

Summit Ridge Wind Farm: Reissued Draft Proposed Order

To: Oregon Energy Facility Siting Council
From: Luke May, Siting Analyst
Date: February 1, 2019
Re: Reissued Draft Proposed Order on Request for Amendment 4

Certificate Holder: Summit Ridge Wind, LLC, a wholly owned subsidiary of Pattern Energy Group 2 LP

Approved Facility

(Not Yet Constructed): Approved, but not yet constructed wind energy generation facility that would produce approximately 194.4 megawatts (MW) of electricity. Related or supporting facilities include: a power collection system, a collector substation, a 230-kilovolt (kV) transmission line, meteorological towers, supervisory control and data acquisition (“SCADA”) system, operations and maintenance building, access roads, and temporary laydown areas.

Proposed Amendment: The amendment requests that the construction deadlines be extended by two years; the amendment requests that the construction commencement deadline be extended to August 19, 2020 and that the construction completion deadline be extended to August 19, 2023.

Proposed Location: The facility site boundary includes approximately 11,000 acres of private land, within Wasco County. The facility is approved to be located approximately 17 miles southeast of The Dalles and eight miles east of Dufur.

Staff Recommendation: Approval of Request for Amendment 4 of Site Certificate

Summary

To issue an amended site certificate, the Energy Facility Siting Council (EFSC or the Council) must find that a request for amendment to the site certificate demonstrates that the facility, with proposed changes, satisfies, or with conditions can satisfy, each of the applicable EFSC Siting Standards set forth in Oregon Administrative Rule (OAR) 345, Divisions 22 through 24, as well as all other Oregon statutes and administrative rules applicable to the facility, with proposed changes.

The amendment request is being reviewed under the Type A review process. As staff to EFSC, the Oregon Department of Energy (ODOE or the Department) reviewed Request for Amendment 4 to the Summit Ridge Wind Farm site certificate, in consultation with specifically identified state and local reviewing agencies. The requested amendment seeks approval to extend the construction start and completion deadlines by two years each; changes to facility design and site boundary are not requested. Based upon its review of the amendment request, the Department recommends the Council issue a fourth amended site certificate for the facility, subject to the existing and recommended amended site certificate conditions set forth in the following draft proposed order. The analysis and recommendations contained in this draft proposed order are not a final determination.

A public comment period is now open on the reissued draft proposed order and complete amendment request. In addition, the Council will hold a public hearing on this draft proposed order on February 22, 2019 at 10:00 AM at The Columbia Gorge Discovery Center in The Dalles, at 5000 Discovery Drive, The Dalles, Oregon. Please note, interested persons must raise issues on the record of the public hearing, either orally at the public hearing or in writing during the comment period, in order to preserve their right to participate further in the process. The public comment period extends through the close of the public hearing on February 22, 2019. Written or oral comments must be received by the Department by the close of the public hearing. Section II.B, *Amendment Review Process*, of the draft proposed order contains additional information regarding the site certificate amendment review process. The public notice associated with the release of this draft proposed order contains additional information regarding the comment period and public hearing.

Please note, on January 16, 2019, the Department of Energy released a draft proposed order on the Summit Ridge Wind Facility request for amendment 4 under the "Type B" review process. On February 1, 2019, the Department received notice from the certificate holder requesting that the amendment request be processed under the Type A review process. As such, the Department is reissuing this DPO under the Type A review, and in accordance with OAR 345-027-0067. There have been no changes to the assessment under Council standards between the January 16, 2019 DPO and this reissued DPO, and the Department's recommendations to Council on the merits of the amendment request are the same. All comments received on the January 16 2019 DPO are valid and will be addressed in the Department's proposed order on the amendment request, which will be issued after the close of the public comment period and Council review of the DPO.

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

In the Matter of Request for Amendment 4 for the
Summit Ridge Wind Farm Site Certificate

) REISSUED DRAFT PROPOSED
) ORDER ON REQUEST FOR
) AMENDMENT 4 TO THE SITE
) CERTIFICATE

February 2019

TABLE OF CONTENTS

I. INTRODUCTION 3

I.A. NAME AND ADDRESS OF CERTIFICATE HOLDER 4

I.B. DESCRIPTION OF THE APPROVED FACILITY 4

I.C. DESCRIPTION OF APPROVED FACILITY SITE LOCATION 6

I.D. PROCEDURAL HISTORY..... 8

II. AMENDMENT PROCESS 9

II.A. REQUESTED AMENDMENT 9

II.B. AMENDMENT REVIEW PROCESS 9

II.C. COUNCIL REVIEW PROCESS..... 11

II.D. APPLICABLE DIVISION 27 RULE REQUIREMENTS 12

III. REVIEW OF THE REQUESTED AMENDMENT 13

III.A. GENERAL STANDARD OF REVIEW: OAR 345-022-0000 13

III.B. ORGANIZATIONAL EXPERTISE: OAR 345-022-0010..... 20

III.C. STRUCTURAL STANDARD: OAR 345-022-0020 24

III.D. SOIL PROTECTION: OAR 345-022-0022..... 31

III.E. LAND USE: OAR 345-022-0030..... 33

III.F. PROTECTED AREAS: OAR 345-022-0040 45

III.G. RETIREMENT AND FINANCIAL ASSURANCE: OAR 345-022-0050..... 52

III.H. FISH AND WILDLIFE HABITAT: OAR 345-022-0060..... 59

III.I. THREATENED AND ENDANGERED SPECIES: OAR 345-022-0070 67

III.J. SCENIC RESOURCES: OAR 345-022-0080 69

III.K. HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES: OAR 345-022-0090 71

III.L. RECREATION: OAR 345-022-0100..... 74

III.M. PUBLIC SERVICES: OAR 345-022-0110..... 77

III.N. WASTE MINIMIZATION: OAR 345-022-0120..... 81

III.O. DIVISION 23 STANDARDS 82

III.P. Division 24 Standards 82

 III.P.1. Public Health and Safety Standards for Wind Energy Facilities: OAR 345-024-0010
 83

 III.P.2. Siting Standards for Transmission Lines: OAR 345-024-0090..... 86

 III.P.3. Cumulative Effects Standard for Wind Energy Facilities OAR 345-024-0015..... 88

III.Q. Other Applicable Regulatory Requirements Under Council Jurisdiction 90

 III.Q.1. Noise Control Regulations: OAR 340-035-0035 90

 III.Q.2. Removal-Fill..... 95

 III.Q.3. Water Rights..... 97

IV. PROPOSED CONCLUSIONS AND ORDER..... 99

LIST OF TABLES

Table 1: Wasco County Applicable Substantive Criteria 35
Table 2: Protected Areas within Facility Analysis Area and 48
Table 3: Updated Retirement Cost Estimate 55
Table 4: Estimated Temporary and Permanent Habitat Impacts 60
Table 5: Statistical Noise Limits for Industrial and Commercial Noise Sources 93

LIST OF FIGURES

Figure 1: Facility Regional Location 8

ATTACHMENTS

- Attachment A: Draft Amended Site Certificate (Red-line version)
- Attachment B: Reviewing Agency Comments on preliminary RFA4
- Attachment C: [Reserved for Draft Proposed Order Comments]
- Attachment D: Draft Habitat Mitigation Plan
- Attachment E: Revegetation and Weed Control Plan
- Attachment F: Wildlife Monitoring and Mitigation Plan

1 **I. INTRODUCTION**

2
3 The Oregon Department of Energy (Department or ODOE) reissues this draft proposed order, in
4 accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule
5 (OAR) 345-027-0065, based on its review of Request for Amendment 4 (amendment request or
6 RFA4) to the Summit Ridge Wind Farm site certificate, as well as comments and
7 recommendations received by specific state agencies and local governments during review of
8 the preliminary amendment request. The certificate holder is Summit Ridge Wind, LLC (Summit
9 Ridge or certificate holder) which is wholly owned by Pattern Energy Group 2 LP.

10
11 The certificate holder requests that the Energy Facility Siting Council (EFSC or Council) approve
12 changes to the site certificate to extend the construction commencement and completion
13 deadlines. In accordance with the existing site certificate, construction must have begun by
14 August 19, 2018 and be completed by August 19, 2021.¹ The amendment requests that the
15 construction deadlines be extended by two years; the amendment requests that the
16 construction commencement deadline be extended to August 19, 2020 and that the
17 construction completion deadline be extended to August 19, 2023. For amendments requesting
18 to extend construction deadlines, the Department and Council evaluate whether there have
19 been “changes in fact or law” since the site certificate or amended site certificate was issued to
20 determine whether, based on changes in fact or law, the facility would continue to satisfy
21 requirements of the standard.²

22
23 Based upon review of this amendment request, in conjunction with comments and
24 recommendations received by state agencies and local governments, the Department
25 recommends that the Council issue a fourth amended site certificate for the Summit Ridge
26 Wind Farm, subject to the existing and recommended amended conditions set forth in this
27 draft proposed order.

28
29 Please note, on January 16, 2019, the Department of Energy released a draft proposed order on
30 the Summit Ridge Wind Facility request for amendment 4 under the “Type B” review process.
31 On February 1, 2019, the Department received notice from the certificate holder requesting
32 that the amendment request be processed under the Type A review process. As such, the
33 Department is reissuing this DPO under the Type A review, and in accordance with OAR 345-

¹ The certificate holder submitted the request to extend the construction commencement and completion deadlines before the applicable construction deadlines and therefore satisfies the requirements of OAR 345-027-0085(1), and suspends the deadlines until Council decides on the amendment request.

² OAR 345-027-0075(2)(b)

1 027-0067. There have been no changes to the assessment under Council standards between
2 the January 16, 2019 DPO and this reissued DPO, and the Department’s recommendations to
3 Council on the merits of the amendment request are the same. All comments received on the
4 January 16 2019 DPO are valid and will be addressed in the Department’s proposed order on
5 the amendment request, which will be issued after the close of the public comment period and
6 Council review of the DPO. As is described elsewhere in this reissued DPO, the Council will hold
7 a public hearing on the DPO on February 22, 2019 at 10 AM at the Columbia River Gorge
8 Discovery Center in The Dalles. All comments on the reissued DPO must be received before the
9 close of the public hearing.

10
11 **I.A. Name and Address of Certificate Holder**

12
13 Summit Ridge Wind, LLC
14 c/o Pattern Renewables 2 LP
15 Pier 1, Bay 3
16 San Francisco, CA 94111

17
18 ***Parent Company of the Certificate Holder***

19 Pattern Renewables 2 LP (subsidiary of Pattern Energy Group 2 LP)
20 Pier 1, Bay 3
21 San Francisco, CA 94111

22
23 ***Certificate Holder Contact***

24 Kevin Wetzel
25 Project Development Manager
26 Pattern Energy Group 2 LP
27 Pier 1, Bay 3
28 San Francisco, CA 94111

29
30 **I.B. Description of the Approved Facility**

31
32 The facility has not yet been constructed. Through the *Final Order on the Application for Site*
33 *Certificate* (Final Order on ASC), and subsequent three amendments, the Summit Ridge Wind
34 Farm (facility) is approved as a 194.4 megawatt (MW) wind energy generation facility, to be
35 located entirely within Wasco County, Oregon. The facility, as approved, would include up to 72
36 wind turbines with dimension specifications as follows: blade tip height up to 152 meters (498.7
37 feet); hub height up to 91 meters (298.5 feet), and a minimum aboveground blade tip clearance
38 of 18 meters (59 feet).

39
40 The facility, as approved, would include the following related or supporting facilities:
41

- 1 • **Power collection system**
 - 2 ○ Electricity generated from each wind turbine would be transmitted to a collector
 - 3 substation, including up to 49 miles of mostly underground 34.5 kilovolt (kV)
 - 4 collector lines to transmit electricity from the wind turbines to the collector
 - 5 substation. Aboveground collector line segments would be supported by wood
 - 6 H-frame poles, approximately 55 feet in height.
 - 7
- 8 • **Collector substation**
 - 9 ○ The collector substation would aggregate collector lines and would step up
 - 10 voltage from 34.5 kV to 230 kV. The collector substation would occupy up to 5
 - 11 acres, which would be graveled and surrounded by a fence.
 - 12
- 13 • **230 kV transmission line**
 - 14 ○ An approximately 8-mile 230 kV transmission line would connect the facility
 - 15 collector substation to a Bonneville Power Administration (BPA) substation; the
 - 16 transmission line would extend northwest of the collector substation for
 - 17 approximately two miles and then traverse another six miles to the west. The
 - 18 transmission line structures would include H-frame poles approximately 70 feet
 - 19 in height and spaced in 800 foot intervals. The transmission line right-of-way is
 - 20 150 feet in width.
 - 21
- 22 • **Supervisory Control and Data Acquisition (SCADA) System**
 - 23 ○ A SCADA system would be linked by fiber optic cables to a central computer in
 - 24 the O&M building and would allow for remote operation of wind turbines. The
 - 25 SCADA system will be linked via fiber optic cables or other means of
 - 26 communication to a central computer in the O&M building. SCADA system wires
 - 27 will be installed in the collector line underground trenches, or overhead as
 - 28 necessary with the collector line.
 - 29
- 30 • **Operations and maintenance (O&M) building**
 - 31 ○ A 10,000 square foot O&M building would be located within the 5 acre collector
 - 32 substation site, and would be accompanied by a graveled parking lot and a 300
 - 33 foot x 300 foot fenced storage area. The O&M building would obtain domestic

1 water from an onsite well, developed to serve the facility’s domestic water
2 demand.³

3
4 • **Meteorological towers**

- 5 ○ Up to three permanent un-guyed meteorological towers, approximately 80
6 meters in height, would be installed.

7
8 • **Access roads**

- 9 ○ Up to 19 miles of new road would be constructed within the site boundary.
10 During construction, access roads would be 20 feet wide with an additional 10
11 feet of compacted road shoulders to accommodate crane paths. After
12 construction, access roads would be restored to a total width of 20 feet.

13
14 • **Temporary roadway modifications**

- 15 ○ Up to 6 miles of private roads would be upgraded. These roads would be
16 constructed and managed in the same manner as “access roads,” described
17 above.

18
19 The facility, as approved, would also include up to six temporary laydown areas used during
20 construction. Laydown areas would accommodate needs related to the delivery and staging of
21 wind turbine components. Five of the six temporary laydown areas would be located on
22 approximately 4 acres and would be graveled. These laydown areas would be restored after
23 completion of construction. The sixth temporary laydown area would be included within the
24 permanent 5-acre collector substation and O&M building site.

25
26 **I.C. Description of Approved Facility Site Location**

27
28 *Site Boundary*

29
30 A site boundary, by definition, includes the perimeter of the site of an energy facility, its related
31 or supporting facilities, all temporary laydown and staging areas and all corridors and

³ The onsite well would be exempt from requiring a permit from Oregon Department of Water Resources based on limitation on use of 15,000 gallons per day. Note that Oregon Revised Statutes 537.535(1)(d) allows for up to 15,000 gallons of water use, per day, for domestic purposes.

1 micrositing corridors.⁴ The site boundary for the Summit Ridge Wind Farm includes
2 approximately 11,000 acres of private land. As presented in Figure 1: Facility Regional Location,
3 the facility is approved to be located approximately 17 miles southeast of The Dalles and eight
4 miles east of Dufur.

5
6 *Micrositing Corridor*

7
8 A micrositing corridor, by definition, means a continuous area of land within which construction
9 of facility components may occur, subject to site certificate conditions.⁵ Micrositing corridors
10 are intended to allow some flexibility in specific component locations and design in response to
11 site-specific conditions and engineering requirements to be determined prior to construction.

12
13 The Council previously approved a micrositing corridor extending 1,300-feet from locations of
14 temporary and permanent disturbance. In order to utilize the entirety of the micrositing
15 corridor, the certificate holder is obligated to satisfy pre-construction survey requirements for
16 fish and wildlife habitat (Condition 10.7) and potential historic, cultural and archeological
17 resources (Condition 11.3) in areas within the micrositing corridor where facility components
18 would be located but that have not yet been surveyed.⁶

19

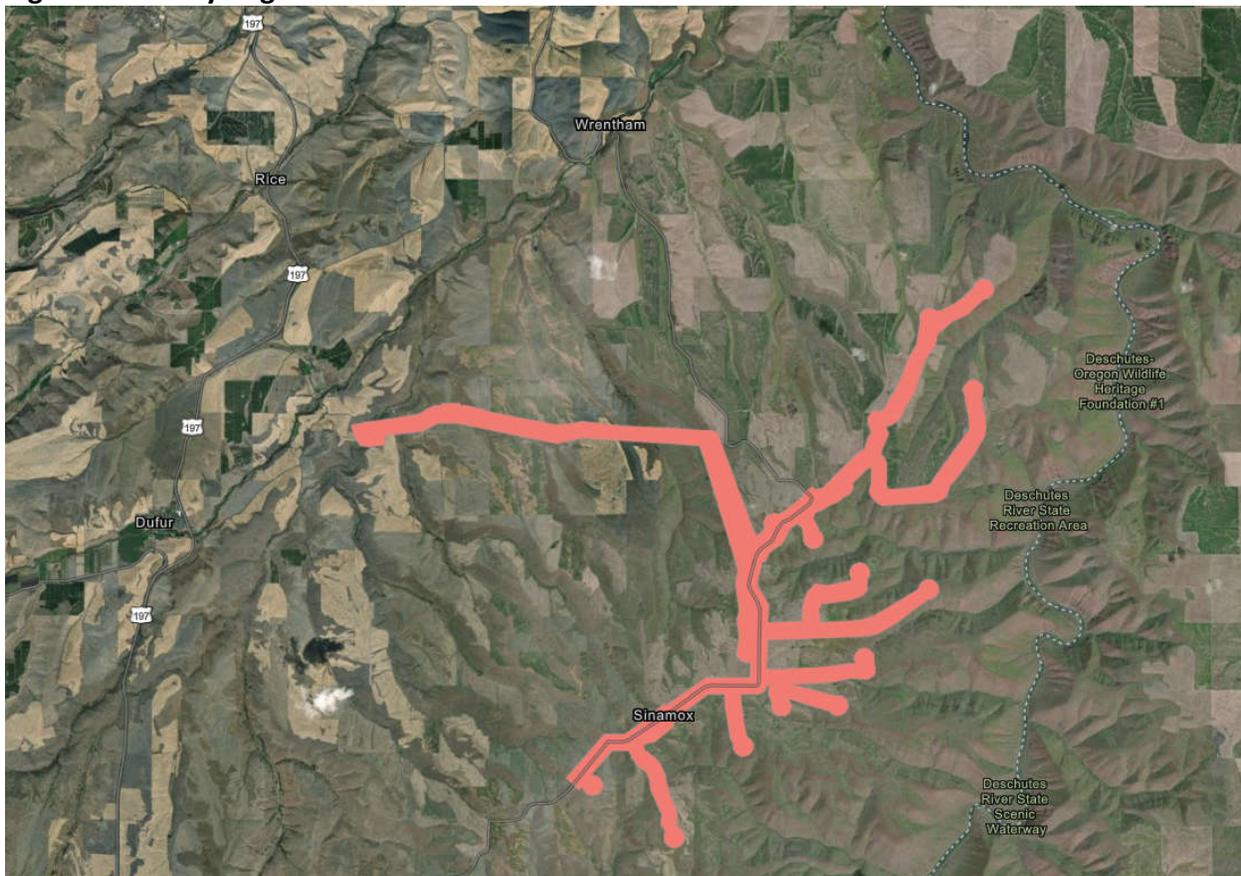


⁴ OAR 345-001-0010(55)

⁵ OAR 345-001-0010(32)

⁶ The Department provides a summary of previously surveyed areas within each applicable resource section of this order.

1 **Figure 1: Facility Regional Location**



2

3 **I.D. Procedural History**

4

5 The Council issued its *Final Order on the ASC* and granted a site certificate for the Summit Ridge
6 Wind Farm on August 19, 2011. The Council issued its *Final Order on Amendment 1* and granted
7 an amended site certificate on August 7, 2015, which approved a construction timeline
8 extension and allowed flexibility in turbine layout and design. The Council issued its *Final Order*
9 *on Amendment 2* and granted a second amended site certificate on November 4, 2016, which
10 approved a transfer of certificate holder ownership, a construction timeline extension,
11 flexibility in turbine layout and design, and authorized a variance to a road setback requirement
12 for 17 wind turbines. The Council issued its *Final Order on Amendment 3* and granted a third
13 amended site certificate on December 15, 2017, which approved a transfer of certificate holder
14 ownership to the current certificate holder owner and parent company, Pattern Renewables 2
15 LP.

16

1 **II. AMENDMENT PROCESS**

2
3 **II.A. Requested Amendment**

4
5 The certificate holder requests an amendment to the site certificate to extend the deadline (1)
6 to begin construction from August 19, 2018 to August 19, 2020, and (2) to complete
7 construction from August 19, 2021 to August 19, 2023.

8
9 OAR 345-027-0060(1)(d) requires that the certificate holder provide the specific language for
10 changes in the site certificate, including affected conditions. The certificate holder proposes
11 altering the dates contained within conditions 4.1 and 4.2 to reflect its proposed changes to
12 construction deadlines.

13
14 **II.B. Amendment Review Process**

15
16 Council rules describe the differences in review processes for the Type A and Type B review
17 paths at OAR 345-027-0051. The Type A review is the standard or “default” amendment review
18 process for changes that require an amendment. A key procedural difference between the Type
19 A and Type B review process is that the Type A review requires a public hearing on the draft
20 proposed order, and provides an opportunity to request a contested case proceeding on the
21 Department’s proposed order. Another difference between the Type A and Type B review
22 process relates to the time afforded to the Department in its determination of completeness of
23 the amendment and issuance of the draft proposed order. It is important to note that Council
24 rules authorize the Department to adjust the timelines for these specific procedural
25 requirements, if necessary.

26
27 A certificate holder may submit an amendment determination request to the Department for a
28 written determination of whether a request for amendment justifies review under the Type B
29 review process. The certificate holder has the burden of justifying the appropriateness of the
30 Type B review process as described in OAR 345-027-0051(3). The Department may consider,
31 but is not limited to, the factors identified in OAR 345-027-0057(8) when determining whether
32 to process an amendment request under Type B review.

33
34 On August 17, 2018, the certificate holder submitted a Type B review amendment
35 determination request (Type B Review ADR) in conjunction with its preliminary Request for
36 Amendment 4 (pRFA4). The Type B Review ADR requested that the Department review and
37 determine whether, based on evaluation of the factors contained within OAR 345-027-0057(8),
38 the RFA should be reviewed under the Type B review process. On August 23, 2018, the
39 Department determined that Type A review be maintained due to the insufficiency of the
40 certificate holder’s Type B Review ADR evaluation of OAR 345-027-0057(8) factors. On
41 September 5, 2018, the certificate holder submitted a supplement to its Type B Review ADR
42 and requested that the Department re-evaluate its Type A Review determination. On
43 November 28, 2018, based upon review of the certificate holder’s supplemental material and

1 responses to the Department’s Request for Additional Information, the Department
2 determined that the RFA4 could be reviewed under the Type B review process.

3
4 Pursuant to OAR 345-027-0063(2), on September 28, 2018, the Department determined pRFA4
5 to be incomplete and issued a request for additional information.⁷ On November 20, 2018, the
6 Department issued its second request for additional information. The certificate holder
7 provided responses to the information requests on November 7 and November 30, 2018.

8
9 After reviewing the responses to its information request, the Department determined the RFA
10 to be complete on January 10, 2019. Under OAR 345-027-0063(5), an RFA is complete when the
11 Department finds that a certificate holder has submitted information adequate for the Council
12 to make findings or impose conditions for all applicable laws and Council standards. On January
13 16, 2019, the Department posted an announcement on its project website notifying the public
14 that the complete RFA had been received. The Department issued its DPO on RFA4, under the
15 Type B process, on January 16, 2019, and opened a public comment period. On February 1,
16 2019, the certificate holder requested to withdraw the Type B review request and instead
17 process the RFA under the Type A review process. As such, the Department is reissuing this DPO
18 and will process in accordance with Type A procedures at OAR 345-027-0067. The Council will
19 hold a public hearing on the reissued DPO at is February 22, 2019 EFSC meeting at 10 AM at the
20 Columbia Gorge Discovery Center in The Dalles. The public comment period on the reissued
21 DPO is open and will extend until the close of the public hearing. All written or oral comments
22 must be submitted prior to the close of the public hearing.

23
24 All comments previously submitted on the January 16 DPO are valid and will be addressed by
25 the Department in its proposed order on the RFA, which will be released after the close of the
26 public hearing in accordance with OAR 345-027-0071.

27
28 *Reviewing Agency Comments on Preliminary Request for Amendment 4*

29
30 As presented in Attachment B of the draft proposed order, the Department received comments
31 on pRFA4 from the following reviewing agencies:

- 32
33
- 34 • Oregon Department of Fish and Wildlife
 - 35 • Oregon State Historic Preservation Office
 - 36 • Oregon Department of Geology and Mineral Industries
 - Wasco County Board of County Commissioners (Special Advisory Group)

⁷ SRWAMD4Doc5. Incomplete Determination Letter and RAIs. 2018-09-28.

- 1 • Wasco County Planning Department
- 2 • Confederated Tribes of the Warm Springs Reservation of Oregon

3
4 **II.C. Council Review Process**

5
6 The Department issued the draft proposed order, and a notice of a comment period on RFA4
7 and the draft proposed order (notice) on January 16, 2019, under the Type B review process.
8 The notice was distributed to all persons on the Council’s general mailing list, to the special
9 mailing list established for the facility, to an updated list of property owners supplied by the
10 certificate holder, and to a list of reviewing agencies as defined in OAR 345-001-0010(52). On
11 February 1, 2019, at the request of the certificate holder, the Department reissued the DPO
12 under the Type A review process, and a notice of comment period on the RFA4 and the DPO
13 (notice) on the same day. The notice was distributed to all persons on the Council’s general
14 mailing list, to the special mailing list established for the facility, to an updated list of property
15 owners supplied by the certificate holder, and to a list of reviewing agencies as defined in OAR
16 345-001-0010(52).

17
18 The comment period extends through the close of the public hearing scheduled to occur on
19 February 22, 2019 at 10 AM at The Columbia Gorge Discovery Center in The Dalles, Oregon. In
20 addition to accepting written comments during the comment period, the Council will also
21 accept oral testimony at the public hearing. The record of the draft proposed order will close at
22 the conclusion of the public hearing on February 22, 2019, as described in the public notice
23 issued concurrently with the DPO. All comments received previously on the January 16 DPO are
24 valid and will be addressed by the Department in its proposed order issued under OAR 345-027-
25 0071.

26
27 Following the close of the record of the public hearing and Council’s review of the draft
28 proposed order, the Department will issue a proposed order, taking into consideration Council
29 comments, any comments received “on the record of the public hearing” (i.e., oral testimony
30 provided at the public hearing and written comments received by the Department after the
31 date of the notice of the public hearing and before the close of the public hearing comment
32 period, including comments submitted on the record of the January 16 DPO), including any
33 comments from reviewing agencies, special advisory groups, and Tribal Governments.
34 Concurrent with the issuance of the proposed order, the Department will issue a notice of

1 contested case and a public notice of the proposed order.⁸ Only those persons who comment in
2 person or in writing on the record of the public hearing may request a contested case
3 proceeding. Additionally, to raise an issue in a contested case proceeding, the issue must be
4 within Council jurisdiction, and the person must have raised the issue on the record of the
5 public hearing with “sufficient specificity to afford the Council, the Department, and the
6 certificate holder an adequate opportunity to respond to the issue.”⁹

7
8 In making a decision to grant or deny issuance of an amended site certificate, the Council shall
9 apply the applicable laws and Council standards required under OAR 345-027-0075(2) and in
10 effect on the dates described in OAR 345-027-0075(3). The Council’s final order is subject to
11 judicial review by the Oregon Supreme Court. Only a party to the contested case proceeding
12 may request judicial review and the issues on appeal are limited to those raised by the parties
13 to the contested case proceeding. A petition for judicial review of the Council’s approval or
14 rejection of an application for a site certificate (ASC) or amended site certificate must be filed
15 with the Supreme Court within 60 days after the date of service of the Council’s final order or
16 within 30 days after the date of a petition for rehearing is denied or deemed denied.¹⁰

17 18 **II.D. Applicable Division 27 Rule Requirements**

19
20 A site certificate amendment is necessary under OAR 345-027-0050(3) because the certificate
21 holder requests to extend the construction beginning and completion deadlines. Additionally,
22 OAR 345-027-0085 imposes specific requirements relating to a request for amendment to
23 extend construction deadlines and OAR 345-027-0075 sets the scope of Council’s review. OAR
24 345-027-0075(2)(b) provides that an amendment, which requests a timeline extension request,
25 must be evaluated “after considering any changes in facts or law since the date the current site
26 certificate was executed.” The Council interprets OAR 345-027-0070(10)(b)(B) as requiring the
27 review of any change to facility design as well as any change to the existing environment, or
28 changes in law.
29

⁸ See OAR 345-027-0071.

⁹ OAR 345-027-0071(7).

¹⁰ ORS 469.403 and OAR 345-027-0071(12).

1 The Type A amendment review process (consisting of OARs 345-027-0059, -0060, -0063, -0065,
2 -0067, -0071 and -0075) shall apply to the Council’s review of a request for amendment
3 proposing a change described in OAR 345-027-0050(2), (3), and (4).¹¹
4

5 **III. REVIEW OF THE REQUESTED AMENDMENT**
6

7 Under ORS 469.310, the Council is charged with ensuring that the “siting, construction and
8 operation of energy facilities shall be accomplished in a manner consistent with protection of
9 the public health and safety.” ORS 469.401(2) further provides that the Council must include in
10 the amended site certificate “conditions for the protection of the public health and safety, for
11 the time for completion of construction, and to ensure compliance with the standards, statutes
12 and rules described in ORS 469.501 and ORS 469.503.”¹² The Council implements this statutory
13 framework by adopting findings of fact, conclusions of law, and conditions of approval
14 concerning the amended facility’s compliance with EFSC standards set forth in OAR Chapter
15 345, Divisions 22 and 24 as well as all other applicable statutes, rules and standards (including
16 those of other state or local agencies).
17

18 This draft proposed order includes the Department’s initial analysis of whether the proposed
19 changes meet each applicable Council Standard (with mitigation and subject to compliance with
20 existing and recommended amended conditions, as applicable), based on the information in the
21 record. Following the combined comment period on RFA4 and draft proposed order, the
22 Department will issue its proposed order, which will include the Department’s consideration of
23 the comments and any additional evidence received on the record of the draft proposed order.
24

25 **III.A. General Standard of Review: OAR 345-022-0000**
26

27 *(1) To issue a site certificate for a proposed facility or to amend a site certificate, the*
28 *Council shall determine that the preponderance of evidence on the record supports the*
29 *following conclusions:*
30

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

¹¹ OAR 345-027-0051(2).

¹² ORS 469.401(2).

1
2 *(b) Except as provided in OAR 345-022-0030 for land use compliance and except for*
3 *those statutes and rules for which the decision on compliance has been delegated by*
4 *the federal government to a state agency other than the Council, the facility*
5 *complies with all other Oregon statutes and administrative rules identified in the*
6 *project order, as amended, as applicable to the issuance of a site certificate for the*
7 *proposed facility. If the Council finds that applicable Oregon statutes and rules, other*
8 *than those involving federally delegated programs, would impose conflicting*
9 *requirements, the Council shall resolve the conflict consistent with the public interest.*
10 *In resolving the conflict, the Council cannot waive any applicable state statute.*

11 * * *

12 *(4) In making determinations regarding compliance with statutes, rules and ordinances*
13 *normally administered by other agencies or compliance with requirement of the Council*
14 *statutes if other agencies have special expertise, the Department of Energy shall consult*
15 *such other agencies during the notice of intent, site certificate application and site*
16 *certificate amendment processes. Nothing in these rules is intended to interfere with the*
17 *state's implementation of programs delegated to it by the federal government.*

18
19 **Findings of Fact**

20
21 OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council
22 to find that a preponderance of evidence on the record supports the conclusion that the facility
23 would continue to comply with the requirements of EFSC statutes and the siting standards
24 adopted by the Council and that the facility would continue to comply with all other Oregon
25 statutes and administrative rules applicable to the issuance of an amended site certificate for
26 the facility.

27
28 The requirements of OAR 345-022-0000 are discussed in the sections that follow. The
29 Department consulted other state agencies as well as the Wasco County Planning Department
30 (reviewing on behalf of the Special Advisory Group - Wasco County Board of County
31 Commissioners) during its review of pRFA4 to aid in the evaluation of whether the facility, with
32 proposed construction deadline extension, would continue to satisfy the requirements of
33 applicable statutes, rules and ordinances otherwise administered by other agencies.
34 Additionally, in many circumstances the Department relies upon these reviewing agencies'
35 special expertise in evaluating compliance with the requirements of Council standards.

36
37 OAR 345-022-0000(2) and (3) apply to RFAs where a certificate holder has shown that the
38 proposed amendment cannot meet Council standards or has shown that there is no reasonable
39 way to meet the Council standards through mitigation or avoidance of the damage to protected
40 resources; and, for those instances, establish criteria for the Council to evaluate in making a
41 balancing determination. In RFA4, the certificate holder represents that the facility would
42 continue to meet, with conditions, all applicable Council standards. Therefore, OAR 345-022-
43 0000(2) and (3) would not apply to this review.

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OAR 345-027-0085: Appropriateness of Request for Amendment to Extend Construction Deadlines

The certificate holder requests a construction deadline extension to allow it to obtain a power purchase agreement and financing for the facility.¹³

OAR 345-027-0085(5)(c) provides that “when considering whether to grant a request for amendment for a deadline extension made under this section, the Council shall consider how many extensions it has previously granted.” This is the third construction deadline extension request for this facility.

OAR 345-027-0085(5) provides that, for facilities approved prior to October 24, 2017, subsections (3) and (4) of OAR 345-027-0085 do not apply. Subsection (3) specifies that the Council shall specify new deadlines to complete construction that are the later of either three years from the previous deadline, or two years from the date the Council grants an amendment following a contested case. Subsection (4) indicates that the Council will not grant more than 2 amendments to extend the deadline to begin construction.

The Summit Ridge Wind Farm was initially approved prior to October 24, 2017; as such, subsections (3) and (4) do not apply to this RFA. The Summit Ridge Wind Farm was initially approved in August of 2011 and the certificate holder was required to begin construction within 3 years. In the *Final Order on Amendment 1*, the construction commencement deadline was extended from 2014 to 2016. In the *Final Order on Amendment 2*, the construction commencement deadline was extended from 2016 to 2018. This Request for Amendment to extend the construction commencement deadline from 2018 until 2020. In summary, if approved, RFA 4 would result in a construction extensions for a total of 6 years, and the construction commencement date would be 9 years after the issuance of the initial site certificate.

OAR 345-027-0085(3) and (4) regulates facilities approved for construction after October 24, 2017 (hereinafter referred to as “new rule”). As noted above, a construction deadline may be extended for a maximum of 6 years under subsections (3) and (4).¹⁴ Under the “old rule,” (whereby subsections (3) and (4) do not apply, if approved prior to October 24, 2017), there is no specified maximum allowable time extension. The Department notes that while there is no

¹³ SRWAMD4Doc17. Request for Amendment 4 2019-01-16, Section 1.3

¹⁴ The new rule allows for 2 construction deadline extensions, at a maximum of 3 years per extension.

1 maximum allowable time extension for the Summit Ridge facility, given that the current RFA 4
2 would result in a construction commencement extension of a total of 6 years, the extension
3 request would allow a timeline to construct the facility consistent with what would be available
4 to a site certificate holder under the “new rule.”

