

**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 Biglow Canyon Wind
Farm

)
)
)
)
FINAL ORDER ON
AMENDMENT #3

October 31, 2008

BIGLOW CANYON WIND FARM:
FINAL ORDER ON AMENDMENT #3

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PROCEDURAL HISTORY AND AMENDMENT PROCESS	1
III.	DESCRIPTION OF THE PROPOSED AMENDMENT	3
	1. AMENDMENT PROCEDURE.....	4
	2. AMENDMENTS TO THE SITE CERTIFICATE AS PROPOSED BY PGE.....	4
	3. DESCRIPTION OF THE FACILITY AS AUTHORIZED BY AMENDMENT #3	5
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 THE IMPACTS OF CONSTRUCTION AND OPERATION	11
	(a) Land Use.....	11
	(b) Soil Protection	21
	(c) Protected Areas.....	22
	(d) Scenic Resources	26
	(e) Recreation	27
	(f) Public Health and Safety Standards for Wind Energy Facilities.....	27
	(g) Siting Standards for Wind Energy Facilities.....	28
	(h) Siting Standards for Transmission Lines	29
	4. STANDARDS TO PROTECT WILDLIFE	30
	(a) Threatened and Endangered Species.....	30
	(b) Fish and Wildlife Habitat.....	31
	5. STANDARDS NOT APPLICABLE TO SITE CERTIFICATE ELIGIBILITY	33
	(a) Structural Standard	34
	(b) Historic, Cultural and Archaeological Resources	35
	(c) Public Services.....	36
	(d) Waste Minimization.....	36
V.	OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS.....	37
	1. REQUIREMENTS UNDER COUNCIL JURISDICTION	37
	(a) Noise Control Regulations.....	37
	(b) Removal-Fill Law	40
	(c) Ground Water Act.....	41
	(d) Public Health and Safety.....	41
	2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION	42
	(a) Federally-Delegated Programs.....	42
	(b) Requirements That Do Not Relate to Siting	42
VI.	GENERAL APPLICATION OF CONDITIONS.....	43
VII.	GENERAL CONCLUSION.....	43
	1. THE DEPARTMENT’S RECOMMENDED REVISIONS	44
VIII.	ORDER.....	58

LIST OF TABLES

Table 1: Cost Estimate for Site Restoration (Full Build-Out).....	10
Table 2: Area Occupied by the Power Generation Facility	14
Table 3: Protected Areas within 20 Miles of the BCWF	24
Table 4: Maximum Area of Affected Higher-Value Habitat (Worst-Case).....	32

LIST OF ABBREVIATIONS

BCWF	Biglow Canyon Wind Farm
Council	Energy Facility Siting Council
dBA	The “A-weighted” sound pressure level. The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Department	Oregon Department of Energy
EFU	land zoned for “exclusive farm use”
Figures 2, 2a, 2b and 2c	Figures 2, 2a, 2b and 2c of the Request for Amendment #3.
MW	megawatt or megawatts
O&M	Operations and maintenance
PGE	Portland General Electric Company

**BIGLOW CANYON WIND FARM:
FINAL ORDER ON AMENDMENT #3**

I. INTRODUCTION

1 The Energy Facility Siting Council (Council) issues this final order in accordance with
2 ORS 469.405 and OAR 345-027-0070. This order addresses a request by the certificate
3 holder, Portland General Electric Company (PGE), for amendment of the Site Certificate for
4 the Biglow Canyon Wind Farm (BCWF). The BCWF is located approximately 2.5 miles
5 northeast of Wasco, Oregon, in Sherman County.

6 On June 30, 2006, the Council issued a Site Certificate to Orion Sherman County
7 Wind Farm LLC (Orion) for the BCWF, a wind energy facility with a peak generating
8 capacity of up to 450 megawatts (MW) to be built in Sherman County, Oregon. On November
9 3, 2006, the Council approved a transfer of the Site Certificate from Orion to PGE as set forth
10 in the Final Order on Amendment #1. On May 10, 2007, the Council approved an amendment
11 of the Site Certificate to accommodate new access road and collector line segments, to
12 increase the area of temporary construction disturbance, to modify one micrositing corridor
13 and to revise the requirements of several site certificate conditions. All of the approved
14 changes were described in the Final Order on Amendment #2.

15 The first phase of construction was completed in December 2007 and consists of 76
16 Vestas wind turbines, each having a generating capacity of 1.65 megawatts. The Site
17 Certificate authorizes construction of additional wind turbines and up to 450 megawatts of
18 combined peak generating capacity for the facility as a whole. For the second phase of
19 construction, PGE has selected Siemens 2.3-megawatt turbines and plans to construct 65
20 turbines.

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

II. PROCEDURAL HISTORY AND AMENDMENT PROCESS

23 On August 11, 2008, PGE submitted to the Oregon Department of Energy
24 (Department) a request for amendment of the site certificate (Amendment #3).¹ On August 12,
25 PGE sent copies of the amendment request to a list of reviewing agencies provided by the
26 Department with a memorandum from the Department requesting agency comments by
27 September 5, 2008. On August 14, the Department sent notice of the amendment request to all
28 persons on the Council's mailing list, to the special list established for the facility and to
29 updated list of property owners supplied by the certificate holder. By letter dated August 15,
30 2008, the Department notified PGE that the proposed order would be issued no later than
31 October 14, 2008.

32 The following reviewing agencies and members of the public responded to the
33 Department's notice of the amendment request:

¹ Certificate Holder's "Request for Amendment III to the Site Certificate for the Biglow Canyon Wind Farm," August 2008.

- 1 • Reviewing Agencies
2 Todd Hesse, Oregon Department of Environmental Quality, Water Quality
3 Section²
4 Jan Houck, Oregon Parks & Recreation Department³
5 Rose Owens, Oregon Department of Fish and Wildlife⁴
- 6 • Public Comments
7 Richard Melaas, Naval Air Station Whidbey Island, Washington⁵

8 In his comments, Todd Hesse identified the National Pollutant Discharge Elimination
9 System (NPDES) 1200-C permit requirement for construction activities. This permit includes
10 requirements for erosion and sediment control. All phases of construction at the BCWF are
11 subject to Condition 26 of the Site Certificate, which requires the certificate holder to conduct
12 all construction work in compliance with an Erosion and Sediment Control Plan (ESCP)
13 satisfactory to the Oregon Department of Environmental Quality (DEQ) and as required under
14 the NPDES 1200-C permit. The DEQ comments raised no other concerns regarding the
15 proposed amendment.

16 In her comments, Jan Houck stated that the Oregon Parks & Recreation Department
17 had reviewed the amendment request and had no concerns.

18 The comments from the Oregon Department of Fish and Wildlife (ODFW) expressed
19 concern about turbines being placed within “buffers” of three miles from the Columbia River
20 and one mile from the Deschutes and John Day Rivers. ODFW stated that these buffers were
21 a “conservative” recommendation but were not based on data. The buffer areas would
22 potentially be used by winter geese, bald eagles and other waterfowl and raptors.

23 ODFW has not previously included the buffer area recommendation in any comment
24 letters or written communications with the Department regarding the site certificate
25 application or Amendments #1 or #2. There is no site certificate condition requiring the
26 certificate holder to avoid placing turbines within three miles of the Columbia or one mile of
27 the John Day (the site boundary is well beyond one mile from the Deschutes River).

28 In response to the ODFW comments, the Department asked PGE to map the
29 boundaries of a three-mile buffer from the Columbia and a one-mile buffer from the John
30 Day, to determine whether existing or proposed BCWF turbines would lie within the buffer
31 areas. PGE provided a map showing that all existing BCWF turbines are outside the buffers
32 (when measured from the centerlines of the rivers).⁶ Two proposed Phase 3 turbine locations
33 on String 20 are within the 1-mile buffer from the John Day River (by less than ¼ mile), and
34 the proposed extension of String 3 would allow micrositing of turbines up to ¾ mile within
35 the 3-mile buffer of the Columbia River. The String 3 and String 20 areas inside the buffers
36 are within Category 6 agricultural land.

² Email from Todd Hesse, August 26, 2008.

³ Email from Jan Houck, August 29, 2008.

⁴ Email from Rose Owens, September 3, 2008.

⁵ Email from Richard Melaas, August 29, 2008.

⁶ Email from Ray Hendricks, September 15, 2008.

1 The Department responded to ODFW and expressed concerned about the precedent of
2 establishing buffers for wildlife that are not based on data in the record.⁷ The Department also
3 expressed concern about the implication of ODFW's recommendation as applied to other
4 counties along the Columbia River or other wind energy projects that have been approved at
5 the State or county level or that that may be proposed along other Oregon rivers. Due to these
6 concerns, the Department has not proposed a new site certificate condition to incorporate
7 ODFW's recommendation.

8 In his comments, Richard Melaas stated that the Navy had reviewed the amendment
9 request and had no comments or objections.

10 The Department provided PGE with a draft of the proposed order on September 23.
11 The Department issued its proposed order on September 24, 2008. On the same date, the
12 Department issued a public notice requesting comments on the proposed order and setting a
13 deadline of October 27, 2008, for comments or contested case requests.

14 No comments or contested case requests were submitted to the Department by the
15 deadline. The Council considered the amendment request at a public meeting on October 31,
16 2008, and voted to approve the amendment request subject to the revisions discussed herein.

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

18 PGE requests amendments to the Second Amended Site Certificate for the Biglow
19 Canyon Wind Farm that, if approved by the Council, would:

- 20 1. Expand the facility site to accommodate the following:
 - 21 a. Approximately 3 miles of new access roads.
 - 22 b. Approximately 7.6 miles of new collector lines.
 - 23 c. Approximately 13.3 miles of temporary crane paths.
 - 24 d. Northward extension of previously-approved turbine corridors 1, 3 and
25 20.
- 26 2. Revise the description of the operations and maintenance facilities.
- 27 3. Revise Condition 52 to allow limited use of lighting for nighttime construction.
- 28 4. Revise Condition 59 to address any impacts to Category 3 or Category 4
29 habitat from construction in the northward extension of Corridor 3.
- 30 5. Revise Condition 98 to require compliance with any written fire protection
31 recommendations from the Fire Chief of the applicable Rural Fire Protection
32 District.
- 33 6. Add a new Condition 128 to address Sherman County Ordinance No. 39-2007
34 regarding setback requirements for wind turbines.
- 35 7. Add a new Condition 129 to ensure protection of a potential jurisdictional
water (stream channel) identified in the amendment request.

⁷ Email from John White, September 22, 2008.

- 1 8. Revise the calculation of habitat impacts and the site restoration cost estimate
2 to address the proposed changes to the facility and the site.
- 3 9. Remove Conditions 117 and 123 and revise Conditions 102, 105, 108, 116,
4 119, 120, 121 and 122 to conform to the Council rules as revised effective May
5 15, 2007.

1. Amendment Procedure

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

- 9 (a) Could result in a significant adverse impact that the Council has not addressed in
10 an earlier order and the impact affects a resource protected by Council standards;
- 11 (b) Could impair the certificate holder’s ability to comply with a site certificate
12 condition; or
- 13 (c) Could require a new condition or a change to a condition in the site certificate.

14 Because the proposed changes would authorize construction outside of the site
15 boundary previously approved by the Council, they could have adverse impacts that the
16 Council has not addressed in earlier orders on the BCWF and that could affect resources
17 protected by Council standards. The proposed changes would require new site certificate
18 conditions and changes to current conditions. For these reasons, amendment of the site
19 certificate is necessary.

20 The proposed amendment would enlarge the site of the BCWF facility and would
21 make other changes to the construction and operation of the facility allowed under the site
22 certificate. For those areas where the site boundary would be enlarged, the Council must
23 consider whether the facility complies with all Council standards (OAR 345-027-
24 0070(10)(a)). For the other changes, the Council must consider whether the amendment
25 would affect any finding made by the Council in an earlier order (OAR 345-027-0070(10)(c)).
26 For all site certificate amendments, the Council must consider whether the amount of the bond
27 or letter of credit required under OAR 345-022-0050 is adequate (OAR 345-027-
28 0070(10)(d)).

2. Amendments to the Site Certificate as Proposed by PGE

29 In Attachment 1 to its Request for Amendment #3, PGE proposed specific changes,
30 additions and deletions of the site certificate language in the form of a “redline” revision of
31 the Second Amended Site Certificate. Attachment 1 of the Request for Amendment #3 is
32 incorporated herein by this reference.

33 The Department recommended that the Council approve the substance of the site
34 certificate amendments proposed by PGE subject to the recommended revisions discussed in
35 Section VII.1.

36 In addition to the changes to the language of the Site Certificate, PGE proposes
37 revising the Habitat Mitigation Plan (incorporated in Condition 63). The proposed revision
38 would conform the size of the reseeded mitigation area to the increase in the area of

1 permanent impact to Category 3 and Category 4 habitat that would result from the changes to
2 the site boundary, as described herein.

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

3 If the Council approves Amendment #3, the certificate holder would be authorized to
4 construct and operate the BCWF facility as described in the Final Order on the Application
5 and the Final Order on Amendment #2, as modified by the changes described below.

6 **Turbine Selection**

7 The Second Amended Site Certificate authorizes the construction of a wind energy
8 facility consisting of up to 225 turbines with a combined peak capacity of up to 450 MW.
9 PGE is not requesting any change in the authorized number of turbines or in the maximum
10 combined peak generating capacity. PGE's amendment request includes modifications of the
11 turbine micrositing corridors as depicted in Figures 2, 2a, 2b and 2c (August 2008) attached to
12 the Request for Amendment #3 and incorporated herein by this reference.

13 **Power Collection System**

14 The power collection system consists of aboveground and underground 34.5-kV
15 transmission lines. The Second Amended Site Certificate authorized up to 99 miles of
16 collector cables. Approval of PGE's Request for Amendment #3 would increase the total
17 length of collector lines to 106 miles. The Site Certificate limits aboveground segments of the
18 collector system to a combined total of 15 miles.

19 **Substations and Interconnection System**

20 The Site Certificate authorizes the construction and operation of a project substation.
21 PGE has constructed the substation at the authorized location on Herin Lane near the center of
22 the site. The facility connects to a Bonneville Power Administration transmission line
23 adjacent to the substation. PGE is not requesting any change to the facility substation and
24 interconnection.

25 **Meteorological Towers**

26 The Site Certificate authorizes the certificate holder to construct up to ten
27 meteorological (met) towers throughout the facility site. PGE has installed two met towers
28 during the first phase of construction and proposes to build a third met tower in Phase 2. PGE
29 is not requesting any change to the authorized met towers.

30 **Operations and Maintenance Building**

31 The Site Certificate authorizes the construction of an O&M building on a 5-acre site
32 adjacent to the facility substation on Herin Lane. On July 8, 2008, PGE submitted a Change
33 Request asking the Department to determine whether a site certificate amendment was
34 necessary to authorize PGE to construct two new O&M buildings (a new warehouse and a
35 new office building) on the approved 5-acre site.⁸ In a response letter, dated July 21, the
36 Department notified PGE of the Department's determination that a site certificate amendment
37 would not be necessary to authorize construction of the two new structures.⁹

⁸ Letter from Ray Hendricks, July 8, 2008.

⁹ Letter from John White, Oregon Department of Energy, July 21, 2008.

1 PGE is proposing changes to the language of the Site Certificate to conform to the
2 Department's determination. The changes reflect the authorization for multiple structures
3 within the 5-acre O&M facility site and limit the combined square footage of the structures to
4 a total of 17,500 square feet.

5 Access Roads

6 The Second Amended Site Certificate authorized construction of up to 41.5 miles of
7 turbine string access roads. Approval of PGE's Request for Amendment #3 would increase
8 the total length of new access roads to 44 miles.

9 Construction Disturbance Areas

10 Under the proposed amendment, the total area of potential disturbance during
11 construction, outside of the area occupied by permanent facility components, would increase
12 from approximately 416 acres to approximately 497 acres.¹⁰ The increased area of
13 construction disturbance is due, in part, to additional proposed crane paths. PGE proposes to
14 increase the total length of temporary crane paths from approximately 5.1 miles to
15 approximately 16 miles.

The Site and Site Boundary

16 As defined by OAR 345-001-0010, the "site boundary" is the perimeter of the site the
17 energy facility, its related or supporting facilities, all temporary laydown and staging areas
18 and all corridors and micrositing corridors.¹¹ PGE proposes to increase the area within the site
19 boundary to accommodate the Phase 2 construction layout as shown on Figures 2, 2a, 2b and
20 2c.

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

21 The Council must decide whether the amendment complies with the facility siting
22 standards adopted by the Council. In addition, the Council must impose conditions for the
23 protection of the public health and safety, for the time of commencement and completion of
24 construction and for ensuring compliance with the standards, statutes and rules addressed in
25 the project order. ORS 469.401(2).

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

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

33 In making its decision on an amendment of a site certificate, the Council applies the
34 applicable state statutes, administrative rules and local government ordinances that are in

¹⁰ Cumulative temporary and permanent habitat impacts addressed under the Final Order on Amendment #2 were based on revised data from PGE submitted by email from Rick Tetzloff, March 1, 2008. Estimated cumulative temporary and permanent habitat impacts shown in the Request for Amendment #3 were revised by the certificate holder (email from Ray Hendricks, August 15, 2008)

¹¹ The facility "site," as defined under ORS 469.300, includes all land upon which the energy facility and its related or supporting facilities are located.

1 effect on the date the Council makes its decision, except when applying the Land Use
2 Standard.¹² In making findings on the Land Use Standard, the Council applies the applicable
3 substantive criteria in effect on the date the certificate holder submitted the request for
4 amendment. OAR 345-027-0070(9).

1. General Standard of Review

5 OAR 345-022-0000

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

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

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

24 * * *

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

2. Standards about the Applicant

(a) Organizational Expertise

29 OAR 345-022-0010

30 *(1) To issue a site certificate, the Council must find that the applicant has the*
31 *organizational expertise to construct, operate and retire the proposed facility in*
32 *compliance with Council standards and conditions of the site certificate. To*
33 *conclude that the applicant has this expertise, the Council must find that the*
34 *applicant has demonstrated the ability to design, construct and operate the*
35 *proposed facility in compliance with site certificate conditions and in a manner*
36 *that protects public health and safety and has demonstrated the ability to restore*

¹² The Council adopted amendments to the standards contained in OAR Chapter 345, Divisions 22 and 24, effective May 15, 2007.

1 *the site to a useful, non-hazardous condition. The Council may consider the*
2 *applicant's experience, the applicant's access to technical expertise and the*
3 *applicant's past performance in constructing, operating and retiring other*
4 *facilities, including, but not limited to, the number and severity of regulatory*
5 *citations issued to the applicant.*

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

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

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

Findings of Fact

25 In the Final Order on Amendment #1, the Council found that PGE has adequate
26 organizational expertise to construct, operate and retire the proposed BCWF. None of the
27 changes proposed by PGE in the request for Amendment #3 affect the organizational
28 expertise available to PGE to design, construct, operate and retire the facility. The Council
29 finds that no changes to Conditions 1, 2, 3 and 4 of the site certificate are needed. The Council
30 finds that the proposed changes would not affect the Council's previous finding and that there
31 have been no changes of circumstances or underlying facts that would affect that finding.

Conclusions of Law

32 Based on the findings stated above, the Council concludes that PGE would meet the
33 Council's Organizational Expertise Standard if Amendment #3 were approved.

