within the reference site):

- 35
- Degree of erosion due to construction activities (high, moderate or low).
 - Average number of stems of desirable vegetation per square foot.
- 36

37 The investigator shall evaluate the revegetated area and the reference site separately to
38 determine revegetation success.

Klondike III Revegetation Plan
[NOVEMBER 16, 2007]

1 **2. Success Criteria**

2 A temporarily disturbed grassland or CRP area is successfully revegetated when the
3 average desirable vegetation stem density within the revegetated area is greater than, or equal to,
4 that observed in the comparable reference site. Desirable vegetation means those species
5 included in the seed mix or native or naturalized species common to similar areas.

6 In each monitoring report to the Department, the certificate holder shall provide an
7 assessment of revegetation success in grassland or CRP restoration areas. The Department may
8 require reseeding or other corrective measures in those areas that do not meet the success criteria.
9 The Department may exclude small areas from the reseeding requirement, if erosion from
10 construction activities is low, if total vegetative cover (of native and non-native species together)
11 exceeds 30% and if weed encroachment has made native seed establishment impossible.

12 Cultivated agricultural areas are successfully revegetated if the replanted areas achieve
13 crop production comparable to adjacent non-disturbed cultivated areas. The certificate holder
14 shall consult with the landowner or farmer to determine whether these areas have been
15 successfully revegetated and shall report to the Department on the success of revegetation in
16 these areas.

17 **V. Amendment of the Plan**

18 This Revegetation Plan may be amended from time to time by agreement of the
19 certificate holder and the Oregon Energy Facility Siting Council (“Council”). Such amendments
20 may be made without amendment of the site certificate. The Council authorizes the Department
21 to agree to amendments to this plan. The Department shall notify the Council of all amendments,
22 and the Council retains the authority to approve, reject or modify any amendment of this plan
23 agreed to by the Department.

Klondike III Wind Project: Habitat Mitigation Plan

[NOVEMBER 16, 2007]

I. Introduction

This plan describes methods and standards for enhancement of an area of land near the Klondike III Wind Project (KWP) to mitigate for the permanent impacts of the KWP on wildlife habitat.¹ The certificate holder shall enhance the mitigation site as described in this plan and shall place the site into a conservation easement for the life of the KWP facility. The objective of the enhancement methods is to improve the habitat value of the mitigation area and to protect the area for wildlife use for the life of the facility.

This plan has been prepared to guide the habitat enhancement efforts. The plan specifies monitoring procedures to evaluate enhancement success and recommended remediation if enhancement is unsuccessful in any part of the mitigation site.

II. Description of the Permanent Impacts

The KWP facility would occupy approximately 12 acres of higher-value habitat, based on a worst-case estimate. The actual area of each habitat category that the KWP will permanently occupy will depend on the final design layout of the facility after consideration of micro-siting factors. The area of permanent impact includes habitat in Categories 2, 3 and 4.

Data collected at other wind energy facilities indicate that the operation of wind turbines may adversely affect the quality of nearby habitat that is important or essential for grassland avian species. Conducting a study at the KWP to determine whether operation of the facility will have a displacement effect on grassland birds would take several years. If the study concluded that an adverse impact had occurred, additional mitigation would be needed. In lieu of conducting a multi-year study, the certificate holder will provide additional mitigation, based on the assumed likelihood that operation of the KWP would reduce the quality of nearby habitat that is important or essential for grassland bird species. The affected habitat near the KWP wind turbines includes habitat in Categories 2 and 3.

As defined by the fish and wildlife habitat mitigation goals and standards of the Oregon Department of Fish and Wildlife (ODFW), the affected habitat and corresponding mitigation goals are as follows:

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

Mitigation Goal: no net loss of either habitat quantity or quality and provision of a net benefit of habitat quantity or quality.

¹ This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

Klondike III Habitat Mitigation Plan

[NOVEMBER 16, 2007]

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

Mitigation Goal: no net loss of either habitat quantity or quality.

- **Category 4:** important habitat for fish and wildlife species.

Mitigation Goal: no net loss in either existing habitat quantity or quality.