5
6 *Site Certificate Expiration [OAR 345-027-0013]*
7

8 Under OAR 345-027-0013, in order to avoid expiration of the site certificate, the certificate
9 holder must begin construction of the facility no later than the construction beginning date
10 specified in the site certificate, unless expiration of the site certificate is suspended pending
11 final action by the Council on a request for amendment to a site certificate pursuant to OAR
12 345-027-0085(2). The certificate holder submitted the request to extend the construction
13 commencement and completion deadlines before the applicable construction deadlines and
14 therefore satisfies the requirements of OAR 345-027-0085(1).
15

16 OAR 345-027-0085(5) authorizes Council to grant construction commencement and completion
17 deadline extensions of up to two years from the deadlines in effect prior to the Council’s
18 decision on the amendment.¹⁵ In RFA4, the certificate holder requests to amend Conditions 4.1
19 and 4.2 to extend its construction commencement and completion deadlines by two years, the
20 maximum extension allowed by rule.
21

22 The Department recommends Council amend Conditions 4.1 and 4.2, as requested by the
23 certificate holder. Recommended amended Conditions 4.1 and 4.2 are presented in
24 underline/strikethrough below:
25

26 **Recommended Amended Condition 4.1:** The certificate holder shall begin construction of
27 the facility by August 19, ~~2018~~ 2020. The Council may grant an extension of the deadline to
28 begin construction in accordance with OAR 345-027-~~0030~~ 0085 or any successor rule in
29 effect at the time the request for extension is submitted.

30 [Final Order III.D.1; AMD2; AMD4; Mandatory Condition OAR 345-025-0006(4)]
31

32 **Recommended Amended Condition 4.2:** The certificate holder shall complete construction
33 of the facility by August 19, ~~2021~~ 2023. Construction is complete when: 1) the facility is
34 substantially complete as defined by the certificate holder’s construction contract
35 documents, 2) acceptance testing has been satisfactorily completed; and 3) the energy
36 facility is ready to begin continuous operation consistent with the site certificate. The

¹⁵ OAR 345-027-0085(5) is specific to facility site certificates approved prior to October 24, 2017.

1 certificate holder shall promptly notify the Department of the date of completion of
2 construction. The Council may grant an extension of the deadline for completing
3 construction in accordance with OAR ~~345-027-0030~~ 345-027-0085 or any successor rule in
4 effect at the time the request for extension is submitted.

5 [Final Order III.D.2; AMD2; AMD4; Mandatory Condition OAR 345-025-0006(4)]

6
7 *Mandatory Conditions in Site Certificates [OAR 345-025-0006]*

8
9 OAR 345-025-0006 lists certain conditions that the Council must adopt in every site certificate.
10 OAR-345-025-0006(3) requires that the certificate holder design, construct, operate and retire
11 the facility substantially as described in the site certificate. To align with this Mandatory
12 Condition, Council previously imposed Conditions 2.9 and 5.5 which both establish maximum
13 number of wind turbines; wind turbine dimensions; and, generating capacity of the facility and
14 individual wind turbines.

15
16 The Department recommends Council delete Condition 2.9 from the site certificate due to
17 redundancy with Condition 5.5.

18
19 **Recommended Deleted Condition 2.9 [DELETED]:** ~~The certificate holder shall request an~~
20 ~~amendment of the site certificate to increase the combined peak generating capacity of the~~
21 ~~facility beyond 194.4 megawatts, to increase the number of wind turbines to more than 72~~
22 ~~wind turbines or to install wind turbines with a hub height greater than 91 meters, a blade~~
23 ~~tip height greater than 152 meters or a blade tip clearance less than 18 meters above~~
24 ~~ground.~~

25 [Final Order III.D.7; AMD2; AMD4] [Mandatory Condition OAR 345-025-0006 (3)]

26
27 The Department recommends Council amend Condition 5.5 to remove reference to the overall
28 generating capacity as the overall generating capacity of a facility is not specifically relevant to
29 the evaluation of compliance with Council standards or whether an amendment is required.
30 The Council evaluates facility impacts based on facility design, which includes the review of the
31 maximum number of turbines, turbine hub height, blade tip height, rotor diameter, and blade
32 tip clearance. For these reasons, the Department recommends Condition 5.5 be amended to
33 clarify the specifications of allowable turbines under this site certificate:

34
35 **Recommended Amended Condition 5.5:** Before beginning construction, the certificate
36 holder shall provide to the Department a description of the turbine types selected for the
37 facility demonstrating compliance with this condition. The certificate holder may select

1 turbines of any type, subject to the following restrictions and compliance with all other site
2 certificate conditions:

3 a. The total number of turbines at the facility must not exceed 72 turbines.

4 ~~b. The combined peak generating capacity of the facility must not exceed 194.4~~
5 ~~megawatts.~~

6 b. The turbine hub height must not exceed 91 meters, and the maximum blade tip
7 height must not exceed 152 meters, and the rotor diameter must not exceed 132
8 meters above grade.

9 ~~c.~~ The minimum blade tip clearance must be 18 meters above ground.

10 [Final Order III.D.5; AMD2; AMD4] [Mandatory Condition OAR 345-025-0006 (3)]

11
12 *Site Specific Conditions [OAR 345-025-0010]*

13
14 In addition to mandatory conditions imposed in all site certificates, the Council rules also
15 include “site specific” conditions at OAR 345-025-0010 that the Council may include in the site
16 certificate to address issues specific to certain facility types or proposed features of facilities.

17
18 Because the approved facility includes a 230 kV transmission line, the Council previously
19 imposed Condition 4.5 to align with Site Specific Condition at OAR 345-025-0010(5). OAR 345-
20 025-0010(5) requires that, when a facility includes a transmission line or pipeline, that it be
21 constructed within a Council approved corridor, defined as a continuous area of land not more
22 than one-half mile in width and running the entire length of the transmission or pipeline.¹⁶
23 Condition 4.5, as previously imposed, established a general restriction limiting construction of
24 wind turbines and the transmission line to locations presented in ASC Exhibit C, but did not
25 specify the length or width of the approved transmission line corridor. Based on further review,
26 the Department recommends Council amend Condition 4.5 to more appropriately align with
27 OAR 345-025-0010(5) and specify the length and width of the previously approved transmission
28 line corridor, as follows:

29
30 **Recommended Amended Condition 4.5:** The certificate holder shall construct ~~the turbines~~
31 ~~and the 230 kV~~ transmission line within a 1,300-foot ~~the~~ corridor ~~locations set forth in~~
32 ~~Exhibit Attachment C of the application for site certificate,~~ as represented on Figure 1 of the
33 site certificate, subject to the conditions of this site certificate.

34 [Final Order III.D.8; AMD4] [Mandatory Condition OAR 345-025-000610(5)]

¹⁶ OAR 345-001-0010(13)

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Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]

The Council has adopted rules at OAR Chapter 345, Division 26 to ensure that construction, operation, and retirement of facilities are accomplished in a manner consistent with the protection of the public health, safety, and welfare and protection of the environment. These rules include requirements for compliance plans, inspections, reporting and notification of incidents. The certificate holder must construct the facility substantially as described in the amended site certificate [OAR 345-025-0006(3)] and the certificate holder must construct, operate, and retire the facility in accordance with all applicable rules adopted by the Council in OAR Chapter 345, Division 26.¹⁷

OAR 345-026-0048 requires that a certificate holder develop and implement a plan to verify compliance with all site certificate terms and conditions and other applicable statutes and rules. Condition 14.7 imposes this requirement but does not include a timing consideration. As such, the Department recommends the Council amend the existing condition to clarify that the compliance plan must be submitted at least 90 days prior to beginning construction in order for the Department verify the contents of the plan and to coordinate with other state or local agencies, if necessary, as follows:

Recommended Amended Condition 14.7: At least 90 days prior to beginning construction (unless otherwise agreed to by the Department), the certificate holder shall submit to the Department, a compliance plan that documents and demonstrates completed actions or actions to be completed to satisfy the requirements of all terms and conditions of the amended site certificate and applicable statutes and rules. Following receipt of the site certificate or an amended site certificate, the certificate holder shall implement the aplan that verifies compliance with all site certificate terms and conditions and applicable statutes and rules. As a part of the compliance plan, to verify compliance with the requirement to begin construction by the date specified in the site certificate, the certificate holder shall report promptly to the Department of Energy when construction begins. Construction is defined in OAR 345-001-0010. In reporting the beginning of construction, the certificate holder shall describe all work on the site performed before beginning construction, including work performed before the Council issued the site certificate, and shall state the cost of that work. For the purpose of this exhibit, “work on the site” means any work within a site or corridor, other than surveying, exploration or other activities to define or

¹⁷ Applicable rule requirements established in OAR Chapter 345, Division 26 include OAR 345-026-0005 to OAR 345-026-0170.

1 characterize the site or corridor. The certificate holder shall document the compliance plan
2 and maintain it for inspection by the Department or the Council.
3 [Final Order VII.3; AMD4] [OAR 345-026-0048]

4
5 **Conclusions of Law**

6
7 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with
8 the existing and recommended amended conditions, the Department recommends that the
9 Council find that the facility, with the requested extension of the construction deadlines, would
10 satisfy the requirements of OAR 345-022-0000.

11
12 **III.B. Organizational Expertise: OAR 345-022-0010**

13
14 *(1) To issue a site certificate, the Council must find that the applicant has the*
15 *organizational expertise to construct, operate and retire the proposed facility in*
16 *compliance with Council standards and conditions of the site certificate. To conclude that*
17 *the applicant has this expertise, the Council must find that the applicant has*
18 *demonstrated the ability to design, construct and operate the proposed facility in*
19 *compliance with site certificate conditions and in a manner that protects public health*
20 *and safety and has demonstrated the ability to restore the site to a useful, non-*
21 *hazardous condition. The Council may consider the applicant's experience, the*
22 *applicant's access to technical expertise and the applicant's past performance in*
23 *constructing, operating and retiring other facilities, including, but not limited to, the*
24 *number and severity of regulatory citations issued to the applicant.*

25
26 *(2) The Council may base its findings under section (1) on a rebuttable presumption that*
27 *an applicant has organizational, managerial and technical expertise, if the applicant has*
28 *an ISO 9000 or ISO 14000 certified program and proposes to design, construct and*
29 *operate the facility according to that program.*

30
31 *(3) If the applicant does not itself obtain a state or local government permit or approval*
32 *for which the Council would ordinarily determine compliance but instead relies on a*
33 *permit or approval issued to a third party, the Council, to issue a site certificate, must*
34 *find that the third party has, or has a reasonable likelihood of obtaining, the necessary*
35 *permit or approval, and that the applicant has, or has a reasonable likelihood of entering*
36 *into, a contractual or other arrangement with the third party for access to the resource*
37 *or service secured by that permit or approval.*

38
39 *(4) If the applicant relies on a permit or approval issued to a third party and the third*
40 *party does not have the necessary permit or approval at the time the Council issues the*
41 *site certificate, the Council may issue the site certificate subject to the condition that the*
42 *applicant shall not commence construction or operation as appropriate until the third*
43 *party has obtained the necessary permit or approval and the applicant has a contract or*

1 *other arrangement for access to the resource or service secured by that permit or*
2 *approval.*

3
4 **Findings of Fact**

5
6 Subsections (1) and (2) of the Council’s Organizational Expertise standard require that the
7 applicant (certificate holder) demonstrate its ability to design, construct, operate, and retire the
8 facility in compliance with Council standards and all site certificate conditions, in a manner that
9 protects public health and safety, as well as demonstrate an ability to restore the site to a
10 useful, non-hazardous condition. The Council may consider the certificate holder’s experience
11 and past performance in the construction, operation and retirement of other facilities in
12 determining whether the proposal complies with the Council’s Organizational Expertise
13 standard. Subsections (3) and (4) address third party permits.

14
15 *Compliance with Council Standards and Site Certificate Conditions*

16
17 The Council may consider a certificate holder’s past performance, including but not limited to
18 the quantity or severity of any regulatory citations in constructing or operating a facility, in
19 evaluating whether a proposed change may impact the certificate holder’s ability to design,
20 construct and operate a facility in compliance with Council standards and site certificate
21 conditions.¹⁸

22
23 Summit Ridge Wind Farm, LLC is a project-specific LLC, and therefore relies upon the expertise
24 and experience of its parent company, Pattern Energy Group (PEGLP) as well as its sole limited
25 partner, Pattern Development, to have the ability to identify and select contractors with the
26 ability to design, construct, operate and retire the facility in compliance with the Organizational
27 Expertise standard. The Council acknowledged in its *Final Order on Amendment 3* that PEGLP
28 had developed, owned, and operated over 4,500 MW of renewable energy generation and also
29 that it had constructed 19 wind and solar projects.¹⁹ In RFA4, the certificate holder explains that
30 there have been no changes to its organizational expertise that would impact Council’s prior
31 findings of compliance. The certificate holder also confirms that it has not received any material
32 regulatory citations since the Council’s previous evaluation.

33
34 Council previously imposed Conditions 5.1, 5.2, 6.1 and 6.31 which require that the certificate
35 holder provide qualifications of its contractors to the Department for review; contractually

¹⁸ OAR 345-021-0010(1)(d)(D)

¹⁹ *Final Order on AMD 3* (2017-12-15), p. 9

1 require its contractors to comply with site certificate requirements; and provide the
2 Department notification of any changes in the certificate holder owner’s corporate structure.

3
4 Based upon the recommended findings presented here and compliance with existing site
5 certificate conditions, the Department recommends that the Council continue to find that the
6 certificate holder has the ability to design, construct, operate, and retire the facility in
7 compliance with Council standards and site certificate conditions.

8
9 *Public Health and Safety*

10
11 The certificate holder does not propose any change to facility design; as such, RFA4 does not
12 present new public health and safety risks. However, the facility could result in public health
13 and safety risks from proximity to blades and electrical equipment, and potential structural
14 failure of tower or blades. The certificate holder describes that, during its history of operations,
15 two blade failure incidents have occurred. The certificate holder assessed the incidents, and
16 instituted plans and responses to address future risk. The Council previously imposed
17 conditions 7.1 through 7.13, which relate to public health and safety, as well as Conditions 8.1
18 through 8.9, which relate to on-site safety and security. This is further discussed in Sections
19 III.P.1., *Public Health and Safety Standards for Wind Energy Facilities* of this order.

20
21 Based on the reasoning and analysis provided in the sections described, the Department
22 recommends the Council continue to find that the certificate holder has the ability to design,
23 construct, and operate the facility in a manner that protects public health and safety.

1 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

2
3 A certificate holder's ability to restore a site to a useful, non-hazardous condition is evaluated
4 based on its ability to conduct necessary restoration tasks and actions, and to obtain a bond or
5 letter of credit in the amount necessary for implementation of the identified tasks and actions.
6 The certificate holder is not proposing to change its facility design; however, based on potential
7 changes in unit cost and labor rates since the previous retirement cost estimate was prepared,
8 the certificate holder provides an updated retirement cost estimate of approximately \$9.9
9 million (4th Quarter 2018 dollars) (compared to the previously approved \$6.9 million [in 3rd Qtr
10 dollars] retirement cost estimate).

11
12 As part of its RFA3, the certificate holder provided a letter from MUFG Union Bank, N.A. (dated
13 October 20, 2017) stating that there is a reasonable likelihood that the bank would provide a
14 Letter of Credit of up to ten million dollars (\$10,000,000.00), subject to the bank's satisfactory
15 review and acceptance of the terms and conditions of the relevant documents as well as
16 internal credit review and approval.²⁰ Because the 2017 bank letter is reasonably recent (i.e.
17 less than 2 years old), the Department recommends Council find that the certificate holder
18 demonstrates a reasonable likelihood of obtaining a bond or letter of credit in the amount
19 necessary for site restoration and retirement. As described in Section III.G., *Retirement and*
20 *Financial Assurance*, the Department recommends Council find that the certificate holder
21 would continue to be able to restore the facility site to a useful, non-hazardous condition.

22
23 *ISO 9000 or ISO 14000 Certified Program*

24
25 OAR 345-022-0010(2) is not applicable because the certificate holder has not proposed to
26 design, construct or operate the amended facility according to an International Organization for
27 Standardization (ISO) 9000 or ISO 14000 certified program.

28
29 *Third-Party Permits*

30
31 OAR 345-022-0010(3) addresses the requirements for potential third party permits. In RFA4,
32 the certificate holder describes that the proposed changes would not require any additional
33 state or local government permits or approvals for which the Council would ordinarily
34 determine compliance but that would instead be issued to a third-party not previously
35 considered.

36

²⁰ *Final Order on AMD 3* (2017-12-15), p. 15

1 **Conclusions of Law**

2
3 Based on the evidence in the record, and subject to compliance with the existing conditions of
4 approval, the Department recommends that the Council find that the certificate holder would
5 continue to satisfy the requirements of the Council’s Organizational Expertise standard.
6

7 **III.C. Structural Standard: OAR 345-022-0020**

8
9 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
10 *Council must find that:*

11
12 *(a) The applicant, through appropriate site-specific study, has adequately*
13 *characterized the seismic hazard risk of the site;*

14
15 *(b) The applicant can design, engineer, and construct the facility to avoid dangers to*
16 *human safety and the environment presented by seismic hazards affecting the site,*
17 *as identified in subsection (1)(a);*

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

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

27
28 *(2) The Council may not impose the Structural Standard in section (1) to approve or deny*
29 *an application for an energy facility that would produce power from wind, solar or*
30 *geothermal energy. However, the Council may, to the extent it determines appropriate,*
31 *apply the requirements of section (1) to impose conditions on a site certificate issued for*
32 *such a facility.*

33
34 *(3) The Council may not impose the Structural Standard in section (1) to deny an*
35 *application for a special criteria facility under OAR 345-015-0310. However, the Council*
36 *may, to the extent it determines appropriate, apply the requirements of section (1) to*
37 *impose conditions on a site certificate issued for such a facility.*

38
39 **Findings of Fact**

40
41 As provided in section (1) above, the Structural Standard generally requires the Council to
42 evaluate whether the applicant (certificate holder) has adequately characterized the potential
43 seismic, geological and soil hazards of the site, and that the applicant (certificate holder) can

1 design, engineer and construct the facility to avoid dangers to human safety and the
2 environment from these hazards.²¹ Pursuant to OAR 345-022-0020(2), the Council may issue a
3 site certificate for a wind energy facility without making findings regarding compliance with the
4 Structural Standard; however, the Council may apply the requirements of the standard to
5 impose site certificate conditions.

6
7 For amendments requesting to extend construction deadlines, the Department and Council
8 evaluate whether there have been “changes in fact or law” since the site certificate or amended
9 site certificate was issued to determine whether, based on changes in fact or law, the facility
10 would continue to satisfy requirements of the standard. The request for amendment does not
11 include changes to the site boundary, facility design, facility layout, or other changes that could
12 impact the certificate holder’s ability to design, engineer, and construct the facility to avoid
13 dangers to human safety and the environment from seismic, geological, and soils hazards.

14
15 While the certificate holder’s characterization in ASC Exhibit H of the geological and soil stability
16 of the analysis area remains applicable to Council’s review of this request for amendment,
17 based on questions from DOGAMI related to “long period ground motion,” additional review of
18 certain specific risks from “long-period ground motion” is included in this Order. Furthermore,
19 the OAR Division 21 requirements pertaining to Exhibit H and the Structural Standard were
20 updated by Council in 2017. The rulemaking included, in part, new requirements for a
21 certificate holder to discuss the facility’s disaster resilience as well as the impacts of future
22 climate condition to the facility.²² The Department’s assessment is based upon the updated rule
23 language.

24
25 In addition, since the time the site certificate was issued, the Council approved amended
26 language for the mandatory conditions at OAR 345-025-0006(12)-(14), imposed in site
27 certificate as Conditions 6.11, 6.13, and 6.14.²³ Based on recent changes in OAR 345-025-0006

²¹ OAR 345-022-0020(3) does not apply to the facility, with proposed changes, because it is a not a special criteria facility under OAR 345-015-0310.

²² OAR 345-021-0010(h)(E) and OAR 345-021-0010(h)(F)(i) require the applicant to discuss the facility’s disaster resilience, and OAR 345-021-0010(h)(F)(ii) requires the applicant to discuss the impacts of future climate condition on the proposed facility.

²³The Council’s rulemaking to amend the language of the mandatory conditions at OAR 345-027-0020(12)-(14) was part of the more extensive rulemaking wherein the Council also approved amended language for OAR 345-021-0010(1)(h) (the Division 21 requirements for Exhibit H), OAR 345-022-0020 (the Council’s Structural Standard), and OAR 345-050-0060. OAR 345-050-0060 contains rules applicable to radioactive waste disposal facilities and is therefore not applicable to the Summit Ridge Wind Farm, which does not include such a component. Council also undertook a separate rulemaking in 2017 which resulted in the “mandatory conditions” being reorganized from OAR 345, Division 27 to Division 25.

1 rule language, the Department recommends Council amend Conditions 6.11, 6.13 and 6.14 as
2 follows:

3
4 **Recommended Amended Condition 6.11:** The certificate holder shall design, engineer and
5 construct the facility to avoid dangers to human safety and the environment presented by
6 seismic hazards affecting the site that are expected to result from all maximum probable
7 seismic events. “Seismic hazard” includes ground shaking, ground failure, landslide,
8 liquefaction triggering and consequences (including flow failure, settlement buoyancy, and
9 lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-
10 structure interaction. inundation, fault displacement and subsidence.

11 [Final Order V.A.2.6; AMD4; Mandatory Condition OAR 345-025-0006(12)]

12
13 **Recommended Amended Condition 6.13:** The certificate holder shall notify the
14 department, the State Building Codes Division and ~~DOGAMI~~ the Department of Geology and
15 Mineral Industries promptly if site investigations or trenching reveal that conditions in the
16 foundation rocks differ significantly from those described in the application for a site
17 certificate. After the department receives the notice, the Council may require the certificate
18 holder to consult with the Department of Geology and Mineral Industries and the Building
19 Codes Division and to propose and implement corrective or mitigation actions.

20 [Final Order V.A.2.2; AMD4] [Mandatory Condition OAR 345-025-0006 (13)]

21
22 **Recommended Amended Condition 6.14:** The certificate holder shall notify the
23 department, the State Building Codes Division and the Department of Geology and Mineral
24 Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found
25 at or in the vicinity of the site. After the Department receives notice, the Council may
26 require the certificate holder to consult with the Department of Geology and Mineral
27 Industries and the Building Codes Division to propose and implement corrective or
28 mitigation actions.

29 [Final Order V.A.2.3; AMD4] [Mandatory Condition OAR 345-025-0006 (14)]

30
31 The Council previously found that the facility would comply with the Structural Standard,
32 subject to Conditions 5.8, 6.13, 6.14, 6.8, 6.10, and 6.11.

33
34 *Potential Seismic, Geological and Soil Hazards*

35
36 The certificate holder notes that potential geological and soil hazards within the analysis area
37 (site boundary) were previously evaluated and approved by Council. The certificate holder
38 requests neither a change to the site boundary, nor a change to facility design. As such, the
39 Department recommends that the Council, in part, find the certificate holder’s previous
40 characterization of the potential seismic, geologic and soil hazards of the site remain adequate
41 for Council review purposes. However, based on a request from DOGAMI, additional review of
42 certain specific risks from “long-period ground motion” is included in this order.

1 To aid the Council in its review and understanding of its previous evaluation, the Department
2 presents a summary of the seismic and non-seismic hazards as evaluated in the ASC and 2009
3 *Final Order on the ASC*. Previously identified seismic hazards in the facility vicinity relate to
4 three seismic sources: the Cascadia Subduction Zone (“CSZ”) interplate events, CSZ intraslab
5 events, and crustal events (referred to as mechanisms). The CSZ is located near the coastlines of
6 Oregon, Washington, and British Columbia.

7
8 The facility would be located within the Columbia Plateau, which is composed of a series of
9 layered basalt flows. ASC Figure H-1 identifies two faults; an “unnamed fault” located at the
10 southwestern border of the site boundary, and the “Gordon Ridge Anticline” fault located to
11 the northeast of the site boundary.²⁴

12
13 As previously evaluated, non-seismic hazards in the facility vicinity include landslides, erosion,
14 collapsing soils and volcanic eruptions; however, these risks were previously characterized by
15 the Council to be “low.”²⁵ The Council also acknowledged the possibility for erosion; however,
16 Condition 9.1 further requires the certificate holder to comply with an Erosion and Sediment
17 Control Plan and a National Pollutant Discharge General Permit #1200-C. Active volcanoes
18 within 100 miles from the site boundary include Mt. Jefferson, Mt. Adams, and Mt. Hood.

19
20 Condition 6.10 requires the certificate holder to design, engineer, and construct the facility to
21 avoid dangers presented by non-seismic hazards, which include settlement, landslides, flooding,
22 and erosion.

23
24 *Design, Engineer and Construct Facility to Avoid Dangers to Human Safety from Seismic and*
25 *Non-Seismic Hazards*

26
27 The proposed extension to construction deadlines would not affect facility design. Conditions
28 6.10 and 6.11 require the certificate holder to design, engineer, and construct the facility to
29 avoid dangers to human safety and the environment from seismic and non-seismic hazards. The
30 requirement to address risks is informed by a pre-construction site-specific geotechnical report,
31 which is required through Condition 5.8.

32
33 During consultation with the certificate holder in 2018 conducted as part of this amendment
34 request, DOGAMI recommended the certificate holder conduct an investigation and mitigation
35 of risks associated with long-period ground motions, slope stability, fault trenching, and further

²⁴ ASC Exhibit H, Figure H-1

²⁵ Final Order on the ASC (2011-08-19), p. 134; ASC Exhibit H p. 12

1 evaluation of risks associated with faults located in proximity to the facility. The “unnamed
2 fault” and Gordon Ridge Anticline were evaluated in the *Application for Site Certificate*.

3
4 The certificate holder included a discussion on long-period ground motion in Exhibit H. Long
5 period ground motions may affect structures that are distant from the source of the
6 earthquake. Long period ground motions could arise from the “Cascadia subduction zone”
7 event, which is generally considered to be the maximum potential earthquake source in the
8 Pacific Northwest. The certificate holder describes that while it will conduct a more
9 comprehensive assessment as part of its compliance with Condition 5.8, it does not expect
10 long-period ground motion to impact the Summit Ridge facility. The certificate holder further
11 describes that, based on its assessment, the design criteria and standards are expected to be
12 based on extreme wind events as opposed to seismic risk. This is contrasted by the certificate
13 holder, with its experience building and operating wind facilities in the Palm Springs, California
14 area; an area that could be impacted by the San Andreas fault, and subsequent turbine design
15 criteria and standards would be expected to be based on seismic risk, rather than extreme wind
16 events. Finally, the certificate holder describes that it is not aware of any modern wind turbines
17 in the US, Mexico, or Japan, that have been damaged from very strong earthquakes in recent
18 years.²⁶

19
20 Existing Condition 5.8 requires the certificate holder to conduct, prior to construction, a site-
21 specific geotechnical report in accordance with the DOGAMI “Open File Report 00-04
22 Guidelines for Engineering Geologic Reports and Site-Specific Seismic Hazard Reports.” The
23 Department recommends that this condition be amended to require the pre-construction
24 geotechnical report to conform to the most current DOGAMI guidelines for conducting such
25 studies, to account for the possibility that DOGAMI revises or updates its guidelines prior to the
26 facility construction. Based on the current DOGAMI guidelines, the certificate holder would be
27 required to identify and describe risks associated with seismic considerations, including faults
28 that are in proximity to the proposed facility, and the probable response of the site to likely
29 earthquakes (*See DOGAMI Open File Report O-00-04 Guidelines for Engineering Geologic*
30 *Reports and Site-Specific Seismic Hazard Reports*, at p.1, which requires the “disclosure of
31 known or suspected geologic hazards affecting the area...” and at p.2, which requires the
32 description of “stratification, faults, discontinuities, foliation, schistosity, folds.”). As such,
33 review of the identified faults would be required under Amended Condition 5.8.

34
35 The Department also recommends amendments to Condition 5.8 to require that the certificate
36 holder provide the pre-construction geotechnical report at least 90 days prior to beginning

²⁶ SRWAMD4Doc17. Request for Amendment 4 2019-01-16, Section 5.1.3.

1 construction, in order to allow the Department and DOGAMI sufficient time to review the
2 report. Finally, the Department also recommends an amendment to the condition to clarify that
3 the pre-construction geotechnical report must specifically investigate final wind turbine
4 locations, transmission line dead-end and turning structures, substation(s), and the operations
5 and maintenance building.

6
7 Based on these findings, the Department recommends that the Council adopt recommended
8 amended Condition 5.8 as follows:

9
10 **Recommended Amended Condition 5.8:** Before beginning construction, the certificate
11 holder shall conduct a site-specific geotechnical investigation and shall report its findings to
12 the Oregon Department of Geology & Mineral Industries (DOGAMI) and the Department.
13 The report must be submitted to the Department and DOGAMI at least 90 days prior to
14 beginning construction unless otherwise agreed upon by the Department. The certificate
15 holder shall conduct the geotechnical investigation ~~after consultation with DOGAMI and~~ in
16 general accordance with ~~DOGAMI open file report 00-04 “Guidelines for Engineering~~
17 ~~Geologic Reports and Site Specific Seismic Hazard Reports.”~~ current DOGAMI guidelines for
18 engineering geologic reports and site-specific seismic hazard reports. The geotechnical
19 report must, at a minimum, include geotechnical investigations at all wind turbine locations,
20 transmission line dead-end and turning structures, substation(s), and the operations and
21 maintenance building.

22 [Final Order V.A.2.1; AMD4]

23
24 The Department recommends that the Council find that the certificate holder has
25 demonstrated an ability to design, engineer, and construct the facility to avoid dangers to
26 human safety from seismic and non-seismic based on the findings presented here, including
27 existing and recommended amended site certificate conditions.

28 29 *Disaster Resilience and Climate Change Adaption*

30
31 As noted above, rulemaking conducted since the last Council decision on the Summit Ridge
32 Wind Facility established new informational requirements within OAR Chapter 345, Division 21.
33 Specifically, OAR 345-021-0010(h)(F)(i) and OAR 345-021-0010(h)(F)(ii) require the certificate
34 holder to discuss the facility’s disaster resilience, and ability to withstand impacts that may
35 arise from future climate conditions.

1 The certificate holder states in Exhibit H that it is expected that climate change would likely
2 result in increased stress to structures from more intense storms, heatwaves, and fires.²⁷ The
3 basis for these expected impacts arise from a study conducted by Portland State University of
4 the upper Umatilla River Basin, which is located approximately 50 miles from the project site.
5 As the Council has previously found, and as the certificate holder represents in Exhibit H, the
6 facility would be designed based on expected risk to the facility based on the geotechnical
7 report and the evaluation of other hazards at the site, such as extreme wind events; the
8 certificate holder represents the facility would be designed to be resilient after a potential
9 disaster, such as a seismic event or event related to future climate conditions, and that the
10 facility would otherwise withstand additional stresses relating to increased probabilities of ice
11 and fire damage due to climate change.²⁸

12
13 Furthermore, risks associated with fire and inclement weather is discussed within this Draft
14 Proposed Order at Section III.M *Public Services* and Section III.P.1 *Public Health and Safety*
15 *Standards for Wind Energy Facilities*. The Dufur Volunteer Fire and Ambulance service indicated
16 that it is available to respond in the event of an emergency, and Conditions 8.2 and 8.5 require
17 the implementation of fire safety plans. Recommended amended Conditions 7.4 through 7.6
18 require the implementation of compliance plans and operational monitoring to minimize the
19 risk of ice throw, and to ensure that turbines are continually operated in a manner consistent
20 with manufacturer specifications.

21
22 Based upon compliance with existing, recommended new and amended a site certificate
23 conditions, and because the proposed amendments would not change site boundary or
24 micrositing corridor area previously evaluated, the Department concurs and recommends
25 Council find that the facility would not affect the certificate holder's characterization of the site
26 or seismic hazards, or its ability to design, engineer, and construct the facility to avoid dangers
27 to human safety presented by seismic, geologic or soils hazards.

28 29 **Conclusions of Law**

30
31 Based on the foregoing recommended findings of fact and conclusions, the Department
32 recommends that the Council find that the facility, with the requested extension of
33 construction deadlines, would continue to comply with the Council's Structural Standard.

²⁷SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.3, citing to: MPDI. *Watershed Response to Climate Change and Fire-Burns in the Upper Umatilla River Basin, USA* (2017). Available online at: www.mdpi.com/2225-1154/5/1/7/pdf

²⁸ SRWAMD4Doc11 DOGAMI Consultation 2018-11-14; e-mail chain with Yumei Wang (DOGAMI)

1 **III.D. Soil Protection: OAR 345-022-0022**

2
3 *To issue a site certificate, the Council must find that the design, construction and*
4 *operation of the facility, taking into account mitigation, are not likely to result in a*
5 *significant adverse impact to soils including, but not limited to, erosion and chemical*
6 *factors such as salt deposition from cooling towers, land application of liquid effluent,*
7 *and chemical spills.*

8
9 **Findings of Fact**

10
11 The Soil Protection standard requires the Council to find that the design, construction, and
12 operation of a proposed facility, or facility with proposed changes, is not likely to result in
13 significant adverse impacts to soil.

14
15 The analysis area for the Soil Protection standard, as defined in the project order, includes the
16 area within the site boundary.

17
18 For amendments requesting to extend construction deadlines, the Department and Council
19 evaluate whether there have been “changes in fact or law” since the site certificate or amended
20 site certificate was issued to determine whether, based on changes in fact or law, the facility
21 would continue to satisfy requirements of the standard. The certificate holder evaluates
22 potential changes in land use that could impact the evaluation of potential impacts to soils
23 within the analysis area. Based on this evaluation, the certificate holder asserts that there have
24 not been significant changes to land use and that almost all of the area within the site boundary
25 is non-irrigated land used primarily for dryland winter wheat production. The remaining areas
26 within the site boundary serve as pasture for cattle, although cattle grazing may have been
27 temporarily suspended in certain areas due to the effects of the 2018 fires.²⁹

28
29 Because there have been no known significant changes in land use, soil conditions and use
30 within the analysis area, the Department presents a summary of Council’s previous evaluation
31 of potential soil related impacts during construction and operation of the facility, as approved,
32 for Council’s reference.

33

²⁹ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.4

1 Potential impacts to soil from facility construction and operation would include: permanent
2 and temporary soil loss; erosion; compaction; spills; and potential proliferation of noxious
3 weeds.³⁰ Permanent soil loss would occur from placement of gravel roads and concrete pads.
4 Erosion could occur during removal of surface vegetation, grading, and leveling; crane use;
5 and from the trenching and installation of underground communications. Compaction could
6 occur during use of heavy equipment. Risk of oil or other chemical spill could occur during on-
7 site storage of oil and cleaners.

8
9 Council previously imposed the following construction-related conditions to minimize
10 potential erosion and compaction impacts:

- 11
- 12 • Condition 9.1 requires that the certificate holder comply with a NPDES 1200-C permit
13 and best management erosion control practices established in an Erosion and
14 Sediment Control Plan (ESCP)
- 15 • Condition 9.2 requires that construction-related truck traffic be restricted, to the
16 extent practicable, to improved road surfaces to avoid soil compaction
- 17

18 Council previously imposed the following conditions that would minimize potential soil
19 impacts from an onsite spill, during construction and operation; and during operations, would
20 minimize potential soil impacts from noxious weeds and erosion:

- 21
- 22 • Condition 9.4 requires that, during construction and operation, the certificate holder
23 comply with local, state, and federal laws pertaining to the storage of hazardous
24 materials
- 25 • Condition 9.5 requires that, during construction and operation, the certificate holder
26 report to the Department within 72 hours of a chemical spill and to clean the spill, or
27 release and dispose of contaminated soils
- 28 • Conditions 9.6 and 9.7 require that, during operation, the certificate holder restore
29 vegetation, implement decompaction measures, and monitor and control for spread
30 of noxious weeds
- 31 • Condition 9.8 requires that, during operation, the certificate holder routinely inspect
32 and maintain erosion and sediment control measures installed along the transmission
33 corridor, roads, and pads for erosion; and, requires noxious weed monitoring and
34 implementation of control measures
- 35

³⁰ SRWAPPDoc56. ASC 2010-08-24, Exhibit I, Section I.4 p.3

1 Based upon the above recommended findings and compliance with existing site certificate
2 conditions, the Department recommends that the Council find that the design, construction
3 and operation of the facility would continue not likely to result in significant adverse impacts to
4 soils.

5
6 **Conclusions of Law**

7
8 Based on the foregoing recommended findings of fact and conclusions of law, and subject to
9 compliance with existing site certificate conditions, the Department recommends that the
10 Council find that the facility would continue to satisfy the requirements of the Council's Soil
11 Protection standard.