(b) Retirement and Financial Assurance

OAR 345-022-0050

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

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

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 in the facility on the
5 estimated cost of site restoration. Under Amendment #3, the following proposed changes
6 could affect the cost of site restoration:

- 7 • Increased area occupied by access roads
- 8 • Increased size (total square footage) of O&M buildings¹³
- 9 • Additional area of estimated site restoration disturbance beyond the footprint

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

B. Estimated Cost of Site Restoration

13 To provide a fund that is adequate for the State of Oregon to bear the cost of site
14 restoration if the certificate holder fails to fulfill its obligations, the Council assumes
15 circumstances under which the restoration cost would be greatest. The certificate holder is
16 building the BCWF in phases. Phase 1, which is currently operating, consists of 76 wind
17 turbines (Vestas V82, 1.65-MW turbines) and related and supporting facilities. The Site
18 Certificate authorizes up to 225 turbines with a combined peak capacity of up to 450 MW at
19 full build-out. The certificate holder proposes to construct 65 wind turbines (Siemens SWT,
20 2.3-MW turbines) and related facilities in Phase 2 and an additional 76 turbines (Siemens
21 SWT, 2.3-MW turbines) and related facilities in Phase 3.¹⁴ The Department estimated the site
22 restoration cost based on full build-out (Phases 1, 2 and 3) as shown in Table 1.

¹³ Based on the change request approved by the Department on July 21, 2008.

¹⁴ Based on information from the certificate holder regarding Phase 2 and Phase 3 (email from Ray Hendricks, July 6, August 7 and August 13, 2008).

Table 1: Cost Estimate for Site Restoration (Full Build-Out)

Cost Estimate Component	Quantity	Unit Cost	Extension
Turbines			
Disconnect electrical and ready for disassembly (per turbine)	217	\$953	\$206,801
Remove turbine blades, hubs and nacelles (per turbine)	217	\$5,058	\$1,097,586
Remove turbine towers (per net ton of steel)	59,790	\$65	\$3,561,350
Remove and load pad transformers (per turbine)	217	\$2,186	\$474,362
Foundation and transformer pad removal (per cubic yard of concrete)	8,680	\$31	\$269,080
Restore turbine turnouts (per turbine)	217	\$1,186	\$257,362
Met Towers			
Dismantle and dispose of met towers (per tower)	4	\$8,348	\$33,392
Substation and O&M Building			
Dismantle and dispose of substation	1	\$215,244	\$215,244
Dismantle and dispose of 5,000-sq ft O&M building and restore 5-acre O&M facility site	1	\$103,608	\$103,608
Dismantle and dispose of 5,200-sq ft O&M building	1	\$11,320	\$11,320
Dismantle and dispose of 1,500-sq ft modular O&M facility	1	\$3,265	\$3,265
Transmission Line			
Removal of 34.5-kV aboveground transmission line (per mile)	12.1	\$3,851	\$46,597
Junction boxes - remove electrical to 4' below grade (each)	65	\$1,284	\$83,460
Access Roads			
Road removal, grading and seeding (per mile)	46.28	\$47,450	\$2,195,986
Access road intersection and turnaround removal (per acre)	4	\$18,539	\$74,156
Restore Additional Areas Disturbed by Facility Removal			
Restore area disturbed during restoration work (per acre)	772.93	\$2,696	\$2,093,819
General Costs			
Permits, mobilization, engineering, overhead and utility disconnects			\$431,183
Subtotal (2005 dollars)			\$11,158,571
Subtotal (3 rd Quarter 2008 Dollars) ¹⁵			\$12,065,811
Performance Bond		1%	\$120,658
Gross Cost			
Administration and Project Management		10%	\$1,218,647
Future Developments Contingency		10%	\$1,218,647
Total Site Restoration Cost (rounded to nearest \$1,000)			\$14,624,000

1 For the purpose of determining whether PGE has a reasonable likelihood of obtaining
2 a bond or letter of credit in an amount satisfactory to the Council to restore the site, the
3 Council finds that the estimated cost of site restoration is \$14.624 million (in 3rd Quarter,
4 2008 dollars). This is a conservative estimate of the cost of restoring the site if the BCWF
5 were fully constructed as allowed under the site certificate.

¹⁵ In accordance with Condition 9, the gross cost in 2005 dollars is adjusted to present value by application of the Gross Domestic Product (GDP) Implicit Price Deflator for the third quarter 2008 divided by the annual GDP Implicit Price Deflator for 2005 or 122.3024/113.005.

C. Ability of PGE to Obtain a Bond or Letter of Credit

1 In the Final Order on Amendment #2, the Council found that it was reasonably likely
2 that PGE could obtain a letter of credit in a satisfactory amount. The Council based its finding
3 on a letter from JPMorgan Chase Bank, N.A., that stated the bank’s willingness to “furnish or
4 arrange a letter of credit in an amount up to \$20 million for a period not to exceed four years
5 for the purpose of ensuring Portland General Electric Company’s obligations that the site of
6 the proposed Biglow Canyon Wind Farm Project can be restored to a useful non-hazardous
7 condition.”¹⁶ The Council finds that it is reasonably likely that PGE can obtain a bond or letter
8 of credit in a form and amount satisfactory to the Council to restore the site.

9 The Council modifies Conditions 8 and 9 as discussed below in Revisions 6 and 7.

Conclusions of Law

10 Based on the findings stated above, the Council concludes that PGE would meet the
11 Council’s Retirement and Financial Assurance Standard if Amendment #3 were approved.

3. Standards about the Impacts of Construction and Operation

(a) Land Use

OAR 345-022-0030

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

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

16 ***

17 *(b) The applicant elects to obtain a Council determination under ORS*
18 *469.504(1)(b) and the Council determines that:*

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

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

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

31 *(3) As used in this rule, the “applicable substantive criteria” are criteria from the*
32 *affected local government’s acknowledged comprehensive plan and land use*
33 *ordinances that are required by the statewide planning goals and that are in effect*
34 *on the date the applicant submits the application. If the special advisory group*
35

¹⁶ Letter from Helen Davis, JPMorgan Chase Bank, to James Warberg, PGE, dated February 21, 2007.

1 *recommends applicable substantive criteria, as described under OAR 345-021-*
2 *0050, the Council shall apply them. If the special advisory group does not*
3 *recommend applicable substantive criteria, the Council shall decide either to make*
4 *its own determination of the applicable substantive criteria and apply them or to*
5 *evaluate the proposed facility against the statewide planning goals.*

6 *(4) The Council may find goal compliance for a proposed facility that does not*
7 *otherwise comply with one or more statewide planning goals by taking an*
8 *exception to the applicable goal. Notwithstanding the requirements of ORS*
9 *197.732, the statewide planning goal pertaining to the exception process or any*
10 *rules of the Land Conservation and Development Commission pertaining to the*
11 *exception process, the Council may take an exception to a goal if the Council*
12 *finds:*

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

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

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

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

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

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

28 * * *

Findings of Fact

29 In the Final Order on the Application, the Council found the proposed BCWF would
30 comply with the statewide planning goals, based on a land use analysis under ORS
31 469.504(1)(b)(B). The Council found that Special Advisory Group appointed for the BCWF
32 (the governing body of Sherman County) had not identified applicable substantive criteria.
33 The Council, in accordance with ORS 469.504(5), determined that Article 5 of the Sherman
34 County Zoning Ordinance (SCZO) contained the applicable substantive criteria and applied
35 those criteria. The Council found that the BCWF did not comply with all of the criteria.
36 Specifically, the facility did not comply with SCZO Sections 5.2.1,¹⁷ 3.1.4¹⁸ and 5.8.16(d).¹⁹

¹⁷ SCZO Section 5.2.1 requires that the facility be compatible with the Sherman County Comprehensive Plan (SCCP) and applicable policies. The Council found that the BCWF did not comply with Policy III under SCCP Goal XVIII. Policy III requires “new high voltage electrical transmission lines with nominal voltage in excess of 230 kV” to be constructed within or adjacent to existing electrical transmission line right-of-way. Because the proposed facility included a 230-kV or 500-kV transmission line that would not be “within or adjacent to” an

1 In accordance with ORS 469.504(1)(b)(B), the Council then considered whether the
2 facility complied with the applicable statewide planning goal (Goal 3). The Council found
3 that the facility did not comply with Goal 3 because it would exceed the acreage limitations
4 for a “power generation facility” located on farmland as set out in OAR 660-033-0130(17) for
5 high-value farmland (12-acre limit) and in OAR 660-033-0130(22) for non-high-value
6 farmland (20-acre limit). The Council found that the “principal use” and the access roads were
7 subject to the acreage restrictions and that these components would occupy approximately
8 170.7 acres of farmland.²⁰ Nevertheless, the Council found that an exception to Goal 3 was
9 justified under the standards required by ORS 469.504(2)(c).

10 In the Final Order on Amendment #2, the Council eliminated the previously-approved
11 230-kV or 500-kV transmission line from the BCWF. The facility does not include any
12 transmission line “in excess of 230 kV,” and, therefore, SCZO Section 5.2.1 no longer
13 applies. Analysis under ORS 469.504(1)(b)(B) is still necessary though, because the facility
14 does not comply with SCZO Sections 3.1.4 and 5.8.16(d).

15 In June 2007, Sherman County adopted revisions to the Sherman County
16 Comprehensive Plan (SCCP), and on November 21, 2007, the County adopted Ordinance 39-
17 2007 (which addressed setback requirements for adjacent, separate wind projects). These
18 changes to applicable substantive criteria were in effect on the date the certificate holder
19 submitted the Request for Amendment #3. The Council must consider and apply the new
20 criteria to those areas that would be added to the site if the amendment were approved (OAR
21 345-027-0070(9) and OAR 345-027-0070(10)(a)). As discussed herein, the “expansion areas”
22 added to the site include all areas within the expanded site boundary as shown on Figures 2,
23 2a, 2b and 2c (“Amendment III Areas”).²¹

A. Goal 3 Exception

24 The area of farmland that the “power generation facility” would occupy under a full
25 build-out as proposed by the certificate holder would total approximately 185 acres, as shown
26 in Table 2.²²

existing transmission line right-of-way, the Council found non-compliance with SCZO Section 5.2.1.

¹⁸ The Council interpreted SCZO Section 3.1.4 to require a 30-foot setback for facility structures including transmission lines and junction boxes. The applicant requested an exception for transmission lines and junction boxes from the setback required under Condition 20. The Council allowed the exception but found as a consequence that the facility did not comply with SCZO Section 3.1.4.

¹⁹ SCZO Section 5.8.16(d) requires that the facility be located on land “generally unsuitable” for crop production or livestock. The Council found that the BCWF would be located on land suitable for crop production because the site was located on approximately 157 acres of land that was being used for non-irrigated crop production. The Council found, therefore, that the facility did not comply with SCZO Section 5.8.16(d).

²⁰ The Council found that the other facility components (the substation and aboveground transmission line) would be “utility facilities necessary for public service” allowed on EFU land under ORS 215.283(1)(d), subject to the provisions of ORS 215.275. The Council found that the substation and transmission line satisfied the requirements.

²¹ “Site boundary” means the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant (OAR 345-001-0010).

²² Table 2 is based on PGE’s revised calculation of the area occupied by the principal use and access roads (e-mail from Ray Hendricks, September 5, 2008).

Table 2: Area Occupied by the Power Generation Facility

Structure	Acres
Principal use	
Turbine towers, including pad areas and road turnouts	14.08
Meteorological towers	0.25
Aboveground 34.5 kV collector line poles	0.07
O&M building site	4.80
Subtotal	19.2
Access roads	166.09
Total	185.29

1 The facility would exceed the acreage limitations of OAR 660-033-0130(17) and OAR
2 660-033-0130(22). The Council must find, therefore, that an exception to Goal 3 would be
3 justified. The changes in the facility that would be authorized under Amendment #3 would
4 alter design and construction details but would not change the proposed land use. The area
5 occupied by the principal use would not increase significantly (approximately 0.1 acre); the
6 area occupied by access roads would increase by approximately 12 acres. The additional road
7 area would be contiguous with acreage used by the facility as previously approved.

8 The facts underlying the Council’s previous findings in support of a “reasons”
9 exception under ORS 469.504(2)(c) would not be significantly different if the Council were to
10 approve Amendment #3.²³ In summary, with the proposed changes, the facility would still
11 occupy less than one percent of the actively farmed land adjacent to the facility.²⁴ The
12 changes would preserve most of the land upon which the facility lies for farm use. The new
13 access road segments and revised access road layout would be available for use in farm
14 operations. The certificate holder proposes to revise the access road layout in part “to
15 accommodate the wishes of property owners for access road alignments that reduce the
16 division of farm fields and serve agricultural needs.”²⁵ The proposed changes would allow
17 accepted farm practices in the area (soil preparation in the spring and fall, sowing, fertilizing,
18 pest and weed management and harvesting) to occur without serious interference.

19 Approval of the facility, with the proposed amendments, furthers the state energy
20 conservation policy embodied in Goal 13 by using renewable energy sources. As discussed in
21 the Final Order on the Application, in the Final Order on Amendment #2 and herein, the
22 significant environmental, economic, social and energy consequences anticipated as a result
23 of the proposed facility have been identified and adverse impacts will be mitigated.
24 Conditions 18, 19, 21, 22 and 23, all of which help to ensure the compatibility of the facility
25 with farming operations, would apply to the entire facility, including the additions and
26 modifications that would be allowed under proposed Amendment #3.

²³ The “reasons” exception is discussed in the Final Order on the Application, pp. 61-63, and in the Final Order on Amendment #2, p. 25.

²⁴ In the Final Order on the Application (p. 50), the Council assumed that 20,000 acres of land within the lease area was in use as farmland. The area occupied by the principal use and access roads (185.29 acres) represents 0.9 percent of the total farmland.

²⁵ Request for Amendment #3, p. 4.

1 In the revised SCCP, Sherman County included a discussion of the economic benefits
2 to the County of wind energy development. The County estimated that more than 700 wind
3 turbines will be operating near the City of Wasco within the next ten years. The County
4 recognized the value of wind energy projects to the local economy.²⁶

5 *The City will be the primary beneficiary of the construction populations and the*
6 *operation and maintenance people for these wind power projects. This is a case of*
7 *natural resources—the ever-present westerly wind—providing a new product to an*
8 *existing economic base. It is recognized there will be similar projects in nearby*
9 *Gilliam County and also in the State of Washington, but this area of Sherman*
10 *County is destined to become a major wind farm energy generator for the State of*
11 *Oregon. Because of that, a new economic era of prosperity is at the threshold for*
12 *Sherman County.*

13 For these reasons, the Council finds that the standards for an exception to Goal 3
14 under ORS 469.504(2)(c) would continue to be met if Amendment #3 were approved. The
15 changes authorized under the amendment do not substantially alter the underlying facts upon
16 which the Council based its previous findings and conclusions regarding land use.

B. Revised Sherman County Comprehensive Plan

17 SCZO Section 5.2.1 requires that the facility be compatible with the SCCP and
18 applicable policies. The County revised the SCCP in June 2007.²⁷ The Council must decide
19 whether the proposed land use in areas where the site boundary would be expanded under
20 Amendment #3 is compatible with the revised language of the SCCP.²⁸ The Council made
21 findings regarding the SCCP goals and policies in the Final Order on the Application (pp. 33-
22 39).

23 The Council finds that the changes proposed in the Request for Amendment #3 are
24 compatible with the applicable goals and policies of the SCCP (as updated in 2007) for the
25 reasons discussed below.

SCCP Section XI, Goal I: Quality of the Physical Environment

27 *Goal I: Improve or maintain the existing quality of the physical environment*
28 *within the County.*

29 This goal is identical to Goal V, SCCP Section XI, in the previous version of the
30 SCCP, which the Council addressed in the Final Order on the Application. The single policy
31 under this goal (requiring that erosion control provisions be incorporated into the subdivision
32 ordinance) is not applicable to the BCWF.

SCCP Section XI, Goal II: Natural Hazards

34 *Goal II: To protect life and property from natural disasters and hazards.*

35 This goal is identical to Goal VI, SCCP Section XI, in the previous version of the
36 SCCP, which the Council addressed in the Final Order on the Application. The single policy
37 under this goal requires an evaluation of lands designated as potential natural hazard areas

²⁶ SCCP, pp. 37-38.

²⁷ *Comprehensive Land Use Plan, Sherman County Oregon 1994, Updated 2007.*

²⁸ The certificate holder provided an analysis of the revisions to the SCCP (Memorandum from Richard Allan, August 13, 2008).

1 before construction of any permanent structure. The expansion areas proposed under
2 Amendment #3 are not designated as potential natural hazard areas.

3 **SCCP Section XI, Goal VI: Landscape**

4 *Goal VI: Encourage preservation of the rural nature [of] the Sherman County*
5 *landscape.*

6 This goal is similar to Goal X, SCCP Section XI, in the previous version of the SCCP,
7 which required preservation of “the integrity of the Sherman County Landscape.” The
8 Council addressed this goal in the Final Order on the Application. The single policy under the
9 current Goal VI “encourages” retention of trees when practical. The expansion of the site
10 boundary under Amendment #3 would affect mostly cultivated agricultural land.²⁹ No impact
11 on trees is anticipated. The expansion areas would be subject to Condition 57, which requires
12 avoidance of significant wildlife habitat (such as trees, which are scarce in the area).

13 **SCCP Section XI, Goal VII: Fish and Wildlife**

14 *Goal VII: Encourage preservation of fish and wildlife habitat in the County.*

15 This goal is similar to Goal XI, SCCP Section XI, in the previous version of the
16 SCCP, which required maintaining “all species of fish and wildlife at optimum levels” and
17 preventing “the serious depletion of any indigenous species.” The Council addressed this goal
18 in the Final Order on the Application. The applicable policies under current Goal VII are
19 identical to the policies under former Goal XI.³⁰ Policy IX (which addresses range
20 management programs) does not apply to the expansion areas proposed under Amendment #3.
21 Policy X requires consideration of retention of fence rows, ditch banks and brush patches for
22 wildlife use. The expansion areas would not affect any of these features, and Condition 57
23 requires avoidance of significant wildlife habitat. Policy XI addresses maintenance by the
24 Oregon Department of Fish and Wildlife of “existing habitat plantings and water
25 developments constructed for wildlife use” and does not apply to the expansion areas because
26 these features are not present. Policy XII does not apply because it addresses habitat quality
27 on Rufus Bar and Maryhill Islands, which are not affected by the proposed expansion of the
28 site boundary.

29 **SCCP Section XI, Goal VIII: Plant and Animal Diversity**

30 *Goal VIII: Encourage the diversity of plant and animal species within the County.*

31 This goal is similar to Goal XIII, SCCP Section XI, in the previous version of the
32 SCCP, which addressed maintaining the diversity of plant and animal species within the
33 County. The Council addressed this goal in the Final Order on the Application. There are no
34 policies listed under current Goal VIII. Nevertheless, compliance with the Council’s Fish and
35 Wildlife Habitat Standard and Threatened and Endangered Species Standard, discussed
36 herein, helps to ensure diversity of plant and animal species.

37 **SCCP Section XII, Goal I: Social Services and Public Facilities**

38 *Goal I: To improve or maintain the current level of social services available with*
39 *the County and to assure the provision of public facilities consistent with the*
40 *intensity of land use.*

²⁹ See Table 4 herein.

³⁰ Former Policy V (regarding use of pesticides) does not appear as a policy under current Goal VII.

1 This goal is identical to Goal XIV, SCCP Section XII, in the previous version of the
2 SCCP, which the Council addressed in the Final Order on the Application. There are ten
3 policies listed under current Goal I. The applicable policies are discussed below.