III. Calculation of Mitigation Area

The area that is needed to mitigate for the amount of higher-value habitat occupied by KWP turbines and related facilities is determined by the “footprint” of the KWP within each habitat category. The amount of additional area needed to mitigate for a displacement effect that is uncertain cannot be precisely calculated. To determine a reasonable area for displacement mitigation, a rough calculation of potential displacement impact was done by assuming a 50-percent reduction in use by grassland birds within 50 meters of wind turbines.² It was also assumed that grassland birds use Conservation Reserve Program (CRP) land at a rate that is 50-percent of their use of native grassland and upland tree habitat (and therefore that the amount of mitigation area should be half as much for CRP displacement as for native grassland displacement). It was further assumed that the final design locations of wind turbines within the micro-siting corridors would be such that the maximum area of native grassland would be affected (the “worst case”). For both footprint and displacement impacts within Category 2 habitat, the mitigation area was calculated on a 2:1 ratio to meet the ODFW goal of a “net benefit of habitat quantity or quality.” The area of impact within each affected habitat category and the corresponding mitigation area for each category are as follows:

Category 2

Footprint impacts: 1.35 acres

Displacement impacts: 5.15 acres

Mitigation area: 6.5 acres x 2 = 13 acres

Category 3 (grassland, shrub-steppe and upland tree habitat)

Footprint impacts: 0.88 acres

Displacement impacts: 4.5 acres

Mitigation area: 5.38 acres

Category 3 (CRP)

Footprint impacts: 9.35 acres

Displacement impacts: 15.35 acres

Mitigation area: 24.7 acres

Category 4

Footprint impacts: 0.39 acres

Displacement impacts: 0.7 acres

Mitigation area: 1.09 acres

Total mitigation area (rounded): 44 acres

² The method of determining a reasonable mitigation area as described in this plan is not intended to be a precise formula or a precedent for determining appropriate mitigation for any other facility.

Klondike III Habitat Mitigation Plan
[NOVEMBER 16, 2007]

1 The rough calculation of potential displacement impact described above was based in part
2 on data collected at the Stateline Wind Project and reported in the *Stateline Wind Project*
3 *Wildlife Monitoring Final Report, July 2001 - December 2003* (2003 report). Additional data
4 will be collected at Stateline in 2006 and (if any Stateline 3 turbines are built) in 2010. If analysis
5 of this additional data demonstrates a statistically significant displacement effect on grassland
6 bird species that is greater than the displacement effect described in the 2003 report, then the
7 certificate holder shall assume that the Klondike III facility is having a greater displacement
8 effect on grassland species than was assumed when the site certificate was issued and shall
9 propose additional mitigation. The Department shall recommend appropriate mitigation to the
10 Council, and the certificate holder shall implement mitigation as approved by the Council.

11 **IV. Description of the Mitigation Site**

12 The certificate holder shall select a 44-acre mitigation site in proximity to the facility
13 where habitat enhancement is feasible. The certificate holder shall determine the final location of
14 the mitigation area consistent with this plan in consultation with ODFW and the affected
15 landowners and subject to the approval of the Oregon Department of Energy (Department). The
16 certificate holder shall acquire the legal right to create, maintain and protect the habitat
17 mitigation area for the life of the facility by means of an outright purchase, conservation
18 easement or similar conveyance and shall provide a copy of the documentation to the
19 Department.

20 **V. Habitat Enhancement Methods**

21 The goal of habitat enhancement is to improve the habitat quality of the mitigation site to
22 achieve, over time, a Category 2 quality over most, if not all, of the site. The mitigation site may
23 include land that has been managed under a CRP contract, which may previously have been
24 planted with non-native species, including intermediate wheatgrass (*Agropyron intermedium*)
25 and crested wheatgrass (*Agropyron cristatum*). It is common to find non-native species such as
26 cheat grass between the planted grasses on CRP land. The goal of habitat enhancement is to
27 diversify the vegetation on the mitigation site to provide long-term, structurally mature,
28 functional grassland habitat.

29 If the selected mitigation site includes CRP land, the certificate holder will work with the
30 Farm Service Agency (FSA) and the landowner to develop habitat improvement measures for the
31 site that would benefit wildlife. The certificate holder would consult with the FSA before
32 performing any work on land under a CRP contract to ensure consistency with the intent of the
33 CRP contract.