12
13 **III.E. Land Use: OAR 345-022-0030**

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

18
19 *(2) The Council shall find that a proposed facility complies with section (1) if:*

20
21 *(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a)*
22 *and the Council finds that the facility has received local land use approval under the*
23 *acknowledged comprehensive plan and land use regulations of the affected local*
24 *government; or*

25
26 *(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b)*
27 *and the Council determines that:*

28
29 *(A) The proposed facility complies with applicable substantive criteria as*
30 *described in section (3) and the facility complies with any Land Conservation and*
31 *Development Commission administrative rules and goals and any land use*
32 *statutes directly applicable to the facility under ORS 197.646(3);*

33
34 *(B) For a proposed facility that does not comply with one or more of the*
35 *applicable substantive criteria as described in section (3), the facility otherwise*
36 *complies with the statewide planning goals or an exception to any applicable*
37 *statewide planning goal is justified under section (4); or*

38
39 *(C) For a proposed facility that the Council decides, under sections (3) or (6), to*
40 *evaluate against the statewide planning goals, the proposed facility complies*
41 *with the applicable statewide planning goals or that an exception to any*
42 *applicable statewide planning goal is justified under section (4).*

43 ***

1 **Findings of Fact**

2
3 The Land Use standard requires the Council to find that a proposed facility or facility, with
4 proposed changes, would continue to comply with local applicable land use substantive criteria,
5 as well as the statewide planning goals adopted by the Land Conservation and Development
6 Commission (LCDC).³¹

7
8 The analysis area for the Council’s Land Use standard is the area within and extending ½-mile
9 from the site boundary.

10
11 **Local Applicable Substantive Criteria**

12
13 On July 31, 2009, during the review of the ASC, the Council appointed the Wasco County Board
14 of Commissioners as the Special Advisory Group (SAG) for the facility. On behalf of and as
15 authorized by the SAG, the Wasco County Planning Director identified applicable substantive
16 criteria to be considered during the ASC phase and through subsequent amendment requests in
17 evaluating the facility. During the review process of pRFA4, the Department received a
18 comment letter from the Wasco County Board of County Commissions (dated October 17,
19 2018), which indicated that there have been no changes to rules or regulations within Wasco
20 County since 2016, which precedes the date of the most recent Council evaluation.³²
21 There have been no changes to the applicable substantive criteria since the Council’s review of
22 RFA3; however, some sections of the Wasco County Land Use and Development Ordinance
23 (WCLUDO) have been administratively renumbered.³³ The relevant substantive criteria that the
24 facility must comply with are summarized in Table 1, *Wasco County Applicable Substantive*
25 *Criteria*.

³¹ The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504.

³² SRWAMD4Doc8 SAG Comments Wasco County Board of Commissioners 2018-10-18

³³ Under the Council’s Land Use standard at OAR 345-022-0030, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. For Council review of a request for amendment, pursuant to OAR 345-027-0075(3)(a) the Council shall apply the applicable substantive criteria under the Land Use standard in effect on the date the certificate holder submitted the request for amendment.

Table 1: Wasco County Applicable Substantive Criteria

Wasco County Land Use Development Ordinance (WCLUDO) – Previous Numbering	Administrative Re-numbering
Chapter 1 – Introductory Provisions	
Section 1.030: Severability / Legal Parcel Determination	No changes
Section 1.090: Definitions of Parcel and Structure	No changes
Chapter 3 – Basic Provisions	
Section 3.210: Exclusive Farm Use Zone	No changes
Section 3.210(B): Uses Permitted Without Review	Section 3.212: Uses Permitted Without Review (note that “Transportation Facilities” subpart 7 is listed under Section 3.212.G, the text from this provision has not changed).
Section 3.210(D): Uses Permitted Subject to Standards / Type II Review	Section 3.214: Uses Permitted Subject to Standards / Type II Review (note that “Utility / Energy Facilities” subpart 12 is now listed under Section 3.214.I but the text from the provision has not changed).
Section 3.210(E): Conditional Uses	Section 3.215: Uses Permitted Subject to Condition Use Review / Type II or Type III (note that “Commercial Power Generating Facility” subpart 14 is now listed under Section 3.215.M but the text from the provision has not changed).
Section 3.210(F): Property Development Standards	Section 3.216: Property Development Standards
Section 3.210(H): Agricultural Protection	Section 3.218: Agricultural Protection
Section 3.210(J): Additional Standards	Section 3.219: Additional Standards (note that “Wind Power Generating Facility” was previously included within 3.210(J)(17) but is now included under 3.219.Q; the text from the provision has not changed).
Chapter 4 – Supplemental Provisions	
Section 4.070: General Exceptions to Building Height	Section 4.070: General Exceptions to Building Height
Chapter 5 – Conditional Use Review	
Section 5.020: Authorization to Grant or Deny Conditional Uses, and Standards and Criteria Used	No changes
Chapter 10 – Fire Safety Standards	No changes

Table 1: Wasco County Applicable Substantive Criteria

Wasco County Land Use Development Ordinance (WCLUDO) – Previous Numbering	Administrative Re-numbering
Chapter 19 – Standards for Energy Facilities and Commercial Energy Facilities	No changes
Chapter 19, Section 19.010: Purposes	No changes
Chapter 19, Section 19.030	No changes
Wasco County Comprehensive Plan	
Goal 1 (Citizen Involvement) Goal 2 (Land Use Planning) Goal 3 (Agricultural Lands) Goal 5 (Open Space, Scenic and Historic Areas and Natural Resources) Goal 6 (Air, Water and Land Resources Quality) Goal 8 (Recreational Needs) Goal 9 (Economy of the State) Goal 11 (Public Facilities and Services) Goal 12 (Transportation) Goal 13 (Energy Conservation)	

1
 2 For amendment requests to extend construction deadlines, the Department and Council
 3 evaluate whether there have been “changes in fact or law” since the site certificate or amended
 4 site certificate was issued to determine whether, based on changes in fact or law, the facility
 5 would continue to satisfy requirements of the standard. As described above, there are no new
 6 code provisions within WCLUDO or Wasco County’s Comprehensive Plan. The Department
 7 reviewed the applicable substantive criteria as presented in Table 1: *Wasco County Applicable*
 8 *Substantive Criteria* above. Based on its review, the Department recommends Council find that,
 9 with the exception of the evaluation of WCLUDO Section 19.030(D)(1)(c) presented below,
 10 because there have been no changes in regulatory requirements, and no proposed changes to
 11 the facility, that the amendment request would not be expected to impact the certificate
 12 holder’s ability to satisfy requirements.

13
 14 **WCLUDO Section 19.030(D)(1)(c) Setbacks**

15
 16 WCLUDO Section 19.030(D)(1)(c)(3)(c) Adjustment Provision – Applicant may, as part of the
 17 wind energy permitting process, obtain an administrative adjustment to authorize a lesser
 18 setback from regulations addressing turbine setbacks from city limits, urban growth
 19 boundaries or urban reserves. This may be authorized as part of the CUP pursuant to the
 20 Administrative Action process of Section 2.060(A) by the Director of designee and upon
 21 findings that demonstrate the following criteria are met:

- 1
- 2 *i. The underlying landowner (or applicable road authority or utility*
- 3 *as may be appropriate for non-project boundary setbacks) has*
- 4 *consented, in writing, to an adjusted setback.*
- 5 *ii. The proposed adjustment complies with DEQ noise standard.*
- 6 *iii. The proposed adjustment will not force a significant change in*
- 7 *accepted farm or forest practices on surrounding lands devoted to*
- 8 *or available for farm or forest use.*
- 9 *iv. The proposed adjustment will not unduly burden existing*
- 10 *infrastructure (e.g., underground utilities or leach fields).*
- 11 *v. The proposed adjustment will not unduly impair safety in the*
- 12 *area.*
- 13 *vi. The proposed adjustment will minimize impacts to environmental*
- 14 *resources (e.g., wetlands or identified EPDs)*
- 15

16 WCLUDO Section 19.030(D)(1)(c)(1) and (2) establish setback requirements from wind turbines
17 to adjacent property lines, rights-of-way of any dedicated roads, and above ground major utility
18 facility lines. Specifically, turbines must be set back from the previously listed areas at a
19 minimum of 1.5 times the height of the wind turbine to accommodate for potential falls.
20 However, WCLUDO Section 19.030(D)(1)(c)(3)(c) provides a process to authorize a lesser
21 setback. The Council, and the Wasco County Planning Department, previously authorized an
22 administrative adjustment for the setback restriction for 17 wind turbines, which reduced
23 setbacks from the default 1.5 to 1.1 times the wind turbine maximum blade tip height.
24 WCLUDO Section 10.030(D)(1)(c)(3)(c) include criteria that reference circumstances on the
25 ground, which could have changed since the Council’s previous analysis. Specifically, the
26 Department evaluates whether there have been changes in fact – such as new residences, new
27 infrastructure, changes in farm practices on surrounding lands – that could impact the
28 certificate holder’s ability to satisfy the adjustment provision criteria.

29
30 Relating to subsection (i), the Council previously found that consent was required from Wasco
31 County, which maintains county roads within the applicable setback zone. As part of the review
32 on the Request for Amendment 2, Wasco County provided consent to a reduced setback.³⁴ The
33 County is still the relevant entity by which consent is required, and the consent issued during
34 the review of the Request for Amendment 2 is still valid³⁵ to satisfy this subsection.

³⁴ *Final Order on Amendment 2* (2016-11-04), p. 97

³⁵ SRWAMD4Doc 8-1 Response from Angie Brewer at Wasco County Re Section 19.030(D)

1 Relating to subsection (ii), the Council previously found that Condition 12.1 through 12.4
2 ensured that the proposed adjustment complies with the DEQ noise standard. These conditions
3 require the certificate holder to demonstrate the final design of the facility and demonstrate
4 that the design complies with DEQ noise restrictions set forth in OAR Chapter 340 Division 35.
5 The certificate holder indicated that there are four new noise sensitive receptors within the
6 analysis area. The new noise sensitive receptors must be included within the analyses required
7 by Condition 12.1 through 12.4; as such, the certificate holder must demonstrate that the
8 facility would comply with DEQ standards as pertaining to these new receptors or the
9 certificate holder would be required to implement a mitigation plan as required by the
10 amended Condition 12.4 (See DPO Section III.Q.1 Noise Control Regulations).

11
12 Relating to subsection (iii), the Council previously found that Conditions 6.12, 6.24, and 6.25
13 ensured that the variance would not result in a significant change to accepted farming
14 practices; there is no land zoned for forest use within the analysis area. These conditions
15 require that the certificate holder consult with affected landowners and implement measures
16 to avoid impacts, to design and construct the facility to minimize disturbance to farming
17 activities, and to restore agricultural lands after disturbed. The certificate holder confirmed that
18 the land use within the area is “generally the same” as previously described.³⁶ Because the
19 agricultural use on surrounding lands has not changed, the Department recommends that the
20 Council continue to find that the variance would not result in significant change to accepted
21 farming practices.

22
23 Relating to subsection (iv), the Council previously found that the setback variance would not
24 unduly burden existing infrastructure. The Council based this determination on a letter
25 submitted by the Wasco County Public Works Department, which asserted that the variance
26 would not unduly burden any county infrastructure.³⁷

27
28 Relating to subsection (v), the Council previously found that the variance would not unduly
29 impair safety. The Council determined that even if a turbine were to collapse, a setback of 110%
30 of the turbine height would ensure that in the very rare circumstance of turbine failure, the
31 turbine or blades would be unlikely to reach any county road. Because there are no new county
32 roads in the area, the turbine setback of 110% of the turbine height remains sufficient to
33 ensure that the setback variance would not unduly impact safety in the area. As discussed
34 within Section III.P.1 *Public Health and Safety Standards for Wind Energy Facilities*, amended

³⁶ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.4. The certificate holder notes that wildfires within the analysis area may have resulted in the temporary suspension of cattle grazing in certain areas.

³⁷ SRWAMD4Doc 8-1 Response from Angie Brewer at Wasco County Re Section 19.030(D)

1 Conditions 7.4 and 7.5 require the certificate holder to describe in its compliance plan
2 processes that ensure manufacturer’s handling instructions are properly followed, and the
3 approval of an operational and safety monitoring plan that includes routine inspections.
4 Furthermore, Condition 7.6 requires the certificate holder to install self-monitoring devices on
5 each turbine that would alert operators of dangerous conditions and that would also
6 automatically shut down turbines in the event of abnormal vibrations.

7
8 Relating to subsection (vi), the Council previously found that the variance would not result in
9 impacts to environmental protection overlay districts (EPDs). The Council noted in the *Final*
10 *Order on Amendment 2* that although the site boundary intersects on Flood Hazard Overlay, the
11 turbines that were granted the variance would avoid the 100 year floodplain. The Council also
12 imposed Condition 6.33, which requires the certificate holder to ensure that facility
13 components are not developed within EPD 4 (Cultural, Historic and Archaeological), which is an
14 overlay that protects the Center Ridge Schoolhouse. Condition 6.32 and 6.34 prohibit the
15 certificate holder from constructing facility components in a manner that would impact
16 waterways.

17
18 For the above stated reasons, there are no changes in facts or law that would affect the
19 previously approved setback variances.

20
21 Directly Applicable State Statutes

22
23 **ORS 215.283(1)(c) and ORS 215.274 – Associated Transmission Lines Necessary for Public**
24 **Service**

25 The Council previously approved as a related and supporting facility to the energy facility a 230
26 kV transmission line. The Council previously assessed the 230 kV transmission line under
27 WCLUDO Section 3.210(J)(8), which directly implements ORS 215.275.³⁸ ORS 215.275
28 establishes the statutory criteria for determining whether a utility facility located on Exclusive
29 Farm Use (EFU) land is “necessary for public service.” However, based upon 2013 legislation, if
30 a utility facility necessary for public service is an “associated transmission line” as defined in
31 ORS 215.274 and ORS 469.300, the use may be established in EFU-zoned land pursuant to ORS
32 215.283(c). The land use assessment for transmission lines that meet the definition of an
33 “associated transmission line” must consider the requirements of ORS 215.274, and not ORS
34 215.275.

³⁸ *Final Order on the ASC* (2011-08-19), pp. 33-34; *Final Order on Amendment 1* (2015-08-07), p. 32; and *Final Order on Amendment 2* (2016-11-04), pp. 55-56.

1 ORS 469.300(3) defines “associated transmission lines” as “new transmission lines constructed
2 to connect an energy facility to the first point of junction of such transmission line or lines with
3 either a power distribution system or an interconnected primary transmission system or both
4 or to the Northwest Power Grid,” and that definition is incorporated by reference in ORS
5 215.274. Associated transmission lines reviewed under ORS 215.274 are a subset of the
6 transmission lines that could be evaluated as utility facilities necessary for public service under
7 ORS 215.283(1)(c). Wasco County has not adopted local code provisions to implement ORS
8 215.274. Therefore, the requirements of the statute apply directly to the facility and are
9 evaluated below. The 230 kV transmission line proposed as a related and supporting facility to
10 the Summit Ridge Wind Project meets the definition of “associated transmission line” and
11 therefore must be evaluated against the ORS 215.274 criteria.

12
13 *ORS 215.274(2): An associated transmission line is necessary for public service if an
14 applicant for approval under ORS 215.213 (Uses permitted in exclusive farm use zones in
15 counties that adopted marginal lands system prior to 1993) (1)(c)(B) or 215.283 (Uses
16 permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(B) demonstrates
17 to the governing body of a county or its designee that the associated transmission line
18 meets:*

- 19
20 *(a) At least one of the requirements listed in subsection (3) of this section; or*
21 *(b) The requirements described in subsection (4) of this section.*
22

23 ORS 215.274 requires that the certificate holder demonstrate that the associated transmission
24 line meets the requirements of either ORS 215.274 (3) or (4). As discussed below, in the RFA the
25 certificate holder provides evidence that the associated transmission line meets the
26 requirements of paragraph (4); the certificate holder acknowledges that it does not meet the
27 requirements of paragraph (3).

28
29 *ORS 215.274(3): The governing body of a county or its designee shall approve an application
30 under this section if an applicant demonstrates that the entire route of the associated
31 transmission line meets at least one of the following requirements:*

- 32
33 *(a) The associated transmission line is not located on high-value farmland, as*
34 *defined in ORS 195.300 (Definitions for ORS 195.300 to 195.336), or on arable*
35 *land;*
36 *(b) The associated transmission line is co-located with an existing transmission line;*
37 *(c) The associated transmission line parallels an existing transmission line corridor*
38 *with the minimum separation necessary for safety; or*
39 *(d) The associated transmission line is located within an existing right of way for a*
40 *linear facility, such as a transmission line, road or railroad, that is located above*
41 *the surface of the ground.*
42

1 As noted above, the certificate holder acknowledges that the 230 kV transmission line would
2 not meet any of the requirements of ORS 215.274(3).

3
4 *ORS 215.274(4)(a): Except as provided in subsection (3) of this section, the governing body of*
5 *a county or its designee shall approve an application under this section if, after an*
6 *evaluation of reasonable alternatives, the applicant demonstrates that the entire route of*
7 *the associated transmission line meets, subject to paragraphs (b) and (c) of this subsection,*
8 *two or more of the following factors:*

9
10 ORS 215.274(4)(a) requires an evaluation of reasonable alternatives to determine whether the
11 associated transmission line may be sited on land other than EFU-zoned land. The evaluation of
12 “reasonable alternatives” does not require an evaluation of all alternative EFU zoned routes on
13 which the transmission line could be located. Rather, the certificate holder must consider
14 reasonable alternatives and show that the transmission line must be sited on EFU-zoned land in
15 order to provide the service. RFA4 does not directly address this statute subsection. However,
16 the certificate holder explains, in its discussion of ORS 215.274(4)(a)(A), that because the wind
17 facility and components would be located on EFU-zoned land, the associated transmission line
18 must cross EFU land at the wind energy generation site in order to interconnect with the
19 Northwest Power Grid. In RFA4 Figure 5, based on a land use zoning map, there is no non-EFU
20 zoned land between the transmission line and the interconnection point.

21
22 The Department therefore recommends that the Council find that the certificate holder has
23 evaluated reasonable alternatives and has demonstrated that no reasonable alternatives that
24 would avoid EFU land exist. However, note that ORS 215.274(4) requires both a demonstration
25 that no reasonable alternatives that would avoid EFU land exist, and that two or more of the
26 listed factors [ORS 215.274(a)(A) through (E)] be met, which is evaluated below.

27
28 *ORS 215.274(4)(a)(A): Technical and engineering feasibility;*

29
30 ORS 215.274(4)(a)(A) requires that the certificate holder demonstrate that the transmission line
31 must be sited in an EFU zone due to technical and engineering feasibility constraints. The
32 certificate holder asserts that the associated transmission line meets the criterion because “it is
33 not feasible or technically possible to interconnect with the electrical grid system without
34 transmission lines that transmit power from the wind farm, which is located on EFU land, and
35 interconnect to the BPA transmission system for the purpose of distributing power via the
36 electrical grid system.”³⁹

³⁹ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.5

1 Although the certificate holder’s statement supports the alternatives analysis required prior to
2 evaluating ORS 215.274(4)(a)(A) through (E), the Department disagrees that the evaluation
3 required under ORS 215.274(4)(a)(A) is duplicative of the alternatives analysis. The Department
4 does not consider the mere fact that the facility is located within EFU zoned land as sufficient
5 evidence to satisfy this factor; the certificate holder has not argued specific reasons why the
6 proposed path must cross EFU zoned land to address specific technical or engineering
7 constraints. As a hypothetical example, the Department may consider evidence to support this
8 factor that specify extreme topographic features that cannot be overcome, but for facility
9 engineering through EFU zoned land. As noted above, in the absence of such evidence, the
10 Department recommends that the Council find that the 230 kV transmission line fails to meet
11 ORS 215.274(4)(a)(A).

12
13 *ORS 215.274(4)(a)(B): The associated transmission line is locationally dependent because*
14 *the associated transmission line must cross high-value farmland, as defined in ORS*
15 *195.300 (Definitions for ORS 195.300 to 195.336), or arable land to achieve a reasonably*
16 *direct route or to meet unique geographical needs that cannot be satisfied on other*
17 *lands;*

18
19 ORS 215.274(4)(a)(B) requires that the certificate holder demonstrate that the transmission line
20 must cross high value farmland or arable land to achieve a reasonably direct route and
21 therefore is locationally dependent. As presented in RFA4 Figure 2, almost the entire area
22 between the site boundary and point of interconnection is arable land. Small portions of land
23 between the site boundary and point of interconnection are high value farmland. Because there
24 is no reasonable way to build a transmission line between the site boundary and the point of
25 230 kV interconnection, the Department recommends Council find that the associated
26 transmission line must cross arable land to achieve a reasonably direct route, and that the
27 associated transmission line is therefore “locationally dependent” and satisfies ORS
28 215.274(4)(a)(B).

29
30 *ORS 215.274(4)(a)(C): Lack of an available existing right of way for a linear facility, such*
31 *as a transmission line, road or railroad, that is located above the surface of the ground;*

32
33 ORS 215.274(4)(a)(C) requires that the certificate holder demonstrate a lack of available
34 existing linear facility rights-of-way for which the transmission line could be located. RFA4
35 Figure 6 delineates existing railroad, road, and transmission right-of-way within two to four
36 miles of the site boundary. A BPA 500 kV line is located in proximity to the site boundary, and
37 intersects the site boundary in some areas. However, the certificate holder explains that, due to
38 limited interconnection availability, as well as the expected timeline for interconnection to the
39 500 kV line (compared to the timeline for beginning facility operations), it is not feasible to
40 connect to the 500 BPA kV transmission line as opposed to the 230 kV BPA transmission line
41 that is currently proposed for interconnection.

1 An existing railroad right-of-way is located east of the site boundary and within the Deschutes
2 River Canyon; the right-of-way travels north-south rather than east-west, which would be the
3 appropriate direction necessary to connect to a BPA line. Several roads exist between the point
4 of interconnect (BPA 230 kV transmission line) and the portion of the site boundary where the
5 wind energy generation components would be located; these roads are Adkisson and Jameson
6 roads. The certificate holder explains that locating the associated transmission line within any
7 one of these road rights-of-ways is not feasible for the following reasons:⁴⁰

- 8
- 9 (1) The width of the existing right of way along Jameson and Adkisson Roads does not
10 provide sufficient space to accommodate the curvatures in the transmission route;
- 11 (2) The length of the transmission line would increase by approximately 1.3 miles, and the
12 cost would increase by approximately \$1.7 million;
- 13 (3) The transmission line would be required to cross existing distribution lines, and would
14 require the “underbuild” of existing lines;
- 15 (4) Siting the transmission line along the Adkisson and Jameson roads would require
16 acquisition of numerous new land rights, which could result in additional costs;
- 17 (5) The facility substation would be required to be relocated, which could impact farming
18 operations, and the collector lines would require new design;
- 19 (6) A new route could require new studies require by Bonneville Power Administration.
- 20

21 As explained in (1), the certificate holder explains that there is insufficient space in the existing
22 road rights of way that could accommodate the transmission line. The Department
23 acknowledges that the above evidence also demonstrates a significantly higher cost, with an
24 expected increase in costs of excess of \$ 1.7 million. While costs may not be the only
25 consideration in determining whether the evidence meets an evaluative factor contained within
26 ORS 215.274, it may be a consideration in any of the factors provided within the statute (See
27 215.274(4)(c) below). Furthermore, staff’s evaluation of evidence contained within the record
28 concludes that siting the transmission line along the Adkisson and Jameson roads would not
29 result in a measurable reduction in impacts to farmland. As noted by the certificate holder in
30 Section 5.1.5 of its RFA, the transmission line pole structures are only expected to impact
31 approximately 0.1 acre of land and are not expected to have an impact on farming operations.⁴¹
32 Since the certificate holder represents that the road provides insufficient space, and that siting
33 the associated transmission line would result in an additional mile of transmission, cost an
34 estimated \$1.7 million more, and would require the crossing of existing distribution lines, the

⁴⁰ SRWAMD4Doc14 Response from Certificate Holder relating to 215.274 ROW

⁴¹ The certificate holder also attests that landowners would be compensated for this loss through contract.

1 expected benefits, if any, from requiring the certificate holder to site the transmission line
2 along the Adkisson and Jameson roads do not outweigh the increased burdens.
3 Based on the reasoning provided above, the Department recommends that the Council find
4 that the 230 kV transmission line would satisfy 215.274(4)(a)(C).

5
6 ORS 215.274(4)(a)(D): Public health and safety; or

7
8 ORS 215.274(4)(a)(D) requires that the certificate holder demonstrate that the transmission line
9 must be sited on EFU-zoned land to minimize potential impacts to public health and safety. The
10 certificate holder does not rely on ORS 215.274(4)(a)(D) to demonstrate compliance with ORS
11 215.274(4)(a).⁴²

12
13 ORS 215.274(4)(a)(E): Other requirements of state or federal agencies.

14
15 ORS 215.274(4)(a)(E) requires that the certificate holder demonstrate that the transmission line
16 must be sited in an EFU zone due to other state or federal requirements, which the certificate
17 holder did not address. The certificate holder does not rely on ORS 215.274(4)(a)(E) to
18 demonstrate compliance with ORS 215.274(4)(a).

19
20 ORS 215.274(4)(b): The applicant shall present findings to the governing body of the county
21 or its designee on how the applicant will mitigate and minimize the impacts, if any, of the
22 associated transmission line on surrounding lands devoted to farm use in order to prevent a
23 significant change in accepted farm practices or a significant increase in the cost of farm
24 practices on the surrounding farmland.

25
26 ORS 215.274(4)(b) requires that the certificate holder demonstrate that the transmission line
27 would not result in a significant change in accepted farm practices or a significant increase in
28 cost of farm practices on surrounding land. The certificate holder represents that transmission
29 poles would impact approximately 0.1 acres of land and further argues that the length of the
30 transmission line is the “shortest practicable route” between the facility substation and BPA’s
31 substation.⁴³

32
33 To ensure that potential impacts to farm practices and the cost of farm practices on
34 surrounding lands is minimized during construction, Council previously imposed Condition 6.12
35 and 6.25. Condition 6.12 requires that the certificate holder design and construct the facility

⁴² SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.5

⁴³ *Id.*

1 using the minimum land use necessary; Condition 6.25 requires that, during construction and
2 operation, the certificate holder consult with area landowners and lessees to identify and
3 implement measures to reduce or avoid adverse impacts to farm practices and farming cost.
4 Based on compliance with previously imposed conditions and the minimal amount of
5 permanent impacts to EFU-zoned land, the Department recommends that the Council find that
6 the transmission line would not result in a significant change to accepted farm practices or
7 significantly increase costs of farm practices on surrounding land. Therefore, the Department
8 recommends Council find that the 230 kV transmission line would satisfy 215.274(4)(b).

9
10 *ORS 215.274(4)(c): The governing body of a county or its designee may consider costs*
11 *associated with any of the factors listed in paragraph (a) of this subsection, but*
12 *consideration of cost may not be the only consideration in determining whether the*
13 *associated transmission line is necessary for public service.*

14
15 ORS 215.274(4)(c) allows for consideration of costs in determining whether the associated
16 transmission line is necessary for public service. The certificate holder indicates in its discussion
17 of 215.274(4)(a)(C) (“lack of an available existing right of way”) that an alternative route would
18 increase construction costs. Although this subsection does not require the consideration of
19 costs, the Department acknowledges that if the transmission line were required to parallel
20 existing rights of ways, then the length of the transmission line would increase and the
21 certificate holder would be required to obtain new land rights; these changes would increase
22 costs associated with the transmission line.

23
24 For the above stated reasons, the Department recommends that the Council find that the
25 certificate holder provides a sufficient alternative analysis required under ORS 215.274(4)(a),
26 that the associated transmission line is locationally dependent under ORS 215.274(4)(a)(B), and
27 that there is a lack of available existing right of way for a linear facility under ORS
28 215.274(4)(a)(C). As such, the Department recommends that the Council find that the
29 associated transmission line is “necessary for public service.”

30 **Conclusions of Law**

31
32
33 Based on the foregoing findings and the evidence in the record, and subject to compliance with
34 existing site certificate conditions, the Department recommends the Council find that the
35 facility, with the requested extension of the construction deadlines, would continue to comply
36 with the Land Use standard.

37 **III.F. Protected Areas: OAR 345-022-0040**

38
39
40 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate*
41 *for a proposed facility located in the areas listed below. To issue a site certificate for a*
42 *proposed facility located outside the areas listed below, the Council must find that,*
43 *taking into account mitigation, the design, construction and operation of the facility are*

1 *not likely to result in significant adverse impact to the areas listed below. References in*
2 *this rule to protected areas designated under federal or state statutes or regulations are*
3 *to the designations in effect as of May 11, 2007:*

4
5 *(a) National parks, including but not limited to Crater Lake National Park and Fort*
6 *Clatsop National Memorial;*

7
8 *(b) National monuments, including but not limited to John Day Fossil Bed National*
9 *Monument, Newberry National Volcanic Monument and Oregon Caves National*
10 *Monument;*

11
12 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et*
13 *seq. and areas recommended for designation as wilderness areas pursuant to 43*
14 *U.S.C. 1782;*

15
16 *(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon*
17 *Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart*
18 *Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,*
19 *Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper*
20 *Klamath, and William L. Finley;*

21
22 *(e) National coordination areas, including but not limited to Government Island,*
23 *Ochoco and Summer Lake;*

24
25 *(f) National and state fish hatcheries, including but not limited to Eagle Creek and*
26 *Warm Springs;*

27
28 *(g) National recreation and scenic areas, including but not limited to Oregon Dunes*
29 *National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon*
30 *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

31
32 *(h) State parks and waysides as listed by the Oregon Department of Parks and*
33 *Recreation and the Willamette River Greenway;*

34
35 *(i) State natural heritage areas listed in the Oregon Register of Natural Heritage*
36 *Areas pursuant to ORS 273.581;*

37
38 *(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine*
39 *Sanctuary, OAR Chapter 142;*

40
41 *(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers*
42 *designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed*
43 *as potentials for designation;*
44

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

4
5 *(m) Agricultural experimental stations established by the College of Agriculture,*
6 *Oregon State University, including but not limited to: Coastal Oregon Marine*
7 *Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension*
8 *Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia*
9 *Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research*
10 *Center, Moro North Willamette Research and Extension Center, Aurora East Oregon*
11 *Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern*
12 *Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research*
13 *Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon*
14 *Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond*
15 *Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport*
16 *Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath*
17 *Falls;*

18
19 *(n) Research forests established by the College of Forestry, Oregon State University,*
20 *including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett*
21 *Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the*
22 *Marchel Tract;*

23
24 *(o) Bureau of Land Management areas of critical environmental concern,*
25 *outstanding natural areas and research natural areas;*

26
27 *(p) State wildlife areas and management areas identified in OAR chapter 635,*
28 *Division 8.*

29 ***

30 **Findings of Fact**

31
32 The Protected Areas standard requires the Council to find that, taking into account mitigation,
33 the design, construction, and operation of a proposed facility or facility, with proposed changes,
34 are not likely to result in significant adverse impacts to any protected area as defined by OAR
35 345-022-0040. Impacts to protected areas are evaluated based on identification of protected
36 areas (pursuant to OAR 345-022-0040) within the analysis area and an evaluation of the
37 following potential impacts during facility construction and operation: excessive noise,
38 increased traffic, water use, wastewater disposal, visual impacts of facility structures or plumes,
39 and visual impacts from air emissions.

40
41 In accordance with OAR 345-001-0010(59)(e) and consistent with the study area boundary, the
42 analysis area for protected areas is the area within and extending 20 miles from the site
43 boundary.

1 In RFA4, the certificate holder confirms that no new protected areas from those considered in
 2 previous Council findings were identified within the 20-mile analysis area. The certificate holder
 3 previously identified 24 protected areas within the analysis area; these protected areas are
 4 presented in Table 2, *Protected Areas within Facility Analysis Area and Distance from Site*
 5 *Boundary* below. The closest protected area is the Deschutes Federal Wild and Scenic River,
 6 located approximately 0.6 miles from the site boundary.
 7

Table 2: Protected Areas within Facility Analysis Area and Distance from Site Boundary

Protected Area (OAR Reference)	Distance from Site Boundary (in miles)
Deschutes Federal Wild and Scenic River (345-022-0040(1)(k))	0.6
Deschutes State Scenic Waterway (345-022-0040(1)(k))	0.8
Lower Deschutes Wildlife Area (345-022-0040(1)(p))	2
Columbia Basin Agriculture Research Center (345-022-0040(1)(m))	6.9
Columbia River Gorge National Scenic Area (345-022-0040(1)(g))	7.2
White River Federal Wild and Scenic River (345-022-0040(1)(k))	8.5
Deschutes River State Recreation Area (345-022-0040(1)(h))	9
Heritage Landing (Deschutes) (345-022-0040(1)(h))	9.1
White River Falls State Park (345-022-0040(1)(h))	9.1
White River State Wildlife Area (345-022-0040(1)(p))	11
Columbia Hills (Horsethief Lake) State Park (345-022-0040(1)(h))	11.8
Maryhill State Park (345-022-0040(1)(h))	12.4
Columbia Hills Natural Area Preserve (345-022-0040(1)(i))	14.4
Doug’s Beach State Park (345-022-0040(1)(h))	14.8
Botanical/Scenic Areas Within Columbia Gorge ACEC (345-022-0040(1)(o))	15.8
John Day Wildlife Refuge (345-022-0040(1)(d))	17.4

Table 2: Protected Areas within Facility Analysis Area and Distance from Site Boundary

Protected Area (OAR Reference)	Distance from Site Boundary (in miles)
Tom McCall Preserve ACEC (345-022-0040(1)(o))	17.4
Mayer State Park (345-022-0040(1)(h))	18.1
Lower Klickitat Federal Wild and Scenic River (345-022-0040(1)(k))	18.3
John Day Federal Wild and Scenic River (345-022-0040(1)(k))	18.4
John Day State Scenic Waterway (345-022-0040(1)(k))	18.4
Badger Creek Wilderness Area (345-022-0040(1)(c))	18.7
Memaloose State Park (345-022-0040(1)(h))	19.8
JS Burres State Recreation Site/BLM (345-022-0040(1)(h))	20
Source: SRWAPPDoc56. ASC Exhibit L. 2010-08.	

1 For amendments requesting to extend construction deadlines, the Department and Council
 2 evaluate whether there have been “changes in fact or law” since the site certificate or amended
 3 site certificate was issued to determine whether, based on changes in fact or law, the facility
 4 would continue to satisfy requirements of the standard. As described above, there are no new
 5 protected areas within the 20-mile analysis area from those considered in previous Council
 6 orders for this facility. Therefore, based on the scope of the amendment request, a
 7 construction deadline extension, and the fact that there are no new protected areas which
 8 have not been previously evaluated, the Department recommends Council rely on its previous
 9 reasoning and analysis to make findings and conclusions of law related to potential impacts
 10 under this standard.

11
 12 *Potential Noise Impacts*

13
 14 The closest protected areas to the site boundary are the Deschutes Federal Wild and Scenic
 15 River, and the Deschutes State Scenic Waterway, which are located approximately 0.6 miles
 16 and 0.8 miles from the boundary (respectively). ASC Exhibit X Figure X-1 demonstrates that
 17 predicted noise levels from facility operation at the Deschutes River would be lower than 36
 18 dBA. This estimation is likely conservative because, as explained by the certificate holder, noise

1 levels are expected to be less than modelled due to geometric spreading and attenuation.⁴⁴
2 Noise emitted from the facility would be negligible such that it would not result in a significant
3 adverse impact to the protected area. The Department recommends that Council find that
4 facility noise would not be likely to result in significant adverse impacts to protected areas
5 within the analysis area.

6
7 *Traffic Impacts*

8
9 The Council previously found in the *Final Order on the ASC* that traffic demands in the vicinity of
10 the facility are “low” and that any effects from the Summit Ridge construction are expected to
11 be “temporary and negligible.”⁴⁵ The Council relied on this previous finding in its *Final Order on*
12 *the ASC* . As stated in the *Final Order on the ASC*, the transportation routes do not pass through
13 any protected areas (with the exception of I-84 through the Columbia River Gorge National
14 Scenic Area). The Council found that there may be temporary delays to access protected areas
15 related to the Deschutes River; however, the Council found that such delays would not result in
16 a significant adverse impact to those areas.⁴⁶ The Department recommends that Council find
17 that construction and operational traffic would not be likely to result in significant adverse
18 impacts to protected areas within the analysis area.