4 In relevant part, Policy IV requires that “the County road system shall be maintained
5 and improved consistent with the needs of the Sherman County citizenry, when funds are
6 available.” The expansion areas proposed under Amendment #3 would be subject to
7 Condition 17 (requiring the certificate holder to construct road improvements to meet or
8 exceed the County road standards), Condition 18 (which prohibits parking or storage of
9 BCWF equipment or machinery on County roads) and Condition 78 (which requires
10 restoration of any County roads damaged during construction of the BCWF). These
11 conditions would ensure compatibility with Policy IV.

12 Policy V requires locating new public roads and highways to avoid dividing existing
13 farming units. The certificate holder does not propose construction of any public roads or
14 highways. Nevertheless, the certificate holder would design facility access roads to avoid
15 dividing farm units, as required by Condition 19.

16 Policy VI requires protection of the Wasco State Airport from incompatible land uses.
17 The changes proposed under Amendment #3 would not increase the number of wind turbines
18 or the size of wind turbines authorized by the site certificate. Condition 38 requires the
19 certificate holder to submit a Notice of Proposed Construction or Alteration to the Federal
20 Aviation Administration (FAA). The notice identifies the proposed final location of each
21 turbine and met tower. After receiving the notice, the FAA conducts a flight path review to
22 determine whether the proposed turbine locations would interfere with public or private air
23 traffic. If the FAA finds that a proposed turbine would not present a safety hazard, the FAA
24 issues a “Determination of No Hazard to Air Navigation” letter. The certificate holder must
25 receive the FAA determination before beginning construction of each turbine. In addition,
26 Condition 52 requires the certificate holder to install tower lighting required by the FAA for
27 aviation safety. These conditions ensure that the Wasco airport would be protected from
28 incompatible uses.

29 Policy IX encourages increased economic diversity and creation of long-term
30 employment opportunities. In the Final Order on the Application, the Council found that the
31 BCWF would increase economic diversity in the County by providing jobs outside the
32 agricultural sector. The expansion of the site boundary as proposed in Amendment #3 would
33 not affect the Council’s previous finding regarding compatibility with this policy.

34 Policy X addresses the County’s Transportation Planning Policies. Most of the
35 transportation policies do not apply to the proposed expansion areas. Policy X, Section C
36 concerns protection of transportation facilities. As described above regarding Policy IV,
37 Conditions 17, 18 and 78 ensure protection of County roads.

38 **SCCP Section XII, Goal II: Cultural Resources**

39 *Goal II: To protect historical, cultural and archeological resources from*
40 *encroachment by incompatible land uses and vandalism.*

41 This goal is identical to Goal XV, SCCP Section XII, in the previous version of the
42 SCCP, which the Council addressed in the Final Order on the Application. The two policies
43 listed under current Goal II identify specific areas and structures considered historically,

1 archaeologically or culturally significant and encourage the protection of those areas and
2 structures. The areas of expansion of the facility site proposed under Amendment #3 would be
3 subject to Conditions 69 through 73, which ensure compatibility with the policies under Goal
4 II. The certificate holder has performed an archaeological survey of the lands within the
5 expansion areas (as well as areas that would be temporarily disturbed by construction under
6 Amendment #3) and has reported the results of that survey to the Department.³¹ The affected
7 areas do not contain any archaeological sites or visible remnants of the Oregon Trail.

8 **SCCP Section XIV, Goal I: Economic Base and Viability of Agriculture**

9 *Goal I: Diversify the economic base of the County and maintain the viability of the*
10 *agricultural sector.*

11 This goal is identical to Goal XVII, SCCP Section XIV, in the previous version of the
12 SCCP, which the Council addressed in the Final Order on the Application. Policies I, II and
13 III under the current Goal I are similar to the same-numbered policies under former Goal VII.
14 In the Final Order on the Application, the Council found that these policies did not apply to
15 the BCWF, and the current policies are inapplicable to the expansion areas. New Policy XIV
16 under current Goal I requires the County to “consider the conversion of EFU lands to other
17 uses that facilitate economic development.”³² The proposed use of the expansion areas for
18 construction and operation of the BCWF does not require conversion of EFU land to a
19 different zoning designation. The BCWF, for reasons discussed herein, is compatible with
20 farm use and facilitates economic development within the County.

21 **SCCP Section XV, Goal I: Energy Resources**

22 *Goal I: Conserve energy resources*

23 This goal is identical to Goal XVIII, SCCP Section XV, in the previous version of the
24 SCCP, which the Council addressed in the Final Order on the Application. Policy I under
25 current Goal I requires cooperation “with public agencies and private individuals in the use
26 and development of renewable resources.” The Department has invited comments from the
27 County on the certificate holder’s Request for Amendment #3. The Council’s Land Use
28 Standard and ORS 469.504 require the Council to consider and apply the County’s applicable
29 substantive criteria before taking action on the amendment request. The Council’s review, as
30 discussed herein, is compatible with Policy I. Policy II under Goal I addresses the integration
31 of rail, highway and barge transportation services and facilities at Biggs Junction and Rufus
32 and does not apply to the BCWF expansion areas.

33 **SCCP Section XVI, Goal I: Orderly Use of Lands**

34 *Goal I: To provide an orderly and efficient use of the lands within Sherman*
35 *County.*

36 This goal is identical to Goal XIX, SCCP Section XVI, in the previous version of the
37 SCCP, which the Council addressed in the Final Order on the Application. Policy I under the
38 current Goal I is similar to Policy I under former Goal XIX, and Policies II and III under the
39 current Goal I are identical to the same-numbered policies under the former goal. In the Final

³¹ CH2M HILL, *Amendment III Archaeological Survey Report, Biglow Canyon Wind Farm, Sherman County Oregon*, June 2008.

³² The entire BCWF, including the expansion areas, is located on privately-owned land zoned Exclusive Farm Use (EFU).

1 Order on the Application, the Council found that these policies did not apply to the BCWF
2 and they are inapplicable, as well, to the expansion areas. Policy IV (“Commercial businesses,
3 except those related to agricultural uses, should be located within the incorporated cities or
4 within areas served by the Biggs or Kent special service districts.”) is identical to the same-
5 numbered policy under former Goal XIX. The BCWF, including the expansion areas, is a
6 “commercial utility facility,” which is a land use specifically allowable in Sherman County’s
7 Exclusive Farm Use Zone. A commercial wind energy facility must be located where there is
8 sufficient land area to use the wind resource efficiently, which is unlikely to exist within
9 incorporated cities or the Biggs or Kent special service districts. Locating a commercial wind
10 energy facility outside of an incorporated city is consistent with Sherman County Ordinance
11 39-2007, Section 6, which prohibits locating wind turbines within one mile of the boundary of
12 an incorporated city, unless the affected city grants a variance to that distance.

C. Sherman County Ordinance 39-2007

13 On November 21, 2007, the Sherman County Court adopted Ordinance 39-2007. The
14 certificate holder included a complete copy of the ordinance as Attachment 4 to the Request
15 for Amendment #3. In summary, the ordinance contains the following elements:

- 16 • The County encourages wind energy project developers to establish turbine
17 setback distances by negotiating an agreement with the landowners of properties
18 that are adjacent to the project area (or with the developers of adjacent wind
19 energy projects).
- 20 • If a wind energy project developer is unable to negotiate an agreement with an
21 adjacent property owner (or wind energy project developer), then the developer
22 must comply with the setback distances specified in the ordinance or request a
23 variance.
- 24 • Section 4 of the ordinance specifies that a wind turbine must be set back at least
25 7.5 rotor diameters from the nearest property line that lies to the east or west of the
26 turbine location.
- 27 • Section 4 of the ordinance specifies that a wind turbine must be set back at least
28 1.5 rotor diameters from the nearest property line that lies to the north or south of
29 the turbine location.
- 30 • The specified setback distances apply to turbines located near the “project
31 boundaries” and not to turbines located “internally” within the project area.³³
- 32 • If a wind turbine already exists on the neighboring property (“pre-existing wind
33 turbines”), Section 5 of the ordinance requires that the developer of a new wind
34 energy project comply with a setback distance of at least 15 rotor diameters from
35 the nearest pre-existing turbine (in the neighboring project) that lies to the east or
36 west of the new turbine location. The developer of the new project must comply
37 with a setback distance of at least 3 rotor diameters from the nearest pre-existing
38 turbine that lies to the north or south of the new turbine location.

³³ The certificate holder and the Department interpret “project boundary” as the outer real property line of the collective properties on which the developer has wind development rights (email from Richard Allan, August 19, 2008).

- 1 • Section 6 of the ordinance specifies that a wind turbine must be set back at least
2 one mile from the nearest boundary line of an incorporated city (unless the
3 developer obtains a variance from the affected city).
- 4 • Section 4.b of the ordinance allows for a variance “in cases where extraordinary
5 topographical or geographical conditions would justify the granting of a variance.”

6 The Council approved the construction of wind turbines within defined turbine
7 corridors in the Final Order on the Application, issued June 30, 2006. In the Final Order on
8 Amendment #2, issued May 10, 2007, the Council approved an expansion of turbine string
9 9.³⁴ The Second Amended Site Certificate authorizes construction of up to 225 wind turbines
10 within the defined wind turbine corridors.³⁵ Sherman County Ordinance 39-2007 was not in
11 effect at the time the site certificate application was submitted or at the time the Request for
12 Amendment #2 was submitted. Accordingly, the ordinance does not restrict the location of
13 wind turbines within the corridors approved by the Council before the adoption of the
14 ordinance.

15 Ordinance 39-2007 was in effect at the time PGE submitted the Request for
16 Amendment #3. In the amendment request, PGE proposes modification of turbine corridors as
17 shown on Figures 2, 2a, 2b and 2c. The Council must determine whether placement of
18 turbines within the modified portions of turbine corridors would comply with the ordinance.

19 All of the modified corridor areas are more than one mile from any incorporated city
20 in Sherman County. Accordingly, approval of Amendment #3 would comply with Section 6
21 of the ordinance.

22 Placement of turbines in the modified corridor areas would comply with the setback
23 distances from pre-existing wind turbines specified in the ordinance. The rotor diameter for
24 the turbine type that PGE proposes to use for Phase 2 and Phase 3 is 93 meters.³⁶ Turbines
25 within the modified corridor areas, therefore, must be 1,395 meters (15 rotor-diameters) from
26 the nearest pre-existing turbine that lies to the east or west and 279 meters (3 rotor-diameters)
27 from the nearest pre-existing turbine that lies to the north or south.

28 To comply with the requirements of Section 4 of the ordinance (if no agreement can
29 be negotiated with the adjacent property owner), PGE must locate turbines within the
30 modified corridor areas at least 697.5 meters (7.5 rotor-diameters) from the nearest property
31 lines to the east or west and at least 139.5 meters (1.5 rotor-diameters) from the nearest
32 property line to the north or south.

33 In the amendment request, PGE has identified the proposed locations of four turbines.
34 Proposed turbine locations T-231 and T-232 are within the modified portion of turbine string
35 1, and proposed turbine locations T-235 and T-236 are within the modified portion of turbine
36 string 20. In each case, the proposed turbine locations are closer than 697.5 meters from the
37 nearest property line to the east or west and would not comply with the County ordinance. As
38 a part of Amendment #3, PGE initially requested that the Council approve a variance for these

³⁴ As shown on “Figure 1a” as described in the Final Order on Amendment #2.

³⁵ Second Amended Site Certificate for the Biglow Canyon Wind Farm, p. 2.

³⁶ PGE proposes to use Siemens SWT, 2.3-MW turbines, having a rotor diameter of 93 meters (email from Ray Hendricks, August 19, 2008).

1 four turbines from the 697.5-meter setback requirement. PGE later withdrew its variance
2 request.³⁷

3 Proposed turbine location T-232 is closer than 139.5 meters from the nearest property
4 line to the north and therefore would not comply with the setback distance required by the
5 County ordinance. PGE is not seeking a variance as part of Amendment #3.

6 PGE has acknowledged that, for turbine locations for which the Council has not
7 approved a variance, PGE would have to negotiate an agreement with the adjacent landowner
8 or move the turbine to a location that complies with the setback.³⁸ PGE has proposed a new
9 site certificate condition (Condition 128) that would address the requirements of the
10 ordinance. The Council adopts Condition 128, as described below in Revision 20. All BCWF
11 turbines must comply with Condition 40, which requires a minimum setback of 450 feet from
12 the nearest residence or public road.

Conclusions of Law

13 Based on the findings stated above, the Council finds an exception to Goal 3 is
14 necessary for the reasons discussed in the Final Order on the Application and the Final Order
15 on Amendment #2. The Council concludes that an exception to Goal 3 is justified, taking into
16 consideration the changes proposed in Amendment #3. To address the requirements County
17 Ordinance 39-2007, the Council adopts Condition 128 as described below in Revision 20.
18 Based on the findings discussed above and subject to the site certificate conditions described
19 herein, the Council concludes that the BCWF would comply with the Council's Land Use
20 Standard if Amendment #3 were approved.

(b) Soil Protection

21 **OAR 345-022-0022**
22 *To issue a site certificate, the Council must find that the design, construction and*
23 *operation of the facility, taking into account mitigation, are not likely to result in a*
24 *significant adverse impact to soils including, but not limited to, erosion and*
25 *chemical factors such as salt deposition from cooling towers, land application of*
26 *liquid effluent, and chemical spills.*

Findings of Fact

27 Soil types throughout the facility site and the areas that would be affected by
28 Amendment #3 are as shown in Figure I-1 of the site certificate application. In the Final Order
29 on the Application, the Council found that the design, construction, operation and retirement
30 of the proposed BCWF, taking into account mitigation and subject to the conditions stated in
31 the order, would not likely cause a significant adverse impact to soils. In the Final Order on
32 Amendment #2, the Council found that approval of new access road segments, collector lines
33 and crane paths outside the previously-approved site boundary would not result in significant
34 adverse impact to soils, taking into account the mitigation required by the site certificate
35 conditions.

³⁷ Email from Ray Hendricks, September 11, 2008.

³⁸ Email from Richard Allan, August 19, 2008.

1 The changes proposed in the request for Amendment #3 would increase the permanent
2 footprint of the BCWF by about 12 acres, almost all of which (11.3 acres) is cultivated
3 agricultural land.³⁹ Temporary soil disturbance would increase by about 80.5 acres, of which
4 more than 78 acres is cultivated agricultural land.⁴⁰ The certificate holder would restore all
5 areas of temporary soil disturbance in accordance with the Revegetation Plan as required by
6 Condition 29.

7 The changes to the facility that would be allowed if Amendment #3 were approved
8 would not substantially change the facts on which the Council relied in its previous findings
9 regarding impact to soils. The Council finds that no changes to the site certificate conditions
10 related to soil protection (Conditions 26 through 35) are needed. The Council finds that the
11 design, construction, operation and retirement of the BCWF as modified by Amendment #3
12 would not likely result in significant adverse impact to soils, taking into account the
13 mitigation required by the site certificate conditions.

Conclusions of Law

14 The Council concludes that the BCWF would comply with the Council's Soil
15 Protection Standard if Amendment #3 were approved.

(c) Protected Areas

OAR 345-022-0040

16 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site*
17 *certificate for a proposed facility located in the areas listed below. To issue a site*
18 *certificate for a proposed facility located outside the areas listed below, the*
19 *Council must find that, taking into account mitigation, the design, construction*
20 *and operation of the facility are not likely to result in significant adverse impact to*
21 *the areas listed below. References in this rule to protected areas designated under*
22 *federal or state statutes or regulations are to the designations in effect as of May*
23 *11, 2007:*
24

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

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

30 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C.*
31 *1131 et seq. and areas recommended for designation as wilderness areas pursuant*
32 *to 43 U.S.C. 1782;*

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

³⁹ Revised Table 2 (email from Ray Hendricks, August 15, 2008).

⁴⁰ Revised Table 1 (email from Ray Hendricks, August 15, 2008).

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

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

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

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

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

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

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

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

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

23 Coastal Oregon Marine Experiment Station, Astoria

24 Mid-Columbia Agriculture Research and Extension Center, Hood River

25 Agriculture Research and Extension Center, Hermiston

26 Columbia Basin Agriculture Research Center, Pendleton

27 Columbia Basin Agriculture Research Center, Moro

28 North Willamette Research and Extension Center, Aurora

29 East Oregon Agriculture Research Center, Union

30 Malheur Experiment Station, Ontario

31 Eastern Oregon Agriculture Research Center, Burns

32 Eastern Oregon Agriculture Research Center, Squaw Butte

33 Central Oregon Experiment Station, Madras

34 Central Oregon Experiment Station, Powell Butte

35 Central Oregon Experiment Station, Redmond

36 Central Station, Corvallis

1 Coastal Oregon Marine Experiment Station, Newport

2 Southern Oregon Experiment Station, Medford

3 Klamath Experiment Station, Klamath Falls;

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

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

10 (p) State wildlife areas and management areas identified in OAR chapter
11 635, Division 8.

12 * * *

Findings of Fact

13 In the Final Order on the Application, the Council found that the BCWF would not be
14 located in any protected area as defined by OAR 345-022-0040(1) and that the design,
15 construction and operation of the facility would not result in significant adverse impact to any
16 protected area, taking into account mitigation and subject to the conditions included in the site
17 certificate. The Council found that indirect effects of noise, traffic, water use and visual
18 impact from the BCWF would not have any significant impact on protected areas.

19 Table 3 lists the protected areas within 20 miles of the BCWF, a reference to the
20 applicable subparagraph of OAR 345-022-0040(1), the approximate distance and direction of
21 each protected area from the BCWF and the state in which each protected area is located.⁴¹
22 The expansion of the site boundary proposed in Amendment #3 does not significantly
23 increase the analysis area and does not affect any protected areas not considered by the
24 Council in the Final Order on the Application.

Table 3: Protected Areas within 20 Miles of the BCWF

Protected Area	Rule Reference	Distance (Miles)	Direction from BCWF	State
Columbia River Gorge National Scenic Area	(g)	10	NW	Oregon Washington
Deschutes River State Recreation Area	(h)	11	W	Oregon
Heritage Landing Day Use Area	(h)	11	W	Oregon
Deschutes Federal Wild and Scenic River	(k)	15	SW	Oregon
Deschutes State Scenic Waterway (Pelton Dam to Columbia River)	(k)	15	SW	Oregon
Lower Deschutes Wildlife Area	(p)	11	W	Oregon
John Day Wildlife Refuge	(d)	1	E	Oregon
John Day Federal Wild and Scenic River	(k)	1	E	Oregon
John Day State Scenic Waterway (Parrish Creek to Tumwater Falls)	(k)	1	E	Oregon
Columbia Basin Agriculture Research Center (Moro)	(m)	9	SW	Oregon

⁴¹ Table 3 is identical to Table 7 in the Final Order on the Application.

1 The changes to the facility that would be allowed if Amendment #3 were approved
2 would not substantially change the facts on which the Council relied in its previous findings
3 regarding potential noise, traffic, water and wastewater impacts on protected areas. In
4 considering the visual impact of the BCWF on protected areas, the Council found that the
5 proposed turbines would not have a significant visual impact at distances of five miles or
6 more from the site.⁴²

7 The three protected areas associated with the John Day River are the only protected
8 areas within five miles of the site. The John Day Wildlife Refuge is protected because it
9 provides wildlife habitat. It is not managed for its scenic views. Accordingly, the potential
10 visibility of parts of the BCWF from locations within the wildlife refuge (that are not also
11 within the borders of the John Day Federal Wild and Scenic River or the John Day State
12 Scenic Waterway) would have no significant impact on the protected area.