34 Weed control on the mitigation site will contribute to lessening noxious weed expansion
35 on the site and on any nearby grassland, CRP or cultivated agricultural land and would result in
36 lessening competition to the desirable seeded and naturalized vegetation as recovery progresses.
37 The enhancement measures would proceed in phases. Before or during construction of the KWP,
38 the certificate holder shall begin the enhancement measures. The first phase is to clear non-native
39 species and weeds through a combination of spraying and mowing, followed by planting with
40 desirable grasses, forbs and woody shrubs. After the new vegetation is established, the quality of
41 the habitat will be maintained for the life of the KWP by continued weed control, fire control and
42 reseeding as necessary. The certificate holder shall repeat enhancement measures as necessary to
43 meet the success criteria. The following steps summarize the process:

Klondike III Habitat Mitigation Plan
[NOVEMBER 16, 2007]

- 1) Herbicide application. Herbicides would be sprayed on existing vegetation and newly emerging weeds to prevent them from seeding and spreading. If Roundup is used instead of herbicides to prevent the build up of herbicide residue, it will be sprayed early and often (3 times) during the growing season. Alternating strips of CRP would be prepared for seeding with native-like species, and the remaining areas would be left in place to reduce the potential for wind erosion. In time, desirable plant seed sources in the new strips would infiltrate into the non-native strips to increase the overall species diversity.
- 2) Seeding and Planting. Native-like grass and forbs will be planted in the fall or early winter, so that seeds can soak up moisture during the winter. The mitigation seed mix will be determined in consultation with the landowner and ODFW. A no-till drill would be used for seeding. The no-till drill uses a series of smaller disks to create divots in the ground, and then plants the seeds in these divots with a seeding tube. The no-till drill does not require that site be tilled or disked prior to seeding. The drill would be used in several directions to mask the appearance of row crops and provide a more natural “bunchgrass” appearance over time. The certificate holder shall consult with ODFW regarding species of woody shrubs appropriate for the site. Such species could be included in the seed mix or small plants could be planted.
- 3) Continued Weed Control. After grasses have established, weed control methods would continue during first growing season and as needed thereafter (on both seeded and non-seeded strips). Weeds would be controlled with herbicides during the first year, which can reduce persistent weeds after seeding. Hand-pulling weeds can also be very effective for small areas but would be limited to noxious weeds listed by Sherman County. Spot-spraying can be used instead of total area spray to protect locations where young desirable forbs that may be growing.
- 4) Fire Control. The certificate holder will require the operations contractor to be the responsible party for wildfire suppression on the mitigation site for the life of the KWP.

VI. Monitoring

1. Monitoring Procedures

In the year following the first seeding and continuing annually thereafter until the success criteria have been met, the certificate holder shall hire a qualified investigator (an independent botanist or revegetation specialist) to examine all seeded and planted areas to assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria. The qualified investigator shall revisit the mitigation area on an annual basis until the certificate holder and the Department agree that the area is trending toward meeting the success criteria. Thereafter, the qualified investigator shall revisit the mitigation area every five years for the life of the KWP to assess vegetation cover and success. The certificate holder shall report the investigator’s findings and recommendations regarding habitat mitigation progress and success to the Department on an annual basis as part of the annual report on the KWP.

2. Success Criteria

Areas within the mitigation site are successfully revegetated when total canopy cover of all vegetation exceeds 30 percent and at least 25 percent of the ground surface is covered by desirable species. Desirable species are native species or desirable non-native species in the

Klondike III Habitat Mitigation Plan
[NOVEMBER 16, 2007]

1 mitigation seed mix. Successful “enhancement” of the mitigation site means that a Category 2
2 habitat quality exists over at least 80 percent of the mitigation area.

3 After predominantly desirable vegetation has been established, the investigator shall
4 verify, during subsequent visits, that the plant communities within the mitigation site continue to
5 meet the success criteria for revegetation. In addition, the investigator, in consultation with
6 ODFW, shall evaluate the percentage of the mitigation site that has been enhanced to a Category
7 2 quality.

8 If all or part of the habitat within the site falls below the revegetation or enhancement
9 success criteria levels, the investigator shall recommend corrective measures. The Department
10 may require reseeding or other corrective measures in those areas that do not meet the success
11 criteria. The Department may exclude small areas from the reseeding requirement where the
12 potential for erosion is low and if total vegetative cover (of native and non-native species
13 together) exceeds 30 percent.

14 **VII. Amendment of the Plan**

15 This Habitat Mitigation Plan may be amended from time to time by agreement of the
16 certificate holder and the Oregon Energy Facility Siting Council (“Council”). Such amendments
17 may be made without amendment of the site certificate. The Council authorizes the Department
18 to agree to amendments to this plan. The Department shall notify the Council of all amendments,
19 and the Council retains the authority to approve, reject or modify any amendment of this plan
20 agreed to by the Department.