19
20 *Water Use and Wastewater*

21
22 In the *Final Order on the ASC*, the Council found that the proposed facility would not
23 significantly impact water resources within any protected area.⁴⁷ The Council noted that the
24 majority of water use would occur during the construction phase; water would be received
25 from the City of The Dalles. Operations phase water use would be procured from an on-site
26 well as described by Condition 10.9. The Council found that “facility water use would be
27 temporary” and “relatively small in volume.”

⁴⁴ The certificate holder estimates that noise would attenuate at a rate of 6 dBA per doubling of distance (See Exhibit X of the ASC, p. 2); the presence of structures, trees, vegetation, ground effects, or terrain is also expected to further reduce noise.

⁴⁵ *Final Order on the ASC* (2011-08-19), page 79

⁴⁶ *Final Order on the ASC* (2011-08-19), page 79

⁴⁷ *Final Order on the ASC* (2011-08-19), p. 79

1 The O&M facility would discharge wastewater into a permitted on-site septic system as
2 described within Condition 7.8. Stormwater would infiltrate on site. The Council noted that no
3 water used on site would be discharged into wetlands or other adjacent resources as described
4 by Condition 10.10.

5
6 Furthermore, since wastewater would be disposed in a septic system, and because no water
7 would be withdrawn from any protected area, Council previously found that water use and
8 wastewater discharge from this facility would have no impact to protected areas.

9

10 *Visual Impacts of Facility Structures*

11

12 The Council previously found in the *Final Order on Amendment 2* that turbines would be visible
13 but that the visual impacts would be “negligible” to the following areas⁴⁸:

14

- 15 • Badger Creek Wilderness Area
- 16 • Columbia Hills Natural Area Preserve
- 17 • Columbia Basin Agricultural Research Center
- 18 • Deschutes River State Recreation Area
- 19 • Heritage Landing (Deschutes) State Park
- 20 • John Day Wildlife Refuge
- 21 • White River Federal Wild and Scenic River
- 22 • White River State Wildlife Area

23

24 The Council previously found that the impacts to the above listed protected areas would be
25 “negligible” based on the (1) distance to the turbines; (2) vegetation screening; and (3) views
26 from some protected areas would be limited to canyon rims and turbines would not be visible
27 from the river level.

28

29 The Council previously found in the *Final Order on Amendment 2* that turbines would be visible
30 from the following areas and also provided an assessment of the visual impacts:⁴⁹

31

⁴⁸ *Final Order on Amendment 2* (2016-11-04), p. 115

⁴⁹ *Final Order on Amendment 2* (2016-11-04), p. 115-116

- 1 • Columbia River Gorge National Scenic Area
- 2 • Lower Deschutes River Canyon⁵⁰

3
4 The Council previously found that the facility would not result in significant adverse visual
5 impacts to these protected areas. Relating to the Columbia River Gorge National Scenic Area,
6 the Council found that turbines would be subordinate to the landscape, which already contains
7 “significant” human-made development. Relating to the Lower Deschutes River Canyon, the
8 turbines would be visible from various locations along the river; however, they would not
9 dominate views, would be subordinate to the landscape, or would otherwise be visible from
10 areas that area considered to be “generally inaccessible.”⁵¹

11
12 The Council previously found that the facility would not result in significant adverse visual
13 impacts to any of the above protected areas. The Council’s reasoning was based, in pertinent
14 part, that the protected areas were either (1) not managed or protected for scenic qualities; or
15 that (2) that the facility would not be visible in areas readily accessible by the public.

16
17 *Visual Impacts from Air Emissions*

18
19 The facility would not result in air emissions or visual impacts from air emissions.

20
21 **Conclusions of Law**

22
23 Based on the foregoing recommended findings, the Department recommends that Council
24 conclude that the design, construction and operation of the facility, with the requested
25 extension of the construction deadlines, would not be likely to result in significant adverse
26 impacts to any protected areas, in compliance with the Council’s Protected Area standard.

27
28 **III.G. Retirement and Financial Assurance: OAR 345-022-0050**

29
30 *To issue a site certificate, the Council must find that:*

- 31
32 *(1) The site, taking into account mitigation, can be restored adequately to a useful, non-*
33 *hazardous condition following permanent cessation of construction or operation of the*
34 *facility.*

⁵⁰ The “Lower Deschutes River Canyon” includes the Deschutes Federal Wild and Scenic River, Deschutes State Scenic Waterway, and the Lower Deschutes Wildlife area.

⁵¹ *Final Order on the ASC* (2011-08-19), p. 80; *Final Order Amendment 2* (2016-11-04), p. 116

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

Findings of Fact

The Retirement and Financial Assurance standard requires a finding that the facility site can be restored to a useful, non-hazardous condition at the end of the facility’s useful life, should either the certificate holder stop construction or should the facility cease to operate. In addition, it requires a demonstration that the certificate holder has a reasonable likelihood of obtaining a bond or letter of credit to restore the site to a useful, non-hazardous condition.

For amendments requesting to extend construction deadlines, the Department and Council evaluate whether there have been “changes in fact or law” since the site certificate or amended site certificate was issued to determine whether, based on changes in fact or law, the facility would continue to satisfy requirements of the standard. For this standard, the Department evaluates whether there have been changes in unit costs or labor rates that would affect the previous site restoration estimate and whether there have been any changes in the certificate holder’s corporate structure that would impact the likelihood that the certificate holder would continue to demonstrate a likelihood of obtaining a bond or letter of credit in the amount necessary for site restoration.

Restoration of the Site Following Cessation of Construction or Operation

OAR 345-022-0050(1) requires the Council to find that the site of a proposed facility or facility, with proposed changes, can be restored to a useful non-hazardous condition at the end of the facility’s useful life, or if construction of the facility were to be halted prior to completion.

Based on review of the record for the facility, restoring the site to a useful, nonhazardous condition upon permanent cessation of construction or operations would involve removal of all turbine components, meteorological towers, aboveground electrical components, transformers and other substation equipment; removing foundations to a minimum depth of three feet below grade; removal of access roads that were not in existence prior to facility construction;

1 and grading and replanting the affected area.⁵² A more detailed explanation of the tasks
2 associated with decommissioning tasks is provided by the certificate holder in its
3 *Decommissioning Scope of Work*.⁵³ In RFA4, the certificate holder asserts that proposed
4 construction deadline extensions would not result in changes to the tasks and actions
5 previously identified as necessary to restore the site to a useful, non-hazardous condition.
6 Further, Council previously imposed conditions obligating the certificate holder to prevent the
7 development of conditions (Conditions 14.3 through 14.5) on the site that would preclude
8 restoration. These conditions specify in pertinent part:

- 9
- 10 • Condition 14.3 requires that the certificate holder prevent the development of any
 - 11 conditions on site that would preclude restoration of the site to a useful, non-hazardous
 - 12 condition.
 - 13 • Condition 14.4 requires that the certificate holder retire the facility in accordance with a
 - 14 retirement plan approved by the Council.
 - 15 • Condition 14.5 requires the certificate holder to retire the facility upon permanent
 - 16 cessation of construction or operation.
- 17

18 Based upon compliance with existing conditions, the Department recommends Council find that
19 the certificate holder would continue to be able to adequately restore the site to a useful, non-
20 hazardous condition following permanent cessation of construction or operation.

21
22 *Estimated Cost of Site Restoration*

23
24 OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a
25 reasonable likelihood of obtaining a bond or letter of credit in an amount satisfactory to the
26 Council to restore the site to a useful, non-hazardous condition.

27
28 In RFA4, the certificate holder provides an updated site restoration cost estimate based on
29 current labor requirements, equipment needs, and duration of each task required to restore

⁵² *Final Order on the ASC* (2011-08-19), p. 82

⁵³ SRWAMD4Doc16 Decommissioning Scope of Work 2018-12-04.

1 the site to a useful, non-hazardous condition.⁵⁴ The updated cost estimate was compiled by
 2 three individuals employed by the certificate holder, who maintain an aggregate of 43 years of
 3 experience in designing and constructing wind facilities.⁵⁵

4
 5 The certificate holder’s updated site restoration cost estimate totals \$9.9 million, in 4th quarter
 6 2018 dollars. The Department notes that the updated retirement cost estimate assumes that it
 7 would decommission 7 miles of 230 kV transmission line; however, since the site certificate
 8 allows for the construction of up to 8 miles of transmission line, the Department adjusted the
 9 updated retirement cost based on the certificate holder’s represented unit cost for
 10 transmission line decommissioning of \$59,000 per mile, for a total of \$9.968 million, plus
 11 contingencies.⁵⁶

Table 3: Updated Retirement Cost Estimate

Restoration Activity	Quantity	Unit Cost	Unit	Estimated Cost
<i>Tasks and Actions</i>				
Engineering and Management Personnel	6	\$125,312	Per month	\$751,872
Civil Construction	101,383	\$9.40	Linear feet	\$953,000
Wind Turbine Foundations	72	\$12,531	Each	\$902,232
Wind Turbines	72	\$31,328	Each	\$2,255,622
Collector Lines	72	\$1,566	Each	\$112,752
Operations and Management Building	5,496	\$6.27	Square feet	\$34,460
Meteorological Towers, Communications Structures, Auxiliary Power	2	\$9,398	Each	\$18,796
Substation Decommissioning	194.4	\$1,253.12	Each	\$243,607
Substation Breaker Removal	3	\$40,726	Each	\$122,178
Transmission Line ¹	8	\$59,523	Mile	\$476,184
Transportation of Turbines	72	\$47,660	Each	\$3,431,520
Non-contracted BOP ²	8	\$78,880	Month	\$631,040

⁵⁴ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.7. “Production rates, labor rates, and equipment rates were established using US Department of Labor wage determinations, published standards (including RS Means), and professional experience.”

⁵⁵SRWAMD4Doc16-1. Response from Certificate Holder re organizational expertise 2018-12-18.

⁵⁶ Note that the certificate holder represents in its cost summary that it anticipates decommissioning costs of the transmission line to be approximately \$59,000 per mile.

Table 3: Updated Retirement Cost Estimate

Restoration Activity	Quantity	Unit Cost	Unit	Estimated Cost
Subtotal ³ =				\$9,933,257
<i>Applied Contingencies⁴</i>				
			1% performance Bond	\$99,332
			10% Administration and Project Management Cost	\$993,325
			10% Future Development Contingency	\$993,325
Total Site Restoration Cost Estimate (Q4 2018 Dollars) =				\$12,019,212
Total Site Restoration Cost Estimate (Q4 2018 Dollars – Rounded to Nearest \$1,000) =				\$12,019,000
Notes:				
<ol style="list-style-type: none"> 1. In RFA4 Section 5.1.7, the certificate holder’s retirement cost estimate accounted for decommissioning of 7 miles of transmission line. The Department adjusted the retirement cost estimate, as presented in this table, based on an 8 mile transmission line, consistent with the length of the approved transmission line. 2. Non-contracted BOP are estimated internal costs including project management, environmental and safety personnel (vehicles, lodging, per diem, wages and health). 3. The subtotal presented in this table differs from the RFA4 Section 5.1.7 by approximately \$50,000 due to rounding and transmission line length adjustment as described in footnote 1. 4. The contingencies applied are consistent with Condition 14.1. 				

1
 2 As presented in Table 3, *Updated Retirement Cost Estimate*, the Department recommends that
 3 Council add contingency costs for future development, administration and project management
 4 cost, and cost for maintaining a performance bond. The 10 percent future development
 5 contingency accounts for uncertainty in the decommissioning estimate. Site restoration, if
 6 necessary, could occur many years in the future and the adequacy of the retirement cost
 7 estimate is therefore uncertain. Factors that contribute to future uncertainty include the
 8 potential for different environmental standards or other legal requirements; and, changes in
 9 the cost of labor or equipment, which increase at a rate that exceeds the inflation adjustment.
 10 The 10 percent contingency for administrative and management expenses relate to the direct
 11 costs assimilated by the State through managing site restoration, and would include the
 12 preparation and approval of a final retirement plan, obtaining legal permission to proceed with
 13 demolition of the facility, legal expenses for protecting the State’s interest, preparing
 14 specification bid documents and contracts for demolition work, managing a bidding process,
 15 negotiations of contracts, and other tasks.

16
 17 Existing site certificate Condition 14.1 requires the certificate holder to submit a bond or letter
 18 of credit in an initial amount of \$6.965 million (in 3rd Quarter 2010 dollars), to be adjusted to
 19 present value on the date of issuance, or in an amount based on the final design configuration
 20 of the facility and turbines types selected. The Department recommends that the Council find
 21 that \$12.019 million (4th Quarter 2018 dollars) is a reasonable estimate of an amount
 22 satisfactory to restore the site to a useful, nonhazardous condition. As discussed below, the
 23 Department recommends the Council amend Condition 14.1 to reflect the updated site
 24 restoration cost estimate.

25

1 *Ability of the Certificate Holder to Obtain a Bond or Letter of Credit*

2
3 OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a
4 reasonable likelihood of obtaining a bond or letter of credit in a form satisfactory to the Council
5 to restore the site to a useful, non-hazardous condition. A bond or letter of credit provides a
6 site restoration remedy to protect the state of Oregon and its citizens if the certificate holder
7 fails to perform its obligation to restore the site. The bond or letter of credit must remain in
8 force until the certificate holder has fully restored the site. OAR 345-025-0006(8) establishes a
9 mandatory condition, Condition 14.1, which ensures compliance with this requirement.

10
11 The Department recommends that the Council amend existing Condition 14.1 to require an
12 initial bond or letter of credit amount that reflects the updated site restoration cost estimate.
13 The Department also recommends Council amend Condition 14.1 to clarify that if the certificate
14 holder requests to adjust the bond or letter of credit based on final facility design, the decision
15 on the sufficiency of the bond or letter of credit rests with Council, not the Department:

16
17 **Recommended Amended Condition 14.1:** Before beginning construction, the certificate
18 holder shall submit to the State of Oregon through the Council a bond or letter of credit in
19 the amount described herein naming the State of Oregon, acting by and through the
20 Council, as beneficiary or payee. The initial bond or letter of credit amount is either
21 ~~\$6.965~~ \$12.019 million (in ~~3rd Quarter 2010~~ 4th Quarter 2018 dollars), to be adjusted to
22 the date of issuance as described in (b), or the amount determined as described in
23 Condition 14.1.a below. The certificate holder shall adjust the amount of the bond or
24 letter of credit on an annual basis thereafter as described in Condition 14.1.b.

- 25 a. The certificate holder may adjust the amount of the bond or letter of credit based
26 on the final design configuration of the facility and turbine types selected by
27 applying the unit costs and general costs presented in Table 3 of the Final Order on
28 Amendment 4. Any revision to the restoration costs should be adjusted to the date
29 of issuance as described in Condition 14.1.b, and is subject to review and approval
30 by the Department.
- 31 b. The certificate holder shall adjust the amount of the bond or letter of credit, using
32 the following calculation and subject to approval by the Department:
- 33 i. Adjust the Subtotal component of the bond or letter of credit amount (expressed
34 in ~~3rd Quarter 2010~~ 4th Quarter 2018 dollars) to present value, using the U.S.
35 Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the
36 Oregon Department of Administrative Services "Oregon Economic and Revenue
37 Forecast" or by any successor agency (the "Index") and using the ~~3rd Quarter~~
38 ~~2010~~ 4th Quarter 2018 index value and the quarterly index value for the date of
39 issuance of the new bond or letter of credit. If at any time the Index is no longer
40 published, the Council shall select a comparable calculation to adjust ~~3rd Quarter~~
41 ~~2010~~ 4th Quarter 2018 dollars to present value.
- 42 ii. Add 1 percent of the adjusted Subtotal (i) for the adjusted performance bond
43 amount to determine the adjusted Gross Cost.

- 1 iii. Add 10 percent of the adjusted Gross Cost (ii) for the adjusted administration
2 and project management costs and 10 percent of the adjusted Gross Cost (ii) for
3 the adjusted future developments contingency.
- 4 iv. Add the adjusted Gross Cost (ii) to the sum of the percentages (iii) and round the
5 resulting total to the nearest \$1,000 to determine the adjusted financial
6 assurance amount.
- 7 c. The certificate holder shall use a form of bond or letter of credit approved by the
8 Council.
- 9 d. The certificate holder shall use an issuer of the bond or letter of credit approved
10 by the Council.
- 11 e. The certificate holder shall describe the status of the bond or letter of credit in the
12 annual report submitted to the Council required by Condition 13.1.b.
- 13 f. The bond or letter of credit shall not be subject to revocation or reduction before
14 retirement of the facility site.

15 [Final Order IV.F.2.1; AMD4] [Mandatory Condition OAR 345-025-0006(8)]

16
17 As part of RFA3, the certificate holder provided a letter from MUFG Union Bank, N.A. (dated
18 October 20, 2017) stating that there is a reasonable likelihood that the bank would provide a
19 Letter of Credit of up to \$10 million, subject to the bank’s satisfactory review and acceptance of
20 the terms and conditions of the relevant documents as well as internal credit review and
21 approval.⁵⁷ The *Final Order on Amendment 3* noted that MUFG Union Bank is on the Council’s
22 “list of pre-approved” financial institutions. Because the updated site restoration cost estimate
23 (\$12.271 million, in 4th Quarter 2018 dollars) is within 30% of \$10 million, and based upon the
24 recent nature (i.e., 2017) of the financial assurance letter, the Department recommends that
25 Council find that the 2017 financial assurance letter remains adequate and that the facility, with
26 proposed changes, would not impact the reasonable likelihood of the certificate holder’s ability
27 to obtain a bond or letter of credit in a form and amount satisfactory to the Council to restore
28 the site to a useful, non-hazardous condition.

29
30 **Conclusions of Law**

31
32 Based on the foregoing findings of fact, and subject to compliance with the existing and
33 recommended amended conditions, the Department recommends that the Council find that
34 the facility, with the requested extension of the construction deadlines, would comply with the
35 Council’s Retirement and Financial Assurance standard.

36

⁵⁷ SRWAMD3Doc11. Final Order on AMD3. p. 15. 2017-12-15.

1 **III.H. Fish and Wildlife Habitat: OAR 345-022-0060**

2
3 *To issue a site certificate, the Council must find that the design, construction and*
4 *operation of the facility, taking into account mitigation, are consistent with:*

5
6 *(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-*
7 *0025(1) through (6) in effect as of February 24, 2017****

8
9 **Findings of Fact**

10
11 The EFSC Fish and Wildlife Habitat standard requires the Council to find that the design,
12 construction and operation of a proposed facility, or facility with proposed changes, is
13 consistent with the Oregon Department of Fish and Wildlife’s (ODFW) habitat mitigation policy,
14 goals, and standards, as set forth in OAR 635-415-0025. The ODFW Habitat Mitigation Policy
15 and EFSC Fish and Wildlife Habitat standard creates requirements to mitigate impacts to fish
16 and wildlife habitat, based on the quantity and quality of the habitat as well as the nature,
17 extent, and duration of the potential impacts to the habitat. The policy also establishes a
18 habitat classification system based on value the habitat would provide to a species or group of
19 species. There are six habitat categories; Category 1 being the most valuable and Category 6 the
20 least valuable.

21
22 The analysis area for the Fish and Wildlife Habitat standard, as established in the project order,
23 includes the area within and extending ½-mile from the site boundary.

24
25 For amendments requesting to extend construction deadlines, the Department and Council
26 evaluate whether there have been “changes in fact or law” since the site certificate or amended
27 site certificate was issued to determine whether, based on changes in fact or law, the facility
28 would continue to satisfy requirements of the standard. In RFA4, the certificate holder
29 conducted desktop reviews to evaluate potential changes in facts related to habitat, plants and
30 wildlife species within the analysis area. Based on the desktop review, the certificate holder
31 affirms that there were no new State sensitive plant or wildlife species with a potential to occur
32 within the analysis area not previously evaluated. However, based on 2018 wildfire activity,
33 significant portions within the site boundary were damaged. Therefore, the evaluation
34 presented below is based upon potential changes in habitat and habitat mitigation as a result of
35 changes from recent wildlife activities; and then, in contrast, because there were no new State
36 sensitive species identified that would warrant new or differing analysis, provides a summary of
37 conditions previously imposed to satisfy the Council’s standard for potential impacts to State
38 Sensitive plant and wildlife species.

1 *Habitat Types and Categories in the Analysis Area*

2
 3 Habitat within the analysis area includes Categories 2 and 6.⁵⁸ Category 2 habitat includes
 4 Shrub-steppe and area within ODFW’s 2013 mapped Big Game Winter Range. As described
 5 above, significant portions within the site boundary were damaged by a 2018 wildfire, which
 6 impacts habitat category and subtype. Category 2 habitat within ODFW’s 2013 mapped Big
 7 Game Winter Range would remain Category 2 regardless of wildlife damage. For the Category 2
 8 Shrub-steppe, the certificate holder conservatively relies upon the habitat category and
 9 subtype, pre-wildfire conditions, as identified in the ASC and RFA2 to inform the analysis.
 10 Previously identified habitat category, type and subtypes within the analysis area are presented
 11 in *Table 4: Estimated Temporary and Permanent Habitat Impacts* below.
 12

Table 4: Estimated Temporary and Permanent Habitat Impacts

Category and Subtype	Temporary	Permanent
<i>Category 2</i>		
Shrub-Steppe - Big Sagebrush Shrub Steppe	0.37	0.43
Big Game Winter Range Habitat: Developed / Disturbed Revegetated Grassland; Grassland - Native Perennial Grassland; Shrub-Steppe - Rabbit / Buckwheat Shrub-steppe; Developed / Disturbed - Old Field; Grassland – Exotic Annual Grassland	35.15	25.80
Category 2 – Total	35.52	26.23
<i>Category 6</i>		
Category 6 – Total	47.16	41.78
Estimated Temporary and Permanent Habitat Impacts =	35.52	26.23
Source: SRWAMD2Doc1. Request for Amendment 2, Exhibit P. 2016-02-17.		

13
 14 Council previously imposed Condition 10.7 requiring that, prior to construction, the certificate
 15 holder prepare and submit to the Department and ODFW a final habitat impact assessment, to
 16 be used to determine the compensatory mitigation obligation and habitat mitigation area
 17 required. The condition also established that the certificate holder conduct plant and wildlife
 18 investigations in all areas that would be temporarily or permanently impacted by facility
 19 construction and operation to inform the final habitat impact assessment. The requirement for
 20 the plant and wildlife investigations applied, though, only to areas located outside of areas
 21 previously surveyed. Due to the 2018 wildfire and extent of damaged areas within the site

⁵⁸ Impacts to Category 6 habitat do not require compensatory mitigation, per ODFW Policy and the EFSC Fish and Wildlife standard, and would be restored following construction per agreements with the landowner.

1 boundary and to specify an appropriate survey area, the Department recommends Council
2 amend Condition 10.7 requiring that the plant and wildlife surveys be conducted within 400-
3 feet of all areas of temporary and permanent disturbance, as follows:

4
5 **Recommended Amended Condition 10.7:** Before beginning construction and after
6 considering all micrositing factors, the certificate holder shall provide to the Department a
7 map showing the final design locations of all components of the facility and the areas that
8 would be disturbed during construction and identifying the survey areas for all plant and
9 wildlife surveys. This information may be combined with the map submitted per the
10 requirements of Condition 10.1. The certificate holder shall hire a qualified professional
11 biologist to conduct a pre-construction plant and wildlife investigation within 400-feet of all
12 areas that would be disturbed during construction, which is located within the site
13 boundary. ~~that lie outside of the previously surveyed areas.~~ The pre-construction survey
14 shall be planned in consultation with the Department and ODFW, and survey protocols shall
15 be confirmed with the Department and ODFW. Following completion of the field survey,
16 and final layout design and engineering, the certificate holder shall provide the Department
17 and ODFW a report containing the results of the survey, showing expected final location of
18 all facility components, the habitat categories of all areas that will be affected by facility
19 components, and the locations of any sensitive resources. The report shall present in
20 tabular format the acres of expected temporary and permanent impacts to each habitat
21 category, type, and sub-type. The pre-construction survey shall be used to complete final
22 design, facility layout, and micrositing of facility components. As part of the report, the
23 certificate holder shall include its impact assessment methodology and calculations,
24 including assumed temporary and permanent impact acreage for each transmission
25 structure, wind turbine, access road, and all other facility components. If construction
26 laydown yards are to be retained post construction, due to a landowner request or
27 otherwise, the construction laydown yards must be calculated as permanent impacts, not
28 temporary. [Final Order on Amendment 2; AMD4]

29
30 *Potential Impacts to Habitat*

31
32 As presented in Table 4, *Estimated Temporary and Permanent Habitat Impacts*, construction of
33 the facility would include temporary loss of approximately 35.52 acres of Category 2 habitat,
34 from construction laydown areas, widening of roads, and trenching for underground collector

1 lines, some of which would include temporal habitat loss.^{59,60} Operation of the facility would
2 permanently disturb and impact approximately 26.23 acres of Category 2 habitat.

3
4 *Habitat Mitigation*

5
6 The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality,
7 and provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must
8 be avoided, unavoidable impacts must be mitigated through “reliable in-kind, in-proximity”
9 habitat mitigation to achieve no net loss, and a net benefit of habitat quantity or quality must
10 be provided.

11
12 The certificate holder proposes to mitigate temporary habitat impacts through revegetation
13 and weed control, in accordance with a Revegetation and Noxious Weed Control Plan (RNWCP),
14 as approved by the Department and in consultation with the Wasco County Weed Department
15 and ODFW, (Condition 5.6).⁶¹ As provided in Attachment E of this order, the draft RNWCP is
16 amended to provide additional clarification related to fixed point monitoring, and the selection
17 of reference sites to measure the success of revegetation efforts; changes to success criteria
18 provide quantifiable metrics to evaluate revegetation success. For example, success criteria
19 must include the (a) degree of erosion, (b) vegetation density, (c) relative proportion of
20 desirable vegetation, and (d) species diversity. A temporarily disturbed habitat area is
21 determined to be successfully revegetated when the habitat quality is equal to or better than
22 its pre-construction state. Based on the draft amended RNWCP provided as Attachment E of
23 this order, the Department recommends the Council find that the certificate holder would
24 continue to meet the habitat mitigation goals for temporary habitat impacts.

25
26 The certificate holder also proposes to provide compensatory habitat mitigation for certain
27 temporary and permanent habitat impacts in the form of a conservation easement on a habitat
28 mitigation area (HMA) in-proximity to the site boundary. For every 1 acre of temporary impacts
29 to Category 2 habitat within ODFW’s mapped Big Game Winter Range, the HMA would include

⁵⁹ *Final Order on the ASC*. (2011-08-19), p. 96-97

⁶⁰ Temporal loss refers to loss of habitat function and values from the time an impact occurs to the time when the restored habitat provides a pre-impact level of habitat function. Habitat subtypes identified within the site boundary, based on pre-construction estimates, including Shrub-steppe is reasonably expected to require a longer restoration timeframe (5+ years) and therefore would be expected to result in temporal loss requiring compensatory mitigation beyond the certificate holder’s revegetation obligation.

⁶¹ As presented in Attachment A of this order, the Department recommends Council administratively amend Condition 5.6 to reference the draft plan as Attachment E of the Final Order on Amendment 4 instead of the Final Order on Amendment 2.

1 1 acre of similar quality habitat, or approximately 35 acres. In addition to the mitigation
2 proposed for temporary impacts to Category 2 habitat within ODFW's mapped Big Game
3 Winter Range, the certificate holder similarly proposes to mitigate permanent and temporal
4 (i.e. loss of habitat function and values from the time an impact occurs to the time when the
5 restored habitat provides a pre-impact level of habitat function) habitat impacts at the HMA.
6

7 The certificate holder proposes to mitigate permanent and temporal loss of Category 2 Shrub-
8 steppe using a 2:1 acre ratio (i.e. 2 acres of similar quality habitat included in the HMA for every
9 1 acre of habitat impacted). The certificate holder proposes to mitigate permanent loss of
10 Category 2 habitat located within ODFW's mapped Big Game Winter Range using a >1:1 acre
11 ratio (i.e. more than 1 acre of similar quality habitat included in the HMA for every 1 acre of
12 habitat impacted). While the certificate holder proposes differing acre ratios for permanent
13 impacts to Category 2 Shrub-steppe habitat and Category 2 habitat within ODFW's Big Game
14 Winter Range (i.e. a 2:1 acre ratio versus >1:1 acre ratio, respectively), the additional acreage
15 included in the HMA for temporary habitat impacts, as described above, provides additional net
16 benefit necessary to achieve ODFW's Category 2 habitat mitigation goal. In addition to the net
17 benefit achieved by acquiring an HMA that includes acreage to offset temporarily impacted
18 Category 2 habitat within ODFW's Big Game Winter Range, net benefit would also be achieved
19 through revegetation of temporarily impacted habitat, and through implementation of habitat
20 enhancement actions as described in the draft amended Habitat Mitigation Plan. Based on the
21 certificate holder's habitat mitigation plan, the HMA would include approximately 65 acres of
22 Category 2 habitat as mitigation for permanent, temporal and temporary habitat loss.

23 As compensatory mitigation, the certificate holder previously identified four habitat mitigation
24 areas (HMA's) adjacent to the site boundary that range in size from 15 to 77 acres.⁶² In 2010,
25 ODFW stated that the proposed HMA's were acceptable as long as the certificate holder: (1)
26 protects a spring-water and green-land area adjacent to mitigation site number 4; (2) protects
27 seeding sage brush within mitigation site number 2; (3) constructs fencing at mitigation sites to
28 preclude livestock trespass.⁶³ The Council previously approved the HMA's as sufficient to offset
29 temporal and permanent impacts to Category 2 habitat, and imposed Condition 10.4 requiring
30 that the certificate holder acquire an HMA and maintain, enhance and protect the HMA in
31 accordance with a Habitat Mitigation Plan, as approved by the Department in consultation with
32 ODFW. The Department recommends Council amend Condition 10.4 requiring that, prior to
33 construction, a current habitat assessment of the HMA's be conducted as part of the condition
34 requirements, based upon the potential impacts of the 2018 wildfires and need for verification

⁶² *Application for Site Certificate* Exhibit P

⁶³ *Application for Site Certificate*, Exhibit P, Attachment P-8

1 of the suitability of the previously identified HMA's to continue to satisfy the mitigation goal, as
2 follows:

3
4 **Recommended Amended Condition 10.4:** Prior to construction, the certificate holder shall:

- 5 a. Select qualified specialists (wildlife biologist/botanist) that have substantial
6 experience in creating, enhancing, and protecting habitat mitigation areas within
7 Oregon;
- 8 b. Notify the Department of the identity and qualifications of the personnel or
9 contractors selected to implement and manage the habitat mitigation area;
- 10 c. Acquire the legal right to create, enhance, maintain and protect a habitat mitigation
11 area, as long as the site certificate is in effect, by means of an outright purchase,
12 conservation easement or similar conveyance;
- 13 d. Provide a habitat assessment of the habitat mitigation sites, based on a protocol
14 approved by the Department in consultation with ODFW, which includes
15 methodology, habitat map, and available acres by habitat category and subtype in
16 tabular format.
- 17 e. Develop and submit a final Habitat Mitigation Plan (HMP) for approval by the
18 Department in consultation with ODFW, based upon the draft amended HMP
19 included as Attachment ~~DG~~ of the Final Order on Amendment #~~2~~ 4. The Council
20 retains the authority to approve, reject or modify the final HMP and any future
21 amendments; and,
- 22 f. Improve the habitat quality, within the habitat mitigation area, as described in the
23 final HMP, and as amended ~~from time to time.~~

24 [Final Order on Amendment 2; AMD4]

25
26 Council previously imposed Condition 10.12 restricting construction activities within ODFW's
27 Big Game Winter Range mapped habitat, from December 1 through April 15. The Department,
28 in consultation with ODFW, acknowledge that there may be exceptions to the seasonal
29 restriction such as implementation of best management practices during that would effectively
30 minimize potential impacts while allowing construction activities to continue. Therefore, the
31 Department recommends Council amend Condition 10.12 as follows:

32
33 **Recommended Amended Condition 10.12:** The certificate holder shall not conduct any
34 construction activities on land mapped as Big Game Winter Range by the Oregon
35 Department of Fish and Wildlife between December 1 and April 15. Upon request by the
36 certificate holder, the Department may provide exceptions to this restriction. The certificate
37 holder's request must include a justification for the request, including any actions the
38 certificate holder will take to avoid, minimize, or mitigate impacts to big game and big game
39 habitat in the relevant area. The Department will consult with ODFW on any request made
40 under this condition.

41 [Amended Final Order on Amendment 1 IV.G.2.2; AMD4]

1 In addition to proposing compensatory mitigation, as specified in the draft amended HMP (see
2 Attachment D of this order), the certificate holder proposes to implement and monitor specific
3 enhancement actions within the HMA. Habitat enhancement actions are proposed to further
4 satisfy the Category 2 “net-benefit” mitigation goal including weed monitoring and control;
5 seeding and planting sagebrush shrubs; implementation of a fire control plan; wildfire
6 suppression; and grazing restriction. Based on the draft amended HMP provided as Attachment
7 D of this order, the Department recommends the Council find that the certificate holder would
8 continue to meet the habitat mitigation goals for permanent and temporal habitat impacts.
9

10 *State Sensitive Species*

11
12 The certificate holder conducted a desktop review of ODFW’s 2017 Sensitive Species List to
13 identify State Sensitive species with the potential to occur within the analysis area based on
14 species range and existing habitat. Based on this review, the certificate holder affirms that no
15 new State Sensitive species were identified with a potential to occur within the analysis area
16 since the Council’s previous evaluation. Therefore, the Department provides a summary of
17 previous surveys and identified species and conditions imposed for protection.
18

19 Plant and wildlife field surveys were conducted in 2009 through 2010, and were updated in
20 2016. Avian use surveys were conducted in 2005 and 2010, and raptor nest surveys were
21 conducted between 2015 and 2016.⁶⁴ The Oregon Biodiversity Information Center and United
22 States Fish and Wildlife Service surveys discovered 21 records of State Sensitive species within
23 the Columbia Plateau Ecoregion with potential occurrence in the analysis area. Of those
24 identified species, the following species were observed on site during field surveys: Bald Eagle;
25 Brewer’s Sparrow; Common Nighthawk; Ferruginous Hawk; Golden Eagle; Grasshopper
26 Sparrow; Loggerhead Shrike; Long-Billed Curlew; Swainson’s Hawk; Hoary Bat; Pallid Bat; Silver-
27 Haired Bat.
28

29 In 2016, the certificate holder conducted pre-construction surveys during the breeding and
30 rearing season for most terrestrial vertebrates, within 500 feet of the proposed facility
31 components. The survey resulted in three detections of Loggerhead Shrikes and thirty-five
32 detections of Grasshopper Sparrow. Twenty-five of the thirty-five detections of Grasshopper
33 Sparrow occurred within the survey corridor associated with the transmission line, which at the
34 time contained revegetated grassland, exotic annual grassland, rabbitbrush shrub-steppe, and
35 buckwheat shrub-steppe. Both the Grasshopper Sparrow and the Loggerhead Shrike are
36 expected to disperse to areas not directly impacted by facility construction. The Grasshopper

⁶⁴SRWAMD4Doc17. Request for Amendment 4 2019-01-16, Section 5.1.8

1 Sparrow is a ground dwelling bird and is expected to disperse. The Loggerhead Shrike’s habitat
2 includes Big Sagebrush shrub steppe.

3
4 *Potential Impacts to State Sensitive Species*

5
6 Potential impacts to State Sensitive wildlife species during facility construction and operation
7 facility impacts, as evaluated in the *Final Order on ASC*, could include increased mortality of bird
8 and bat species from wind turbine collision; grassland bird displacement from habitat loss;
9 mortality risk from vehicle and equipment collision; and, noise-related disturbances during
10 critical life stages (breeding and nesting).