13 In the Final Order on the Application, the Council focused its analysis on scenic views
14 from the John Day Federal Wild and Scenic River and the John Day State Scenic Waterway.
15 The boundaries of these two protected areas begin at Tumwater Falls approximately ten miles
16 upstream from the confluence of John Day and Columbia rivers.⁴³ These protected areas lie
17 generally to the east of the easternmost BCWF turbine strings (strings 19 and 20). Based on
18 computer modeling provided by the applicant, the Council found that, although some BCWF
19 turbines would be partially visible from some locations within the John Day Federal Wild and
20 Scenic River and the John Day State Scenic Waterway, the visible parts of the facility would
21 not result in a significant adverse impact. Nevertheless, the Council adopted Condition 36,
22 which restricted placement of turbines within the approved micro-siting corridors to avoid “a
23 worst-case visual impact beyond that stated in the ASC and ASC Supplement” for the John
24 Day Wildlife Refuge, the John Day Federal Wild and Scenic River or the John Day State
25 Scenic Waterway (Parrish Creek to Tumwater Falls).

26 To demonstrate that the changes requested in Amendment #3 would comply with
27 Condition 36, PGE provided a computer simulation of views toward the BCWF from four
28 viewpoints along the John Day River, using the hub and blade tip height of the Siemens
29 turbines to model the visibility of turbines.⁴⁴ The viewpoints were the same as those used in
30 the simulations included in the site certificate application.⁴⁵ PGE compared the simulations
31 and described the differences as follows:⁴⁶

32 The differences between the simulations are somewhat subjective. The configuration proposed
33 in this Amendment Request appears to be somewhat more visible from Viewpoint 1, but less
34 visible from Viewpoint 2 and not visible at all from Viewpoint 4. From Viewpoint 3, the
35 proposed configuration appears to result in slightly greater visibility of blade tips (11 versus
36 8), but slightly less visibility of turbine hubs (3 versus 4 hubs in the ASC Supplement).
37 Overall, the visual impact does not exceed the impact stated in the ASC and ASC Supplement.

⁴² The analysis in the Final Order on the Application was based on GE 3.0-MW turbines with a hub height of 85 meters and a blade tip height of 125 meters. The Siemens turbines that PGE proposed to use in Phase 2 and 3 have a hub height of 80 meters and a blade tip height of 126.5 meters.

⁴³ Email from Jan Houck, Oregon Parks and Recreation Department, September 9, 2008.

⁴⁴ Request for Amendment #3, Figures 6, 6a, 6b, 6c and 6d.

⁴⁵ Biglow Canyon Wind Farm Application Supplement, Figures R-8, R-9, R-10, R-11 and R-12.

⁴⁶ Request for Amendment #3, p. 14.

1 The Department agrees with the certificate holder that comparison of visual impact
2 simulations presented in the site certificate application with the simulations from the same
3 viewpoints in the Request for Amendment #3 is somewhat subjective. The Council finds that
4 there is no significant difference between the simulations and that, therefore, the changes
5 proposed in Amendment #3 would comply with Condition 36.

6 For the simulations that are included in the Request for Amendment #3, PGE modeled
7 the Phase 1, Phase 2 and Phase 3 turbine locations as shown in Figure 2 of the request.
8 Although PGE is requesting a northward extension of the String 3 corridor, PGE does not
9 currently have a proposed layout for wind turbines or other facilities in the extension area, and
10 the simulations did not include any turbines in that area. To address the potential visual
11 impact of any turbines that PGE might later proposed to build in the corridor extension, the
12 Department, after discussion with PGE, proposed a modification of Condition 36, as
13 discussed in Revision 9 below.

Conclusions of Law

14 For the reasons discussed above, the Council concludes that the BCWF would comply
15 with the Council's Protected Areas Standard if Amendment #3 were approved.

(d) Scenic Resources

OAR 345-022-0080

16 *(1) Except for facilities described in section (2), to issue a site certificate, the*
17 *Council must find that the design, construction and operation of the facility, taking*
18 *into account mitigation, are not likely to result in significant adverse impact to*
19 *scenic resources and values identified as significant or important in local land use*
20 *plans, tribal land management plans and federal land management plans for any*
21 *lands located within the analysis area described in the project order.*
22

23 * * *

Findings of Fact

24 In the Final Order on the Application, the Council described the visual features of the
25 proposed BCWF. Approval of Amendment #3 would allow construction of turbines and
26 access road segments outside the previously-approved site boundary. In the Final Order on the
27 Application, the Council considered the potential visual impact of the BCWF on 13 land
28 management areas within 30 miles of the site.⁴⁷ Under the proposed amendment, there would
29 be no significant change in circumstances or underlying facts that would affect the Council's
30 previous finding that the design, construction, operation and retirement of the facility, taking
31 into account mitigation, are not likely to result in significant adverse impact to scenic and
32 aesthetic values identified as significant or important in applicable federal land management
33 plans or in local land use plans in the analysis area.

Conclusions of Law

34 For the reasons discussed above, the Council concludes that the BCWF would comply
35 with the Council's Scenic and Aesthetic Values Standard if Amendment #3 were approved.

⁴⁷ The analysis of visual impacts included a discussion of the same computer-generated visualizations at viewpoints along the John Day River as discussed above in the previous section on the Protected Areas Standard.

(e) Recreation

OAR 345-022-0100

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

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

(b) The degree of demand;

(c) Outstanding or unusual qualities;

(d) Availability or rareness;

(e) Irreplaceability or irretrievability of the opportunity.

* * *

Findings of Fact

In the Final Order on the Application, the Council found that recreational opportunities associated with the John Day River, the Journey Through Time Scenic Byway and historic trail alignments are important recreational opportunities within the analysis area. The Council found that the design, construction, operation and retirement of the proposed BCWF facilities would not result in significant adverse impact to these recreational opportunities, taking into account the mitigation that is required under site certificate conditions. The changes requested in Amendment #3 would not result in any greater impact on the identified recreational opportunities. Approval of Amendment #3 would not change the facts or circumstances upon which the Council relied in making findings regarding the impacts of the BCWF on recreational opportunities.

Conclusions of Law

For the reasons discussed above, the Council concludes that the BCWF would comply with the Council's Recreation Standard if Amendment #3 were approved.

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

OAR 345-024-0010

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

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

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

Findings of Fact

1 In the Final Order on the Application, the Council found that the certificate holder
2 could design, construct and operate the proposed BCWF facilities to exclude members of the
3 public from close proximity to the turbine blades and electrical equipment, to preclude
4 structural failure of the tower or blades that could endanger the public safety and to have
5 adequate safety devices and testing procedures. To ensure public safety, the Council included
6 conditions 37, 38, 39, 40, 41, 42, 43, 44, 45, 46 and 47 in the site certificate.

7 In the Request for Amendment #3, the certificate holder does not propose any
8 significant change in the design, size or location of facility components allowed under the site
9 certificate. The Amendment would not result in any new or increased risk of harm to public
10 safety. Approval of Amendment #3 would not change the facts or circumstances upon which
11 the Council relied in making findings regarding public health and safety at the BCWF site.

Conclusions of Law

12 For the reasons discussed above, the Council concludes that the BCWF would comply
13 with the Council’s Public Health and Safety Standards for Wind Energy Facilities if
14 Amendment #3 were approved.

(g) Siting Standards for Wind Energy Facilities

OAR 345-024-0015

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

19
20 *(1) Using existing roads to provide access to the facility site, or if new roads are*
21 *needed, minimizing the amount of land used for new roads and locating them to*
22 *reduce adverse environmental impacts.*

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

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

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

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

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

Findings of Fact

33 In the Final Order on the Application, the Council found that the certificate holder
34 could design and construct the BCWF facilities to reduce visual impact, to restrict public
35 access and to reduce cumulative adverse environmental impacts in the vicinity to the extent
36 practicable in accordance with the requirements of OAR 345-024-0015 in effect at that time.

1 In May 2007, the Council revised OAR 345-024-0015, although specific parts of the standard
2 regarding use of existing roads and limiting new roads, combining transmission routes, use of
3 existing substations, raptor protection and minimizing visual impact are substantially
4 unchanged. Both the earlier version of the standard and the current version require applicants
5 to “reduce cumulative adverse environmental impacts in the vicinity to the extent
6 practicable.” The Council’s findings in the Final Order on the Application apply as well to the
7 current requirements of OAR 345-024-0015.

8 The changes proposed in Amendment #3 include modifications of micrositing
9 corridors and the addition of access road segments, collector line segments and temporary
10 crane paths outside the previously-approved site boundary. In some cases, the proposed
11 revisions of the access road layout would reduce the division of farm fields (thereby reducing
12 cumulative impacts). The amendment would not add any aboveground collector lines (beyond
13 what the Council has previously authorized).

14 The amendment would allow limited use of lighting for nighttime construction, which
15 would have a short-term visual impact but would not affect the permanent features of the
16 facility. The certificate holder gave two reasons that would justify nighttime construction.
17 First, for structural integrity of the turbine towers, the concrete foundation base and pedestal
18 are each placed as monolithic pours of concrete. If construction occurs in late fall (after
19 daylight savings time), foundation and pedestal placements start before daylight in order to
20 complete the pour in the available workday. For concrete pours, the certificate holder’s
21 contractor would use local lighting only, aimed down at the foundation rather than outward.
22 Second, wind may limit daytime turbine installation in spring and summer for safety reasons.
23 Often the local winds die down late at night. If the installer should choose to work at night,
24 the installer would aim lights upward from the base of the tower or downward to illuminate
25 the work area. Any night work would be scheduled with the concurrence of the property
26 owner. The certificate holder proposes changes to Condition 52 to allow lighting for nighttime
27 construction, as described in Revision 12 below.

28 All of the proposed changes to the site boundary would be subject to site certificate
29 conditions related to compliance with OAR 345-024-0015 (especially Conditions 48 through
30 52). Approval of Amendment #3 would not change the facts or circumstances upon which the
31 Council relied in making findings regarding compliance with the standard.

Conclusions of Law

32 For the reasons discussed above, the Council concludes that the BCWF would comply
33 with the Council’s Siting Standards for Wind Energy Facilities if Amendment #3 were
34 approved.

(h) Siting Standards for Transmission Lines

OAR 345-024-0090

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

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

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

Findings of Fact

4 In the Final Order on the Application, the Council found that the certificate holder
5 could design, construct and operate the proposed transmission lines in accordance with the
6 standards described in OAR 345-024-0090. Amendment #3 would increase the overall length
7 of 34.5-kV collector lines from 99 miles to approximately 106 miles but would not increase
8 the authorized overall length of aboveground collector lines. The Council has found that
9 underground 34.5-kV collector lines do not produce any measurable electric field at one meter
10 above ground and that the aboveground collector line would produce an electric field well
11 below the 9 kV per meter standard. Approval of Amendment #3 would not change the facts or
12 circumstances upon which the Council relied in making findings regarding compliance with
13 the standards in OAR 345-024-0090.

Conclusions of Law

14 For the reasons discussed above, the Council concludes that the BCWF would comply
15 with the Council's Siting Standards for Transmission Lines if Amendment #3 were approved.

4. Standards to Protect Wildlife

(a) Threatened and Endangered Species

OAR 345-022-0070

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

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

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

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

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

Findings of Fact

32 In the Final Order on the Application and the Final Order on Amendment #2, the
33 Council found that construction and operation of the BCWF would not have an adverse
34 impact on any threatened or endangered plant or wildlife species. Before submitting the
35 Request for Amendment #3, the certificate holder conducted a survey to investigate the

1 presence of threatened or endangered plant or wildlife species.⁴⁸ The survey covered those
2 areas that would be affected by the changes requested in Amendment #3, excluding
3 agricultural or developed areas that lack suitable habitat for listed species. The certificate
4 holder conducted an additional survey to investigate the presence of listed plant species.⁴⁹ No
5 threatened or endangered plant or wildlife species were found during these surveys. Approval
6 of Amendment #3 would not change the facts or circumstances upon which the Council relied
7 in making findings regarding the potential impact of the facility on threatened or endangered
8 plant or wildlife species.

Conclusions of Law

9 For the reasons discussed above, the Council concludes that the BCWF would comply
10 with the Council's Threatened and Endangered Species Standard if Amendment #3 were
11 approved.

(b) Fish and Wildlife Habitat

OAR 345-022-0060

12 *To issue a site certificate, the Council must find that the design, construction and*
13 *operation of the facility, taking into account mitigation, are consistent with the fish*
14 *and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect*
15 *as of September 1, 2000.*
16

Findings of Fact

17 In the Final Order on Amendment #2, the Council made findings regarding the
18 estimated potential impact of the BCWF on wildlife habitat resulting from a "worst-case"
19 analysis of habitat within the micro-siting corridors. Under this worst-case analysis, the
20 Council found that the placement of turbines, access roads and other BCWF structures would
21 have a permanent effect on approximately 178.47 acres of land. The Council found that an
22 additional 416.39 acres would be affected during construction. Condition 63 requires the
23 certificate holder to implement a Habitat Mitigation Plan to improve the wildlife habitat
24 quality of other acreage near the facility as mitigation for the impacts of the facility on
25 wildlife habitat. Condition 62 requires the certificate holder to restore all areas of construction
26 disturbance according to the methods, monitoring procedures and success criteria described in
27 a Revegetation Plan. In addition to the direct "footprint" impacts, the Council recognizes that
28 the wind facilities might have an indirect adverse impact on avian and bat species. To
29 evaluate these indirect effects and provide for additional mitigation based on survey data, the
30 Council included Condition 61, which requires implementation of a Wildlife Monitoring and
31 Mitigation Plan for the BCWF. In the Final Order on the Amendment #2, the Council found
32 that the BCWF would comply with the Habitat Standard, taking into consideration the
33 mitigation required under the plans described above and under other conditions of the site
34 certificate.

⁴⁸ WEST and CH2M HILL, *Biglow Canyon Wind Farm – Additional Sensitive Species Surveys for Amendment #3*, July 25, 2008 (Request for Amendment #3, Attachment 5). The certificate holder provided a revised Figure 7-1 for this survey (email from Ray Hendricks, August 18, 2008).

⁴⁹ CH2M HILL, *Biglow Canyon Wind Farm – Supplemental Wetlands and Waters Determination and Rare Plant Habitat Survey for Amendment III*, June 3, 2008 (Request for Amendment #3, Attachment 6).

1 Before submitting the Request for Amendment #3, the certificate holder conducted a
 2 survey to investigate the presence of State Sensitive species and raptor nests in areas affected
 3 by Amendment #3.⁵⁰ The survey biologists observed grasshopper sparrows in the survey
 4 areas. The grasshopper sparrow is a State Sensitive – Vulnerable species. The biologists
 5 identified three red-tailed hawk nests, two great horned owl nests and one American kestrel
 6 nest. These raptor species are not State Sensitive species.

7 The Request for Amendment #3 describes changes to the facility that would increase
 8 the total area of permanent and construction impact on habitat. Table 4 shows the revised area
 9 of permanent and temporary impacts if Amendment #3 were approved. The areas shown in
 10 the table were estimated assuming a worst-case placement of turbines.⁵¹

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

Habitat type	Area of construction impact (acres)	Area of permanent impact (acres)
Category 3		
CRP	16.14	8.47
Shrub-steppe	1.33	0.39
Category 4		
CRP	3.19	2.82
Shrub-steppe	0.54	0.38
Grassland	0.70	0.60
Category 6		
Developed	5.88	1.24
Agricultural	469.07	176.6
TOTAL	496.85	190.50

11 The changes that would be allowed under Amendment #3 would increase the facility's
 12 permanent impact on higher-value habitat (Category 3 and 4) by less than one acre (0.73
 13 acres). The area of higher-value habitat affected during construction would increase by
 14 approximately 2.13 acres. The Council revises the Habitat Mitigation Plan, as requested by
 15 PGE, to reflect the change in the area of permanent impact that would occur if Amendment #3
 16 were approved.

17 In addition to the mitigation for permanent impacts, the Habitat Mitigation Plan
 18 provides mitigation for the potential displacement effect of wind turbines on grassland avian
 19 species. The plan includes 33 acres designated as the mitigation area for displacement
 20 impacts, based on an assumed 50-percent reduction in use by grassland birds within 50 meters
 21 of wind turbines in native grassland and shrub-steppe habitat and a 25-percent reduction in
 22 use by grassland birds within 50 meters of wind turbines in CRP habitat. In 2006, the
 23 applicant's consultants (Western EcoSystems Technology, Inc.) calculated the displacement
 24 mitigation area based on mapping of habitat types (CRP, native shrub-steppe and grassland)

⁵⁰ WEST and CH2M HILL, *Biglow Canyon Wind Farm – Additional Sensitive Species Surveys for Amendment #3*, July 25, 2008 (Request for Amendment #3, Attachment 5). The certificate holder provided a revised Figure 7-1 for this survey (email from Ray Hendricks, August 18, 2008).

⁵¹ Table 4 is based on revisions to the tables shown in the Request for Amendment #3, Attachment 2 (email from Ray Hendricks, August 15, 2008).

1 within 80 meters of the proposed locations of access roads and turbines.⁵² A calculation of the
2 area of these habitat types within 50 meters of the proposed turbine locations was not
3 provided in the amendment request. Determining the appropriate size of the area for
4 displacement mitigation is inherently imprecise. Therefore, instead of requiring a precise
5 mapping analysis and calculation, the Department proposed that the displacement mitigation
6 area be increased by the same percentage as the increase in permanent footprint impact within
7 Category 3 and Category 4 habitat. PGE agreed to this increase, which amounts to adding 2
8 acres to the displacement mitigation area.⁵³ The recommended changes to the Habitat
9 Mitigation Plan are incorporated in Revision 14.

10 The Request for Amendment #3 includes a proposed northward extension of turbine
11 string 3.⁵⁴ The certificate holder does not propose to locate Phase 2 turbines in the extended
12 corridor but has requested the corridor extension “to provide an alternative for siting turbines
13 in the Phase 3 buildout.”⁵⁵ The certificate holder has not provided a “worst-case” analysis of
14 possible turbine and access road locations within the extension area. Instead, the certificate
15 holder proposes a modification of Condition 59 to require pre-construction documentation of
16 permanent impacts on Category 3 or Category 4 habitat before beginning any construction
17 activity in the extension area.⁵⁶ The certificate holder acknowledges the obligation to mitigate
18 for any permanent impacts in the extension area. The Council adopts modifications to
19 Condition 59 as discussed below in Revision 13.

20 With the changes discussed above, the Council finds that the BCWF would be
21 consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-
22 0025 under the proposed amendment.

Conclusions of Law

23 The Council concludes, subject to the revisions of the Habitat Mitigation Plan and
24 Condition 59, that the BCWF would comply with the Council’s Fish and Wildlife Habitat
25 Standard if Amendment #3 were approved.

5. Standards Not Applicable to Site Certificate Eligibility

26 Under ORS 469.501(4), the Council may issue a site certificate without making the
27 findings required by the standards discussed in this section (Structural Standard, Historic,
28 Cultural and Archaeological Resources Standard, Public Services Standard and Waste
29 Minimization Standard).⁵⁷ Nevertheless, the Council may impose site certificate conditions
30 based on the requirements of these standards.

⁵² Email from Wallace Ericson, April 11, 2006.

⁵³ Email from Ray Hendricks, September 15, 2008.

⁵⁴ Shown on Figure 2a.

⁵⁵ Request for Amendment #3, p. 3.

⁵⁶ Request for Amendment #3, p. 15, and Attachment 1, p. 13.

⁵⁷ 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.

(a) Structural Standard

OAR 345-022-0020

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

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

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

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

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

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

* * *

Proposed Conditions

In the Final Order on the Application, the Council made findings regarding the site-specific characterization of seismic, geologic and soil hazards for the BCWF. Condition 66 requires the certificate holder to conduct appropriate site-specific geotechnical investigation before construction. The certificate holder must consult with, and report geotechnical investigation findings to, the Oregon Department of Geology & Mineral Industries. Condition 67 requires the certificate holder to design and construct the facility in accordance with requirements set forth by the State of Oregon's Building Code Division and any other applicable codes and design procedures. In addition, Council rules include mandatory conditions regarding geotechnical investigation and protection of the public from seismic hazards (Conditions 112, 113 and 114).

PGE does not propose changes to the conditions related to the Structural Standard, except changes to Conditions 113 and 114 to conform to amendments of the Council rules, as described in Revision 19 below. The conditions would apply to construction within the areas affected by Amendment #3. The Council finds that no new or amended site certificate conditions are needed under the proposed amendment.

(b) Historic, Cultural and Archaeological Resources

OAR 345-022-0090

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

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

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

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

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

** * **

Proposed Conditions

In the Final Order on the Application, the Council made findings regarding historic, cultural and archaeological resources in the area based on review of a Cultural Resources Survey Report prepared by CH2M HILL for the applicant, on comments from the Confederated Tribes of the Warm Springs Reservation and on public comments. The Council adopted Condition 69 (which requires a pre-construction map of disturbance areas, survey of any disturbance areas not previously studied and avoidance of any significant resources found), Condition 70 (which requires construction personnel to be trained in the identification of archaeological or cultural materials), Condition 71 (which requires construction monitoring by a qualified on-site archaeologist or alternate monitoring procedure), Condition 72 (which requires that earth-disturbing activities be halted if archeological objects are discovered in the course of construction of the facility, in accordance with ORS 97.745 and 358.920) and Condition 73 (which requires that construction of the BCWF proceed carefully in the vicinity of the mapped alignment of the Oregon Trail and that any intact physical evidence of the trail discovered during construction be protected from disturbance). In the Final Order on Amendment #2, the Council modified Condition 69 to include a reference to pre-construction surveys conducted by Archaeological Investigations Northwest, Inc.

CH2M HILL conducted a survey of the areas that would be affected by Amendment #3.⁵⁸ The survey did not identify resources eligible for listing on the National Register of Historic Places or any archaeological objects or sites. The Council finds that no new or amended site certificate conditions are needed under the proposed amendment.

⁵⁸ CH2M HILL, *Amendment III Archaeological Survey Report, Biglow Canyon Wind Farm, Sherman County, Oregon*, June 2008 (the Department has treated this report as a confidential submission as described in OAR 345-021-0010(1)(s)).

(c) Public Services

OAR 345-022-0110

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

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

* * *

Proposed Conditions

In the Final Order on the Application, the Council discussed the public service impacts of construction and operation of the BCWF regarding sewage, storm water, solid waste, water supply, housing, police and fire protection, health care, schools and traffic safety. The Council adopted Conditions 74, 75 and 76 to address the source of water for the BCWF during construction and operation and to ensure that water use would have no significant adverse impact on municipal water systems or other wells that serve local landowners. The Council adopted Conditions 77, 78 and 79 to ensure road and highway safety during construction. PGE does not propose changes to the conditions related to the Public Services Standard. The Council finds that there has been no change of facts or circumstances that would affect the Council's earlier findings. The Council finds that no new or amended site certificate conditions are needed under the proposed amendment.

(d) Waste Minimization

OAR 345-022-0120

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

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

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

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

5 * * *

Proposed Conditions

6 In the Final Order on the Application, the Council discussed the applicant’s plans for
7 waste minimization. The Council adopted Conditions 80 and 81, which address proper
8 handling of hazardous materials and response to spills and accidental releases of hazardous
9 materials. The Council adopted Conditions 82, 83 and 86, which address the disposal of
10 industrial and sanitary wastewater during construction and operation. The Council adopted
11 Conditions 84, 85 and 87, which address solid waste management on the site during
12 construction and operation. In the Final Order on Amendment #2, the Council modified
13 Condition 88, which addresses water used for turbine blade washing.

14 PGE does not propose changes to the conditions related to the Waste Minimization
15 Standard. The Council finds that there has been no change of facts or circumstances that
16 would affect the Council’s earlier findings. The Council finds that no new or amended site
17 certificate conditions are needed under the proposed amendment.

V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS

1. Requirements under Council Jurisdiction

18 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR
19 345-022-0000, the Council must determine that a facility complies with “all other Oregon
20 statutes and administrative rules identified in the project order, as amended, as applicable to
21 the issuance of a site certificate for the proposed facility.” Other Oregon statutes and
22 administrative rules that are applicable to the changes requested in Amendment #3 include the
23 DEQ noise control regulations, the regulations adopted by the Department of State Lands
24 (DSL) for removal or fill of material affecting waters of the state, the Water Resources
25 Department’s (WRD) regulations for appropriating ground water and the Council’s statutory
26 authority to consider protection of public health and safety.

(a) Noise Control Regulations

27 The applicable noise control regulations are as follows:

OAR 340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

31 * * *

(b) New Noise Sources:

33 * * *

(B) New Sources Located on Previously Unused Site:

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

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

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

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

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

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

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

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

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

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

22 * * *

Findings of Fact

23 In the Final Order on the Application, the Council found that the BCWF is subject to
24 the noise control requirements of OAR 340-035-0035(1)(b)(B). The noise analysis addressed
25 25 noise sensitive properties potentially affected by noise from the facility.⁵⁹ The results of
26 the noise analysis showed that the 10-dBA ambient degradation limit would be exceeded at 23
27 of the identified noise sensitive properties. At two of the identified properties, the 50-dBA
28 maximum allowable limit would be exceeded.⁶⁰ Data showing the amount of noise that each
29 turbine and substation would contribute to the total noise levels at the identified properties
30 demonstrated that the certificate holder would need noise waivers (under OAR 340-035-
31 0035(1)(b)(B)(iii)(III)) from most of the property owners or would need to eliminate or
32 relocate turbines.⁶¹

33 Condition 91 applies when the certificate holder uses turbines other than the GE 1.5-
34 MW or 3.0-MW turbines. In Phase 1, PGE installed Vestas 1.65-MW turbines, and in Phases
35 2 and 3, PGE proposes to install Siemens 2.3-MW turbines. Condition 91 requires a pre-
36 construction noise analysis that identifies the final design locations of all turbines to be built
37 and that demonstrates compliance with the DEQ noise control regulations at all previously-

⁵⁹ The 25 properties are listed in Table 12 of the Final Order on the Application. The properties are further identified by Revised Figure X1 and by the document "Biglow Noise Sensitive Receptor List-sm.xls," which were submitted by PGE (e-mail from Rick Tetzloff, January 11, 2007).

⁶⁰ Details of the modeling analysis methods and assumptions are discussed in the Final Order on the Application, p. 131.

⁶¹ Final Order on the Application, p. 132.

1 identified noise sensitive properties.⁶² The condition requires that the certificate holder obtain
2 a waiver from the owners of properties where the pre-construction noise analysis shows that
3 the hourly L₅₀ noise levels caused by the facility would exceed 36 dBA (the ambient
4 degradation limit). Otherwise, the certificate holder must design the facility to avoid
5 exceeding the ambient degradation limit at any property for which a waiver is not obtained.
6 The certificate holder must demonstrate that noise from the facility would not exceed the
7 maximum allowable L₅₀ noise limit of 50 dBA at any property. In the Final Order on
8 Amendment #2, the Council approved an exception under OAR 340-035-0035(6)(b) for the
9 BCWF from compliance with the noise control regulations with respect to any new
10 development of noise sensitive property after the effective date of Amendment #2 (May 10,
11 2007).

12 The changes to facility components requested under Amendment #3 do not include the
13 addition of any new noise sources. Noise from the turbines and substation transformers has
14 been taken into account under the Council's previous findings. The Council finds that
15 operation of the facility would comply with OAR 340-035-0035(1)(b)(B), subject to the
16 requirements of Conditions 90 and 91.

Conclusions of Law

17 Based on the findings above and subject to Conditions 90 and 91, the Council
18 concludes that, if Amendment #3 were approved, the BCWF would comply with the
19 applicable noise control regulations in OAR 340-035-0035.

(b) Removal-Fill Law

20 The Oregon Removal-Fill Law (ORS 196.800 through .990) and DSL regulations
21 (OAR 141-085-0005 through 141-085-0090) require a Removal/Fill Permit if 50 cubic yards
22 or more of material is removed, filled or altered within any "waters of the state" at the
23 proposed site.⁶³

Findings of Fact

24 In the Final Order on the Application, the Council concluded that a Removal/Fill
25 Permit was not needed. One State-jurisdictional water (an intermittent stream) and one
26 wetland were identified within the project area, but the applicant made a commitment to avoid
27 impact to these resources.⁶⁴ In the Final Order on Amendment #2, the Council approved
28 Condition 127 to protect a potentially State-jurisdictional intermittent stream that the
29 certificate holder identified in a pre-construction survey for Phase 1.

30 PGE conducted a survey for potential federal or State-jurisdictional waters within the
31 areas that would be affected by Amendment #3.⁶⁵ The survey identified an ephemeral stream

⁶² In the Final Order on Amendment #2, the Council determined that one previously-identified property did not meet the definition of "noise sensitive property" (Final Order on Amendment #2, p. 46). Accordingly, Condition 91 addresses noise levels at 24 noise sensitive properties.

⁶³ OAR 141-085-0010(225) defines "Waters of this State." The term includes wetlands and certain other water bodies.

⁶⁴ The intermittent stream is shown as crossing #7 and the wetland is identified as "POWHX" on Figure J-1 in the site certificate application.

⁶⁵ CH2M HILL, *Biglow Canyon Wind Farm – Supplemental Wetlands and Waters Determination and Rare Plant Habitat Survey for Amendment III*, June 3, 2008 (Request for Amendment #3, Attachment 6).

1 considered potentially State-jurisdictional. A proposed Phase 2 collector line would cross the
2 stream channel.⁶⁶ To avoid impact to the stream channel, PGE proposes new Condition 129,
3 as follows:

4 129. The certificate holder shall avoid any disturbance within 25 feet of the stream channel in
5 the area identified as Crossing H in the Request for Amendment #3 and shall install any
6 collector line through the area by tunneling or drilling beneath the stream channel.

7 The Council adopts the proposed new condition, as discussed in Revision 21. Because
8 there would be no removal or fill within the stream channel, a Removal/Fill Permit would not
9 be needed.

Conclusions of Law

10 Based on the findings discussed above and subject to Condition 129, the Council
11 concludes that a Removal/Fill Permit would not be needed for the BCWF if Amendment #3
12 were approved.

(c) Ground Water Act

13 Through the provisions of the Ground Water Act of 1955, ORS 537.505 to ORS
14 537.796, and OAR Chapter 690, the Oregon Water Resources Commission administers the
15 rights of appropriation and use of the ground water resources of the state. Under OAR 345-
16 022-0000(1), the Council must determine whether the proposed BCWF complies with these
17 statutes and administrative rules.

Findings of Fact

18 In the Final Order on the Application, the Council found that the certificate holder
19 could obtain sufficient water during construction (approximately 12 million gallons) and that
20 no new water right would be needed. The Council found that less than 5,000 gallons per day
21 would be used during facility operation for domestic purposes and blade-washing. This water
22 would come from a new on-site well. No new water right would be needed for this use.

23 The changes that would be allowed under Amendment #3 would not require any
24 alteration in the proposed water uses or water sources. The amendment would not increase the
25 quantity of water needed during construction or operation.

Conclusions of Law

26 Based on the findings discussed above, the Council concludes that the BCWF would
27 comply with applicable regulations pertaining to water rights if Amendment #3 were
28 approved.

(d) Public Health and Safety

29 Under ORS 469.310, the Council is charged with ensuring that the “siting,
30 construction and operation of energy facilities shall be accomplished in a manner consistent
31 with protection of the public health and safety....” State law further provides that “the site
32 certificate shall contain conditions for the protection of the public health and safety....” ORS
33 469.401(2).

⁶⁶ The crossing is identified as “Stream Crossing H” on Figure 3, Request for Amendment #3, Attachment 6.

Findings of Fact

1 In the Final Order on the Application, the Council made findings and adopted
2 conditions regarding public safety addressing fire protection (Conditions 92 through 98),
3 magnetic field effects from transmission lines (Condition 99) and coordination with the
4 Oregon Public Utility Commission (Condition 100).

5 In March 2008, Fire Chief Rod Asher of the Northern Sherman County Rural Fire
6 Protection District advised PGE that a “trailed vehicle” should not be used to provide fire
7 suppression water to the site, considering the terrain and the risk of fast-moving fires.⁶⁷
8 Instead of a water trailer, Chief Asher recommended that PGE obtain a fire-suppression
9 vehicle capable of carrying a minimum of 1,000 gallons of water and equipped with “a pump
10 capable of delivering 100 gallons per minute and a minimum of 100 feet of booster line.”
11 Condition 98 conflicts with these recommendations, and PGE proposes changing Condition
12 98 to require compliance with the recommendations of the Fire Chief. The Department
13 recommended the change as discussed in Revision 17.

14 The changes that would be allowed if Amendment #3 were approved would not
15 otherwise change any of the Council’s previous findings. The proposed amendment would not
16 affect the certificate holder’s ability to comply with the public safety conditions in the site
17 certificate.

Conclusions of Law

18 Based on the findings discussed above, the Council concludes that the BCWF would
19 comply with requirements to protect public health and safety if Amendment #3 were
20 approved. The Council adopts the change to Condition 98 discussed herein.

2. Requirements That Are Not Under Council Jurisdiction

(a) Federally-Delegated Programs

21 Under ORS 469.503(3), the Council does not have jurisdiction for determining
22 compliance with statutes and rules for which the federal government has delegated the
23 decision on compliance to a state agency other than the Council. Nevertheless, the Council
24 may rely on the determinations of compliance and the conditions in the federally-delegated
25 permits issued by these state agencies in deciding whether the proposed facility meets other
26 standards and requirements under its jurisdiction. As required under Condition 26, the
27 certificate holder would conduct all construction work in compliance with an Erosion and
28 Sediment Control Plan satisfactory to the Oregon Department of Environmental Quality and
29 as required under the federally-delegated National Pollutant Discharge Elimination System
30 Storm Water Discharge General Permit #1200-C. The requirements of the 1200-C permit
31 would apply to the entire facility as described under the amended site certificate.

(b) Requirements That Do Not Relate to Siting

32 Under ORS 469.401(4), the Council does not have authority to preempt the
33 jurisdiction of any state agency or local government over matters that are not included in and
34 governed by the site certificate or amended site certificate. Such matters include

⁶⁷ Letter from Rod Asher, March 14, 2008.

1 design-specific construction or operating standards and practices that do not relate to siting.
2 Nevertheless, the Council may rely on the determinations of compliance and the conditions in
3 the permits issued by these state agencies and local governments in deciding whether the
4 facility meets other standards and requirements under its jurisdiction.

VI. GENERAL APPLICATION OF CONDITIONS

5 The conditions referenced in this order include conditions that are specifically required
6 by OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site
7 Specific Conditions), OAR 345-027-0028 (Monitoring Conditions) or OAR Chapter 345,
8 Division 26 (Construction and Operation Rules for Facilities). The conditions referenced in
9 this order, or that are added to the site certificate by this order, include conditions based on
10 representations in the request for amendment and the supporting record. The Council deems
11 these representations to be binding commitments made by the certificate holder. This order
12 also includes conditions that the Council finds necessary to ensure compliance with the siting
13 standards of OAR Chapter 345, Divisions 22 and 24, or to protect public health and safety.

14 In addition to all other conditions referenced or included in this order, the site
15 certificate holder is subject to all conditions and requirements contained in the rules of the
16 Council and in local ordinances and state law in effect on the date the amended site certificate
17 is executed.⁶⁸ Under ORS 469.401(2), upon a clear showing of a significant threat to the
18 public health, safety or the environment that requires application of later-adopted laws or
19 rules, the Council may require compliance with such later-adopted laws or rules.

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

VII. GENERAL CONCLUSION

24 The proposed amendment would allow the changes to the design and construction of
25 the BCWF as described herein. The Council finds that revisions to Conditions 8, 9, 20, 50, 51,
26 52, 59, 63, 75, 83, 98, 102, 105, 106, 108, 111 and 113 through 125 (including removal of
27 Conditions 117 and 123) and revisions to the *Habitat Mitigation Plan* (Attachment C) would
28 be needed for approval of the proposed amendment. The Council finds that new Conditions
29 128 and 129 should be added for approval the proposed amendment. The Council adopts other
30 conforming changes to the Site Certificate as described in the Revisions discussed below.

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

- 33 1. The proposed Amendment #3 complies with the requirements of the Oregon
34 Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to
35 469.619.
- 36 2. The proposed Amendment #3 complies with the standards adopted by the Council
37 pursuant to ORS 469.501.

⁶⁸ 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 3. The proposed Amendment #3 complies with all other Oregon statutes and
2 administrative rules applicable to the amendment of the site certificate for the
3 BCWF and within the Council's jurisdiction.

4 Accordingly, the Council finds that the facility complies with the General Standard of
5 Review (OAR 345-022-0000). The Council concludes, based on a preponderance of the
6 evidence on the record, that the Site Certificate may be amended as requested by the
7 certificate holder, subject to the revisions recommended by the Department and adopted
8 by the Council as set forth below.

1. The Department's Recommended Revisions

9 New text proposed by the Department is shown with single underline. New text
10 proposed by PGE with concurrence by the Department is shown with double underline.
11 Proposed deletions are shown with a strikethrough. The parenthetical references in square
12 brackets follow standard practice and provide a historical reference of when changes were
13 made to the Site Certificate. Page references are to the Second Amended Site Certificate.

Revision 1

14 *Page 1, lines 7-12:*

15 The findings of fact, reasoning and conclusions of law underlying the terms and conditions of
16 this site certificate are set forth in the following documents related to the facility, which are
17 incorporated herein by this reference: (a) the Council's Final Order in the Matter of the
18 Application for a Site Certificate for the Biglow Canyon Wind Farm (the "Final Order on the
19 Application"); (b) the Council's Final Order on Amendment #1; ~~and~~ (c) the Council's Final
20 Order on Amendment #2; and (d) the Council's Final Order on Amendment #3. [Amendments
21 #1 ~~and~~ 1, #2 and #3]

22 *Page 1, lines 13-17:*

23 In interpreting this site certificate, any ambiguity shall be clarified by reference to the
24 following, in order of priority: (1) this ~~Second~~Third Amended Site Certificate; (2) the Final
25 Order on Amendment #3 (3) the Final Order on Amendment #2; ~~(34)~~ the Final Order on
26 Amendment #1; (45) the Final Order on the Application; and ~~(56)~~ the record of the
27 proceedings that led to the Final Orders on the Application, Amendment #1, ~~and~~ Amendment
28 #2 and Amendment #3. [Amendments #1 ~~and~~ 1, #2 and #3]

29 *Page 1, lines 29-35:*

30 C. This site certificate does not address, and is not binding with respect to, matters that were
31 not addressed in the Council's Final Orders on the Application, Amendment #1 ~~and~~,
32 Amendment #2 and Amendment #3. These matters include, but are not limited to: building
33 code compliance, wage, hour and other labor regulations, local government fees and
34 charges, and other design or operational issues that do not relate to siting the facility (ORS
35 469.401(4)) and permits issued under statutes and rules for which the decision on
36 compliance has been delegated by the federal government to a state agency other than the
37 Council. ORS 469.503(3). [Amendments #1 ~~and~~ 1, #2 and #3]

Explanation

38 This revision adds a reference in the Site Certificate to the findings of fact, reasoning
39 and conclusions in support of the present amendment. The revision establishes the order of
40 priority in which the underlying documents should be considered in resolving any ambiguity.