11
12 Council previously imposed the following conditions to minimize potential these impacts to the
13 above-described State Sensitive species during construction and operation:

- 14
15 • Condition 10.3 requires that, during construction, the certificate holder distribute maps
16 to construction workers that identify areas used for nesting, and to avoid driving within
17 the site boundary outside of approved surveyed construction areas.
- 18 • Condition 10.5 requires that, prior to construction, the certificate holder finalize its
19 Wildlife Monitoring and Mitigation Plan (WMMP), as approved by the Department in
20 consultation with ODFW. The WMMP includes a two-year post construction fatality
21 monitoring program; post-construction grassland bird displacement study; short and
22 long-term raptor nest monitoring; wildlife reporting and handling process; and data
23 reporting requirements.⁶⁵
- 24 • Condition 10.6 requires that, during construction and operation, the certificate holder
25 hires a qualified environmental professional to provide environmental worker training.
26 Training must include information on onsite sensitive species locations, precautions to
27 avoid the injury or destruction of wildlife, exclusion areas, permit requirements, and
28 other environmental issues. Construction personnel must report any injured or dead
29 wildlife to the onsite environmental manager.
- 30 • Condition 10.8 requires that, during facility design, the certificate holder minimize
31 features that would allow avian perching, avoid collision, and follow most current

⁶⁵ As presented in Attachment A of this order, the Department recommends Council administratively amend Condition 10.5 to reference the draft plan as Attachment F of the Final Order on Amendment 4 instead of the Final Order on Amendment 2.

1 suggested practices published by the Avian Power Line Interaction Committee for avian
2 protection on powerlines.

- 3 • Condition 10.14 requires that, prior to construction, the certificate holder conduct
4 raptor nest surveys according to an approved protocol.⁶⁶
- 5 • Condition 10.15 requires that, during construction, the certificate holder impose buffer
6 distances from construction activities to active raptor nests identified during pre-
7 construction surveys during sensitive nesting and breeding seasons.

8
9 **Conclusions of Law**

10
11 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing
12 and recommended amended site certificate conditions, the Department recommends the
13 Council find that the facility would continue comply with the Council’s Fish and Wildlife Habitat
14 standard.

15
16 **III.I. Threatened and Endangered Species: OAR 345-022-0070**

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

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

24
25 *(a) Are consistent with the protection and conservation program, if any, that the*
26 *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

27
28 *(b) If the Oregon Department of Agriculture has not adopted a protection and*
29 *conservation program, are not likely to cause a significant reduction in the*
30 *likelihood of survival or recovery of the species; and*

31
32 *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as*
33 *threatened or endangered under ORS 496.172(2), the design, construction and*

⁶⁶ As presented in Attachment A of this order, the Department recommends Council administratively amend Condition 10.13 to reference the location of the Raptor Nest Survey Protocol as Attachment G of the Final Order on Amendment 4 instead of Attachment B of the First Amended Site Certificate.

1 *operation of the proposed facility, taking into account mitigation, are not likely to*
2 *cause a significant reduction in the likelihood of survival or recovery of the species.*

3
4 **Findings of Fact**

5
6 The Threatened and Endangered Species standard requires the Council to find that the design,
7 construction, and operation of the facility are not likely to cause a significant reduction in the
8 likelihood of survival or recovery of a fish, wildlife, or plant species listed as threatened or
9 endangered by ODFW or Oregon Department of Agriculture (ODA). For threatened and
10 endangered plant species, the Council must also find that the facility is consistent with an
11 adopted protection and conservation program from ODA. Threatened and endangered species
12 are those listed under ORS 564.105(2) for plant species, and ORS 496.172(2) for fish and wildlife
13 species. For the purposes of this standard, threatened and endangered species are those
14 identified as such by either the ODA or the Oregon Fish and Wildlife Commission.⁶⁷

15
16 The analysis area for threatened or endangered plant and wildlife species is the area within and
17 extending five miles from the site boundary.

18
19 *Potential Impacts to Identified Threatened and Endangered Species*

20
21 In order to identify endangered and threatened species that might occur within the analysis
22 area, the certificate holder conducted desktop and field surveys in 2009, 2010, 2015, and
23 2016.⁶⁸ The certificate holder also conducted a desktop survey in 2018 to inform RFA4. Desktop
24 surveys identified a moderate likelihood of occurrence within the analysis area for the following
25 two State listed threatened and endangered plant species: Tygh Valley milk-vetch; Dwarf
26 evening primrose.

27
28 During the 2009-2010 and 2015-2016 surveys, no listed plant species were identified within the
29 analysis area. Previous surveys included areas within 200 feet of the turbine string center lines,
30 access roads, and other facilities.⁶⁹ The ODA confirmed that the plant surveys conducted in
31 2016 were satisfactory and did not require additional information.⁷⁰

⁶⁷ Although the Council's Threatened and Endangered Species standard does not address federally-listed threatened or endangered species, a certificate holder must comply with all applicable federal laws, including laws protecting those species, independent of the site certificate.

⁶⁸ *Final Order on the ASC* (2011-08-19), p 108; *Final Order on Amendment 2* (2016-11-04), p. 131

⁶⁹ *Final Order on Amendment 2* (2016-11-04), p. 131

⁷⁰ *Final Order on Amendment 2* (2016-11-04), citing to Document SWRAMD2Doc21 Agency Review of Survey Results_ODA 2016-06-29

1 Field surveys from 2009-2010 identified four Bald Eagles; however, a database search did not
2 identify any nests within the analysis area. Since 2012, the Bald Eagle has been delisted from
3 the Oregon Fish and Wildlife Commission Oregon Endangered Species list. However, the Council
4 previously found that Bald Eagle use of the area within the site boundary was limited and that
5 the construction and operation of the facility would not result in a significant reduction to the
6 likelihood of survival or recovery of Bald Eagles.

7
8 The Council previously imposed Conditions 10.2 (IV.G.2.2), 10.3 (IV.G.2.3), 10.6 (IV.G.2.6), which
9 require in pertinent part, that facility design must minimize impacts to high quality habitat, that
10 impacts to wildlife habitat are minimized through the limitation of construction impacts to
11 areas used by wildlife, and that on-site environmental training of construction and operations
12 personnel occur prior to ground disturbing activities.

13
14 The Council also imposed condition 10.8 (IV.H.2.1), which requires the certificate holder to site
15 transmission lines in accordance to the suggested practices of the Avian Power Line Interaction
16 Committee, for meteorological towers to be non-guyed, and that turbine towers are smooth to
17 reduce the risk of nesting. Condition 8.6 (V.C.2.8) requires transformers to be surrounded by
18 gravel, which reduces artificial habitat for prey. Lastly, Condition 10.5 requires that the
19 certificate holder follow a Wildlife Monitoring and Mitigation Plan (WMMP); the WMMP
20 requires the certificate holder to conduct fatality searches and to engage in mitigation
21 measures if the fatality rate of raptors exceeds the “threshold of concern.”

22
23 The Department recommends that the Council conclude that the amendment would not be
24 likely to cause a significant reduction in the likelihood or survival of any species listed as
25 threatened or endangered because: the amendment request would not alter the site boundary
26 or micro-siting corridor; the site boundary is predominantly Category 6 habitat and would not
27 provide suitable habitat for three state listed species; the Council’s previously imposed
28 conditions require the certificate holder to minimize risk to threatened or endangered species
29 habitat and to comply with the WMMP.

30 **Conclusions of Law**

31
32
33 Based on the foregoing findings of fact and conclusions, and subject to compliance with the
34 existing site certificate conditions, the Department recommends that the Council find that the
35 facility, with proposed changes, would comply with the Council’s Threatened and Endangered
36 Species standard.

37 **III.J. Scenic Resources: OAR 345-022-0080**

38
39
40 *(1) Except for facilities described in section (2), to issue a site certificate, the Council*
41 *must find that the design, construction and operation of the facility, taking into*
42 *account mitigation, are not likely to result in significant adverse impact to scenic*
43 *resources and values identified as significant or important in local land use plans,*

1 *tribal land management plans and federal land management plans for any lands*
2 *located within the analysis area described in the project order.*

3
4 **Findings of Fact**

5
6 The Scenic Resources standard requires the Council to find that the facility would not cause a
7 significant adverse impact to identified scenic resources and values. To be considered under the
8 standard, scenic resources and values must be identified as significant or important in local land
9 use plans, tribal land management plans, and/or federal land management plans.

10
11 The analysis area for scenic resources includes the area within and extending 20 miles from the
12 site boundary. There are no lands administered by tribal governments within the analysis area.

13
14 For amendments requesting to extend construction deadlines, the Department and Council
15 evaluate whether there have been “changes in fact or law” since the site certificate or amended
16 site certificate was issued to determine whether, based on changes in fact or law, the facility
17 would continue to satisfy requirements of the standard. The certificate holder reviewed
18 updates to relevant land use and management plans and affirmed that there are no new
19 important scenic resources or values beyond those that were previously evaluated by the
20 Council.⁷¹

21
22 Under the Scenic Resources standard, pursuant to OAR 345-021-0010(r)(C), potential visual
23 impacts at identified resources from loss of vegetation or alteration of landscape and from
24 facility structures or plumes during facility-related construction and operations are evaluated.

25
26 The Council previously evaluated impacts to scenic resources in the *Final Order on the ASC*,
27 *Final Order on Amendment 1*, and the *Final Order on Amendment 2*. These Final Orders
28 discussed potential visual impacts to the Columbia River Gorge National Scenic Area (CRGNSA),
29 Lower Deschutes River Canyon, White River Canyon, John Day River Canyon, Mt. Hood National
30 Forest, Oregon National Historic Trail, Journey Through Time Scenic Byway, as well as Wasco
31 County and Sherman County Resources. The Council concluded that the facility would not result
32 in significant adverse impacts to these scenic resources because of (a) distance to the facility;
33 (b) management plans did not preclude development on private property outside of managed
34 areas; (c) turbines would be subordinate to surrounding landscape; (d) turbines were visible
35 from areas that are generally inaccessible to the public (i.e., canyon walls and rims); (e) foliage

⁷¹ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.10

1 is expected to block views; and (f) presence of other industrial uses or facilities within the
2 vicinity.

3
4 The certificate holder requests an extension to construction deadlines. The request for
5 amendment does not include any change to the facility design, facility layout, or site boundary,
6 or other changes that would result in new or different visual impacts. As such, the Department
7 recommends that the Council find that the facility, with the requested extension of the
8 construction deadlines, would not result in significant adverse impacts to any scenic area.

9
10 **Conclusion of Law**

11
12 Based on the foregoing findings of fact and conclusions of law, the Department recommends
13 the Council find that the facility, with the requested extension of the construction deadlines,
14 would continue to comply with the Council’s Scenic Resources standard.

15
16 **III.K. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090**

17
18 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
19 *Council must find that the construction and operation of the facility, taking into account*
20 *mitigation, are not likely to result in significant adverse impacts to:*

- 21
22 *(a) Historic, cultural or archaeological resources that have been listed on, or would*
23 *likely be listed on the National Register of Historic Places;*
24 *(b) For a facility on private land, archaeological objects, as defined in ORS*
25 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*
26 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*
27 *(2) The Council may issue a site certificate for a facility that would produce power from*
28 *wind, solar or geothermal energy without making the findings described in section (1).*
29 *However, the Council may apply the requirements of section (1) to impose conditions on*
30 *a site certificate issued for such a facility.*

31 ***

32 **Findings of Fact**

33
34 Subsection (1) of the Historic, Cultural and Archaeological Resources standard, OAR 345-022-
35 0090, requires the Council to find that a proposed facility, or facility with proposed changes, is
36 not likely to result in significant adverse impacts to identified historic, cultural, or archaeological
37 resources. Pursuant to OAR 345-022-0090(2), the Council may issue a site certificate for a
38 facility that would produce power from wind energy without making findings regarding the
39 Historic, Cultural and Archeological standard; however, the Council may impose site certificate
40 conditions based upon the requirements of the standard.

41
42 The analysis area for the evaluation of potential impacts to identified historic, cultural or
43 archeological resources, as defined in the project order, is the area within the site boundary.

1
2 For amendments requesting to extend construction deadlines, the Department and Council
3 evaluate whether there have been “changes in fact or law” since the site certificate or amended
4 site certificate was issued to determine whether, based on changes in fact or law, the facility
5 would continue to satisfy requirements of the standard. To evaluate potential changes in fact
6 within the analysis area since the previous evaluation, the certificate holder provided an
7 updated literature review of the site boundary in November of 2018 utilizing the SHPO
8 databases of cultural resources (OARRA and Historic Sites Database). The certificate holder
9 indicates that all cultural resources were reported in the original surveys (Rooke 2010a and
10 2010b). No cultural resources have been recorded in the Site Boundary since the original
11 surveys or issuance of the Site Certificate.

12
13 In its review of pRFA4, the State Historic Preservation Office confirmed that “the project would
14 have no effect on any known cultural resources if the above ground historic resources... and
15 below ground resources... are avoided. If these above and below ground historic resources are
16 avoided then no further research or work is needed with this project.”⁷² In its review of pRFA4,
17 the Confederated Tribes of Warm Springs, a Tribal Government with ceded lands within the
18 analysis area, provided comment explaining that the certificate holder demonstrated a good
19 faith effort to identify and avoid, based on compliance with previously imposed conditions,
20 potentially eligible sites; and was satisfied that with imposition of existing conditions which
21 require implementation of an inadvertent discovery plan (IDP), training of construction crews
22 on the IDP.⁷³ Based on SHPO’s continued concurrence with the certificate holder’s impact
23 assessment, CTWS comments, and because there are no new resources not previously
24 evaluated, the Department recommends Council rely on its previous reasoning, analysis and
25 conditions to conclude that the facility would continue not to be likely to result in a significant
26 adverse impacts to any significant historic, cultural or archeological resources within the
27 analysis area. To support the Council’s review of its previous analysis, the Department provides
28 the following summary.

29
30 In May 2009, for the initial evaluation of historic, cultural and archeological resources, the
31 certificate holder conducted a records search, literature review and pedestrian survey. The

⁷² SRWAMD4Doc7 pRFA4 Reviewing Agency Comments SHPO Case No._09-1281 2018-10-08; SRWAMD4Doc7-1
ASC Comments from SHPO 2009

⁷³ SRWAMD4Doc12 pRFA Tribal Gov Comments CTWS 2018-11-19

1 survey area included 400-foot buffers from wind turbine and turbine string locations, and a
2 1000 foot area surrounding the transmission line alignment.⁷⁴ During the initial review, the
3 certificate holder identified 19 prehistoric archaeological sites, one historic archaeological site,
4 30 isolated finds, and 5 historical buildings within the analysis area. The certificate holder
5 assumed that all sites would be considered “significant” and thereby proposed its facility design
6 to avoid all impacts, including direct disturbance and indirect impacts, such as noise or visual, to
7 identified resources.

8
9 Based on review of the previous evaluation, the Department identified that the certificate
10 holder’s impact assessment for the Center Ridge Schoolhouse, a previously identified
11 aboveground historic resource within the analysis area, had not been evaluated within a
12 previous Council order. Therefore, the Department presents its impact assessment in this
13 section.

14
15 *Center Ridge Schoolhouse*

16
17 The Center Ridge Schoolhouse (schoolhouse) is an aboveground historic resource, located
18 within the site boundary, approximately 700-feet from wind turbine locations, once
19 constructed. The schoolhouse was erected in 1889 and operated as a school until 1929. The
20 building is abandoned and experienced squatters; however, the schoolhouse was important to
21 the education of many of the current residents and therefore, the certificate holder described
22 that the building possesses “integrity of setting, location, workmanship, materials, design,
23 feeling and association.”

24
25 Potential impacts could include increased noise and visual impacts from facility construction
26 and operation, and structural damage from construction-related traffic. The schoolhouse would
27 be located 700 feet away from wind turbines and therefore would not be expected to
28 experience direct disturbance impacts. Relating to permanent changes to the visual

⁷⁴ As described in Section I.C. Description of Approved Facility Site Location, the approved micro-siting corridor includes a 1,300 foot corridor around areas of temporary and permanent disturbance. However, in order to utilize the entirety of the micro-siting corridor, based on the extent of the previously approved survey areas, the certificate holder must comply with Condition 11.3. Condition 11.3 requires that the certificate holder, prior to construction, conduct pre-construction surveys for potential historic, cultural and archeological resources in all areas that lie outside of previously surveyed areas.

1 surrounding, the certificate holder indicated that wind turbines would be visible from the “front
2 elevation of the building” but that such view “should not” adversely impact its “historic
3 setting.” The schoolhouses’ five “picture window[s],” which are directed southwest and
4 encompass a view of Mt. Hood, would not be impacted because wind turbines would be
5 located to the southeast.⁷⁵ Although not previously referenced in a Council order, SHPO
6 provided comment in 2009 confirming that, based on the certificate holder’s evaluation, there
7 would be “no effect” from visual or noise impacts of the facility to the Center Ridge
8 Schoolhouse.⁷⁶

9
10 The Council imposed 6 conditions, 11.1 through 11.6, which in pertinent part require the
11 certificate holder to: implement 200 foot buffers around all rock alignment and cairn sites and
12 100 foot buffers from all archaeological sites; conduct a field investigation of all areas to be
13 disturbed during construction that lie outside previously-surveyed areas; train personnel in the
14 identification of cultural materials and avoidance measures; and to prepare and implement an
15 Archaeological Monitoring Plan.

16 **Conclusions of Law**

17
18
19 Based on the foregoing recommended findings of fact and conclusions, the Department
20 recommends that the Council find that the facility, with the requested extension of the
21 construction deadlines, would continue to comply with the Council’s Historic, Cultural, and
22 Archaeological Resources standard.

23 **III.L. Recreation: OAR 345-022-0100**

24
25
26 *(1) Except for facilities described in section (2), to issue a site certificate, the Council must*
27 *find that the design, construction and operation of a facility, taking into account*
28 *mitigation, are not likely to result in a significant adverse impact to important*
29 *recreational opportunities in the analysis area as described in the project order. The*
30 *Council shall consider the following factors in judging the importance of a recreational*
31 *opportunity:*
32

⁷⁵ *Application for Site Certificate*, Exhibit S

⁷⁶ SRWAMD4Doc7-1 ASC Comments from SHPO 2009

- 1 *(a) Any special designation or management of the location;*
- 2 *(b) The degree of demand;*
- 3 *(c) Outstanding or unusual qualities;*
- 4 *(d) Availability or rareness;*
- 5 *(e) Irreplaceability or irretrievability of the opportunity.*

6 ***

7

8 **Findings of Fact**

9

10 The Recreation standard requires the Council to find that the design, construction, and

11 operation of a facility would not likely result in significant adverse impacts to “important”

12 recreational opportunities. Therefore, the Council’s Recreation standard applies only to those

13 recreation areas that the Council finds to be “important,” utilizing the factors listed in the sub-

14 paragraphs of section (1) of the standard. The importance of recreational opportunities is

15 assessed based on five factors outlined in the standard: special designation or management,

16 degree of demand, outstanding or unusual qualities, availability or rareness, and irreplaceability

17 or irretrievability of the recreational opportunity. The certificate holder evaluates impacts to

18 important recreational opportunities based on the potential of construction or operation of the

19 facility, with proposed changes, to result in any of the following: direct or indirect loss of a

20 recreational opportunity, excessive noise, increased traffic, and visual impacts of facility

21 structures or plumes.

22

23 **Recreational Opportunities within the Analysis Area**

24

25 In RFA4, the certificate holder represents that no new, important recreational opportunities

26 were identified within the 5-mile analysis area; the Department confirmed with the Wasco

27 County Planning Department that there are no new important recreational opportunities within

28 Wasco County.⁷⁷ The important recreational opportunities within the 5-mile analysis area

29 include:

- 30 • Cottonwood Canyon State Park
 - 31 • Deschutes River Corridor
 - 32 • Lower Deschutes Back Country Byway
-

⁷⁷ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.12; SRWAMD4Doc8-2 Response from Angie Brewer at Wasco County re recreational opportunities 2018-11-06

- 1 • Mack’s Canyon Archaeological and Recreational Site
- 2 • Wasco County Scenic Highway Segments

3

4 Evaluation of Potential Impacts to Important Recreation Opportunities

5

6 Under the Council’s Recreation standard, the Council must find that, taking into account
7 mitigation, the facility, with proposed changes, is not likely to result in a significant adverse
8 impact to those identified important recreational opportunities.

9

10 The Council previously found that noise resulting from construction and operation of the facility
11 would not be audible at any important recreational area.⁷⁸ Traffic delays due to construction
12 would be temporary and would not affect highways or overall traffic; the Council previously
13 found impacts relating to traffic to be “negligible.”⁷⁹ Turbines would be visible in various
14 locations along the Deschutes River and within the Mack’s Canyon Archaeological and
15 Recreational area; however, the Council previously found that such views would be “negligible”
16 and “subordinate to the surrounding landscape.”⁸⁰ The Council did not previously impose any
17 conditions relating to the Recreation standard.

18

19 The request for amendment does not include changes to the site boundary, facility design,
20 facility layout, or other changes that could reduce public access to recreational opportunities or
21 increase noise or traffic resulting from facility construction or operation. Furthermore, the
22 request for amendment does not include changes to the facility structures, layout, or emissions
23 that would result in visual impacts. As such, the Department recommends Council find that the
24 facility, with the requested extension of the construction deadlines, would not result in a
25 significant adverse impact to any important recreational opportunity.

26

27 Conclusions of Law

28

29 Based on the foregoing recommended findings of fact and conclusions, the Department
30 recommends that the Council find that the facility, with the requested extension of the
31 construction deadlines, would continue to comply with the Council’s Recreation standard

⁷⁸ *Final Order on the ASC* (2011-08-19), p. 123; *Final Order on Amendment 1* (2015-08-07) p. 89

⁷⁹ *Final Order on the ASC* (2011-08-19), p. 123-124

⁸⁰ *Final Order on the ASC* (2011-08-19), p. 123-124

1 **III.M. Public Services: OAR 345-022-0110**

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

9
10 *(2) The Council may issue a site certificate for a facility that would produce power from*
11 *wind, solar or geothermal energy without making the findings described in section (1).*
12 *However, the Council may apply the requirements of section (1) to impose conditions on*
13 *a site certificate issued for such a facility.*

14 ***

15 **Findings of Fact**

16
17 The Council’s Public Services standard requires the Council to find that the facility, with
18 proposed changes, is not likely to result in significant adverse impacts on the ability of public
19 and private service providers to supply sewer and sewage treatment, water, stormwater
20 drainage, solid waste management, housing, traffic safety, police and fire protection, health
21 care, and schools. Pursuant to OAR 345-022-0110(2), the Council may issue a site certificate for
22 a facility that would produce power from wind energy without making findings regarding the
23 Public Services standard; however, the Council may impose site certificate conditions based
24 upon the requirements of the standard.

25
26 The analysis area for potential impacts to public services from construction and operation of
27 the facility, with proposed changes, is defined as the area within and extending 10-miles from
28 the site boundary.

29
30 **Sewers and Sewage Treatment, Water, and Stormwater Drainage**

31
32 Construction and operation of the facility, with proposed changes, would not affect the ability
33 of public and private providers of water, sewer or sewage treatment, or stormwater drainage
34 to deliver services.

35
36 As described in RFA4, the facility, with proposed construction deadline extension, would not
37 change construction or operational water use or source, sewer or sewage treatment needs, or

1 stormwater drainage from what was previously found by Council.⁸¹ As described in the *Final*
2 *Order on the ASC*, the Council found that facility water use would not impact private or public
3 water and treatment service providers; the certificate holder confirmed with The Dalles Public
4 Works Department that it is still capable of providing water in the amount originally requested
5 in the *Application for Site Certificate*.⁸² Facility sewage treatment needs would be
6 accommodated through portable toilets during construction (Condition 6.2), and an onsite
7 septic system would be installed for operational use (Condition 7.8).

8
9 The Council previously found that facility stormwater drainage needs would not impact
10 stormwater drainage systems because the facility would not be connected to a public
11 stormwater drainage system.⁸³ Based on the Council's previous reasoning and because the
12 facility, with proposed changes, would not result in changes to water use or source, sewer or
13 sewage treatment needs, or stormwater drainage, the proposed extension to construction
14 deadlines would not be likely to result in a significant adverse impact to public and private
15 providers of water, sewers and sewage treatment, or stormwater drainage.

16 17 Solid Waste Management

18
19 Construction and operation of the facility, with the proposed extension of the construction
20 deadlines, would not alter the type or amount of solid waste generated during construction or
21 operation from levels previously evaluated by the Council. The Council previously imposed
22 Conditions 6.3 (V.D.2.1), which requires the certificate holder to develop a Construction Waste
23 Management Plan and Condition 10.11 (V.D.2.2), which requires the certificate holder to
24 implement an Operational Waste Management Plan. The Council previously found that the
25 facility would not be likely to result in a significant adverse impact to public and private service
26 providers of solid waste management. Based on the Council's previous reasoning and because
27 the facility, with proposed construction deadline extension, would not result in changes to solid
28 waste generation during construction or operation, the proposed extension to construction

⁸¹ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.13

⁸² SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.13, citing to Letter from Ray Johnson City of The Dalles Public Works Department, 08/02/2018

⁸³ *Final Order on the ASC* (2011-08-19), p. 139

1 deadlines would not be likely to result in a significant adverse impact to public and private
2 providers of solid waste management.

3
4 Housing, Police Services, Health Care and Schools

5
6 The construction and operation of the facility, with the proposed extension of the construction
7 deadlines, would result in the presence of temporary and permanent employees; the increase
8 in size of the local workforce could affect public and private providers of housing, police
9 services, health care, and schools. As described in RFA4, however, the amendment would not
10 change the previously estimated temporary or permanent number of workers.⁸⁴

11
12 The certificate holder provides updates to its population and housing assumptions. The
13 population within 30 miles of the project site increased from 30,925 in 2008 to 34,066 in
14 2017.⁸⁵ Housing units in Gilliam, Hood River, Sherman, Wasco, and Klickitat counties increased
15 by 14% from 2008 to 2016, to a total of 32,881 housing units. During this time period, housing
16 vacancies increased from 9.5% to 15% in these counties.⁸⁶ The Council found in the *Final Order*
17 *on the ASC* that the presence of 26 employees (average operational employees) and a
18 maximum of 250 employees (during construction) would not result in a significant adverse
19 impact to housing providers. Because the number of vacant housing units has increased, and
20 the estimated number of construction and operations personnel remains the same, facility
21 personnel demand for housing would not be likely to result in a significant adverse impact on
22 housing availability in the analysis area.

23
24 The certificate holder confirmed with the Wasco County Sheriff's Office that it agrees with the
25 previous sheriff's statement that the sheriff "did not foresee any conflicts or problems that
26 would result from the project..."⁸⁷ As such, the construction deadline extension would not
27 would not be likely to result in a significant adverse impact to law enforcement services.

28
29 The Council previously found that the facility would not result in significant adverse impacts to
30 the providers of healthcare services.⁸⁸ The Council previously imposed Condition 9.4 (V.C.2.4)
31 and Condition 9.5 V.C.2.5), which require the certificate holder to implement on-site health and
32 safety plans throughout the construction and operation of the facility. The extension of the
33 construction deadlines would not change the number of construction workers temporarily

⁸⁴ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.13

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Final Order on the ASC* (2011-08-19), p. 141

1 locating in the area or the number of permanent employees and their families moving into the
2 area that would seek health care services.

3
4 The extension of the construction deadlines would not change the number of permanent
5 employees and their families moving into the area that would add to the number of students
6 attending area schools.

7
8 Traffic Safety

9
10 The Council previously imposed Conditions 5.9, 6.17, 6.18, 6.19, 6.20 (V.C.2.12 –V.C.2.16).
11 These conditions require the receipt of permits from the Oregon Department of Transportation;
12 compliance with Wasco County Road Department for all access road construction; consultation
13 with Wasco County Public Works Department to ensure no unusual damage to roads; to restore
14 public roads to pre-construction condition; and the implementation of measures to reduce
15 traffic impacts during construction.⁸⁹ The facility, with the requested extension of the
16 construction deadlines, would not alter previously evaluated traffic impacts.

17
18 Fire Protection

19 The facility, with the proposed extension of the construction deadlines, would not alter
20 previously evaluated impacts to fire protection service providers. In RFA4, the certificate holder
21 indicates that it contacted the Dufur Volunteer Fire and Ambulance and received confirmation
22 that Dufur Volunteer Fire and Ambulance would respond in the event of an emergency.⁹⁰ In the
23 *Final Order on the ASC*, the Council noted that that Columbia Rural Fire District would be the
24 first responder in the event of a ground fire and the City of Dufur Fire District would be the first
25 responder in the event of a structural fire. The Council previously imposed Conditions 8.2
26 through 8.5, which require that (1) the certificate holder ensure that operations personnel are
27 trained for tower rescue; (2) the certificate holder develop and implement fire safety plans in
28 consultation with the Columbia Rural Fire District to minimize fire risks; and (3) provide a site
29 plan to the Columbia Rural Fire District and updated contact list to the Columbia Rural Fire
30 District. Compliance with existing conditions would address and minimize potential adverse

⁸⁹ Potential impacts to air traffic safety are discussed in Section III.P.1 *Public Health and Safety Standards for Wind Energy Facilities* (OAR 345-024-0010).

⁹⁰ SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.13

1 impacts from construction and operation of the facility, with the requested extension of the
2 construction deadlines, to public providers of fire protection.

3
4 **Conclusions of Law**

5
6 Based on the foregoing recommended findings of fact and conclusions, the Department
7 recommends that the Council find that the facility, with the requested extension of the
8 construction deadlines, would continue to comply with the Council’s Public Services standard.

9
10 **III.N. Waste Minimization: OAR 345-022-0120**

11
12 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
13 *Council must find that, to the extent reasonably practicable:*

14
15 *(a) The applicant’s solid waste and wastewater plans are likely to minimize*
16 *generation of solid waste and wastewater in the construction and operation of the*
17 *facility, and when solid waste or wastewater is generated, to result in recycling and*
18 *reuse of such wastes;*

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

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

26 ***

27
28 **Findings of Fact**

29
30 As provided in section (1) above, the Waste Minimization standard requires the Council to find
31 that the applicant (certificate holder) will minimize the generation of solid waste and
32 wastewater, and that the waste generated will be managed to result in minimal adverse
33 impacts to surrounding and adjacent areas. Pursuant to OAR 345-022-0120(2), the Council may
34 issue a site certificate for a facility that would produce power from wind energy without making
35 findings regarding the Waste Minimization standard; however, the Council may impose site
36 certificate conditions based upon the requirements of the standard.

1 The *Final Order on the ASC* discussed construction-related impacts to the generation of solid
2 waste, as well as wastewater and hazardous materials management.⁹¹ In RFA4, the certificate
3 holder asserts that the proposed construction deadline would not affect the certificate holder’s
4 ability to comply with existing site certificate conditions.⁹²

5
6 To address the standard, the Council previously imposed Conditions 6.3 (V.D.2.1) and 10.1
7 (V.D.2.2), which require the certificate holder to develop and implement a solid waste
8 management plan during construction and operation, respectively. Condition 7.8 (V.C.2.2)
9 requires the certificate holder to discharge sanitary wastewater generated at the O&M facilities
10 to licensed on-site septic systems in compliance with State permit requirements. The proposed
11 extension to construction deadlines would not require modifications to the procedures and
12 practices to be used to handle solid waste and wastewater, nor impact the certificate holder’s
13 ability to comply with site certificate conditions.

14
15 **Conclusions of Law**

16
17 Based on the foregoing recommended findings of fact and conclusions, the Department
18 recommends that the Council find that the facility, with the requested extension of the
19 construction deadlines, would continue to comply with the Council’s Waste Minimization
20 standard.

21
22 **III.O. Division 23 Standards**

23
24 The Division 23 standards apply only to “nongenerating facilities” as defined in ORS
25 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The
26 facility, with proposed changes, would not be a nongenerating facility as defined in statute and
27 therefore Division 23 is inapplicable to the facility, with proposed changes.

28
29 **III.P. Division 24 Standards**

30
31 The Council’s Division 24 standards include specific standards for the siting of energy facilities,
32 including wind projects, underground gas storage reservoirs, transmission lines, and facilities
33 that emit carbon dioxide.

34

⁹¹ *Final Order on the Application* (2011-08-19), p. 149

⁹² SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.1.4

1 III.P.1. Public Health and Safety Standards for Wind Energy Facilities: OAR 345-024-0010

2
3 *To issue a site certificate for a proposed wind energy facility, the Council must find that the*
4 *applicant:*

5
6 *(1) Can design, construct and operate the facility to exclude members of the public from*
7 *close proximity to the turbine blades and electrical equipment.*

8
9 *(2) Can design, construct and operate the facility to preclude structural failure of the tower*
10 *or blades that could endanger the public safety and to have adequate safety devices and*
11 *testing procedures designed to warn of impending failure and to minimize the consequences*
12 *of such failure.*

13
14 **Findings of Fact**

15
16 For amendments requesting to extend construction deadlines, the Department and Council
17 evaluate whether there have been “changes in fact or law” since the site certificate or amended
18 site certificate was issued to determine whether, based on changes in fact or law, the facility
19 would continue to satisfy requirements of the standard. The certificate holder reviewed
20 changes to facts or law that would affect the certificate holder’s ability to comply with the
21 standard.

22
23 *Potential Public Health and Safety Impacts from Proximity to Turbine Blades*

24
25 Wind turbines could result in public health and safety impacts to low flying aircraft. The
26 certificate holder does not propose an increase to turbine height nor an increase to blade size
27 specifications; as such, there are no new unevaluated risks that could relate to aircraft.

28
29 As a summary, the facility is approved to construct turbines with a maximum blade tip height of
30 152 meters (499 feet).⁹³ As such, the facility was evaluated under the Wasco County Land Use &
31 Development Ordinance Section 19.030(C)(1). This provision requires any structure that exceeds
32 200 feet to comply with air hazard rules promulgated by the Oregon Department of Aviation as
33 well as the Federal Aviation Administration (FAA). Condition 5.4 requires the certificate holder to
34 submit, prior to construction, a Notice of Proposed Construction or Alteration to the FAA; the
35 certificate holder must provide a copy of a “Determination of No Hazard” for all turbine towers
36 and meteorological towers to the Department. Furthermore, the certificate holder must also

⁹³ Third Amended *Site Certificate*, p. 4

1 comply with Condition 6.23, which requires the certificate holder to warn the FAA of
2 obstructions, and it must also design and implement a lighting plan.

3
4 Because there are no proposed changes to facility design, the existing site certificate conditions
5 are sufficient to ensure public health and safety relating to potential impacts from proximity to
6 turbine blades.

7
8 *Potential Impacts from Structural Failure of the Tower or Blades; Safety Devices and Testing*
9 *Procedures to Warn of Impending Failure*

10
11 The facility could result in public health and safety risks from potential blade failure from
12 stresses that exceed the design parameters of the blade or its connection to the hub. However,
13 there are no proposed changes to facility design. In RFA4, the certificate holder reported that it
14 experienced two incidents relating to tower failure during the operation of two facilities
15 elsewhere in the US.⁹⁴ One incident did not result in a “throw event,” however, the blade was
16 replaced. A second incident resulted in a tower failure when a blade struck a tower and the
17 blade was detached; the turbine tower failed. The certificate holder identified a failure in the
18 shear web within the blade. The certificate holder indicated that it worked with the
19 manufacturer to identify all turbine types that could result in a similar event and represented
20 that it retrofitted all other blades to address the issue.⁹⁵

21
22 The certificate holder represents that it maintains experience developing wind facilities in cold
23 weather climates, and has developed protocols to minimize the risk of ice throw.⁹⁶ The
24 certificate holder indicates that the turbine controller is capable of recognizing when ice is
25 present on a blade because the blade is heavier; the controller ceases the operation of a blade
26 that contains ice. The turbine is not operated until the ice has melted or otherwise dropped
27 from the turbine blade. In addition to operational measures, the certificate holder represents
28 that it maintains safety protocols to ensure the safety of the public, landowners, and wind
29 facility staff.

30
31 The site certificate includes a number of existing conditions that will continue to apply to the
32 facility, to address subsection (2) of the standard, and which will ensure that the certificate
33 holder reduces the risk of potential impacts from structural failure of the tower or blades.

⁹⁴ Note that the Council acknowledged that PEGLP had developed, owned, and operated over 4,500 MW of renewable energy generation and also that it had constructed 19 wind and solar projects. *At Final Order on AMD 3*, p. 9

⁹⁵ SRWAMD4Doc17. Request for Amendment 4, Section 5.1.2. 2019-01-16.