1 The revision adds the matters addressed in the Final Order on Amendment #3 to the scope of
2 matters addressed in the Site Certificate.

Revision 2

3 *Page 3, lines 5-15:*

4 a. Power Collection System. Each wind turbine will generate power at about 600 volts.
5 The transformer sitting at the base of each wind turbine unit will increase the voltage
6 to 34.5 kilovolts (kV). From the transformer, power will be transmitted to a central
7 substation by means of electric cables. Most of the cables will be buried three feet or
8 more below the surface in trenches about 3 feet wide. In areas where collector cables
9 from several turbine strings follow the same alignment, *e.g.*, on approach to the
10 substation, multiple sets of cables may be installed within a single trench. If the
11 facility is fully developed, there will be about ~~99~~106 miles of 3-wire collector cables.
12 Generally, these cables will be above, below or adjacent to the fiber optic cables
13 comprising the supervisory control and data acquisition system. [Amendments #2 and
14 #3]

Explanation

15 The Department concurs with PGE's proposed change.

Revision 3

16 *Page 3, lines 41-44, and page 4, lines 1-13:*

17 d. Operations and Maintenance Buildings. The site of the operations and maintenance
18 buildings will comprise about 5 acres adjacent to the substation on Herin Lane. The
19 O&M buildings will occupy about ~~5,000~~17,500 square feet and will include office and
20 workshop areas, control room, kitchen, bathroom, shower, utility sink, and other
21 typical facilities. Water for the bathroom, shower and kitchen will be obtained from an
22 onsite well constructed by a licensed contractor in accordance with local and state
23 requirements. Water use will not be expected to exceed 1,000 gallons per day.
24 Domestic wastewater generated at the O&M facility will drain into an onsite septic
25 system. A graveled parking area for employees, visitors and equipment will be located
26 adjacent to the O&M facility.
27 [Amendments #2 and #3]

Explanation

28 The Department concurs with PGE's proposed change. See discussion above at page
29 5.

Revision 4

30 *Page 4, lines 7-14:*

31 f. Access Roads. The certificate holder will construct about ~~41.544~~41.544 miles of new roads
32 to provide access to the wind turbine strings, together with turnaround areas at the end
33 of each wind turbine string. The roads will be about 16 feet wide (possibly up to 28
34 feet wide in some locations) and will be composed of crushed gravel with shoulders
35 (without gravel) about 3 feet wide. In addition, the certificate holder will improve
36 about 0.7 mile of existing roads by providing an all-weather surface and, in some
37 cases, widening the roads to accommodate construction vehicles. [Amendments #2 and
38 #3]

Explanation

1 The Department concurs with PGE's proposed change.

Revision 5

2 *Page 4, lines 24-28:*

3 h. Temporary Crane Paths. The certificate holder will develop ~~seven~~ temporary crane
4 paths, totaling approximately ~~5.416~~ miles, in order to move construction cranes
5 between turbine corridors. The temporary crane paths will be returned to their pre-
6 construction condition following completion of construction of the facility.
7 [Amendments #2 and #3]

Explanation

8 The Department concurs with PGE's proposed change.

Revision 6

9 *Page 5, lines 25-38:*

10 (8) If the certificate holder elects to build the facility in more than one phase using any
11 turbines other than the GE 1.5-MW turbines or GE 3.0-MW turbines, before beginning
12 construction of any phase of the facility and after considering all micro-siting factors, the
13 certificate holder shall provide to the Department a detailed map of that phase of the
14 facility showing the final locations where facility components are proposed to be built in
15 relation to the features and micro-siting corridors shown on ~~Figures 1a~~ Figures 2, 2a, 2b and 2c as
16 identified in the Final Order on Amendment #2~~3~~, shall identify on this map the facilities
17 that would constitute that phase of construction, and shall provide documentation
18 defining the quantities of each of the following components that would constitute that
19 phase of construction: turbines, pad transformers, meteorological towers, substation,
20 O&M facility, miles of aboveground 34.5-kV collector system, miles of access road,
21 acres of turnarounds and access road intersections, acres of temporary laydown area, and
22 miles of temporary crane paths. For each turbine, the certificate shall define the turbine
23 manufacturer, turbine capacity, weight of steel, height of tower, sweep of blade, and size
24 of concrete foundation. [Amendments #2 and #3]

Explanation

25 The Department recommends updating the reference to the figures that identify the
26 approved micro-siting corridors and other facility features. As described herein, "Figures 2, 2a,
27 2b and 2c" are the figures labeled 2, 2a, 2b and 2c (dated August 2008) that are included in
28 the Request for Amendment #3.

Revision 7

29 *Page 5, line 39, through page 7, line 3:*

30 (9) In February 2007, in accordance with the terms and conditions of the First Amended Site
31 Certificate, the certificate holder submitted to the State of Oregon through the Council a
32 letter of credit in the amount of \$1.608 million before beginning construction of Phase 1
33 of the facility. The calculation of the amount of the letter of credit included a deduction
34 from the estimated cost of site restoration for Phase 1 for the estimated value of scrap
35 steel. In the Final Order on Amendment #2, the Council found that there should be no
36 deduction of scrap or salvage value in calculating the amount of financial assurance
37 required for site restoration.

1 ~~Within 60 days following the effective date of~~In June 2007, in accordance with the terms
2 ~~and conditions of~~ the Second Amended Site Certificate, the certificate holder shall
3 ~~submit~~submitted an amended or replacement letter of credit for Phase 1 in the amount of
4 \$4.73 million (in 2005 dollars), adjusted to present value as of the date of issuance as
5 described in (a) \$5.001 million (3rd Quarter 2007 dollars). In January 2008, in accordance
6 with the terms and conditions of the Second Amended Site Certificate, the certificate
7 holder submitted an amended letter of credit for Phase 1 in the amount of \$5.058 million
8 (1st Quarter 2008 dollars).

9 Before beginning construction of any future phase of the facility, the certificate holder
10 shall submit a bond or letter of credit for that phase in an amount approved by the
11 Department and based on the costs shown in Table 31 of the Final Order on Amendment
12 #23.

13 (a) The certificate holder shall adjust the amounts of all bonds or letters of credit
14 submitted in compliance with this condition to present value as of the date of issuance,
15 using the following calculation and subject to approval by the Department:

16 (i) Adjust the ~~gross cost~~Subtotal (in 2005 dollars) to present value, using the U.S.
17 Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the
18 Oregon Department of Administrative Services' *Oregon Economic and Revenue*
19 *Forecast* or by any successor agency (the "Index"). If at any time the Index is no longer
20 published, the Council shall select a comparable calculation to adjust 2005 dollars to
21 present value.

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

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

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

30 (b) The certificate holder shall annually adjust all bonds or letters of credit submitted
31 in compliance with this condition to present value as of the date of issuance as described
32 in (a).

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

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

37 (e) The certificate holder shall describe the status of all bonds or letters of credit for
38 the facility in the annual report submitted to the Council under Condition (122).

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

41 [Amendments #2 and #3]

Explanation

42 This revision updates the second paragraph of Condition 9 to reflect the certificate
43 holder's compliance with the financial assurance requirements as described in the Final Order

1 on Amendment #1 and the Final Order on Amendment #2. The revision updates the third
2 paragraph to refer to the site restoration cost estimate as shown in Table 1 of the Final Order
3 on Amendment #3. The changes in subsection (a) revise the method of calculation for
4 adjusting the financial assurance amount to present value. The revised calculation includes the
5 estimated cost of a performance bond as a component of Gross Cost. This method of
6 calculation reflects the likelihood that a demolition contractor would include the cost of a
7 performance bond in the total bid for the project. The adders for administration, project
8 management costs and contingency are calculated as a percentage of Gross Cost. The
9 certificate holder has agreed to these changes in the method of calculation.⁶⁹

Revision 8

10 *Page 8, lines 5-10:*

11 (20) The certificate holder shall not locate any aboveground facility structure (including wind
12 turbines, O&M buildings, substations, and meteorological towers, but not including
13 aboveground transmission and collector lines and junction boxes) within 30 feet from
14 any property line or within 50 feet from the right-of-way of any arterial or major
15 collector road or street and shall not allow any architectural feature, as described in
16 Sherman County Zoning Ordinance Section 4.2, to project into these required setbacks
17 by more than 2 feet. [Amendment #3]

Explanation

18 The Department concurs with PGE's proposed change.

Revision 9

19 *Page 9, lines 26-30:*

20 (36) Without Department approval, the certificate holder shall not move any turbines within
21 its micro-siting corridors such that a worst-case visual impact beyond that stated in the
22 ASC and ASC Supplement would occur for the John Day Wildlife Refuge, the John Day
23 Federal Wild and Scenic River, or the John Day State Scenic Waterway (Parrish Creek
24 to Tumwater Falls). Before constructing any turbines in the northward extension of
25 Corridor 3 shown on Figure 2a of Request for Amendment #3, the certificate holder
26 shall provide a visual impact analysis that includes the proposed turbines and
27 demonstrates to the satisfaction of the Department that the requirements of this condition
28 are met. [Amendment #3]

Explanation

29 PGE requests an extension of the Corridor 3 micro-siting area as part of Amendment
30 #3 as an alternative location for turbines in Phase 3, but PGE has no current plan to construct
31 turbines in the area. This revision addresses the potential visual impact on protected areas if
32 PGE decides to construct turbines in the northward extension of Corridor 3 at a later date.

Revision 10

33 *Page 11, lines 11-27:*

34 (50) During construction of the facility, to reduce the visual impact of the facility, the
35 certificate holder shall:

⁶⁹ Email from Ray Hendricks, September 2, 2008.

1 (a) Paint turbine towers, nacelles, rotors, meteorological towers, and cabinets
2 containing pad-mounted equipment with a low-reflectivity, neutral gray, white, off-white
3 or earth tone finish to reduce contrast with the surrounding background.

4 (b) Apply a low-reflectivity finish to the exterior of the O&M buildings and substation
5 equipment to control their visual integration into the surrounding background.

6 (c) With the exception of the turbine manufacturer's logo that may appear on turbine
7 nacelles, not allow any advertising to be used on any part of the facility or on any signs
8 posted at the facility. In addition, ~~if the Council amends OAR 345-024-0015 by~~
9 ~~eliminating the restriction in Section (1)(a) of that rule and not otherwise prohibiting the~~
10 ~~use of a logo,~~ the certificate holder may place its logo on the nacelles of not more than
11 20 percent of the wind turbines.

12 (d) Use only those signs required by law or for facility safety or security, except that the
13 certificate holder may erect a sign near the O&M facility or substation to identify the
14 wind energy facility.

15 [Amendments #2 and #3]

Explanation

16 The Department concurs with PGE's proposed change. The text in subsection (c) is
17 deleted because the Council amended OAR 345-024-0015 in May 2007, eliminating the
18 restriction.

Revision 11

19 *Page 11, lines 28-31:*

20 (51) The certificate holder shall design and construct the O&M buildings to be generally
21 consistent with the character of similar buildings used by commercial farmers or
22 ranchers in the area and shall paint the buildings in a neutral color to blend with the
23 surrounding background. [Amendment #3]

Explanation

24 The Department concurs with PGE's proposed change.

Revision 12

25 *Page 11, lines 32-36:*

26 (52) The certificate holder shall not use exterior nighttime lighting except:

27 (a) The minimum turbine tower lighting required by the Federal Aviation
28 Administration.

29 (b) Security lighting at the O&M buildings and substation, provided that such lighting
30 is shielded or directed downward to reduce glare.

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

32 (d) Minimum lighting necessary for nighttime construction. The certificate holder may
33 use lighting only at the work location and only directed downward to illuminate the
34 work area at the turbine base or upward from the base to illuminate the turbine tower;
35 construction lighting shall not be directed outward. The certificate holder shall use
36 nighttime lighting only with the approval of the owner of the property on which the
37 work is conducted and shall provide notice of nighttime construction to occupants of all
38 residences within one-half mile of the construction site.

1 [Amendment #3]

2 Explanation

3 The Department concurs with PGE's proposed change (modified for clarity). The
4 reasons for nighttime construction lighting are discussed above at page 29.

5 Revision 13

6 *Page 12, lines 28-38:*

7 (59) The certificate holder may construct turbines and other facility components within the
8 500-foot turbine corridors shown on Figures P-1 through P-10 of the site certificate
9 application and March 2006 supplement and within the "Permitted Areas" and
10 "Amendment III Areas" as shown on Figures 2, 2a, 2b and 2c of the Request for
11 Amendment #3, subject to the following requirements addressing potential habitat
12 impact:

13 (a) The certificate holder shall not construct any facility components within areas of
14 Category 1 or Category 2 habitat and shall avoid temporary disturbance of Category 1 or
15 Category 2 habitat.

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

18 (c) ~~To the extent possible, the certificate holder shall construct facility components in~~
19 ~~the locations shown on Figure C 2 of the March 2006 site certificate application~~
20 ~~supplement. Prior to constructing any turbines or permanent related or supporting~~
21 ~~facilities within the northward extension of Corridor 3 shown on Figure 2a of Request~~
22 ~~for Amendment #3, the certificate holder shall provide the Department with maps and~~
23 ~~calculations documenting the additional permanent impacts, if any, to Category 3 and~~
24 ~~Category 4 habitat predicted to result from the construction. If the construction would~~
25 ~~result in additional permanent impacts, the certificate holder shall increase the area of~~
26 ~~mitigation for permanent loss of Category 3 and Category 4 habitat as described in the~~
27 ~~Habitat Mitigation Plan incorporated herein by Condition 63.~~

28 [Amendment #3]

29 Explanation

30 This revision adds a reference to Figures 2, 2a, 2b and 2c of the Request for
31 Amendment #3 to identify the expanded micro-siting areas that would be authorized under this
32 amendment. The Department recommends the deletion in subsection (c) because subsequent
33 amendments and approved change requests have superseded the locations of facility
34 components shown in Figure C-2 of the March 2006 application supplement. The certificate
35 holder has already built the Phase 1 components of the BCWF. The new language in
36 subsection (c) is substantially as proposed by PGE and addresses the potential increase in
37 permanent impact to Category 3 and Category 4 habitat if the certificate holder builds Phase 3
38 components in the northward extension of string 3 and the certificate holder's obligation to
39 mitigate such impact.

40 Revision 14

41 *Page 14, lines 3-9:*

42 (63) Before beginning construction of the facility, the certificate holder shall acquire the legal
43 right to create, maintain and protect a habitat mitigation area for the life of the facility by

1 means of an outright purchase, conservation easement or similar conveyance and shall
2 provide a copy of the documentation to the Department. Within the habitat mitigation
3 area, the certificate holder shall improve the habitat quality in accordance with the
4 Habitat Mitigation Plan that is incorporated in the Final Order on Amendment #2³ as
5 Attachment C and as may be amended from time to time. [Amendments #2 and #3]

Explanation

6 The Department recommends amendment of the Habitat Mitigation Plan, which is
7 incorporated by reference in Condition 63 of the site certificate. The recommended plan
8 amendments are shown in Attachment C, incorporated by this reference. The changes to the
9 BCWF that would be authorized under Amendment #3 would increase the area of permanent
10 impact to Category 3 and Category 4 habitat from 11.93 acres to 12.66 acres. As proposed by
11 PGE, the Department recommends amendment of the Habitat Mitigation Plan to increase the
12 area that would be enhanced by reseeded as described in the plan.⁷⁰

Revision 15

13 *Page 15, lines 31-35:*

14 (75) Before beginning operation of the facility, the certificate holder shall have in operation a
15 well suitable for delivering water, not exceeding 5,000 gallons per day, for domestic use
16 at the facility's O&M buildings and, provided the rate of extraction would not exceed
17 5,000 gallons per day, blade-washing activities. The certificate holder shall not change
18 the source of water for the facility's domestic use without prior Council approval.
19 [Amendment #3]

Explanation

20 The Department concurs with PGE's proposed change.

Revision 16

21 *Page 16, lines 39-42:*

22 (83) During operation of the facility, the certificate holder shall discharge sanitary wastewater
23 generated at the O&M buildings to a licensed on-site septic system in compliance with
24 county permit requirements. The certificate holder shall design the septic system with a
25 capacity that is less than 2,500 gallons per day. [Amendment #3]

Explanation

26 The Department concurs with PGE's proposed change.

Revision 17

27 *Page 20, lines 28-34:*

28 (98) During operation of the facility, the certificate holder shall ~~ensure that water carrying~~
29 ~~trailers ("water buffaloes") are maintained at strategic locations around the facility site~~
30 ~~and that a water buffalo is always present at a job site where there is substantial risk of~~
31 ~~fire. Each water buffalo shall be equipped with one inch hoses, have a capacity of 500~~
32 ~~gallons of water, and be equipped with a 5 horsepower pump with a pumping rate of 60~~
33 ~~gallons per minute. Each water buffalo shall be capable of being towed by on site~~

⁷⁰ PGE proposed an increase in the "reseeded mitigation area" to 12.69 acres (Request for Amendment #3, p.15). The total area of permanent impact to Category 3 and Category 4 habitat under Amendment #3 would be 12.66 acres according to revised impact calculations (email from Ray Hendricks, August 15, 2008).

1 service vehicles or pickup trucks comply with the written fire protection
2 recommendations of the Fire Chief of the applicable Rural Fire Protection District and
3 shall promptly provide to the Department any correspondence from the Fire Chief
4 regarding those recommendations. [Amendment #3]

Explanation

5 The Department concurs with PGE's proposed change with minor modifications of the
6 language to clarify that the certificate holder should provide copies of all correspondence
7 concerning the Fire Chief's recommendations or compliance with those recommendations.

Revision 18

8 *Page 21, lines 8-15:*

9 This section lists conditions specifically required by OAR 345-027-0020 (Mandatory
10 Conditions in Site Certificates), OAR 345-027-0028 (Monitoring Conditions), and OAR
11 Chapter 345, Division 26 (Construction and Operation Rules for Facilities). All references to
12 the Office of Energy or Office shall be construed to refer to the Department of Energy. These
13 conditions should be read together with the specific facility conditions included in Sections
14 IV, VI and VII to ensure compliance with the siting standards of OAR Chapter 345, Divisions
15 22 and 24, and to protect the public health and safety. The certificate holder shall comply with
16 all site certificate conditions. [Amendment #3]

Explanation

17 This revision adds a reference to other sections of the Site Certificate that contain
18 specific facility conditions.

Revision 19

19 *Page 21, line 22-24:*

20 (102) OAR 345-027-0020(2): Except as provided in OAR 345-027-0023(6), before
21 beginning construction, the~~The~~ certificate holder shall submit to the Office of Energy a
22 legal description of the site to the Department of Energy within 90 days after beginning
23 operation of the facility. The legal description required by this rule means a description
24 of metes and bounds or a description of the site by reference to a map and geographic
25 data that clearly and specifically identifies the outer boundaries that contain all parts of
26 the facility. [Amendment #3]

27 *Page 21, line 34, through page 22, line 12:*

28 (105) OAR 345-027-0020(5): Except as necessary for the initial survey or as otherwise
29 allowed for wind energy facilities, transmission lines or pipelines under this section, the
30 certificate holder shall not begin construction, as defined in OAR 345-001-0010, or
31 create a clearing on any part of the site until the certificate holder has construction rights
32 on all parts of the site. For the purpose of this rule, "construction rights" means the legal
33 right to engage in construction activities. For wind energy facilities, transmission lines or
34 pipelines, if the certificate holder does not have construction rights on all parts of the
35 site, the certificate holder may nevertheless begin construction, as defined in OAR 345-
36 001-0010, or create a clearing on a part of the site if the certificate holder has
37 construction rights on that part of the site and:
38 — (a) ~~The certificate holder has construction rights on that part of the site; and~~
39 (ba) The certificate holder would construct and operate part of the facility on that part
40 of the site even if a change in the planned route of ~~the~~ transmission line or pipeline

1 occurs during the certificate holder's negotiations to acquire construction rights on
2 another part of the site; or

3 (b) The certificate holder would construct and operate part of a wind energy facility
4 on that part of the site even if other parts of the facility were modified by amendment of
5 the site certificate or were not built.