⁹⁶ *Id.*

1
2 Condition 7.4 requires that turbines are operated in accordance with manufacturer’s handling
3 recommendations. The Department recommends an administrative change to Condition 7.4 as
4 follows:

5
6 **Recommended Amended Condition 7.4:** The certificate holder shall follow manufacturers’
7 recommended handling instructions and procedures to prevent damage to turbine or
8 turbine tower components that could lead to failure. In the compliance plan required per
9 OAR 345-026-0048, the certificate holder shall describe the process or protocol to be
10 implemented to ensure that manufacturer’s handling instructions and procedures are
11 followed during equipment delivery. [Final Order IV.K.2.5; AMD 4]
12

13 Condition 7.5 requires the certificate holder to develop and implement an operational safety-
14 monitoring program that includes regular inspections and maintenance. The Department
15 recommends amendments Condition 7.5 in order to clarify the specific requirements of the
16 operational safety-monitoring program:

17
18 **Recommended Amended Condition 7.5:** Prior to operation, ~~the~~ certificate holder shall:

- 19 a) ~~have~~ Submit to the Department, for review and approval, an operational safety-
20 monitoring program and that includes a cause analysis program. The safety-
21 monitoring program shall include, at a minimum, requirements for regular turbine
22 blade and turbine tower component inspections and maintenance, based on wind
23 turbine manufacturer recommended frequency.
24 b) ~~shall~~ Document the inspection of and maintenance activities of all turbine and
25 turbine tower components on a regular basis. The inspection documentation must
26 include, but is not limited to, the date, turbine number, inspection type (regular or
27 other), turbine tower and blade condition, maintenance requirements (i.e.
28 equipment used, component repair or replacement description, impacted area
29 location and size), and wind turbine operating status. This information shall be
30 submitted to the Department pursuant to OAR 345-026-0080 in the facility’s annual
31 compliance report. The certificate holder shall maintain or repair turbine and
32 turbine tower components as necessary to protect public safety.
33 c) In the event of blade or tower failure, the certificate holder shall report the incident
34 to the Department within 72 hours, in accordance with OAR 345-026-0170(1), and
35 shall, within 90 days of a blade or tower failure event, submit a root cause analysis
36 to the Department for compliance evaluation.
37 [Final Order IV.K.2.6; AMD4]
38

39 Condition 7.6 requires the installation of self-monitoring devices on each wind turbine that
40 would alert operators of dangerous conditions and would also automatically shut down
41 turbines in the event of abnormal levels of vibration.
42

1 Finally, Condition 6.28 requires that the facility be constructed in compliance with setback
2 requirements, including the variance as described under Land Use which required an evaluation
3 of risks to public health and safety, from roads, property lines, and non-resource zoned
4 properties .

5
6 The Department finds that the imposition of these conditions would satisfy the requirements of
7 the standard and ensure that the facility is designed, constructed, and operated to preclude
8 structural failure of the tower or blades that could endanger public safety, and the conditions
9 ensure that safety devices and testing procedures warn of impending turbine failure and
10 minimize consequences of such failure.

11
12 Based upon the analysis presented here, and in compliance with existing site certificate
13 conditions, the Department recommends that the Council find that the certificate holder can
14 design, construct, and operate the facility, with proposed changes, in compliance with the
15 Public Health and Safety Standards for Wind Energy Facilities.

16
17 **Conclusions of Law**

18
19 Based on the foregoing analysis, and subject to compliance with the site certificate conditions,
20 the Department recommends the Council find that the facility, with proposed construction
21 deadline extensions, continues to comply with the Council’s Public Health and Safety Standards
22 for Wind Energy Facilities.

23
24 **III.P.2. Siting Standards for Transmission Lines: OAR 345-024-0090**

25
26 *To issue a site certificate for a facility that includes any transmission line under Council*
27 *jurisdiction, the Council must find that the applicant:*

28
29 *(1) Can design, construct and operate the proposed transmission line so that alternating*
30 *current electric fields do not exceed 9 kV per meter at one meter above the ground*
31 *surface in areas accessible to the public;*

32
33 *(2) Can design, construct and operate the proposed transmission line so that induced*
34 *currents resulting from the transmission line and related or supporting facilities will be*
35 *as low as reasonably achievable.*

36
37 **Findings of Fact**

38
39 This standard addresses safety hazards associated with electric fields around transmission lines.
40 Section (1) of OAR 345-024-0090 sets a limit for electric fields from transmission lines of not
41 more than 9 kV per meter at one meter above the ground surface in areas that are accessible to
42 the public. Section (2) requires implementation of measures to reduce the risk of induced
43 current.

1 The Council previously approve aboveground and underground 34.5 kV collector lines as well as
2 approximately 8 miles of an aboveground 239 kV transmission line;⁹⁷ RFA4 does not propose
3 changes to the previously transmission line segments
4

5 The Department recommends that Council find that RFA4 would not result in a significant
6 adverse impact under OAR 345-024-0090(1) and (2); the Department recommends that the
7 Council incorporate the reasoning and analysis presented in previous final orders for the
8 facility. The Council addressed the Siting Standards for Transmission Lines in section IV.M of the
9 Final Order on the ASC and found the facility to be in compliance with the standard.
10

11 *Electric Fields*

12
13 In the Final Order on the ASC, the Council found that the certificate holder could construct and
14 operate the transmission lines so that alternating current electric fields would be approximately
15 0.5 kV per meter at one meter above ground for the collector lines, and approximately 3.5 kV
16 per meter at one meter above ground for the 230 kV transmission line. Both anticipated electric
17 fields are significantly less than the threshold 9 kV per meter.
18

19 *Induced Current*

20
21 In the Final Order on the ASC, the Council found that the facility would comply with subsection
22 (2) of the standard because conditions the certificate must provide appropriate grounding of
23 fences and metal-roofed buildings in order to reduce the risk of induced current through
24 Condition 7.10.
25

26 The certificate holder must also meet with the Oregon Public Utility Commission Safety,
27 Reliability, and Security Division, prior to construction, to discuss compliance with OPUC
28 Chapter 860 regulations (Conditions 7.12 and 7.13). Because the certificate holder must comply
29 with OPUC safety standards, which include reference to the National Electric Safety Code
30 (NESC) standards, the Department proposes to administratively remove Condition 6.6; this
31 condition requires the certificate holder to conform to NESC standards within the 2012 Edition
32 of its code. The language from Condition 6.6 directly emanates from site-specific conditions
33 contained at Oregon Administrative Rule 345-025-0010(4); however, the Department
34 acknowledges that the rule language is outdated because the most current version of the NESC
35 standards was published in 2017. Additionally, OAR 345-025-0010 states that “The Council *may*
36 include the following conditions, as appropriate, in the site certificate...” (emphasis added). As

⁹⁷ *Final Order on the ASC* (2011-08-19), p. 131

1 such, this is not a mandatory condition, and there is no reason to require the certificate holder
2 to demonstrate compliance with an outdated 2012 NESC standard as well as the 2017 NESC
3 standard. In summary, given that the certificate holder must comply with OPUC safety codes
4 that incorporate the NESC standards, the Department recommends the removal of Condition
5 6.6 below:

6
7 **Recommended Deleted Condition 6.6:** ~~[DELETED]-The certificate holder must design,~~
8 ~~construct and operate the transmission line in accordance with the requirements of the~~
9 ~~2012 Edition of the National Electrical Safety Code approved on June 3, 2011. [AMD2;~~
10 ~~AMD4] [Mandatory Condition OAR 345-025-0006 (4)(a)]~~

11 Conclusions of Law

12
13
14 For the reasons discussed above, and subject to compliance with the existing site certificate
15 conditions, the Department recommends that the Council find that the facility, with proposed
16 changes, would not result in a significant adverse impact under OAR 345-024-0090 that was not
17 addressed in a previous Council order and would continue to comply with the Council’s Siting
18 Standards for Transmission Lines.

19 III.P.3. Cumulative Effects Standard for Wind Energy Facilities OAR 345-024-0015

20
21
22 *To issue a site certificate for a proposed wind energy facility, the Council must find that the*
23 *applicant can design and construct the facility to reduce cumulative adverse environmental*
24 *effects in the vicinity by practicable measures including, but not limited to, the following:*

- 25
26 (1) *Using existing roads to provide access to the facility site, or if new roads are needed,*
27 *minimizing the amount of land used for new roads and locating them to reduce adverse*
28 *environmental impacts.*
29 (2) *Using underground transmission lines and combining transmission routes.*
30 (3) *Connecting the facility to existing substations, or if new substations are needed,*
31 *minimizing the number of new substations.*
32 (4) *Designing the facility to reduce the risk of injury to raptors or other vulnerable wildlife in*
33 *areas near turbines or electrical equipment.*
34 (5) *Designing the components of the facility to minimize adverse visual features.*
35 (6) *Using the minimum lighting necessary for safety and security purposes and using*
36 *techniques to prevent casting glare from the site, except as otherwise required by the*
37 *Federal Aviation Administration or the Oregon Department of Aviation.*

38 Findings of Fact

39
40
41 For amendments requesting to extend construction deadlines, the Department and Council
42 evaluate whether there have been “changes in fact or law” since the site certificate or amended
43 site certificate was issued to determine whether, based on changes in fact or law, the facility
44 would continue to satisfy requirements of the standard. The certificate holder reviewed

1 changes to facts or law that would affect the certificate holder’s ability to comply with the
2 cumulative effects standard; there are no changes in law or fact that would affect the
3 cumulative effects standard.

4
5 This standard requires the use of practicable measures to reduce the “cumulative adverse
6 environmental effects” compared to possible wind energy facility effects in the absence of
7 those measures. The standard is limited to environmental effects that are capable of being
8 reduced and does not require the Council to find that a wind energy facility would have no
9 cumulative environmental impacts.

10
11 The Council previously reviewed impacts to (1) roads; (2) transmission lines and substations; (3)
12 wildlife protection; (4) visual features; and (5) lighting. The Council found that the facility, with
13 conditions, would comply with the standard. The certificate holder is required to use existing
14 county roads to gain access to the site boundary; the collector transmission lines and the
15 substation are required to utilize underground line systems where possible;⁹⁸ all transmission
16 line support structures must follow the most current suggested practices for avian protection
17 on power lines as published by the Avian Power Line Interaction Committee;⁹⁹ turbines must be
18 coated in a neutral gray, white, or off-white tones to blend in with the surrounding landscape;
19 turbines are required to maintain minimum light required by the FAA and the substation as well
20 as O&M facilities are required to maintain lighting that is shielded or directed downward.¹⁰⁰

21
22 There are no changes to facility design; as such, the Department recommends that the Council
23 find that the pre-existing conditions are sufficient to demonstrate continued compliance with
24 the cumulative effects standard for wind energy facilities.

25
26 **Conclusions of Law**

27
28 For the reasons discussed above, and subject to compliance with the existing site certificate
29 conditions, the Department recommends that the Council find that the facility, with proposed
30 construction deadline extensions, would not result in a significant adverse impact under OAR
31 345-024-0015 that was not addressed in a previous Council order and would continue to
32 comply with the Council’s Cumulative Effects Standard for Wind Energy Facilities.

⁹⁸ The 34.5 kV collector lines will be constructed underground to the extent possible; however, up to 10% of the collector lines may be placed aboveground due to site specific geotechnical or environmental considerations. See Site Certificate on Amendment 3, p. 5

⁹⁹ Site Certificate Condition 10.8

¹⁰⁰ *Final Order on the ASC (2011-08-19)*, p. 128-129

1 **III.Q. Other Applicable Regulatory Requirements Under Council Jurisdiction**

2
3 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-
4 0000), the Council must determine whether the proposed facility complies with “all other
5 Oregon statutes and administrative rules...as applicable to the issuance of a site certificate for
6 the proposed facility.” This section addresses the applicable Oregon statutes and administrative
7 rules that are not otherwise addressed in Council standards, including noise control regulations,
8 regulations for removal or fill of material affecting waters of the state, and regulations for
9 appropriating water.

10
11 III.Q.1. Noise Control Regulations: OAR 340-035-0035

12
13 *(1) Standards and Regulations:*

14 ***

15 *(b) New Noise Sources:*

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

17 *(i) No person owning or controlling a new industrial or commercial noise source*
18 *located on a previously unused industrial or commercial site shall cause or permit*
19 *the operation of that noise source if the noise levels generated or indirectly*
20 *caused by that noise source increase the ambient statistical noise levels, L10 or*
21 *L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table*
22 *8, as measured at an appropriate measurement point, as specified in subsection*
23 *(3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).*

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

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

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

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

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

9 (IV) *For purposes of determining whether a proposed wind energy facility*
10 *would satisfy the ambient noise standard where a landowner has not*
11 *waived the standard, noise levels at the appropriate measurement point*
12 *are predicted assuming that all of the proposed wind facility's turbines*
13 *are operating between cut-in speed and the wind speed corresponding to*
14 *the maximum sound power level established by IEC 61400-11 (version*
15 *2002-12). These predictions must be compared to the highest of either the*
16 *assumed ambient noise level of 26 dBA or to the actual ambient*
17 *background L10 and L50 noise level, if measured. The facility complies*
18 *with the noise ambient background standard if this comparison shows*
19 *that the increase in noise is not more than 10 dBA over this entire range*
20 *of wind speeds.*

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

32 (VI) *For purposes of determining whether a proposed wind energy facility*
33 *would satisfy the Table 8 standards, noise levels at the appropriate*
34 *measurement point are predicted by using the turbine's maximum sound*
35 *power level following procedures established by IEC 61400-11 (version*
36 *2002-12), and assuming that all of the proposed wind facility's turbines*
37 *are operating at the maximum sound power level.*

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

1 *noise level is disabled.*

2 ***

3 **Findings of Fact**

4
5 The Noise Control Regulation at OAR 340-035-0035 have been adopted by Council as the
6 compliance requirements for EFSC-jurisdiction energy facilities. For amendments requesting to
7 extend construction deadlines, the Department and Council evaluate whether there have been
8 “changes in fact or law” since the site certificate or amended site certificate was issued to
9 determine whether, based on changes in fact or law, the facility would continue to satisfy
10 requirements of the administrative rule. To evaluate potential changes in fact within the
11 analysis area since the previous evaluation, the certificate holder conducted a detailed review
12 of aerial imagery to confirm presence of noise sensitive properties.¹⁰¹ Based on this evaluation,
13 as presented on RFA4 Figure 10, the certificate holder identified four new noise sensitive
14 properties that could be affected by the facility, not previously evaluated by EFSC in the original
15 site certificate application or amendments.

16
17 Because the certificate holder identified new noise sensitive properties, the Department
18 presents an evaluation of maximum noise impacts during facility operation, as evaluated in the
19 Council’s *Final Order on the ASC*, and assesses whether based on the location of the new noise
20 sensitive properties, the facility would continue to comply with the noise standards under the
21 Noise Control Regulation.¹⁰² The certificate holder relies on, and historically relied on, it’s
22 original ASC Exhibit X; those estimates are considered to include the most conservative
23 assumptions that could arise from the facility.

24
25 *Noise Standards*

26
27 Noise generated by a wind energy facility located on a previously unused site must comply with
28 two tests: the “ambient noise degradation test” and the “maximum allowable noise test.”¹⁰³

¹⁰¹ “Noise Sensitive Property” means real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner. OAR 340-035-0015(38).

¹⁰² The noise analysis on the record for this facility, including ASC and three subsequent amendment proceedings, relies upon the initial acoustic modeling from ASC Exhibit X.

¹⁰³ OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities. In RFA4, the certificate holder affirms that construction of the facility would not result in changes to previously evaluated construction activities. Council previously imposed Condition 12.1 requiring that, during construction, heavy equipment operation be restricted to daylight hours; combustion engine-powered equipment be equipped with exhaust mufflers; and requires that the certificate holder establish a noise complaint response system, including a system for the certificate holder to receive and resolve noise complaints.

1 Under the ambient noise degradation test, facility-generated noise must not increase the
 2 ambient hourly L10 or L50 noise levels at any noise sensitive property by more than 10 dBA
 3 when wind turbines are operating “between cut-in speed and the wind speed corresponding to
 4 the maximum sound power level.” To show that a facility complies with this test, the certificate
 5 holder may use an assumed ambient hourly L50 noise level of 26 dBA or measure the actual
 6 ambient hourly noise levels at the receiver in accordance with the procedures specified in the
 7 regulation. Based on the certificate holder’s initial 2009 acoustic noise analysis, an assumed 26
 8 dBA was utilized for the ambient hourly L50 noise level.

9
 10 To demonstrate compliance with the ambient noise degradation test, the noise generated
 11 during facility operation must not cause the hourly L₅₀ noise level at any noise-sensitive
 12 property to exceed 36 dBA. However, OAR 340-035-0035(1)(b)(B)(iii)(III) relieves the certificate
 13 holder from having to show compliance with the ambient noise degradation test “if the person
 14 who owns the noise sensitive property executes a legally effective easement or real covenant
 15 that benefits the property on which the wind energy facility is located” (a “noise waiver”).
 16 Under the maximum allowable noise test at OAR 340-035-0035(1)(b)(B)(i) a wind energy facility
 17 may not exceed the noise levels specified in Table 8 of the noise rules, as represented in Table
 18 2, *Statistical Noise Limits for Industrial and Commercial Noise Sources* below. Pursuant to OAR
 19 340-035-0035(1)(b)(B)(iii)(III), it is not possible for a property owner to waive an exceedance
 20 under the maximum allowable noise test.

Table 5: Statistical Noise Limits for Industrial and Commercial Noise Sources

Statistical Descriptor ¹	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM - 10:00 PM)	Nighttime (10:00 PM - 7:00 AM)
L50	55	50
L10	60	55
L1	75	60

Notes:
 1. The hourly L50, L10 and L1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.
 Source: OAR 340-035-0035, Table 8

22
 23 *Potential Noise Impacts*

24
 25 Potential noise impacts from construction and operation of the facility within the analysis area,
 26 as evaluated in the Council’s *Final Order on the ASC*, are presented below to support the
 27 evaluation of impacts to the four new noise sensitive properties identified in RFA4 which have
 28 not been previously evaluated by EFSC.

29
 30 The certificate holder conducted an acoustic noise modeling analysis during the ASC phase. For
 31 its initial analysis, the certificate holder evaluated two layouts – 66 wind turbines, rated at 2.3
 32 MW with a maximum sound power level of 107 dBA; and, 87 wind turbines, rated at 1.8 MW

1 with a maximum sound power level of 109 dBA. The maximum sound power levels included a
2 factor of 2 dBA to account for uncertainty. The certificate holder used the Computer Aided
3 Noise Abatement (CadnaA), version 3.72, 2009 software program to make the predictions of
4 peak noise levels at noise sensitive properties within the analysis area. The program includes
5 sound propagation factors adopted from International Organization for Standardization's (ISO)
6 9613 "Attenuation of Sound during Propagation Outdoors" to account for distance, atmosphere
7 and ground attenuation. Based on the location of four new noise sensitive properties not
8 previously evaluated, and review of ASC Exhibit X, two of four would experience noise levels in
9 excess of the 10 dBA ambient degradation threshold and one could potentially experience noise
10 levels greater than 50 dBA, the maximum allowable noise level.¹⁰⁴

11
12 Council previously imposed Conditions 12.2, 12.3, and 12.4 related to operational noise.
13 Condition 12.2 requires the certificate holder to provide to the Department, prior to
14 construction and based on final facility design, an acoustic noise analysis based on final facility
15 design that demonstrates compliance with the maximum allowable noise level and ambient
16 degradation threshold or, in the alternative, noise waivers for the noise sensitive property
17 locations where the ambient degradation threshold is not satisfied. Condition 12.3 requires the
18 certificate holder to maintain a noise complaint response system; and it likewise must report
19 any noise complaints and the certificate holder's response to the Department within 15-days of
20 receipt. Condition 12.4 provides the Department the authority to require recording and
21 monitoring of actual statistical noise levels in accordance with a Department-approved
22 monitoring plan, to demonstrate compliance with the Noise Control Regulation.

23
24 As mentioned above, the certificate holder identified 2 new noise sensitive properties that,
25 based on their location, in relation to ASC Exhibit X Figure X-1, could experience noise levels in
26 excess of the 10 dBA ambient degradation threshold. One noise sensitive property could
27 experience noise levels near or above 50 dBA, the maximum allowable noise level at noise
28 sensitive properties. The certificate holder can demonstrate compliance with the ambient
29 degradation standard (more than 10 dBA above baseline) by securing and submitting to the
30 Department a noise waiver from the property owner. This is reflected in existing Condition
31 12.2. However, the certificate holder cannot comply with the noise regulations by securing a
32 noise waiver from the 50 dBA maximum allowable sound level. Based on potential noise
33 impacts at noise sensitive properties, and to confirm compliance with the Noise Control
34 Regulation, the Department recommends that the Council amend Condition 12.4 as follows:

35
36

¹⁰⁴SRWAMD4Doc17 Request for Amendment 4 2019-01-16, Section 5.3.1

1 **Recommended Amended Condition 12.4:** During operations, the certificate holder shall:

- 2 a. Upon written notification from the Department, ~~the certificate holder will~~ monitor and
3 record the actual statistical noise levels ~~during operations~~ to verify that ~~the certificate~~
4 ~~holder is operating~~ the facility is in compliance with the noise control regulations. The
5 monitoring plan must be reviewed and approved by the Department prior to
6 implementation. The cost of such monitoring, if required, will be borne by the certificate
7 holder.
- 8 b. If the results of the pre-construction final noise analysis submitted per Condition 12.2
9 identify that modeled noise levels are predicted to be within 1 dBA of the ambient
10 degradation threshold (10 dBA) for noise sensitive properties that have not agreed to a
11 noise waiver with the certificate holder, or within 1 dBA of the maximum allowable
12 noise level (50 dBA) for any noise sensitive property, the certificate holder shall monitor
13 and record actual statistical noise levels during Year 1 of operations to verify that the
14 certificate holder is operating the facility in compliance with the noise control
15 regulations. The monitoring plan must be reviewed and approved by the Department
16 prior to implementation.
- 17 c. If the ambient degradation threshold (10 dBA) at noise sensitive properties that have
18 not agreed to a noise waiver with the certificate holder, or maximum allowable noise
19 level (50 dBA) at any noise sensitive property is measured at any noise sensitive
20 property during monitoring conducted to satisfy (a) or (b) of this condition, the
21 certificate holder shall submit to the Department its mitigation proposal demonstrating
22 the measures to be utilized to lower noise levels and achieve compliance with the
23 applicable noise standard. The mitigation proposal shall be reviewed and approved by
24 the Department.

25 [Final Order VI.A.2.4; AMD4]

26
27 **Conclusions of Law**

28
29 Based on the foregoing recommended findings of fact and conclusions of law, and subject to
30 compliance with existing and recommended amended site certificate conditions, the
31 Department recommends that the Council find that the facility would continue to comply with
32 the Noise Control Regulations in OAR 340-035-0035.

33
34 **III.Q.2. Removal-Fill**

35
36 The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands
37 (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50

1 cubic yards or more of material is removed, filled, or altered within any “waters of the state,”¹⁰⁵
2 or if any removal or fill activities occur in streams designated as Essential Indigenous
3 Anadromous Salmonid Habitat. The Council, in consultation with DSL, must determine whether
4 a removal-fill permit is needed and if so, whether a removal-fill permit should be issued. The
5 analysis area for wetlands and other waters of the state is the area within the site boundary.
6

7 **Findings of Fact**
8

9 The Council addressed the removal-fill law in Section VI.B.1 of the *Final Order on the ASC* and
10 found that the facility does not require a removal-fill permit.
11

12 The certificate holder conducted field surveys in 2009 and reviewed relevant literature to
13 determine whether wetlands exist within the study area, which included review of 1,300 foot
14 turbine micrositing corridors, transmission line corridor, and the areas associated with potential
15 substation locations, laydown areas, and the O&M facility. Surveys delineated six wetlands
16 within the study area; the Department of State Lands (DSL) stated that five of the six wetlands
17 are subject to the State Removal / Fill laws.¹⁰⁶ The DSL concurred with the certificate holder’s
18 wetland delineation study, most recently on May 26, 2016.
19

20 The Council found in the *Final Order on the ASC* that none of the wetlands would be impacted
21 by the construction or operation of the facility.¹⁰⁷ The *Final Order on the ASC* noted that the
22 majority of wetlands are located along the transmission corridor; since the transmission line
23 towers are proposed to be located 800 to 1,000 feet apart, the certificate holder would have
24 flexibility to avoid wetlands. The Council imposed Condition 6.34, which requires the certificate
25 holder to ensure that facility components are sited to avoid direct impacts to wetlands and
26 waterways. Furthermore, Condition 6.9 restricts the removal or fill of more than 50 cubic yards
27 of material in any waters of the state.
28

29 RFA 4 does not request any change to the facility layout or site boundary, and does not
30 otherwise propose any activities that would require a Removal / Fill permit. Based on the
31 imposition of the above described conditions, the Department recommends the Council find
32 that the facility, with the requested extension of the construction deadlines, maintains
33 compliance with the removal-fill law and the certificate holder is not currently required to
34 obtain a removal-fill permit.

¹⁰⁵ ORS 196.800(15) defines “Waters of this state.” The term includes wetlands and certain other waterbodies.

¹⁰⁶ SRWAMD2Doc3 Agency Comment DSL (A. Downing)_2016-05-31.pdf

¹⁰⁷ *Final Order on the ASC* (2011-08-19), p. 158

1 **Conclusions of Law**

2
3 Based on the foregoing findings of fact and conclusions, the Department recommends that the
4 Council find that a removal-fill permit is not needed for the facility with proposed changes.

5
6 **III.Q.3. Water Rights**

7
8 Under ORS Chapters 537 and 540 and OAR Chapter 690, OWRD administers water rights for
9 appropriation and use of the water resources of the state. Under OAR 345-022-0000(1), the
10 Council must determine whether the proposed facility would comply with these statutes and
11 administrative rules.

12
13 **Findings of Fact**

14
15 OAR 690 establishes the procedures and standards which shall be applied by the OWRD in the
16 evaluation of applications for a permit to appropriate surface water or ground water, to
17 construct a reservoir and store water, to use reserved water, or to use water stored in a
18 reservoir. The certificate holder does not request a groundwater permit, a surface water
19 permit, or a water rights transfer during the construction or operation of the proposed facility.

20
21 The Council previously found in the *Final Order on the ASC* that the facility would comply with
22 the Ground Water Act of 1955 and Water Resources Department administrative rules. The
23 facility would use up to 15 million gallons total during construction, and fewer than 5,000
24 gallons per day during operations.¹⁰⁸ Construction-related water use is necessary for dust
25 control purposes, road compaction, and concrete preparation. In ASC Exhibit O, the certificate
26 holder provided a letter from The City of The Dalles, in which the city indicated that it was able
27 and willing to meet the construction water needs of the facility.

28
29 Site certificate Condition 10.9 currently allows the certificate holder to withdraw no more than
30 5,000 gallons of water per day, from an on-site well, for operations. However, the certificate
31 holder represents that the well will be used for the Operations & Maintenance building, which
32 is considered to be a “domestic” purpose as opposed to an “industrial” purpose. As such, the
33 certificate holder is eligible, by Oregon Revised Statutes 537.545(1)(d), to utilize up to 15,000
34 gallons of water per day for domestic purposes. The Department recommends an
35 administrative amendment to Condition 10.9 as follows:

36

¹⁰⁸ *Final Order on the ASC (2011-08-19)*, p. 159

1 **Recommended Amended Condition 10.9:** During facility operation, the certificate holder
2 shall obtain water for on-site uses from an on-site well located near the O&M building. The
3 certificate holder shall construct the on-site well subject to compliance with the provisions
4 of ORS 537.765 relating to keeping a well log. The certificate holder shall not use more than
5 ~~5,000~~ 15,000 gallons of water per day from the on-site well for domestic purposes, or 5,000
6 gallons per day for industrial or commercial purposes. The certificate holder may use other
7 sources of water for on-site uses subject to prior approval by the Department. [Final Order
8 VI.C.2.1; AMD4]
9

10 Condition 10.10 requires the certificate holder to ensure that there is no runoff of wash water
11 from equipment washing. Furthermore, the certificate holder may not use acids, bases, or
12 metal brighteners with wash water.
13

14 The certificate holder does not request any changes to the facility layout, design, or site
15 boundary, nor does the certificate holder request a water permit. As such, the facility, with the
16 requested extension of the construction deadlines, would maintain compliance with the
17 Ground Water Act of 1955 or Water Resources Department rules.
18

19 **Conclusions of Law**
20

21 Based on the foregoing findings of fact, the Department recommends that the Council conclude
22 that the facility, with the requested extension of the construction deadlines, does not require a
23 groundwater permit, surface water permit, or water right transfer.
24

1 **IV. PROPOSED CONCLUSIONS AND ORDER**

2
3 Based on the recommended findings and conclusions included in this order, the Department
4 recommends that Council make the following findings:

- 5
6 1. The facility, with proposed construction deadline extensions, included in Request for
7 Amendment 4 of the Summit Ridge Wind Farm site certificate complies with the
8 requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.
9
10 2. The facility, with proposed construction deadline extensions, included in Request for
11 Amendment 4 of the Summit Ridge Wind Farm site certificate complies with the
12 standards adopted by the Council pursuant to ORS 469.501.
13
14 3. The facility, with proposed changes, included in Request for Amendment 4 of the
15 Summit Ridge Wind Farm site certificate complies with all other Oregon statutes and
16 administrative rules identified in the project order as applicable to the issuance of a
17 site certificate for the proposed facility.
18

19 Accordingly, the Department recommends that the Council find that the facility, with proposed
20 construction deadline extensions, included in Request for Amendment 4 of the Summit Ridge
21 Wind Farm site certificate complies with the General Standard of Review (OAR 345-022-0000).
22 The Department recommends that the Council find, based on a preponderance of the evidence
23 on the record, that the site certificate may be amended as requested.
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1 **Draft Proposed Order**

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3 The Department recommends that the Council approve Amendment 4 of the Summit Ridge
4 Wind Project site certificate.

5

Issued this 1st day of February, 2019

The OREGON DEPARTMENT OF ENERGY

By: _____

Todd R. Cornett, Assistant Director

Oregon Department of Energy, Energy Facility Siting Division

6

7

8 Attachment A: Draft Amended Site Certificate (Red-line version)

9 Attachment B: Reviewing Agency Comments on preliminary RFA4

10 Attachment C: [Reserved for Draft Proposed Order Comments]

11 Attachment D: Draft Habitat Mitigation Plan

12 Attachment E: Revegetation and Weed Control Plan

13 Attachment F: Wildlife Monitoring and Mitigation Plan

Notice of the Right to Appeal
[Text to be added to Final Order]

Attachment A: Draft Amended Site Certificate (Red-line version)

Attachment B: Reviewing Agency Comments on Preliminary Request for Amendment 4

Attachment B: pRFA4 Reviewing Agency Comment Index

Document ID	Commenter/Reviewing Agency	Date Comment Received
SRWAMD4Doc6	Sarah Reif; Oregon Department of Fish and Wildlife	10/03/2018
SRWAMD4Doc6-1	Jeremy Thompson; Oregon Department of Fish and Wildlife	11/28/2018
SRWAMD4Doc7	John Pouley; Oregon State Historic Preservation Office	10/08/2018
SRWAMD4Doc8	Commissioners; Wasco County Board of Commissioners	10/18/2018
SRWAMD4Doc8-1	Angie Brewer; Wasco County Planning Department	1/2/2019
SRWAMD4Doc8-2	Angie Brewer/ Brian Manning; Wasco County Planning Department	11/06/2018
SRWAMD4Doc9	Brian Manning; Wasco County Planning Department	11/06/2018
SRWAMD4Doc11	Yumei Wang; Department of Geologic and Mineral Industries	11/14/2018
SRWAMD4Doc11-1	Yumei Wang; Department of Geologic and Mineral Industries	12/21/2018
SRWAMD4Doc11-2	Yumei Wang; Department of Geologic and Mineral Industries	12/26/2018
SRWAMD4Doc12	Christian Nauer; Confederated Tribes of the Warm Springs Reservation of Oregon	11/19/2018

MAY Luke * ODOE

From: Sarah J Reif <Sarah.J.Reif@state.or.us>
Sent: Wednesday, October 03, 2018 11:18 AM
To: MAY Luke * ODOE; ESTERSON Sarah * ODOE
Cc: THOMPSON Jeremy L
Subject: RE: Summit Ridge wind facility, request for comment from ODFW

Luke,

In reviewing other HMPs for other EFSC projects, it does not appear that we have ever required much more of a habitat description than what NWC included in the Summit Ridge HMP. While this might be something I would like to improve upon in the future, I'll limit my current recommendations to the following:

- We need to see the burn perimeter to know whether or not the impact areas and the mitigation areas burned. If the impact area did not burn, but the mitigation areas did burn, then we need to revisit whether these sites are appropriate offsets for this project. I recommend they overlay the burn perimeter on the map you attached to your original email inquiry.
- Refresh the desktop assessment of habitat category and habitat type
- If the mitigation sites burned, then a field visit (ideally this would be done during the next growing season, but should at least happen before we approve the HMP that identifies these sites) to collect the following information:
 - Photographs of representative sites within the mitigation areas
 - Qualitative descriptions of the dominant plant species, presence of non-natives and ocular estimates of percent cover by species
 - Qualitative descriptions of burn severity
- As for monitoring of the mitigation area, I would recommend that a more rigorous vegetation sampling effort take place once the project is underway, so as to establish baseline condition. That should follow our recommendations from our temp impacts white paper, which leaves room for the applicant to propose a scientifically valid and quantitative method, to be approved by ODOE and ODFW.

Hope that helps.

Sarah Reif
Office: 503-947-6082
Cell: 503-991-3587

From: Sarah J Reif
Sent: Tuesday, October 02, 2018 9:42 PM
To: 'MAY Luke * ODOE' <Luke.May@oregon.gov>; ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Cc: THOMPSON Jeremy L <Jeremy.L.Thompson@state.or.us>
Subject: RE: Summit Ridge wind facility, request for comment from ODFW

Luke,

Comments from Jeremy and me are embedded below, in red.

Sarah Reif
Office: 503-947-6082

From: MAY Luke * ODOE [<mailto:Luke.May@oregon.gov>]
Sent: Tuesday, September 18, 2018 11:26 AM
To: THOMPSON Jeremy L <Jeremy.L.Thompson@state.or.us>; REIF Sarah J <Sarah.J.Reif@state.or.us>
Cc: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Subject: Summit Ridge wind facility, request for comment from ODFW

Hello Sarah and Jeremy,

ODOE received a preliminary Request for Amendment 4 of the Summit Ridge Wind Farm site certificate on August 16, 2018 (see URL below). The amendment request would extend the construction commencement and completion deadlines from August 19, 2018 and August 19, 2021 to August 19, 2020 and August 19, 2023, respectively. For amendments requesting to extend construction deadlines, ODOE evaluates whether there have been “changes in fact or law” since the last site certificate was issued to determine whether the facility would continue to satisfy requirements of Council standard and other applicable laws and regulations. Based on this scope of review, we would like to discuss the following with ODFW:

<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SRW.aspx>

Comment 1:

In 2015, during review of Request for Amendment 2, ODFW recommended that the HMP be amended to account for ODFW’s change in policy regarding big game winter range. Based on this comment, the HMP was revised. Previously identified Cat 3 and 4 habitat was then categorized as Cat 2 (big game) with an offset ratio of >1:1. It does not appear that the habitat mitigation sites, proposed by the previous certificate holder and reviewed by ODFW in 2010, were re-evaluated with the change in Cat 2 (big game) habitat. We would like to discuss/review the proposed habitat mitigation sites to ensure that, based on the Cat 2 (big game) habitat, the sites continue to represent reasonable mitigation sites.

Note: ODOE intends to require the certificate holder to conduct a habitat assessment of the mitigation sites, prior to approval of the sites, as a pre-construction condition.

Thank you for recognizing the need for a new habitat assessment of the mitigation sites, we concur with this requirement. The mitigation sites were all heavily impacted by the fires this summer, so it may be beneficial to reexamine how they proposed to achieve Category 2 habitat on those pieces.

We would like ODFW to comment as to whether the proposed mitigation sites are still acceptable. See our response directly above – we will need to see some sort of habitat assessment to determine whether those mitigation sites are still acceptable, post-fire. It would also be helpful if ODFW could provide insight into some of the criteria that is evaluated when determining the sufficiency of a proposed mitigation site.

Criteria include:

- a quantitative comparison to ensure no net loss (in other words, is it an equivalent or greater acreage) and/or net benefit (is the mitigation area 2:1 or at least larger than the impacted area with a high probability of success in habitat enhancement/restoration)
- ensuring the mitigation site offsets the same habitat categories and roughly the same composition/percentage of habitat types within those categories
- the mitigation site is adequately replacing the functions and values lost (just a qualitative determination made by the District Biologist)
- the mitigation site is not severely impacted by noxious weeds or erosion, or there is no immediate threat of habitat loss/degradation

- the mitigation site will be durable (some sort of conservation easement, fee title, or other legal instrument) for at least the life of the energy facility
- bonus if the mitigation site is connected to public land or a natural area such that wildlife using the mitigation site have the ability to connect to other nearby habitats

- Background on mitigation sites (ASC 2010):
 - The Application for Site Certificate states: “Two proposed mitigation parcel sites were reviewed on site with two members of ODFW staff and representatives of Northwest Wildlife Consultants and the Applicant on Tuesday, May 4, 2010. These sites are identified as site no. 2 and site no. 4 in Figure 1 of the Summit Ridge Habitat Mitigation Plan (Attachment P-6). These parcels were reviewed as conservation, habitat restoration, and enhancement sites to offset the direct temporary (where needed) and permanent habitat impacts resulting from the Facility's installation in order to meet or exceed the Oregon Habitat Standards. These potential site opportunities were offered by an interested project landowner. As a result of that site visit, ODFW responded with their evaluation of the sites in a letter dated May 24, 2010 (Attachment P-8). Applicant is in agreement with the recommendations of this letter, and will undertake the improvements identified in establishing these as mitigation sites. Applicant intends to enter into a Conservation Easement with the landowner of these sites for the duration of the Facility.”
 - Note: I have attached the relevant pages relating to the proposed mitigation sites to this e-mail.

Jeremy has left on a trip so I can't ask him, but what I don't know (Sarah R. here) is did both the project footprint and the mitigation sites burn? Did they both burn at similar severity? Do they both now face the same risk of noxious weed invasion? What plans does the applicant have for fire rehab of burned areas?

Comment 2:

Currently, the mitigation ratio included in the HMP for Cat 2 (big game) is >1:1, and for Cat 2 (traditional) is 2:1. Could ODFW describe why a mitigation ratio of >1:1 is risky or insufficient in meeting the Cat 2 habitat net benefit obligation?

The level of certainty that the proposed mitigation will be successful is a major determinant of the mitigation ratio. If the proposed mitigation fails or does not meet expectations, then the project will not meet the EFSC Fish and Wildlife Habitat Standard and the project proponent will be responsible for providing additional mitigation that is successful. The project proponent can build in greater certainty by upping mitigation ratios.

Comment 3:

The HMP describes enhancement actions as: fencing out livestock, modification of livestock grazing, weed control, revegetation with native plants, fire control. Does ODFW have recommendations for any other enhancement actions that might provide more specific benefit to big game or big game winter range, or does ODFW consider these actions sufficient?

We would not recommend any additional actions, but it would be beneficial to flesh these actions out further. For example, are they really planning to fence out livestock? Or just modify the grazing regime? And modify to what – what is the current grazing management scheme? How would they modify that scheme to improve habitat? (Reduce AUMs by how much? Or shorten the grazing period to what?). What strategies will they use for revegetation, what plant lists, and where within the mitigation area do they feel this is needed? How about a map of proposed actions?

Note: ODOE intends to update the revised HMP (see attached) to include sufficient details on enhancement actions, success criteria and monitoring. The draft amended HMP will be provided for ODFW review and comment.

We would certainly support a more rigorous monitoring plan, with more quantitative success criteria than what we previously reviewed and agreed with for Summit Ridge. We have learned from other EFSC projects since Summit Ridge was originally reviewed and approved, in particular we have learned that the more specific and quantitative the monitoring plan and success criteria, the easier it is for the applicant to report trend and the easier it is for reviewing

agencies to provide feedback. You might find it helpful to borrow some of the monitoring and success criteria recommendations from our draft white paper on temporary impacts/revegetation that we shared a couple months ago.

Would you have an opportunity sometime within the next week or so to discuss these? Thanks for all the help!

Luke May
Utility Energy Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy





November 28, 2018

Luke May
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

RE: Oregon Department of Fish and Wildlife review of Summit Ridge request for Amendment #4

Dear Mr. May:

The Oregon Department of Energy (ODOE) has requested review from the Oregon Department of Fish and Wildlife (Department) on the August 16, 2018 Amendment to Site Certificate proposal for the proposed Summit Ridge Wind Project. This Letter contains: (1) Department contact information for the project; and (2) the Department's review comments and recommendations on the proposed amendment.

A. Contacts

I will remain the primary Department contact person for the Energy Facility Siting Council (EFSC) permitting process. My contact information is: Jeremy Thompson, 3701 W 13th St. The Dalles, OR 97058. My phone number is (541) 296-4628. Please also copy Sarah Reif, the Department's Energy Program Coordinator: Sarah Reif, 4034 Fairview Industrial Drive SE, Salem, OR 97302; Office phone number (503) 947-6082.

B. Comments on the Application

General Comments

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

Oregon Revised Statutes (ORS)

- ORS 496.012 Wildlife Policy
- ORS 506.036 Protection and Propagation of Fish
- ORS 496.171 through 496.192 Threatened and Endangered Wildlife and Fish Species. A listing of State and Federal threatened, endangered and candidate species can be found on the Department's website at: http://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp
- ORS 498.301 through 498.346 Screening and By-pass devices for Water Diversions or Obstructions
- ORS 506.109 Food Fish Management Policy
- ORS 509-140 Placing Explosives in Water
- ORS 509.580 through 509.910 Fish Passage; Fishways; Screening Devices. A listing of requirements under the Department's Fish Passage Program can be found on the Department's website at <http://www.dfw.state.or.us/fish/passage/>

Oregon Administrative Rules (OAR)

- OAR Chapter 635, Division 100 provides authority for adoption of the State sensitive species list and the Wildlife Diversity Plan, and contains the State list of threatened and endangered wildlife and fish species. A current list of State sensitive species can be found on the Department's website at: http://www.dfw.state.or.us/wildlife/diversity/species/docs/SSL_by_category.pdf
- OAR Chapter 635, Division 415 Fish and Wildlife Habitat Mitigation Policy can be found on the Department's website at: http://www.dfw.state.or.us/lands/mitigation_policy.asp describes six habitat categories and establishes mitigation goals and standards for each wildlife habitat ranging from Habitat Category 1 (irreplaceable, essential, limited) to Habitat Category 6 (non-habitat)
- The Mitigation Policy goal for Habitat Category 1 is avoidance of impacts through development alternatives ultimately resulting in a Department recommendation of no authorization of the proposed development action if impacts cannot be avoided. Habitat Categories 2-4 are essential or important for fish and wildlife, but not irreplaceable habitats. Habitat Category 5 is not essential or important habitat for fish and wildlife, but has a high restoration potential. The application for a site certificate should identify the appropriate habitat categorization for all affected areas of the proposed project on mapping; provide basis for each habitat category selection; and provide an appropriate mitigation plan; all subject to ODOE and the Department's

review and comment. ODOE has adopted this rule into OAR 345-022-0060 as an energy facility siting standard for Applicants to meet in order to obtain a site certificate.

- The Department also provides technical review and recommendations on compliance with Oregon EFSC rules, particularly OAR 345-02100010(1) (p) and (q) and 345-22-040, 060 and 070.
- The Department also recommends project consistency with the Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines that were established in conjunction with multiple state, federal and industry partners. The intent of these guidelines is to create a balance between the development of renewable energy and environmental protection.

Department Recommendations

It is the Department's understanding that the Habitat Mitigation and Revegetation Plan (HMRP), as outlined in the current Site Certificate, will be reviewed and updated prior to project construction. At that time, the Department requests the opportunity to recommend changes based on the current best available science. The original site application for this project was received over ten years ago, and recommendations have evolved based on new science as well as ODFW's experience with operational projects. Specifically, the Department would like to address standards used to offset both temporary and permanent impacts to habitats in Categories 2-4, as well as classification of those habitats.

ODFW also requests the ability to suggest modifications to locations for proposed mitigation parcels at the time of construction. The majority of the landscape within the project boundary, as well as proposed mitigation parcels, were impacted by fire this last summer. There is a large effort currently underway to mitigate the impacts from those fires to the habitats present. With the proposed start of construction still unknown, ODFW is concerned that current proposed mitigation parcels may no longer meet the original intent for mitigation as outlined in the original mitigation plan.

The Department requests that ODOE confirm that all other conditions regarding Threatened and Endangered Species, as well as Fish and Wildlife Habitat be carried forward into Amendment #4.

The Department appreciates the opportunity to comment on this application and looks forward to working with ODOE and the Applicant.

Respectfully,



Jeremy Thompson

Mid-Columbia District Wildlife Biologist

Cc: Jon Germond, Salem
Sarah Reif, Salem
Michael Harrington, Bend
Simon Wray, Bend
Applicant



Oregon

Kate Brown, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE Ste C

Salem, OR 97301-1266

Phone (503) 986-0690

Fax (503) 986-0793

www.oregonheritage.org



October 8, 2018

Mr. Luke May
Oregon Dept of Energy
550 Capitol St NE
1st Floor
Salem, OR 97301

RE: SHPO Case No. 09-1281

ODOE, Summit Ridge Wind Farm Proj
NOI for site certification and CRAS Report
Multiple legals, The Dalles, Wasco County

Dear Mr. May:

Our previous response to the above referenced project remains applicable. A copy is included with this response. The only additional comment is that while the reports suggest there is no federal nexus, if the wind farm *needs* to connect to the federal grid, it may constitute an undertaking. The Advisory Council on Historic Preservation, who are the authors of the 36CFR800 regulations for Section 106 of the National Historic Preservation Act (NHPA) have a web-based document specifically addressing federal nexus issues around windfarm projects (<https://www.achp.gov/digital-library-section-106-landing/what-about-wind-farm-project-triggers-section-106>). In that document, they state:

...numerous federal agencies have actions (grants or other assistance, permits, leases, or other authorizations) involving applicants that may require compliance with Section 106 for specific wind farm projects. Examples include:

The Corps of Engineers provides permits for impacts to the waters of the US pursuant to section 404 of the Clean Water Act and permits for obstructions in navigable waters pursuant to Section 10 of the Rivers and Harbors Act;

The Western Area Power Administration and Bonneville Power Administration, which operate in the western portion of the nation, may provide the electrical interconnection between wind farms and the power grids. Accordingly, they may have Section 106 responsibilities depending on a variety of factors. In a number of cases, the key issue is the federal agency's decision whether a particular federal interconnection is a necessity for the otherwise private project to proceed (the "but for" question).

Aside from restating our previous response and considering the comment on the federal nexus, please be reminded that under state law (ORS 358.905 and ORS 97.74) archaeological sites, objects and human remains are protected on both state public and private lands in Oregon. If any are discovered during construction, all activities should cease immediately until a professional archaeologist can evaluate the discovery, or the tribal position paper on the treatment of human remains is followed (available at the SHPO website:<https://www.oregon.gov/oprd/HCD/ARCH/docs/Tribal%20position%20paper%20on%20Human%20Remains05212018.pdf>). If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If the project has a federal nexus (i.e., federal funding, permitting, or oversight), which is suspected, as referenced above, please coordinate with the appropriate lead federal agency representative regarding compliance with Section 106 of the National Historic Preservation Act (NHPA).



Sincerely,

A handwritten signature in cursive script that reads "John D. Pouley". The signature is written in a dark ink and is positioned to the right of the word "Sincerely,".

John Pouley, M.A., RPA
Assistant State Archaeologist
(503) 986-0675
john.pouley@oregon.gov

cc:



BOARD OF COUNTY COMMISSIONERS

511 Washington St, Ste. 101 • The Dalles, OR 97058
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Pioneering pathways to prosperity.

October 17, 2018

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301

Subject: Summit Ridge Windfarm

Dear Mr. May,

Thank you for notifying the County that there has been a request for amendment to the previously approved but not yet constructed, Summit Ridge Windfarm. According to the project materials listed on your website¹, the project still includes up to 72 wind turbines with a peak generating capacity of 194.4 megawatts, located within a site boundary of approximately 11,000 acres, approximately 17 miles southeast of The Dalles and eight miles east of Dufur.

The rules and regulations within the Wasco County Land Use and Development Ordinance pertaining to energy development have not changed since the time of the last evaluation of this project in 2016.

Given this information, Wasco County does not have any concerns associated with the request for amendment. Planning staff should be consulted as needed for technical assistance to evaluate any substantive differences in the application materials.

Thank you,
Wasco County Board of Commissioners

Steven D. Kramer, Chair

Scott C. Hege, Vice-Chair

Rod L. Runyon, County Commissioner

¹ <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SRW.aspx>

MAY Luke * ODOE

From: Angie Brewer <angieb@co.wasco.or.us>
Sent: Wednesday, January 02, 2019 9:40 AM
To: MAY Luke * ODOE
Subject: Fwd: Summit Ridge Wind Project Request for Amendment 4 - wind turbine setbacks

Hi Luke, Happy New Year.

I've had a chance to converse with our staff about your questions. We are not aware of any new infrastructure in the development area. And, as his email states below, Arthur Smith has confirmed that his 2016 response is still accurate. Please note however, pursuant to our Ordinance, Section 19.030(D)(1)(c)(3)(c)(i) we would still want approval of the underlying landowner.

Thank you for the opportunity to participate in this project.

Angie



Angie Brewer, AICP | Director
PLANNING DEPARTMENT

angieb@co.wasco.or.us | www.co.wasco.or.us
541-506-2566 | Fax 541-506-2561
2705 East Second Street | The Dalles, OR 97058

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Note: This correspondence does not constitute a Land Use Decision per ORS 197.015. It is informational only and a matter of public record.

----- Forwarded message -----

From: Arthur Smith <arthurs@co.wasco.or.us>
Date: Fri, Dec 28, 2018 at 8:20 AM
Subject: Re: Summit Ridge Wind Project Request for Amendment 4 - wind turbine setbacks
To: Angie Brewer <angieb@co.wasco.or.us>

Angie,

The consent I provided in 2016 is still valid. None of those proposed setback distances will impact the existing county road or public right-of-way.

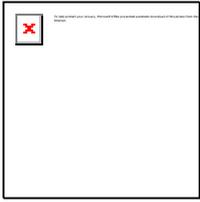
Arthur

On Thu, Dec 27, 2018 at 1:56 PM Angie Brewer <angieb@co.wasco.or.us> wrote:

Arthur,

Please see below. Do you still feel the same as you did about this in 2016? I need to respond to EFSC soon...Thanks :)

A



Angie Brewer, AICP | Director
PLANNING DEPARTMENT

angieb@co.wasco.or.us | www.co.wasco.or.us
541-506-2566 | Fax 541-506-2561
2705 East Second Street | The Dalles, OR 97058

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Note: This correspondence does not constitute a Land Use Decision per ORS 197.015. It is informational only and a matter of public record.

----- Forwarded message -----

From: MAY Luke * ODOE <Luke.May@oregon.gov>
Date: Wed, Dec 26, 2018 at 11:11 AM
Subject: RE: Summit Ridge Wind Project Request for Amendment 4 - wind turbine setbacks
To: Angie Brewer <angieb@co.wasco.or.us>

Hi Angie,

Sorry to bug you during the middle of the holidays. If you get a chance, could you comment on these two areas below? Thanks and I hope you are enjoying this time.

-Luke

From: MAY Luke * ODOE
Sent: Thursday, December 20, 2018 11:21 AM
To: 'Angie Brewer' <angieb@co.wasco.or.us>
Subject: Summit Ridge Wind Project Request for Amendment 4 - wind turbine setbacks

Hi Angie,

As a quick summary - in the RFA2, the Council previously granted a setback variance for 17 turbines. These turbines would be setback at 110% of the tower height as opposed to 150%.

Because there are new noise sensitive receptors, we are evaluating the WCLUDO Section 19.030(D)(1)(c).

Relating to 19.030(D)(1)(c)(3)(c) (i) and (iv) – could you please provide comment on whether:

- The consent provided in 2016 (below) is still valid?
- Is there any new existing infrastructure that the turbines (with setback variance) could impact?

For your reference, I have also provided a screenshot from the Request for Amendment 2, which provides a map of the proposed turbines with reduced setbacks. Please let me know if you need more information or would like to talk on the phone. Thanks again for your help!

-Luke

From: Arthur Smith [<mailto:arthurs@co.wasco.or.us>]
Sent: Thursday, April 21, 2016 2:37 PM
To: Steven Ostrowski
Cc: Angie Brewer
Subject: Setback variance - Summit Ridge Wind Farm

Steve,

Thank you for meeting with me and discussing the proposed setback variance for the Summit Ridge wi project. I really appreciate all the information you provided.

3

With regards to Wasco County LUDO, Section 19.030 (D)(1)(c)(3)(c)(1) and acting as the designated r authority for Wasco County, I am consenting to the requested setback variance of 1.1. This variance w unduly impair safety on the county roads in the project area and it will not unduly burden any county infrastructure.

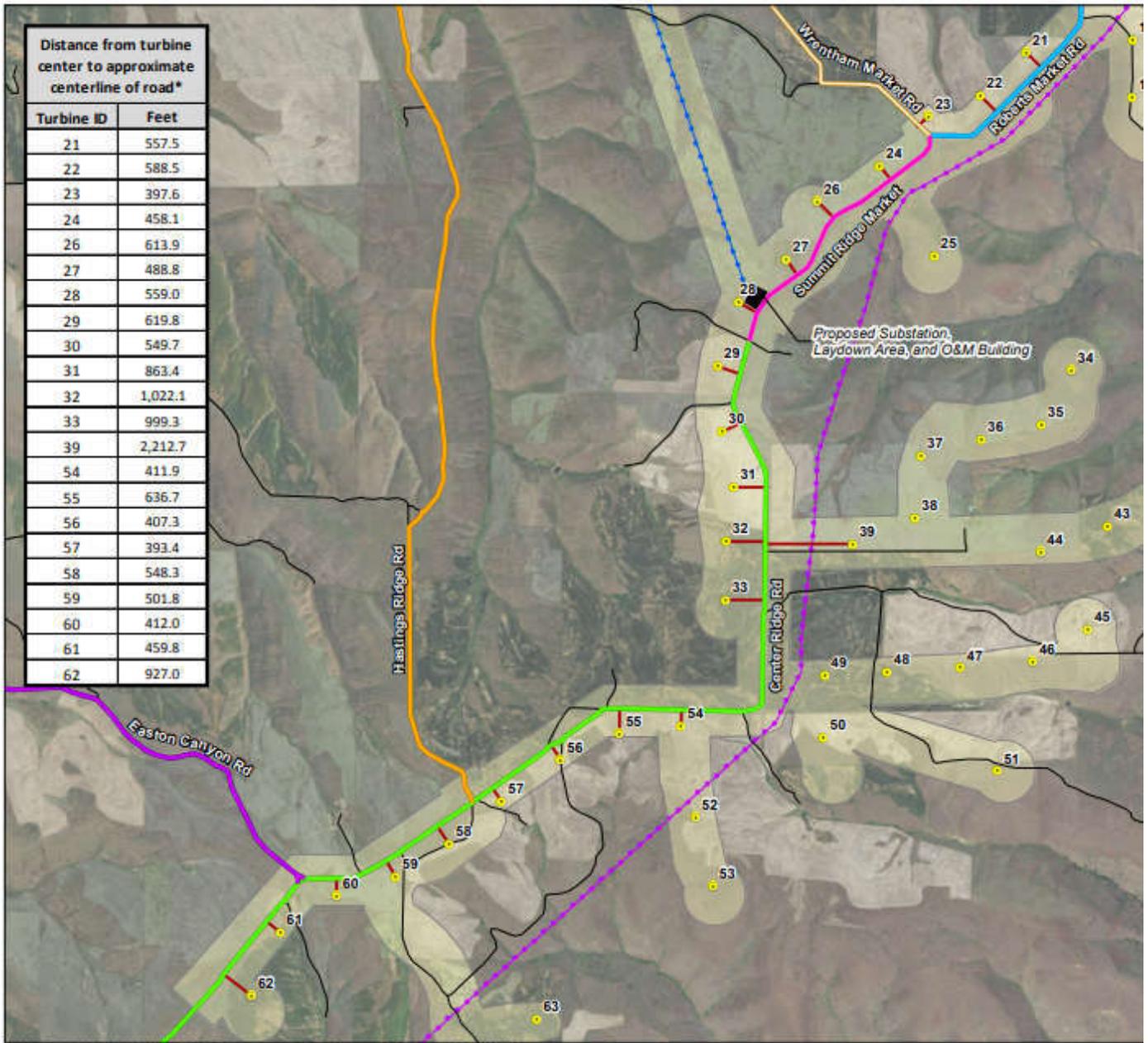
If you have any questions, please feel free to contact me. Thanks.

Arthur

--

Arthur Smith, Director
Wasco County Public Works
541-506-2645

v

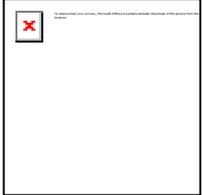


Luke May

Siting Analyst

Oregon Department of Energy
 550 Capitol St NE, 1st Floor
 Salem, OR 97301
 P:(503) 373-7115

Oregon.gov/energy



Arthur Smith | Director

PUBLIC WORKS

arthurs@co.wasco.or.us | www.co.wasco.or.us
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2705 East 2nd Street | The Dalles, OR 97058

MAY Luke * ODOE

From: Brian Manning <roccobb@gmail.com>
Sent: Tuesday, November 06, 2018 7:38 AM
To: Angie Brewer
Cc: Kelly Howsley-Glover; MAY Luke * ODOE; Scott Baker
Subject: Re: recreational resources in Wasco County

Angie/Luke,

There are no new recreation facilities in South Wasco County that I am aware of.

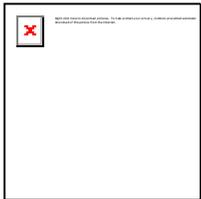
Brian

On Mon, Nov 5, 2018 at 4:32 PM Angie Brewer <angieb@co.wasco.or.us> wrote:
Hi Luke,

Cottonwood Canyon State Park is not located in Wasco County, but I do appreciate the question. There are no new recreation facilities that I'm aware of. In 2016, the South Wasco Parks and Recreation District was formed as a new district to manage public facilities in South Wasco County. I believe they are mostly focused on the recreation opportunities at Pine Hollow Reservoir at this time, which is an existing facility. I've copied Brian Manning, their chair, in the event they have a new facility that I'm not aware of. I've also copied Scott Baker, from the North Wasco County Parks and Recreation District, and our Long Range Planner, Kelly Howsley-Glover, in case she's come across anything in our plan update process that might be relevant.

Brian, Scott and Kelly: Any new recreation facilities in Wasco County developed in the last few years that you can think of?

Thanks,
Angie



Angie Brewer, AICP | Director
PLANNING DEPARTMENT

angieb@co.wasco.or.us | www.co.wasco.or.us
541-506-2566 | Fax 541-506-2561
2705 East Second Street | The Dalles, OR 97058

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On Mon, Nov 5, 2018 at 3:19 PM MAY Luke * ODOE <Luke.May@oregon.gov> wrote:

Hi Angie,

I am reviewing the Summit Ridge Wind Farm application for construction deadline extension. The certificate holder indicates that there are no new recreational opportunities in Wasco County, and cites the most recent Wasco County Comprehensive Plan (2010). However, it looks like Wasco County added the Cottonwood Canyon State Park after this date. Could you confirm that there are no new parks or recreational opportunities in Wasco County that were added that should be evaluated? Thanks!

-Luke

Luke May

Siting Analyst

Oregon Department of Energy
[550 Capitol St NE](#), 1st Floor
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Oregon.gov/energy

Summit Ridge Wind Power Project Consultation with Oregon Department of Geology and Mineral Industries (DOGAMI)

November 14, 2018

Skype Call and Meeting in Portland, OR at the DOGAMI office

In Attendance Yumei Wang, P.E. – DOGAMI; Katie Clifford – ODOE; Luke May - ODOE

On Phone Derek Price – Pattern Energy; Linnea Fossum – Tetra Tech/Pattern Energy;
Suzy Cavanagh – Tetra Tech/Pattern Energy

DOGAMI requested that the consultation meeting held on November 14, 2018 be summarized and emailed to DOGAMI and ODOE for review so that we are all on the same page as to what is expected to be analyzed.

Project Description and Schedule

Summit Ridge is a wind energy project in Wasco County that is permitted for 194.4 MW with 72 turbines on approximately 11,000 acres. It was permitted in 2011, has had two amendments, to change turbine types and extend construction deadlines, and another amendment last fall to transfer ownership to Pattern Energy. Pattern has an extensive resume developing wind projects throughout the country. This RFA will further extend the construction deadline to allow Pattern to continue development. No changes to the site boundary and prior certificate under this RFA.

Derek Price (on phone) heads up the Pattern preconstruction group which oversees all engineering, estimating, and support design teams up until construction starts. Pattern has been around for 9 years, prior to that it was Babcock and Brown, Pattern was a subset of that financial firm. The renewables energy group broke away and formed Pattern. Pattern owns and operate about 4,000 MW of wind and solar in US, Canada, Japan, and recently divested some projects in South America. In the U.S. Pattern has 10 operating wind projects in California, Texas, Indiana, New Mexico and Ontario, Canada. Derek has been with Pattern for 5 years. Pattern develops, builds, and operates in communities and gets involved in the local community because they will own and operate the project at the end of the day.

Information needed for the RFA

ODOE requested an overview of Exhibit H and what was done in the first go around in site certificate review. Exhibit H work was done in 2010, DOGAMI consultation was done with Bill Burns. There are different codes and scientific information now and DOGAMI stated that the work needs to be updated to the current codes, new structural codes, and new standards.

Studies to be conducted prior to construction

The final design and geotechnical work doesn't happen until later in the process. There has been no site-specific geotechnical work done yet. A desktop analysis will be conducted for preliminary work and the site-specific studies will be done closer to construction once Pattern is nearing the stages of final design of the wind turbines, roads, etc.

DOGAMI has a Scope of Review for EFSC and will expect to have a site specific geotechnical work done for foundation, geologic hazards, and landslide hazards. What can be done at the desktop level is USGS fault database. Any new energy facility will need a site specific seismic investigation and regional literature search. There are active faults on Mt. Hood (found by DOGAMI). DOGAMI would expect to have faults looked at in the near vicinity. Site specific response analyses, controlling earthquake and design parameters will need to be done. For landslides, DOGAMI considers using Lidar as the base map as standard of practice and wants to make sure Pattern is using the most recent science. Yumei Wang cited some un-named faults in the area and a named fault in the NE and would like those well cited so we know where that information came from. DOGAMI would like the geotechnical report to be appended to Exhibit H.

Derek indicated that what DOGAMI has outlined is what Pattern would do prior to final design:

- 100% site-specific geotechnical analysis along with slope stability analysis.
- 100% Lidar of all of sites where impacts will be, usually in a 1,000-foot corridor.
- To further address the seismic concerns, additional investigative work with the engineering firm will be completed. For example, Pattern has done fault trenching before in California near the San Andreas fault where sight lines were run, and differential settlement was run to assist in micrositing wind turbines.

If landslide hazards are identified, DOGAMI would want Pattern to do Lidar analysis that would extend beyond the corridors (ex: ridgetops to bottom of valley). For ground motions, we have Cascadia subduction faults which are offshore and pretty far away. The long-period ground motions can dominate and can well exceed the ground motion response spectrum. Address areas where the site-specific response spectra might be high in the long range. Discuss how you plan to address that with any long-period structures. DOGAMI doesn't know what you plan to do, so please clearly outline what you have done, or what you plan to do at what stage for geotechnical analysis. Identify that these aren't data gaps, but studies that haven't been done yet. Please be explicit, for example, what facilities are you boring near and to what depth.

Pattern can outline that; the wind turbine foundations go to 50 feet or until auger refusal within the footprint of the foundation. Any building structures (substation, O&M buildings), if the design is adjusted (microsited), Pattern will remobilize and do additional borings.

DOGAMI requested to include in these notes into Exhibit H. It isn't just DOGAMI doing consultation, but the public wants to know that the state is moving ahead prudently. DOGAMI would appreciate knowing what code and references Pattern is using. DOGAMI uses the Oregon Structural Specialty

code that refers to the International Building Code (IBC). Please be explicit to other codes too, for example transmission, seismic shaking, National Electric Safety Code, etc.

Pattern has a document of standards that all contractors are required to use. DOGAMI would like that appended to Exhibit H. This information will be documented in these notes and in the final amendment application.

ODOE requested other than revising existing Exhibit H, include in revised requested amendment (updated RFA). Include in updated RFA long-period ground motion hazards with respect to fault hazards, Lidar studies and what will be done in the future. Exhibit H was vague and gave examples; we have discussed types of investigation that would be appropriate and those can be included.

That will be in the notes and we can provide the additional information for the standards.

DOGAMI discussed disaster resilience and future climate:

Disaster resilience – Pattern says that the project will be designed to code. DOGAMI expects that with any energy project and is interested in knowing if you consider designing above code and what measures are considered above code. For example, measures to speed recovery of operations after a disaster.

Pattern asked if there is a specific concern DOGAMI has since disaster resiliency and/or future climate events are vague. DOGAMI will share the DOGAMI Scope of Review for EFSC document which gives examples. State codes, scientific information, and make it transparent to public. Make sure that for energy facilities that provide electricity to communities, that the electricity providers cannot take a big hit and be out because DOGAMI wants to make sure that the electricity can be delivered. In Oregon the Cascadia Subduction zone fault is the biggest hazard. DOGAMI is making an effort statewide to make sure Oregon is resilient to natural disasters. Example, long electrical blackouts and that new facilities don't compound the problem but help out in a disaster. Old facilities will have issues in disasters, but DOGAMI expects newer facilities to help out in a disaster. DOGAMI discussed nearby Mt. Hood and potential issues with channel migration, that is something DOGAMI wants considered for transmission lines in areas of erosive geology with glacial soils.

Future climate – DOGAMI wants to make sure the facility takes into account climate today and future climate. We are seeing more drought and fires and wind and snow patterns changing. DOGAMI is not asking for detailed studies of climate conditions at the project site, but to know that Pattern is aware of them and how they are being taken into account.

ODOE discussed information related to disaster resilience and climate change. Division 21 requires an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. In addition, it requires an assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility. Need to discuss how changing climate could impact the facility. The RFA states that the project will be "...designed to withstand," we need to know the "how" it will be designed.

Yumei suggested to look at wind maps in the code and state that you are designing to above what you have to address anyway. There may be channels in the area where you could get streambank erosion and channel migration, maybe there is not hazard there, but DOGAMI wants you to evaluate and address if it is a hazard now or in 50-years from now and explain the design life of the facility. For example, BPA assumes infinite life on their transmission lines. If Pattern is doing the same, tell us how you are designing for it, that would cover these topics.

Pattern will describe the design life and the codes. For wind projects, Pattern builds in windy areas. An example of designing above code is for our transmission lines; Pattern designs under NESC heavy-case – typically designs for 1.5 inches of ice and very high winds, both which exceed the requirement. This example is from experience designing to code, so Pattern designs above code regularly.

DOGAMI stated that there have been conditions in eastern Oregon and western Idaho where power companies have had failures because the conditions exceeded the codes that were designed to.

Next Steps

The final summary of consultation should be included as an attachment to Exhibit H. Geotechnical report(s) for any studies that have been completed at the time of ASC submittal should also be attached to Exhibit H.

MAY Luke * ODOE

From: WANG Yumei * DGMI
Sent: Friday, December 21, 2018 12:27 PM
To: MAY Luke * ODOE
Cc: WANG Yumei * DGMI
Subject: RE: Summit Ridge Wind DOGAMI consultation notes

Hi Luke,

Nice chatting!

As discussed, the below response (in red) adequately addresses what was summarized for the DOGAMI consultation. From this perspective, I think it's fine for the Applicant to advance to the next stage (but that's your decision).

However, as discussed, the Applicant's attached document on design requirements is missing seismic standards that should definitely be included. I don't know all the codes and standards that are missing—and it's up to the Applicant to conduct address this gap (research missing codes and standards, add it to their design requirements list, as well as conduct the appropriate actions through the entire project, such as design).

As an important specific example, IEEE 693 is the industry standard for transformers and other substation equipment and components. This standard is missing from their list of design requirements. I mentioned this standard during the DOGAMI Consultation. It's quite possible that other seismic standards may also be missing from their list and their practice. The onus is on the Applicant to do due diligence on knowing the relevant industry codes and standards as well as integrating them into their proposed project.

A draft 2018 version of IEEE 693 is available, which would be the preferred standard for use (as opposed to 2005 IEEE 693). Here's a brief description:

IEEE 693 RECOMMENDED PRACTICE. A common standard within the Seismic Certification realm is IEEE 693: IEEE Recommended Practice for Seismic Design of Substations. IEEE 693 covers seismic qualification of battery racks, transformers, switchgear and other products and equipment for substations.

Happy holidays!

Yumei

Yumei Wang, P.E. | Resilience Engineer
Oregon Department of Geology and Mineral Industries (DOGAMI)
800 NE Oregon Street, Suite 965, Portland, Oregon 97232
Office: (971) 673-1551 | Mobile: (503) 913-5749
yumei.wang@oregon.gov | www.oregongeology.org

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From: MAY Luke * ODOE
Sent: Friday, December 21, 2018 11:02 AM

To: WANG Yumei * DGMI <Yumei.WANG@oregon.gov>
Subject: FW: Summit Ridge Wind DOGAMI consultation notes

Hi Yumei,

I wanted to forward these responses to you - the certificate holder responded to our requests in the email in red font below. Will you be taking vacation during the holidays? If not, would you have an opportunity for a phone call at your earliest convenience? We would like to determine whether these responses, in DOGAMI's opinion, are sufficient as soon as possible. Thanks again for your help on this project!

-Luke

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy



From: Fossum, Linnea [<mailto:Linnea.Fossum@tetrattech.com>]
Sent: Thursday, December 20, 2018 3:17 PM
To: MAY Luke * ODOE <Luke.May@oregon.gov>; Cavanagh, Suzy <Suzy.Cavanagh@tetrattech.com>
Cc: Derek Price <Derek.Price@patternenergy.com>; CLIFFORD Katie * ODOE <Katie.Clifford@oregon.gov>; WANG Yumei * DGMI <Yumei.WANG@oregon.gov>; Adam Cernea Clark <Adam.CerneaClark@patternenergy.com>; Kevin Wetzel <Kevin.Wetzel@patternenergy.com>
Subject: RE: Summit Ridge Wind DOGAMI consultation notes

Luke, please see responses from Pattern below and attached, and let me know if you have further questions.