6 [Amendment #3]

7 (106) OAR 345-027-0020(6): If the Council requires mitigation based on an affirmative
8 finding under any standards of Division 22 or Division 24 of ~~this chapter~~ OAR Chapter
9 345, the certificate holder shall consult with affected state agencies and local
10 governments designated by the Council and shall develop specific mitigation plans
11 consistent with Council findings under the relevant standards. The certificate holder
12 must submit the mitigation plans to the Office and receive Office approval before
13 beginning construction or, as appropriate, operation of the facility. [Amendment #3]

14 *Page 22, lines 17-23:*

15 (108) OAR 345-027-0020(8): Before beginning construction of the facility, the certificate
16 holder shall submit to the State of Oregon, through the Council, a bond or letter of
17 credit, in a form and amount satisfactory to the Council, ~~in an amount specified in the~~
18 ~~site certificate~~ to restore the site to a useful, non-hazardous condition. The certificate
19 holder shall maintain a bond or letter of credit in effect at all times until the facility has
20 been retired. The Council may specify different amounts for the bond or letter of credit
21 during construction and during operation of the facility. [Amendment #3]

22 *Page 22, lines 33-38:*

23 (111) OAR 345-027-0020(11): Upon completion of construction, the certificate holder shall
24 restore vegetation to the extent practicable and shall landscape ~~portions of the site~~ all
25 areas disturbed by construction in a manner compatible with the surroundings and
26 proposed use. Upon completion of construction, the certificate holder shall ~~dispose of~~
27 remove all temporary structures not required for facility operation and dispose of all
28 timber, brush, refuse and flammable or combustible material resulting from clearing of
29 land and construction of the facility. [Amendment #3]

30 *Page 23, lines 1, through page 26, line 28:*

31 (113) OAR 345-027-0020(13): The certificate holder shall notify the ~~Office~~ Department, the
32 State Building Codes Division and the Department of Geology and Mineral Industries
33 promptly if site investigations or trenching reveal that conditions in the foundation rocks
34 differ significantly from those described in the application for a site certificate. After the
35 ~~Office~~ Department receives the notice, the Council may require the certificate holder to
36 consult with the Department of Geology and Mineral Industries and the Building Codes
37 Division and to propose mitigation actions. [Amendment #3]

38 (114) OAR 345-027-0020(14): The certificate holder shall notify the ~~Office~~ Department, the
39 State Building Codes Division and the Department of Geology and Mineral Industries
40 promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in
41 the vicinity of the site. [Amendment #3]

42 (115) OAR 345-027-0020(15): Before any transfer of ownership of the facility or ownership
43 of the site certificate holder, the certificate holder shall inform the ~~Office~~ Department
44 of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer
45 of ownership that requires a transfer of the site certificate. [Amendment #3]

- 1 (116) OAR 345-027-0020(16): If the Council finds that the certificate holder has
2 permanently ceased construction or operation of the facility without retiring the facility
3 according to a final retirement plan approved by the Council, as described in OAR 345-
4 027-0110, the Council shall notify the certificate holder and request that the certificate
5 holder submit a proposed final retirement plan to the Office within a reasonable time not
6 to exceed 90 days. If the certificate holder does not submit a proposed final retirement
7 plan by the specified date, the Council may direct the ~~Office~~Department to prepare a
8 proposed a final retirement plan for the Council's approval. Upon the Council's approval
9 of the final retirement plan, the Council may draw on the bond or letter of credit
10 described in ~~section OAR 345-027-0020(8)~~ to restore the site to a useful, non-hazardous
11 condition according to the final retirement plan, in addition to any penalties the Council
12 may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of
13 credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay
14 any additional cost necessary to restore the site to a useful, non-hazardous condition.
15 After completion of site restoration, the Council shall issue an order to terminate the site
16 certificate if the Council finds that the facility has been retired according to the approved
17 final retirement plan. [Amendment #3]
- 18 (117) OAR 345-027-0023(4): ~~If the energy facility or related or supporting facility is a~~
19 ~~transmission line, the certificate holder shall restore the reception of radio and television~~
20 ~~at residences and commercial establishments in the primary reception area to the level~~
21 ~~present prior to operations of the transmission line, at no cost to residents experiencing~~
22 ~~interference resulting from the transmission line.~~ [Condition removed by Amendment #3]
- 23 (118) OAR 345-027-0023(54): If the facility includes any ~~high voltage~~ transmission line
24 under Council jurisdiction:
25 (a) The certificate holder shall design, construct and operate the transmission line in
26 accordance with the requirements of the National Electrical Safety Code (American
27 National Standards Institute, Section C2, 1997 Edition); and
28 (b) The certificate holder shall develop and implement a program that provides
29 reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or
30 structures of a permanent nature that could become inadvertently charged with
31 electricity are grounded or bonded throughout the life of the line.
32 [Amendment #3]
- 33 (119) OAR 345-027-0023(65): If the proposed energy facility is a pipeline or a transmission
34 line or has, as a related or supporting facility, a pipeline or transmission line, the Council
35 shall specify an approved corridor in the site certificate and shall allow the certificate
36 holder to construct the pipeline or transmission line anywhere within the corridor,
37 subject to the conditions of the site certificate. If the applicant has analyzed more than
38 one corridor in its application for a site certificate, the Council may, subject to the
39 Council's standards, approve more than one corridor. ~~Before beginning operation of the~~
40 ~~facility, the certificate holder shall submit to the Office a legal description of the~~
41 ~~permanent right of way where the applicant has built the pipeline or transmission line~~
42 ~~within an approved corridor. The site of the pipeline or transmission line subject to the~~
43 ~~site certificate is the area within the permanent right of way.~~ [Amendment #3]
- 44 (120) OAR 345-027-0028: The following general monitoring conditions apply:
45 (a) The certificate holder shall consult with affected state agencies, local governments
46 and tribes and shall develop specific monitoring programs for impacts to resources
47 protected by the standards of ~~divisions~~Divisions 22 and 24 of ~~this chapter~~OAR Chapter
48 345 and resources addressed by applicable statutes, administrative rules and local

1 ordinances. The certificate holder must submit the monitoring programs to the
2 ~~Office~~Department of Energy and receive ~~Office~~Department approval before beginning
3 construction or, as appropriate, operation of the facility.

4 (b) The certificate holder shall implement the approved monitoring programs
5 described in section (a) and monitoring programs required by permitting agencies and
6 local governments.

7 (c) For each monitoring program described in sections (a) and (b), the certificate
8 holder shall have quality assurance measures approved by the ~~Office~~Department before
9 beginning construction or, as appropriate, before beginning commercial operation.

10 (d) If the certificate holder becomes aware of a significant environmental change or
11 impact attributable to the facility, the certificate holder shall, as soon as possible, submit
12 a written report to the ~~Office~~Department describing the impact on the facility and any
13 affected site certificate conditions.

14 [Amendment #3]

15 (121) OAR 345-026-0048: Following receipt of the site certificate ~~or an amended site~~
16 certificate, the certificate holder shall implement a plan that verifies compliance with all
17 site certificate terms and conditions and applicable statutes and rules. As a part of the
18 compliance plan, to verify compliance with the requirement to begin construction by the
19 date specified in the site certificate, the certificate holder shall report promptly to the
20 ~~Office~~Department of Energy when construction begins. Construction is defined in OAR
21 345-001-0010. In reporting the beginning of construction, the certificate holder shall
22 describe all work on the site performed before beginning construction, including work
23 performed before the Council issued the site certificate, and shall state the cost of that
24 work. For the purpose of this exhibit, "work on the site" means any work within a site or
25 corridor, other than surveying, exploration or other activities to define or characterize the
26 site or corridor. The certificate holder shall document the compliance plan and maintain
27 it for inspection by the Department or the Council. [Amendment #3]

28 (122) OAR 345-026-0080: The certificate holder shall report according to the following
29 requirements:

30 (a) General reporting obligation for ~~non-nuclear~~energy facilities under construction or
31 operating:

32 (i) Within six months after beginning construction, and every six months
33 thereafter during construction of the energy facility and related or supporting facilities,
34 the certificate holder shall submit a semiannual construction progress report to the
35 ~~Council~~Department of Energy. In each construction progress report, the certificate
36 holder shall describe any significant changes to major milestones for construction. The
37 certificate holder shall include such information related to construction as specified in
38 the site certificate. When the reporting date coincides, the certificate holder may include
39 the construction progress report within the annual report described in this ~~rule~~Condition.

40 (ii) ~~By April 30 of each year after beginning construction, The~~the certificate
41 holder shall, ~~within 120 days after the end of each calendar year after beginning~~
42 ~~construction,~~ submit an annual report to the ~~Council~~Department addressing the subjects
43 listed in this ~~rule~~Condition. The Council ~~secretary~~Secretary and the certificate holder
44 may, by mutual agreement, change the reporting date.

45 (iii) To the extent that information required by this rule is contained in reports the
46 certificate holder submits to other state, federal or local agencies, the certificate holder
47 may submit excerpts from such other reports to satisfy this rule. The Council reserves
48 the right to request full copies of such excerpted reports.

1 (b) In the annual report, the certificate holder shall include the following information
2 for the calendar year preceding the date of the report:

3 (i) Facility Status: An overview of site conditions, the status of facilities under
4 construction, and a summary of the operating experience of facilities that are in
5 operation. In this section of the annual report, the certificate holder shall describe any
6 unusual events, such as earthquakes, extraordinary windstorms, major accidents or the
7 like that occurred during the year and that had a significant adverse impact on the
8 facility;

9 (ii) Reliability and Efficiency of Power Production: For electric power plants,

10 ~~(A) The the plant availability and capacity factors for the reporting year. If the~~
11 ~~certificate holder shall describe any equipment failures or plant breakdowns that had a~~
12 ~~significant impact on those factors, the certificate holder and shall describe them and its~~
13 ~~plans to minimize or eliminate their any actions to prevent the recurrence of such~~
14 ~~problems.~~

15 (iii) ~~(B) Fuel Use: For thermal power plants:~~

16 ~~(A) The efficiency with which the power plant converts fuel into electric~~
17 ~~energy. If the fuel chargeable to power heat rate was evaluated when the facility was~~
18 ~~sited, the certificate holder shall calculate efficiency using the same formula and~~
19 ~~assumptions, but using actual data; and~~

20 ~~(B) The facility's annual hours of operation by fuel type and, every five~~
21 ~~years after beginning operation, a summary of the annual hours of operation by fuel type~~
22 ~~as described in OAR 345-024-0590(5).~~

23 ~~(iiiiv) Status of Surety Information: Documentation demonstrating that bonds or~~
24 ~~letters of credit as described in the site certificate are in full force and effect and will~~
25 ~~remain in full force and effect for the term of the next reporting period.~~

26 ~~(iv) Industry Trends: A discussion of any significant industry trends that may~~
27 ~~affect the operations of the facility;~~

28 (v) Monitoring Report: A list and description of all significant monitoring and
29 mitigation activities performed during the previous year in accordance with site
30 certificate terms and conditions, a summary of the results of those activities, and a
31 discussion of any significant changes to any monitoring or mitigation program, including
32 the reason for any such changes;

33 (vi) Compliance Report: A description of all instances of noncompliance with a
34 site certificate condition. For ease of review, the certificate holder shall, in this section of
35 the report, use numbered subparagraphs corresponding to the applicable sections of the
36 site certificate;

37 (vii) Facility Modification Report: A summary of changes to the facility that the
38 certificate holder has determined do not require a site certificate amendment in
39 accordance with OAR 345-027-0050; and

40 (viii) Nongenerating Facility Carbon Dioxide Emissions: For nongenerating
41 facilities that emit carbon dioxide, a report of the annual fuel use by fuel type and annual
42 hours of operation of the carbon dioxide emitting equipment as described in OAR 345-
43 024-0630(4).

44 [Amendment #3]

45 (123) ~~OAR 345-026-0100: The certificate holder shall promptly notify the Office of Energy~~
46 ~~of any changes in major milestones for construction, decommissioning, operation or~~
47 ~~retirement schedules. Major milestones are those identified by the certificate holder in its~~
48 ~~construction, retirement or decommissioning plan. [Condition removed by Amendment #3]~~

1 (124) OAR 345-026-0105: The certificate holder and the ~~Office~~Department of Energy shall
2 exchange copies of all correspondence or summaries of correspondence related to
3 compliance with statutes, rules and local ordinances on which the Council determined
4 compliance, except for material withheld from public disclosure under state or federal
5 law or under Council rules. The certificate holder may submit abstracts of reports in
6 place of full reports; however, the certificate holder shall provide full copies of
7 abstracted reports and any summarized correspondence at the request of the ~~Office~~ of
8 Energy~~Department~~. [Amendment #3]

9 (125) OAR 345-026-0170: The certificate holder shall notify the ~~Office~~Department of Energy
10 within 72 hours of any occurrence involving the facility if:

11 (a) There is an attempt by anyone to interfere with its safe operation;

12 (b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-
13 caused event such as a fire or explosion affects or threatens to affect the public health and
14 safety or the environment; or

15 (c) There is any fatal injury at the facility.

16 [Amendment #3]

Explanation

17 These revision to Conditions 102, 105, 106, 108, 111 and 113 through 125 conform
18 the BCWF Site Certificate to the Council's amendments of OAR Chapter 345, Divisions 26
19 and 27, effective May 15, 2007. These conditions are required by Council rules.

Revision 20

20 *Page 26, following line 38:*

VII. CONDITIONS RELATING TO AMENDMENT #3

22 (128) With respect to any turbine constructed within a micro siting corridor approved by the
23 Council after November 21, 2007, the certificate holder shall not locate such turbine
24 within the setback prescribed by Section 4 of the Sherman County Wind Power Set Back
25 Ordinance (Ordinance No. 39-2007) unless the Council has approved a variance to such
26 setback for the turbine or the certificate holder has negotiated a setback agreement with
27 the affected adjacent property owner and wind project developer. [Amendment #3]

Explanation

28 PGE proposes adding new Section VII, "Conditions Relating to Amendment #3," to
29 the Site Certificate (and renumbering the succeeding sections). PGE proposes adding new
30 Condition 128 to address compliance with Sherman County Ordinance 39-2007, discussed
31 above at page 19. The Department concurs with PGE's proposed change (modified for
32 clarity).

Revision 21

33 *Page 26, following proposed Condition 128:*

34 (129) The certificate holder shall avoid any disturbance within 25 feet of the stream channel
35 in the area identified as "Stream Crossing H" in the Request for Amendment #3 and
36 shall install any collector line through the area by tunneling or drilling beneath the
37 stream channel. [Amendment #3]

Explanation

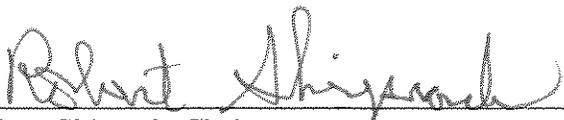
1 The Department concurs with PGE's request (modified for clarity). The revision
2 addresses protection of a potentially State-jurisdictional water, discussed above at page 40.

VIII. ORDER

3 The Council approves Amendment #3 and issues an amended site certificate for the
4 Biglow Canyon Wind Farm, subject to the terms and conditions set forth above.

Issued this 31st day of October, 2008.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: 
Robert Shiprack, Chair
Oregon Energy Facility Siting Council

Attachments

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.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN

[OCTOBER 31, 2008]

I. Introduction

This Habitat Mitigation Plan (plan) describes methods and standards for enhancement of an area of land near the Biglow Canyon Wind Farm (BCWF) to mitigate for certain impacts of the facility on wildlife habitat.¹ The applicant has proposed a habitat mitigation area of approximately 117 acres as described below. The certificate holder shall enhance the mitigation area as described in this plan and shall place the area into a conservation easement for the life of the facility.²

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 within the mitigation area. The plan specifies the primary actions the certificate holder must undertake and the goals, monitoring procedures, and success criteria to evaluate enhancement success.

Prior to any construction of the BCWF, the site certificate holder shall acquire the legal right to create, maintain and protect the habitat mitigation area for the life of the facility by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Oregon Department of Energy (Department). Prior to any construction of the BCWF, the site certificate holder shall complete an "Implementation Plan" approved by the Department that describes in detail how the Habitat Mitigation Plan will be carried out. During the first phase of construction of the BCWF, the site certificate holder shall begin to implement this plan so that all of the specific enhancement methods described in Section VII are in place by the end of construction of that first phase.

II. Description of the Permanent Impacts

The BCWF would permanently affect a maximum of about 190.5 acres. Most of the area of permanent impact (about 178 acres) would be within currently cultivated agricultural fields or other developed land. This area is lower-value habitat (Category 6). The BCWF would occupy – or have a permanent impact on – a maximum of about 12.66 acres of higher-value Category 3 or Category 4 habitat. The actual area of each habitat category that the BCWF will permanently occupy will depend on the final design layout of the facility after consideration of micrositing factors.

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. This is often referred to as a "displacement" impact. Conducting a study at the BCWF site to determine whether operation of the facility had 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

¹ This plan is incorporated by reference in the site certificate for the BCWF 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 As used in this plan, "life of the facility" means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

holder has proposed to provide additional mitigation, based on the assumed likelihood that operation of the facility would reduce the quality of nearby habitat that is important or essential for grassland bird species. The affected habitat near the BCWF wind turbines includes grassland, Conservation Reserve Program (CRP) and shrub-steppe habitat in Categories 3 and 4.

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 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. Mitigation must be in-kind.

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

Mitigation Goal: No net loss in either existing habitat quantity or quality. Mitigation may be either in-kind or out-of-kind.

III. Calculation of Impacts and Size of Mitigation Area

The area needed to mitigate for the amount of higher-value habitat occupied by the BCWF turbines and related facilities is determined by the facility's permanent impact 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, the applicant has performed a rough calculation of potential displacement impact by assuming a 50-percent reduction in use by grassland birds within 50 meters of wind turbines in native grassland/shrub steppe habitat and a 25 percent reduction in use by grassland birds within 50 meters of wind turbines in CRP habitat.³ The applicant 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"). The area of impact within each affected habitat category and the corresponding mitigation area for each category are as follows:

- The permanent impact is about 12.66 acres, of which about 8.86 acres are Category 3 habitat (grassland, CRP and shrub-steppe combined) and about 3.8 acres are Category 4 habitat (grassland, CRP and shrub-steppe combined).
- The potential displacement impact is estimated to be about 35 acres.⁴
- The combined impacts equal about 48 acres. Mitigation must be sufficient to replace the quantity and quality of this combined impact in order to achieve "no net loss" in habitat quantity or quality. The mitigation area must be large enough to be capable of achieving this goal. The certificate holder has secured a 117-acre

³ 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.

⁴ In the original Habitat Mitigation Plan (June 30, 2006), the area of displacement mitigation was calculated to be 33 acres, based on information from Wally Erickson, WEST, Inc. In Amendment #3, the area of permanent impact on Category 3 and 4 habitat increased from 11.93 acres to 12.66 acres, an increase of approximately 6 percent, and the displacement mitigation area was increased by the same percentage.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 mitigation area, based on the understanding that mitigation acreage that exceeds
2 the actual acreage of permanent and indirect impacts may be applied to any future
3 mitigation requirements (this “mitigation banking” is discussed in Section IX).

4 If the data from transect surveys at the Stateline Wind Project demonstrates a statistically
5 significant displacement effect on grassland bird species that is greater than the displacement
6 effect described in the *Stateline Wind Project Wildlife Monitoring Final Report, July 2001-*
7 *December 2003*, then the certificate holder shall assume that the BCWF is having a greater
8 displacement effect on grassland species than was assumed when the site certificate was issued
9 and shall propose additional mitigation. The Department shall recommend appropriate mitigation
10 to the Council, and the certificate holder shall implement mitigation as approved by the Council.

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

12 The mitigation site is located to the northeast of the BCWF, less than 0.5 miles from the
13 John Day River and just more than 0.5 miles from the nearest wind turbine. The site contains an
14 intermittent spring that forms a small tributary drainage immediately west of the Emigrant
15 Springs tributary and watershed.

16 Thus, the mitigation site sits immediately adjacent to both the John Day River riparian
17 corridor and the large Emigrant Springs watershed, which provides additional forage, thermal
18 and security cover, and water. No road access exists to the site, which is relatively remote and
19 infrequently disturbed by humans.

20 The site is predominantly steep-sloped with shallow rocky soils and has been both
21 recently and historically grazed. Areas most degraded from livestock grazing include the deeper
22 soiled areas and the spring and associated riparian draw in the southern end of the mitigation site.
23 Horizontal and vertical vegetative structure is largely depleted because of exposed slopes and
24 livestock grazing impacts, and large patches of cereal rye have out-competed native species in
25 some areas. However, the higher elevation western border consists of deeper silt loam soils, with
26 the potential to provide a more diverse vegetative community.

27 Adjacent property to the west is cultivated and managed for wheat production. Adjacent
28 property to the north and east is rangeland managed for livestock production. A four-strand
29 barbed wire fence exists along the east boundary of the mitigation site. No fence exists along the
30 crop field boundary to the east or along the north boundary; this area is grazed when fallow or
31 electric fence is used during the planting and harvest period to exclude livestock. The area
32 around the spring source and downstream lacks a vegetative buffer or a diverse vegetative
33 community because of intensive grazing. Some tall sagebrush cover exists near the stream area
34 while cattails and aquatic succulents occur in the spring source area.

35 Given the current condition of the site and livestock practices, the entire mitigation site is
36 generally characterized as Category 4 habitat, according to ODFW’s Habitat Mitigation
37 Standards.

38 **V. Site Potential for Wildlife Habitat Enhancement**

39 For mitigation, the applicant has proposed entering into a conservation easement or
40 similar agreement with two landowners to enhance the mitigation site’s existing grassland,
41 shrub-steppe and riparian habitat for the life of the BCWF facility. The mitigation site presents

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 the opportunity to enhance grassland and shrub-steppe habitat quality and quantity that is limited
2 in the area for wildlife. Properly managed, the mitigation site has the potential to provide more
3 diverse grassland in greater quantity with greater horizontal and vertical structure. If enhanced
4 with reseeded, deeper soiled areas would provide better nesting habitat for grassland bird
5 species and provide higher quality forage for big game. Excluding livestock with fencing would
6 provide better fall, winter and early spring rangeland for big game by allowing Sandberg
7 bluegrass, bluebunch wheatgrass, and various forbs to grow undisturbed in shallow-soiled slopes.
8 Removal of cattle grazing should improve the habitat quality of the entire site and especially the
9 deeper-soiled, spring and riparian areas. The site's steeper areas also will see some benefit from
10 reduced grazing, especially during early spring green-up. As well, livestock exclusion would
11 enhance summer habitat for ground-nesting birds.

12 The mitigation site also has the potential to provide several different quality ecotones.⁵
13 Grassland patches in the lower-elevation eastern portion of the site may be of greater suitability
14 to long-billed curlews because of closer proximity to the John Day River, where observations of
15 this species breeding have been documented.

16 **VI. Proposed Enhancement**

17 To mitigate for the permanent loss of 12.66 acres of Category 3 and Category 4 habitat as
18 a result of BCWF turbines, roads and other facilities, the site certificate holder will reseed 12.66
19 acres of deep-soiled Category 4 habitat within the mitigation site along the upper, more level
20 slopes adjacent to cultivated areas. Reseeding is expected to improve about 12.66 acres of deep-
21 soiled Category 4 habitat to a quality of Category 2 or Category 3 grassland habitats.

22 To mitigate for the displacement effect, the site certificate holder will install fences to
23 remove livestock grazing from the 117-acre mitigation site. In combination with other actions
24 described below, fencing is expected to improve most of the portion of the mitigation site that is
25 not reseeded (about 105 acres) from Category 4 to at least Category 3 habitat.

26 The acreages stated above for maximum permanent and indirect displacement habitat
27 impacts (*i.e.*, 12.66 acres and 35 acres, respectively, or a total of about 48 acres) are based on
28 construction of the entire BCWF facility as approved under the site certificate. If only a portion
29 of the BCWF facility is constructed, the maximum permanent and indirect displacement habitat
30 impacts are expected to be less than 48 acres. Nevertheless, as part of the first phase of
31 construction, the certificate holder has proposed to secure the entire 117-acre mitigation site,
32 install the guzzler, enhance the spring area, and have the fencing installed to exclude livestock on
33 the entire mitigation site. If only a portion of the BCWF facility is constructed and full build-out
34 does not occur, then any enhanced mitigation acreage that exceeds the actual acreage of
35 permanent and indirect habitat impacts may be applied to any future mitigation requirements, as
36 outlined in the Wildlife Mitigation and Monitoring Plan and subject to approval by the
37 Department.

38 **VII. Habitat Enhancement Methods**

39 The goal of habitat enhancement is to improve the habitat quality of the mitigation site to
40 achieve, over time, a Category 3 quality over most of the site and a mix of Category 2 and

⁵ An "ecotone" is a transitional zone between ecological communities.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 Category 3 on 12.66 reseeded acres. The site certificate holder will use the following five
2 methods to enhance habitat quality and quantity on the site:

3 **1. Reseeding**

4 The site certificate holder shall prepare and seed at least 12.66 acres within two defined areas
5 located along the western edge of the mitigation site.⁶

6 A. Seed Mixture: The site certificate holder developed a seed mixture in consultation with
7 Mary Beth Smith at the local United States Department of Agriculture Natural Resources
8 Conservation Service office based on anticipated high value to both big game and non-
9 game wildlife and the historic vegetative climax community for the area (Table 1). Prior
10 to seeding, the site certificate holder shall consult with the Department to determine if
11 any mixture adjustments, either in species composition or ratio of seed quantity among
12 species, would further benefit wildlife.

13 B. Seed Planting Methods: If enhancement efforts occur in the winter or spring, seeding
14 should occur sometime in February through early April, after the average last frost date.
15 If enhancement efforts occur after the spring seeding window, seeding should occur
16 sometime in October through November. Disturbed, unseeded ground may require
17 chemical or mechanical weed control in May or June before weeds go to seed. In general,
18 a weed-free seedbed should be prepared using conventional tillage equipment. Herbicide
19 should be sprayed to control weedy and/or noxious species, following Oregon
20 Department of Agriculture's (ODOA) guidelines. Summer fallowing may be required.
21 Areas to be seeded shall be disked as needed in early spring and spot-sprayed on the
22 ground each time with an herbicide. In some instances, disking the site may not be
23 needed prior to seeding. Simply preparing a weed-free site using herbicide treatments
24 may be all that is necessary. The disked and sprayed areas must then be harrowed prior to
25 seeding. A conventional seed drill must be used, except in areas where a rangeland drill is
26 deemed more applicable, with a spacing less than 12 inches and at a depth of 1/8-1/4
27 inch. A packing type roller must be used to properly compact the soil over the planted
28 seed. The prescribed seed mixture (Table 1) must be drilled at a rate of 12 pounds pure
29 live seed per acre. If an area is to be fallowed to increase soil moisture content, then the
30 same procedure must be followed, but without seeding. Seeding would then occur the
31 following spring.

⁶ These two areas are identified in PGE's Habitat Mitigation Implementation Plan, February 2007, Appendix A.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

Table 1. Seed mixture to be used for reseeded deeper soiled areas of the mitigation site.		
Common Name	Scientific Name	Pounds/Acre⁷
Luna pubescent wheatgrass	<i>Thinopyrum intermedium</i>	1
Sherman big bluegrass	<i>Poa ampla</i>	1
Magnar basin wildrye	<i>Leymus cinereus</i>	1
Whitmar beardless wheatgrass	<i>Pseudoroegneria spicata</i> ssp. <i>Inermis</i>	2
Small burnett	<i>Sanguisorba minor</i>	0.5
Alfalfa	<i>Medicago sativa</i>	1
Sanfoin	<i>Psoralea onobrychis</i>	0.5
Sandberg bluegrass	<i>Poa secunda</i>	2
Idaho fescue	<i>Festuca idahoensis</i>	2
Basin big sagebrush	<i>Artemisia tridentata</i> ssp. <i>Tridentate</i>	1
TOTAL		12

1 **2. Weed Control**

2 Large patches of nuisance weed species have out-competed native species in some areas
3 of the mitigation site. The site certificate holder shall conduct eradication or control of nuisance
4 weed species with measures approved by the Department.

5 **3. Livestock Control**

6 The site certificate holder shall fence the entire unfenced portion of the mitigation site to
7 control and remove cattle grazing on the mitigation site. Over 9,200 feet of new fence will be
8 installed following ODFW livestock fence specifications. The existing fence (4-strand barbed
9 wire) located on the eastern edge of the project area and along a small 600 feet section running
10 east/west along a portion of the northern border of the agricultural field will continue in use to
11 the extent it remains effective in keeping cattle out of the mitigation site.

12 **4. Creation of a Water Source**

13 The site certificate holder shall create a water source for wildlife use in the northern end
14 of the project area where no water source now exists. The site certificate holder will build and
15 install a 500-gallon capacity cistern or “guzzler” using a design approved by ODFW and the
16 Department. The new source of water should increase wildlife density in the mitigation site.

17 **5. Spring Enhancement**

18 The site certificate holder shall plant appropriate native species of woody shrubs near the
19 source of the intermittent spring in the southern part of the site. Browse protection shall be
20 provided as long as necessary. Over time, the shrubs will provide cover for wildlife as well as
21 protect soils around the spring source.

22 **VIII. Habitat Mitigation Implementation**

23 Prior to the commencement of construction of the BCWF facility, the site certificate
24 holder shall complete a Department-approved detailed implementation plan to guide
25 implementation of the enhancement methods. The implementation plan shall include maps and

⁷ Pure live seed.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 photographs at appropriate scale and detail that show the topography, vegetation, habitat and
2 other site conditions of the mitigation site; the proposed locations of the primary actions required
3 by the mitigation plan; a schedule showing when the primary actions required in the mitigation
4 plan will occur; and a proposed monitoring plan including monitoring protocols, locations of
5 monitoring stations, and a schedule of monitoring actions. The implementation plan will take
6 into consideration the physical and biological features of the mitigation site such as slope, soil
7 depth, and existing habitat conditions, the appropriate time of year to conduct actions, and the
8 appropriate sequence of actions. The purpose of the implementation plan is to describe details of
9 applying the enhancement methods. The implementation plan is subject to the conditions of the
10 site certificate and the requirements contained in this Habitat Mitigation Plan as amended from
11 time to time.

12 The certificate holder shall not begin enhancement efforts until the Department has
13 reviewed and approved the implementation plan. Enhancement methods must be carried out
14 according to the schedule included in the implementation plan. The certificate holder shall take
15 all actions necessary to implement the Habitat Mitigation Plan, including ongoing maintenance
16 of the guzzler and fencing.

17 **IX. Monitoring**

18 **1. Qualifications**

19 For all components of this plan, the site certificate holder shall direct a qualified
20 biologist, approved by the Department, to perform monitoring tasks (the “investigator”). The
21 Department has approved the qualifications of the four biologists identified in the Final Order on
22 Amendment #2. The certificate holder may select other qualified biologists to perform the
23 monitoring tasks, subject to Department approval.

24 **2. Reporting Schedule and Duration/Type of Monitoring**

25 The site certificate holder shall provide an annual report discussing the investigator’s
26 findings and recommendations regarding habitat mitigation progress and success to the
27 Department and ODFW. The site certificate holder shall include this report as part of the annual
28 report on the BCWF or as otherwise agreed between the site certificate holder and the
29 Department. The site certificate holder shall monitor the mitigation site for the life of the Biglow
30 facility.

31 For the reseeded areas, the investigator will monitor every year for the first five years
32 after the first seeding or until the area is determined by the Department to be trending toward
33 successful habitat enhancement. Thereafter, the investigator shall revisit the reseeded areas every
34 five years for the life of the BCWF facility. The certificate holder shall report the investigator’s
35 findings to the Department.

36 The investigator also shall monitor as necessary:

- 37 • Once a year for the life of the project: The effectiveness of weed eradication and
38 control efforts throughout the mitigation site;
- 39 • Minimum of once a year for the life of the project and within one week of livestock
40 turn-out on adjacent property: The effectiveness of fencing in excluding livestock
41 from and allowing big game access to the mitigation site;

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

- 1 • Minimum of annual monitoring for the life of the project: The effectiveness of the
2 new water source in providing water;
- 3 • Once a year for the life of the project: The effectiveness of enhancement actions for
4 the spring area in providing improved cover for wildlife and reducing erosion near the
5 spring source;
- 6 • Once a year for the life of the project: The overall condition of the mitigation site
7 (including, for example, the degree of erosion, the occurrence of weed concentrations
8 and changes in habitat quality); and
- 9 • Once a year for the life of the project: The general level of wildlife use, especially
10 grassland birds, within the mitigation site.

11 In addition, the inspector shall periodically categorize the entire mitigation site in terms
12 of ODFW habitat categories. The certificate holder shall propose a schedule for monitoring to
13 the Department and shall conduct monitoring as approved by the Department.

14 **3. Success Criteria**

15 Permanent Impacts

16 The enhancement goal for the permanent impact of the BCWF facility is met when 70
17 percent of the 12.66-acre reseeded area (about 8.9 acres) is Category 2 habitat, the remaining 30
18 percent is Category 3 habitat and undesirable plant species (weeds) and erosion are under control
19 and do not pose concern. If more than 8.9 acres of the reseeded area has been improved to
20 Category 2 quality, those additional acres may be “credited” toward mitigation for other impacts
21 upon Department approval.

22 Displacement Effects

23 Within the remainder of the mitigation area, consisting of 104.34 acres (117 acres less the
24 12.66 acres needed to mitigate for permanent impacts), the certificate holder shall provide
25 mitigation for displacement effects. The enhancement goal for the displacement effects is met
26 when:

- 27 • The habitat quality within at least 35 acres has been improved from Category 4 to
28 Category 3 habitat or better and at least 24.5 acres (70 percent) of this improved area
29 has the characteristics of established grassland and shrub-steppe plant communities.
- 30 • The condition of the rest of the land within the mitigation area does not pose a threat
31 to maintaining habitat quality of the improved area.

32 Mitigation Banking

33 Within the remainder of the mitigation area, consisting of 69.34 acres (117 acres less
34 47.66 acres needed to mitigate for permanent impacts and displacement effects), the acres that
35 the certificate holder improves from Category 4 to Category 3 habitat or better may be “credited”
36 toward mitigation for other impacts, as outlined in the Wildlife Monitoring and Mitigation Plan,
37 upon Department approval. To use any of the improved acres for mitigation, at least 70 percent
38 of the area used must have the characteristics of established grassland and shrub-steppe plant
39 communities.

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 *Specific Success Criteria*

2 Specific success criteria are as follows:

3 **A. Reseeded Areas:** A reseeded area is successfully enhanced when total canopy cover
4 of all vegetation exceeds 30 percent and at least 25 percent of the ground surface is
5 covered by desirable plant species. Desirable plant species are native species or
6 desirable non-native species in the approved mitigation seed mix. After the above
7 success criteria have been met (predominantly desirable vegetation has been
8 established), the investigator shall verify, during subsequent visits, that the site
9 continues to meet the success criteria for habitat enhancement. In addition, the
10 investigator, in consultation with ODFW, shall evaluate the percentage of the
11 reseeded site that has been enhanced to Category 2 and Category 3 quality.

12 If all or part of the habitat within the reseeded area falls below the enhancement
13 success criteria levels, the investigator shall recommend corrective measures. The
14 Department may require reseeded or other corrective measures in those areas that do
15 not meet the success criteria.

16 **B. Weed control:** Weed control is successful when weed species are eliminated or
17 reduced to a level (based on considerations such as number, size and health of plants,
18 and percent ground cover) that does not interfere with the goals of the mitigation
19 plan. To meet success criteria, reseeded with seed approved by the Department may
20 be necessary.

21 **C. Fencing:** Fencing is successful when the Department deems that fencing has been
22 properly constructed according to ODFW specifications and continues to be effective
23 at excluding livestock from entering the mitigation site. This criterion includes
24 existing fencing.

25 **D. New Water Source:** The new water source is successful when the Department deems
26 that the water source has been properly constructed according to ODFW
27 specifications and continues to provide a reasonably reliable source of water for
28 wildlife.

29 **E. Spring Area Enhancement:** Enhancement of the spring area is successful when
30 appropriate native species of woody shrubs are planted, continue to grow, and provide
31 cover for wildlife.

32 **4. Corrective Measures**

33 If mitigation and enhancement actions fail to meet the success criteria, the investigator
34 shall recommend corrective measures for Department approval. The Department may require
35 reseeded or other corrective measures for those areas and for those actions that do not meet the
36 success criteria.

37 **5. Success Criteria Rationale**

38 The direct (“footprint”) habitat impact of the BCWF is about 13 acres (12.66 acres). The
39 proportion of the impact is about 70 percent Category 3 habitat and about 30 percent Category 4
40 habitat. To mitigate for this habitat loss requires the improvement of about 13 acres of Category
41 4 grassland within the mitigation area so that 70 percent becomes Category 2 grassland and 30

BIGLOW CANYON WIND FARM: HABITAT MITIGATION PLAN
[OCTOBER 31, 2008]

1 percent becomes Category 3 grassland. In addition, successful mitigation requires the protection
2 of the improved habitat for the life of the facility.

3 The potential grassland bird displacement impact is estimated to be about 35 acres. The
4 proportion of the impact is about 70 percent Category 3 habitat (about 24.5 acres) and about 30
5 percent Category 4 habitat (about 10.5 acres). To mitigate for the Category 3 component of this
6 habitat impact requires enhancing about 24.5 acres of current Category 4 habitat to Category 3
7 grassland habitat. To mitigate for the Category 4 component requires enhancing about 10.5 acres
8 from Category 4 to Category 3 (this area need not be grassland habitat).

9 The total size of the mitigation area is 117 acres. Mitigation for the footprint impact
10 requires about 13 acres, which leaves about 104 acres in the habitat mitigation site. Mitigation
11 for the displacement impact requires about 35 acres, which leaves about 69 acres beyond the
12 minimum land area needed to achieve successful mitigation for the impacts described in this
13 plan. This 69 acres may be used for additional mitigation in the future, if the success criteria
14 described above in Section 3 are met.

15 **X. Amendment of the Plan**

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