Linnea Fossum, PE | Senior Project Manager
Direct +1 (425) 482-7823 | Main +1 (425) 482-7600 | Mobile +1 (425) 765-3043 | linnea.fossum@tetrattech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions
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From: MAY Luke * ODOE <Luke.May@oregon.gov>
Sent: Friday, November 30, 2018 8:21 AM
To: Cavanagh, Suzy <Suzy.Cavanagh@tetrattech.com>
Cc: Fossum, Linnea <Linnea.Fossum@tetrattech.com>; Derek Price <Derek.Price@patternenergy.com>; CLIFFORD Katie * ODOE <Katie.Clifford@oregon.gov>; WANG Yumei * DGMI <Yumei.WANG@oregon.gov>
Subject: RE: Summit Ridge Wind DOGAMI consultation notes

Hello Suzy,

Thank you very much for the notes that memorialize the DOGAMI consultation from November 14. We have reviewed the notes with DOGAMI, and require the following information to be incorporated within the revised RFA:

- Delineate specific standards that will be used for design of the facility (e.g., National Electric Safety Code for transmission lines) as well as for all facility components;
Response: Please see attached design requirements applied to EPC contracts issued by Pattern for design and construction of wind facilities in the U.S.
- Discuss long-period ground motion hazards, and how you plan to design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by those hazards;
Response: Based on the results of the final site specific geotechnical investigation, a mitigation plan to address any concerns with long-period ground motion would be developed to avoid dangers to human safety and the environment. The mitigation plan would take into account the probability of ground motions occurring during the expected design life of the facility.
- Provide more discussion of disaster resilience design and designs for future climate conditions (as discussed during the consultation) to address Division 21 requirements and;
Response: To provide some additional clarity around disaster resiliency, typical ASCE7 Conditions assume a maximum wind gust of 90 mph as the worst case loading conditions on a transmission line, Pattern Development specifies 100mph maximum gust of wind. Pattern Development also takes into account other environmental factors such as fire risk and ensuring transmission structures are either steel or have a fire retardant coating on the wooden poles on the lower portion of the structures to fend off small brush fires if they were to occur. While it's hard to predict all future climatic conditions, our current codes and design specifications are continuously evolving and go through annual technical reviews to ensure they are current to the latest technology and means and methods for renewable energy facilities.
- Provide a description and schedule of site-specific geotechnical work that will be performed prior to construction for inclusion in the site certificate as conditions.
Response: Site specific geotechnical investigative work with include borings at all wind turbine locations; transmission line dead-ends, turning structures, and one (1) bore every mile on tangent structure locations; substation(s), and the Operations and Maintenance Facility. Typical bores for wind turbine foundations reach a depth of 50 feet, all other infrastructure is bored to a depth of approximately 35 feet. In addition to the physical site-specific geotechnical work, extensive desktop studies will be performed to evaluate the geology, soil-related hazards, and seismic hazards that addresses all potential issues identified by the Oregon Department of Geology and Mineral Industries. It is expected the site-specific geotechnical work would commence approximately six (6) months to one (1) year prior to commencement of construction

Please let me know if you have any questions,

Thank you,

-Luke

Luke May

Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy



From: Cavanagh, Suzy [<mailto:Suzy.Cavanagh@tetrattech.com>]
Sent: Wednesday, November 28, 2018 1:03 PM
To: WANG Yumei * DGMI <Yumei.WANG@oregon.gov>
Cc: MAY Luke * ODOE <Luke.May@oregon.gov>; Fossum, Linnea <Linnea.Fossum@tetrattech.com>; Derek Price <Derek.Price@patternenergy.com>
Subject: Summit Ridge Wind DOGAMI consultation notes

Hi Yumei,
Please find attached the draft notes summarizing DOGAMI consultation on November 14, 2018 for the Summit Ridge Wind Project for your review and approval.

Please let me know if you have any questions.

Thank you,
Suzy

Suzy Cavanagh, P.G. | Project Manager
Direct: 208.489.2868 | Cell: 208.871.0720
suzy.cavanagh@tetrattech.com

Tetra Tech | Complex World, Clear Solutions™
3380 Americana Terr. Suite 201 | Boise, ID 83706 | www.tetrattech.com

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MAY Luke * ODOE

From: WANG Yumei * DGMI
Sent: Wednesday, December 26, 2018 4:50 PM
To: CLIFFORD Katie * ODOE; MAY Luke * ODOE
Cc: WANG Yumei * DGMI
Subject: FW: Leon, missing any references (EFSC)?

Hi Katie and Luke,

Nice talking to you about “the middle ground” approach.

I’m getting some feedback on missing references and digesting it. But, you can see below that it can get complicated.

As the wind industry matures, they will likely be improving their designs for seismic conditions. In the meantime, we should make sure that they are using the below references when appropriate,

From: Kempner,Leon Jr (BPA) - TEL-TPP-3 <lkempnerjr@bpa.gov>
Sent: Wednesday, December 26, 2018 4:21 PM
To: WANG Yumei * DGMI <Yumei.WANG@oregon.gov>
Subject: RE: Leon, missing any references (EFSC)?

Quick look

There are a few standards that could be used and are not included in the file that was attached. Some of the following standards would only be applicable if the transmission structure type was being considered. When it come to the IEC and ANSI standards there are so many and would only be applicable if the type of equipment was being considered for the project.

TIA EIA 222

Seismic:

IEEE 693, Recommended Practice for Seismic Design of Substations

IEEE 1527, Recommended Practice for Design of Buswork Located in Seismically Active Areas

ASCE 113, Guide for Design of Substation Structures (Addresses the seismic design of non-equipment supports)

Lattice Transmission Line Towers

ASCE 10, Design of Latticed Steel Transmission Structures

Substation Structures

ASCE 113, Guide for Design of Substation Structures

Transmission Line Towers

IEEE 1307, Standard for Fall Protection for Utility Work

IEEE 751, Trial-Use Design Guide for Wood Transmission Structures

IEEE 977, Guide for Installation of Foundations for Transmission Line Structures

USDA/RUS Standards (<https://www.rd.usda.gov/publications/regulations-guidelines/bulletins/electric>) Such as:

1724E-200 Design Manual for High Voltage Transmission Lines (12/2/15)

1724E-204 Guide Specifications for Steel Single Pole and H-Frame Structures (11/17/16)

From: WANG Yumei * DGMI [<mailto:Yumei.WANG@oregon.gov>]
Sent: Wednesday, December 26, 2018 11:31 AM
To: Kempner, Leon Jr (BPA) - TEL-TPP-3
Cc: WANG Yumei * DGMI
Subject: [EXTERNAL] Leon, missing any references (EFSC)?

Hi Leon,

Happy Boxing Day!

As you may know, I conduct geologic hazard related consultations and reviews for (most all) new proposed energy facilities via a state agency-to-agency contract with the Oregon Dept of Energy.

I request that Applicants (that propose energy projects) to specify the codes, standards and guidelines that they plan to use. They must also consider disaster resilience and climate change in their proposed design.

Attached is one Applicant's document on design requirements. It is missing seismic standards that should definitely be included for projects in the State of Oregon (including eastern Oregon). As an important specific example, IEEE 693 is missing. I have advised that they use the draft 2018 version of IEEE 693 (as opposed to 2005 IEEE 693), and that it is the industry standard for transformers and other substation equipment and components.

It's quite possible that other seismic and non-seismic-related standards may also be missing from this list and as well as their practice. And although the onus is on Applicants to do due diligence on knowing the relevant industry codes and standards as well as integrating them into their proposed project, I wanted to be sure that I am generally aware of the more important references. So, I'm asking for your help on this matter...

My question for you:

Are any important design codes and standards missing from the attached list that is important for design for new projects involving electrical generation and getting the electricity to the grid?

For example, how important is TIA/EIA-222-G, the structure standard for antenna supporting structures and antennas? Is all of the design info already in ASCE 7-16?

Also, are there any important best practices on O&M that I could be referring to?

Thanks very much for your help.

Yumei

Yumei Wang, P.E. | Resilience Engineer
Oregon Department of Geology and Mineral Industries (DOGAMI)
800 NE Oregon Street, Suite 965, Portland, Oregon 97232
Office: (971) 673-1551 | Mobile: (503) 913-5749
yumei.wang@oregon.gov | www.oregongeology.org

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Unless otherwise indicated, all information in this correspondence is classified as Level 1, "Published" according to State of Oregon statute and administrative policy.

MAY Luke * ODOE

From: Christian Nauer <christian.nauer@ctwsbnr.org>
Sent: Monday, November 19, 2018 12:00 PM
To: MAY Luke * ODOE
Cc: Robert Brunoe
Subject: Re: ODOE requested comment on the Summit Ridge Wind Facility
Attachments: PastedGraphic-1.pdf

Dear Luke,

Thank you for the opportunity to comment on the Summit Ridge Wind Facility.

General Comment:

As the technical reviewer for NHPA Section 106 and other cultural resource issues for the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), the CTWSRO Tribal Historic Preservation Office (THPO) has concerns with the potential effects to historic properties or cultural resources within the Project Area of Potential Effects (APE). The Project APE is within the territories and areas of concern for the CTWSRO.

Project-specific Comment(s):

This office considers the archaeological survey report (Rooke 2010) to be a good faith effort to identify historic properties within the APE. Exhibit S of the Preliminary Application indicates that the design for the facility has been modified to avoid potentially eligible sites during Project implementation, and that all sites are to be identified as "no-work zones". In addition, archaeological monitoring has been recommended for areas near archaeological sites and within areas that have a high probability of containing previously undiscovered cultural resources (ridge tops with deep sediments).

If the following conditions are met, this office concurs that a reasonable and good faith effort has been made to identify, evaluate, and protect historic properties and cultural resources within the Project APE:

- The project design avoids previously recorded sites (as described in Exhibit S);
- An archaeological or Tribal monitor will be present for all ground-disturbing activities near known sites and in areas with a high probability for undiscovered cultural resources (as described in Exhibit S);
- An Inadvertent Discovery Plan (IDP) for human remains, items of cultural patrimony, and intact archaeological deposits (and consistent with Oregon SHPO guidelines) will be in place prior to construction;
- Constructions crews will be trained/briefed on the contents and importance of the IDP.

Please share with this office any forthcoming monitoring report, or any other information relevant to cultural resource work associated with this Project.

Thanks again for your consideration, please contact me if you have any questions,

Christian Nauer, MS

Archaeologist
Confederated Tribes of the Warm Springs Reservation of Oregon
Branch of Natural Resources

christian.nauer@ctwsbnr.org

Office 541.553.2026
Cell 541.460.8448

Standard Disclaimers:

*The Confederated Tribes of the Warm Springs Reservation of Oregon have reserved treaty rights in Ceded Lands, as well as Usual and Accustomed and Aboriginal Areas, as set forth through the Treaty with the Middle Tribes of Oregon, June 25, 1855.

*Please know that review by the Tribal Historic Preservation Office does not constitute Government-to-Government consultation. Please ensure that appropriate Government-to-Government consultation is made with the Confederated Tribes of the Warm Springs Tribal Council.

On Nov 19, 2018, at 11:09 AM, MAY Luke * ODOE <Luke.May@oregon.gov> wrote:

Hi Christian,

Thanks again for speaking with us a couple weeks ago. We would like to publish our Draft Proposed Order soon on this project; would you be able to draft a comment letter relating to the Summit Ridge Wind Farm that summarizes our previous conversation that you did not have a concern with the project? Thanks again – I hope to interact with you on more projects in the future.

-Luke

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy
<image001.jpg>

From: Christian Nauer [<mailto:christian.nauer@ctwsbnr.org>]
Sent: Monday, November 05, 2018 8:23 AM
To: MAY Luke * ODOE <Luke.May@oregon.gov>
Subject: Re: ODOE requested comment on the Summit Ridge Wind Facility

Hi Luke,

Sure, I will be in Monday until about 4pm. Please drop a line.

Christian

Christian Nauer, MS

Archaeologist
Confederated Tribes of the Warm Springs Reservation of Oregon
Branch of Natural Resources

christian.nauer@ctwsbnr.org

Office 541.553.2026

Cell 541.460.8448

On Nov 2, 2018, at 2:30 PM, MAY Luke * ODOE <Luke.May@oregon.gov> wrote:

Hi Christian,

I see you're out today. My colleague, Sarah Esterson, and I are available from 11:00 - 1:00 and from 2:00 – 3:00. We'll try calling your office at 541-553-2026 – would 11:30 am Monday work for you? Thanks again,

-Luke

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy

<image001.jpg>

From: Christian Nauer [<mailto:christian.nauer@ctwsbnr.org>]

Sent: Wednesday, October 31, 2018 4:48 PM

To: MAY Luke * ODOE <Luke.May@oregon.gov>

Subject: Re: ODOE requested comment on the Summit Ridge Wind Facility

Hi Luke,

Sure, I'd be happy to talk with you on the phone. I'm in the office a majority of the time. I'm out of the office this Friday (Nov. 2) but tomorrow or next week would be fine.

Please drop a line when you have a minute,

Regards,

Christian

Christian Nauer, MS

Archaeologist
Confederated Tribes of the Warm Springs Reservation of Oregon

Branch of Natural Resources

christian.nauer@ctwsbnr.org

Office 541.553.2026

Cell 541.460.8448

On Oct 29, 2018, at 12:00 PM, MAY Luke * ODOE
<Luke.May@oregon.gov> wrote:

Hello Christian Nauer,

I sent this e-mail (below) to Robert Brunoe, Roberta Kirk, and Kathleen Sloan last week. I apologize that I didn't include you – I was recently alerted to the fact that you should have been notified and I have since updated our contact list database to include you.

The project described below is the 4th amendment to a previously approved wind energy facility. Would you have availability to set up time for a phone call? I would like to answer any questions you may have relating to project design or relating to the Energy Facility Siting Council review process. Thank you for your time.

Sincerely,

-Luke

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

Oregon.gov/energy

<image001.jpg>

From: MAY Luke * ODOE

Sent: Monday, October 22, 2018 9:47 AM

To: 'robert.brunoe@ctwsbnr.org' <robert.brunoe@ctwsbnr.org>;

'roberta.kirk@ctwsbnr.org' <roberta.kirk@ctwsbnr.org>;

'kathleen.sloan@ctwsbnr.org' <kathleen.sloan@ctwsbnr.org>

Subject: ODOE requested comment on the Summit Ridge Wind Facility

Hello Robert Brunoe, Roberta Kirk, and Kathleen Sloan,

ODOE received a preliminary Request for Amendment (pRFA) 4 to the Summit Ridge Wind Farm site certificate on August 16, 2018. The Summit Ridge Wind Farm is an approved, but not yet constructed, wind facility consisting of up to 72 wind turbines with a peak generating capacity of 194.4 megawatts. In accordance with the existing site certificate, construction must begin by August 19, 2018 and be completed by August 19, 2021. The pRFA requests to extend each of these construction deadlines by 2 years.

The pRFA is available on our website at the following link: <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SRW.aspx>

Link to PDF map (poor resolution)

<https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/Summit-Ridge-Map.pdf>

Link to GIS interactive map

<https://geo.maps.arcgis.com/home/webmap/viewer.html?webmap=5f58fa2370004bf6b42cafe8187badae&find=Summit%20Ridge%20Wind%20Farm&mapOnly=true>

I have attached to this e-mail, the original exhibit pertaining to cultural, historic, and archaeological resources. The Department would like to know whether the Warm Spring Tribe has identified an historic, cultural, and archaeological resources located within the wind farm project site boundary. I have also attached the relevant conditions in the current Site Certificate. Included within these conditions is that the developer must maintain a 200 foot buffer around all rock alignments and cairn sites, and must implement a 100 foot buffer around all other archaeological site. If you would like to review the confidential exhibit relating to this project, I will reach out to the developer and they can send you those documents.

I am also available to discuss this project by phone, at 503-373-7115 if you have any questions. Thanks,

Luke May
Siting Analyst
Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301
P:(503) 373-7115

[Oregon.gov/energy](https://www.oregon.gov/energy)
<image001.jpg>

<Summit Ridge Wind Historic, Cultural, and Archaeological resource coundi....pdf><ASC Exhibit S.pdf>

Attachment C: [Reserved for Draft Proposed Order Comments]

Attachment D: Draft Habitat Mitigation Plan

**Draft Habitat Mitigation Plan
for the
Summit Ridge Wind Project
(As Amended)**

January 2019

Introduction

The Summit Ridge Wind Project is approved to be located in Wasco County, Oregon. As part of the Application for Site Certificate (ASC) (Exhibits P and Q) and subsequent amendment requests, Northwest Wildlife Consultants, Inc. (NWC) completed habitat mapping and quality assessment of the facility area, and conducted site-specific biological studies that included rare plant surveys, avian use surveys, a grassland bird displacement study, special status vertebrate wildlife species surveys, a raptor nest survey, an inventory of bat species, big game observations, as well as reviews for potential occurrence of or records of special status species (Gerhardt et al., 2009a, 2009b).

Description of Project Impacts

The Summit Ridge Wind Project is approved to consist of up to 72 turbines and is approved to generate 194.4 megawatts (MW). Other associated facilities include collector lines and substation, turbine pads, maintenance roads, an operations and maintenance building, and one 230-kilovolt overhead transmission line.

The facility's footprint (area to be covered by permanent facilities) will occupy approximately 42 acres of dryland agriculture, which is Category 6 habitat, and approximately 26 acres of Category 2 (big sagebrush shrub-steppe; and mapped mule deer and/or elk winter range habitat, which overlaps revegetated grassland, native perennial grassland, and rabbitbrush/buckwheat shrub-steppe habitat types) (see attached habitat mapping figures). No Category 1 habitat will be impacted.

In addition to the permanent impacts mentioned above, construction of the facility will entail temporary impacts to the same types and categories of habitat. Temporary impacts are summarized as follows: no Category 1 impacts, approximately 36 acres of impact to Category 2 habitat, and approximately 47 acres of impact to Category 6 habitat.

Grassland habitats (revegetated grassland and native perennial grassland) are expected to require two to five years after restoration activities start to achieve a trend towards recovery to a mature state of grassland cover. Old field and exotic annual grassland habitats are expected to be improved—within two or three years—as restoration will result in more native grasses and far fewer of the invasive, noxious weeds that existed prior to disturbance). Native forbs in perennial grasslands (as well as in shrub-steppe) may not recover to pre-construction diversity or will take longer to recolonize the restored areas. Shrub-steppe habitats may take much longer to achieve the shrub species maturity and height that existed prior to construction.

Calculation of the Size of the Mitigation Area

The Habitat Mitigation Area (HMA) must be large enough and have the characteristics to meet the standards set by the Oregon Department of Fish and Wildlife (ODFW) in their Wildlife Habitat Mitigation Policy (OAR 635-415-0025). These standards include “no net loss” and a “net benefit” in habitat quality and quantity for Category 2 habitats, and “no net

loss” of habitat for Categories 3 and 4. However, as noted above, temporary and permanent impacts would occur within Category 2 habitat.

Temporary impacts are mitigated through revegetation, as discussed within the Summit Ridge Revegetation and Weed Control Plan. However, in addition to revegetation activities, temporary impacts to habitat that last longer than one life cycle, for the shortest-lived species that depend on the affected habitat, are considered to be “temporal” in nature. A certificate holder is obligated to mitigate for the temporal loss, or the duration of time necessary for habitat recovery, associated with temporary habitat impacts. As presented below, the certificate holder voluntarily proposes to mitigate temporary impacts, regardless of the habitat subtype, as a permanent impact within the mitigation site.

For the purposes of this discussion, the acreages of impact are the current estimate of the maximum affected area. The actual areas of disturbance will be determined based on the final design layout of the facility. ODOE and ODFW will require that the final design layout and the associated impact acreages be provided for agency review and approval prior to the beginning of facility construction.

Current maximum habitat impact estimates of the Summit Ridge Wind Project (including the transmission line) are:

<u>Habitat Category</u>	<u>Permanent Impacts</u>	<u>Temporary Impacts</u>
Category 2 (traditional)	0.43	0.37
Category 2 (big game)	25.80	35.15
Category 6*	41.78	47.16
Total Acres	68.01	82.68

* no mitigation required

Based on these impact estimates, calculation of the mitigation area requirement is as follows:

Category 2 (Traditional)

Permanent Impacts: 0.43 acres (2:1 ratio)

Temporal Impacts: 0.37 acres (2:1 ratio)

Mitigation area required: $(0.43 \times 2) + (0.37 \times 2) = 1.60$ acres

Category 2 (Big Game)

Permanent Impacts: 25.80 acres (>1:1 ratio)

Temporary/Temporal impacts: revegetated grassland 17.19 acres (1:1); native perennial grassland and shrub-steppe 6.23 acres (1:1 ratio); old field and exotic annual grassland 10.86 acres (1:1)

Mitigation area required: $25.80 + 17.19 + 6.23 + 10.86 = > 60.08$ acres

Total mitigation area required: Approximately 65 acres (i.e., > 61.68 acres)

Description of the Habitat Mitigation Area (HMA)

According to ODFW standards, areas appropriate for mitigation of Category 2 habitat impacts must be “in proximity” to the facility and have potential for habitat and enhancement. The certificate holder has identified four habitat parcels for consideration by ODFW and ODOE (see attached HMA figures). These range in size from 15 to 77 acres, and are generally composed of revegetated grasslands of varying quality. The identified parcels have adequate potential to mitigate the habitat loss expected to occur from the construction and operation of the facility, and are expected to provide benefit for the wildlife species most likely to be impacted by habitat loss associated with the facility, including grasshopper sparrow (*Ammodramus savannarum*), Brewer’s sparrow (*Spizella breweri*), vesper sparrow (*Pooecetes gramineus*), and loggerhead shrike (*Lanius ludovicianus*). The referenced parcels for mitigation have been discussed with ODFW, Pattern Energy Group, and the associated landowners, and other parcels may be considered as well. As provided within the *Final Order on Amendment 4*, Condition 10.4 was amended to require a habitat assessment of the proposed mitigation sites prior to construction. The certificate holder must demonstrate that the proposed mitigation sites maintain sufficient quality and quantity of habitat to offset permanent and temporary habitat impacts.

If the previously proposed mitigation sites (as discussed above) are determined not to have sufficient quality and quantity of habitat to meet ODFW’s mitigation goals for the permanent and temporal habitat impacts from facility construction, the certificate holder would be obligated to identify new mitigation areas. In determining the sufficiency of a proposed mitigation site, ODOE in consultation with ODFW, reviews the following criteria:

- A quantitative comparison of acreage to ensure no net loss of habitat. As clarification, the Department will review to ensure that the proposed mitigation site is equivalent to or greater than the impacted acreage and that there is a high probability of successful habitat enhancement or restoration.
- A comparison to ensure that the mitigation site adequately replaces the “functions and values” impacts from the construction and operation of the facility. This evaluation will be aided through a qualitative assessment made by an ODFW district biologist.
- Whether the proposed mitigation site is severely impacted by either noxious weeds or erosion.
- Whether the proposed mitigation site is in immediate threat of habitat loss or degradation.
- Whether the mitigation site will be available through the expected lifetime of the facility. For instance, the mitigation site should held under a conservation easement, fee title, or other legal claim.
- Mitigation sites that are connected to public lands or a natural wildlife area, which allow wildlife to migrate between habitats, are preferred.

Habitat Enhancement Options

It is assumed that the habitat designated for mitigation will be conserved and protected from alteration for the life of the facility. Besides such legal protection, actions that are proposed for enhancement of the mitigation area include fencing out livestock (if not already fenced), modification of livestock grazing (wildlife habitat values take precedence over livestock grazing), weed control, revegetation with native plants, and fire control.

Modification of Livestock Grazing Practices

The certificate holder may restrict grazing within the habitat mitigation area. Eliminating livestock grazing within the mitigation area during most of the year will enable recovery of native bunchgrass and sagebrush in areas where past grazing or recent wildfires have occurred, resulting in better vegetative structure and complexity for a variety of wildlife. Reduced livestock grazing may be used as a vegetation management tool, limited to the period from February 1 through April 15.

Shrub Planting

The certificate holder may plant sagebrush shrubs in locations where existing sagebrush is stressed or where recent wildfires have occurred. The certificate holder shall determine the size of the shrub-planting areas based on the professional judgment of a qualified biologist after a ground survey of actual conditions. The size of the shrub-planting areas will depend on the available mitigation area and opportunity for survival of planted shrubs. The shrub survival rate at four years after planting is an indicator of successful enhancement of habitat quality to Category 2. The certificate holder shall plant at least 2 acres of sagebrush on a total of at least 10 acres. The certificate holder shall complete the initial sagebrush planting within one year after the beginning of construction. Supplementing existing, but disturbed, sagebrush areas with sagebrush seedlings would assist the recovery of this valuable shrub-steppe component. The certificate holder shall obtain shrubs from a qualified nursery or grow shrubs from native seeds gathered from the mitigation area. The certificate holder shall identify the area to be planted with sagebrush shrubs after consultation with ODFW and subject to final approval by the Department. The certificate holder shall mark the planted sagebrush clusters at the time of planting for later monitoring purposes and shall keep a record of the number of shrubs planted.

Weed Control

The certificate holder may implement weed control measures within the habitat mitigation area. Control will be accomplished through use of herbicides targeted to the individual weed species, hand eradication, mowing, and use of fabric mulch or biobarriers. These approaches shall be considered on a site-specific basis, and applied by professionals trained to identify exotics for selective plant management. All chemical applications shall be made by licensed, trained and certified professionals, in accordance with strict health and safety procedures and with practices that comply fully with state and federal regulations. Use of Plateau® as a pre-emergent should be done with caution, as it may have an adverse effect on desired grasses where the seed was broadcast or hydraulically applied (i.e.,

no separation between seed and soil treated with Plateau®). It may be appropriate to experiment in some locations with Plateau® applied at a rate (or rates) substantially less than the six ounce rate recommended by the manufacturer for cheatgrass control in established rangelands.

Native Plant Revegetation

The certificate holder may increase vegetative cover, relative to the structure prior to initiation of enhancement actions, of desired native vegetation (i.e. native forbes and bunchgrasses). The certificate holder shall choose planting methods based on site- specific factors such as slope, erosion potential, and the size of the area in need of revegetation.

Fire Control

The certificate holder shall implement a fire control plan for wildfire suppression within the mitigation area. The certificate holder shall provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The certificate holder shall include in the plan appropriate fire prevention measures, methods to detect fires that occur and a protocol for fire response and suppression. The certificate holder shall maintain fire control for the life of the facility. If any part of the mitigation area is damaged by wildfire, the certificate holder shall assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.

Monitoring

It is expected that a comprehensive program of monitoring the HMA and the success of its protection and enhancements will be required by ODOE and ODFW. The certificate holder is required to finalize the monitoring protocol for the HMA prior to construction (see Condition 10.4). Such monitoring will be conducted by an independent and qualified specialist (wildlife biologist/botanist). Annual monitoring will include assessments of quality of vegetation, success of weed control measures, recovery of native grasses and forbs (in response to reductions in livestock grazing), and success of revegetation measures (where applicable). In addition, some requirement for periodic monitoring of avian species use of the area (especially during the breeding season) is recommended for understanding the enhancement success. Details of monitoring time frames and success criteria will be designed after the final site is selected.

Results of all monitoring will be reported to ODOE and ODFW on an annual basis, along with a report of the mitigation/enhancement measures undertaken that year.

Criteria for Success

Success of this Habitat Mitigation Plan will be predicated upon several criteria. These include increased vegetative cover consisting of desired native vegetation (relative to the structure prior to initiation of enhancement actions), similar or increased avian use of the area (similar or increased diversity of species), success of noxious weed control, increased recruitment of native forbs, and increased seed production of native bunchgrasses. The

certificate holder is required to finalize the methodology for measuring and quantifying the success criteria prior to construction (see Condition 10.4).

References

- Gerhardt, R., R. Gritski, B. Anderson. 2009a. Ecological baseline studies and impact assessment for the Summit Ridge Wind Power Project, Wasco County, Oregon—Interim Report. Prepared for LotusWorks, Vancouver, Washington. Prepared by Northwest Wildlife Consultants, Pendleton, Oregon.
- Gerhardt, R., R. Gritski, B. Anderson. 2009b. Ecological baseline studies and impact assessment for the Summit Ridge Wind Power Project, Wasco County, Oregon—Addendum. Prepared for LotusWorks, Vancouver, Washington. Prepared by Northwest Wildlife Consultants, Pendleton, Oregon.
- Oregon Department of Fish and Wildlife (ODFW). 2013. ODFW’s data clearinghouse: ODFW winter range for eastern Oregon. Available online at:
<http://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml>.

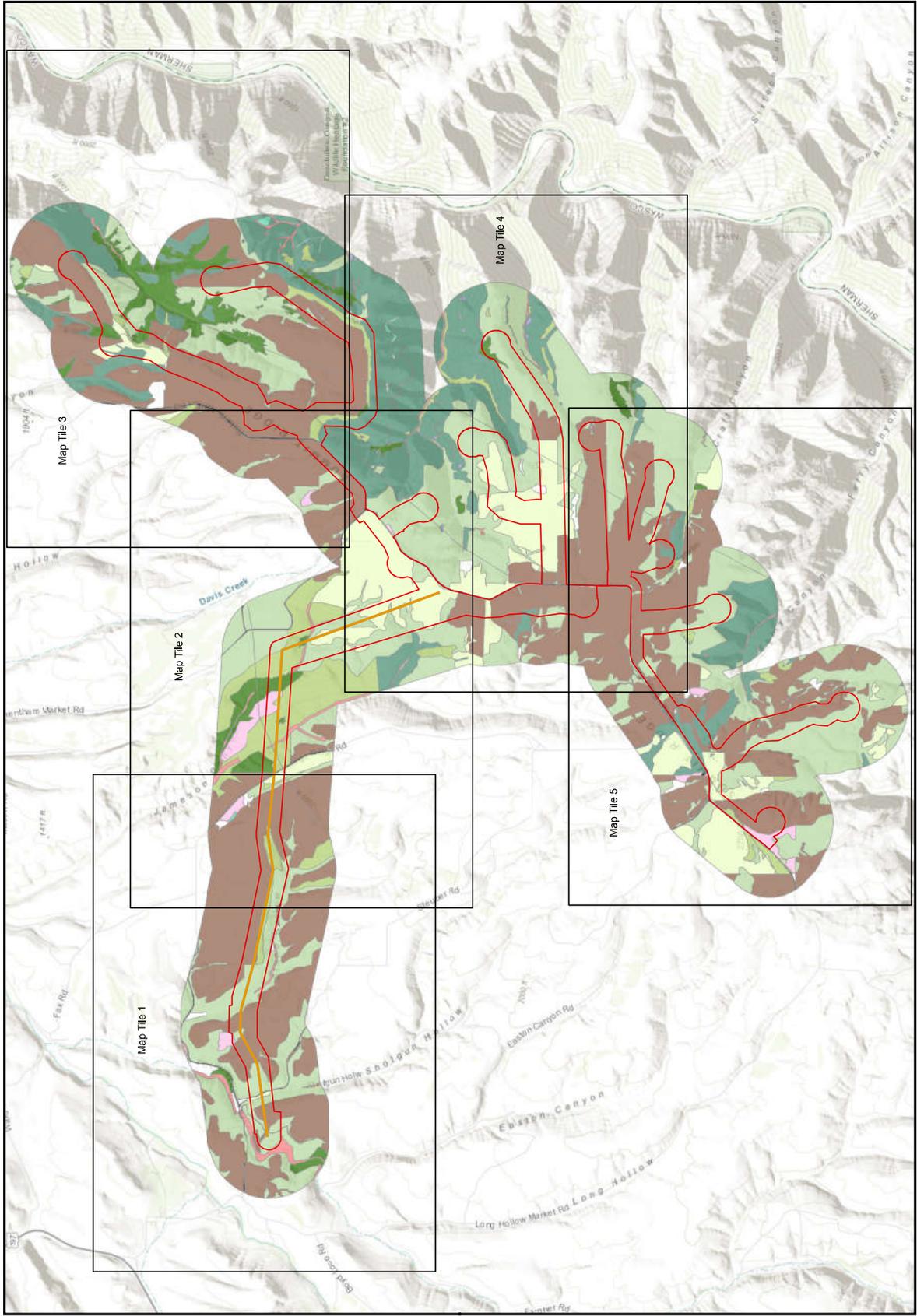
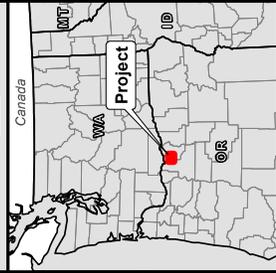
Figure 1

**PATTERN ENERGY
Summit Ridge
Habitat Categorization
Overview Map**

Wasco County, OR
October 2018

- Transmission Route from substation to BPA 87WTG
- Site Boundary
- Habitat Type**
- Big Sagebrush Shrub-steppe
- Dryland Wheat or Other Small Grain
- Escarpment
- Exotic Annual Grassland
- Farmyard or Residence
- Native Perennial Grassland
- Old Field
- Pond
- Quarry
- Rabbitbrush/Buckwheat Shrub-steppe
- Revegetated Grassland
- Riparian
- Shrublands/Woodland
- Riparian Woodland
- Road
- Talus

*Habitat categorization provided by Northwest Wildlife Consultants (personal communication from Rick Gearhart, Oct. 16, 2018), supplemented by desktop analysis for selected areas along the transmission route. The map was prepared by Tetra Tech (October 2018).



1:63,360 WGS84 UTM 10

Data Sources: ESRI 2007; roads, hydrography / USDA NAIP 2010; air photo / Pattern Energy; project infrastructure

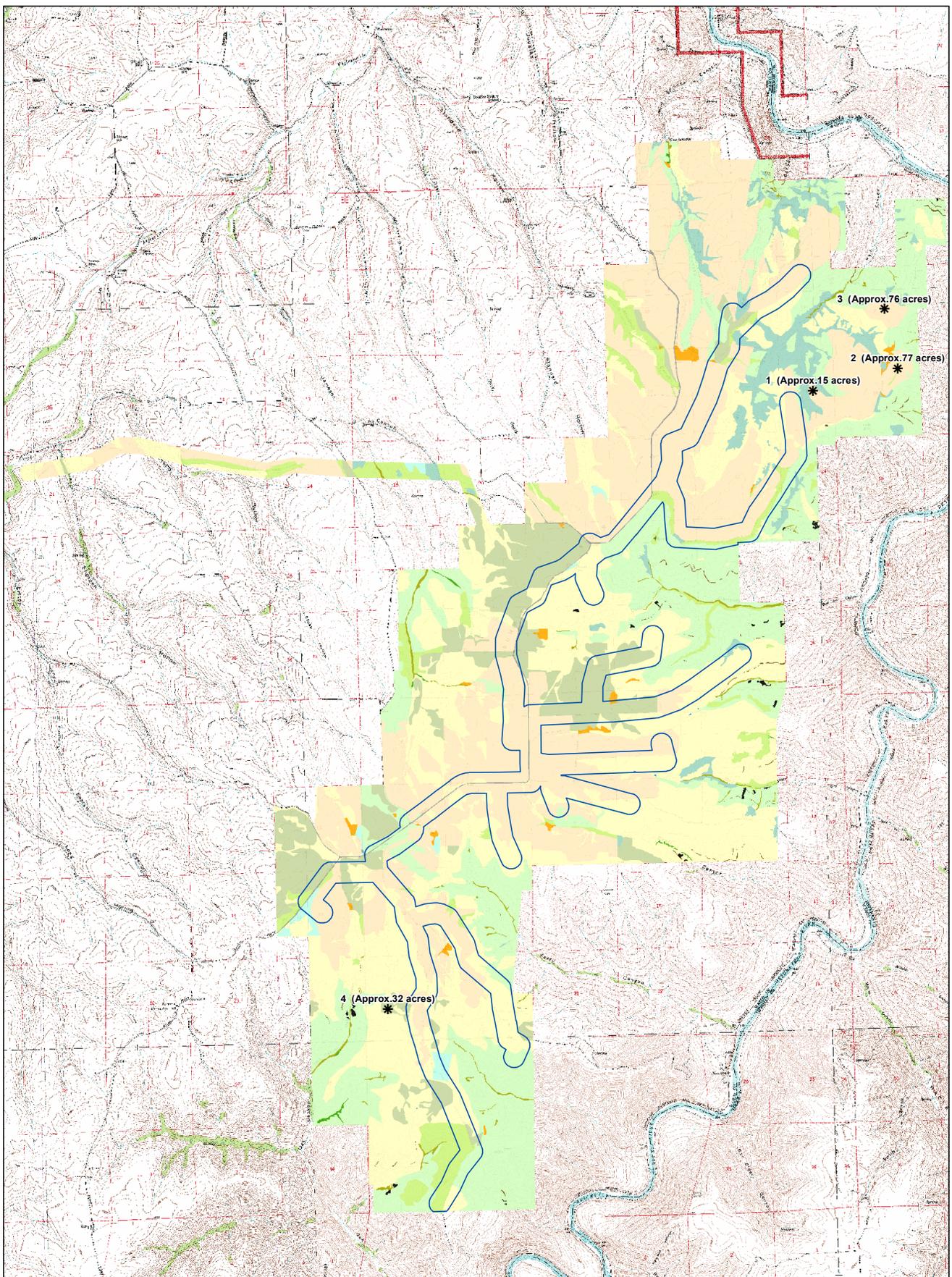


Figure 2. Summit Ridge Potential Habitat Mitigation Parcels

Legend	
Special Status Wildlife Survey Corridor	Escarpment
Potential Habitat Mitigation Parcels	Talus
Habitat Types	
Dryland Wheat or Other Small Grain	Exotic Annual Grassland
Farmyard or Residence	Native Perennial Grassland
Old Field	Big Sagebrush Shrub-steppe
Quarry	Rabbitbrush/Buckwheat Shrub-steppe
Revegetated Grassland	Pond
Road	Riparian Shrubland/Woodland
	Riparian Trees

Study Conducted By
Northwest Wildlife Consultants, Inc.
Map Date: January 14, 2010

0 0.25 0.5 1 1.5 2 Miles

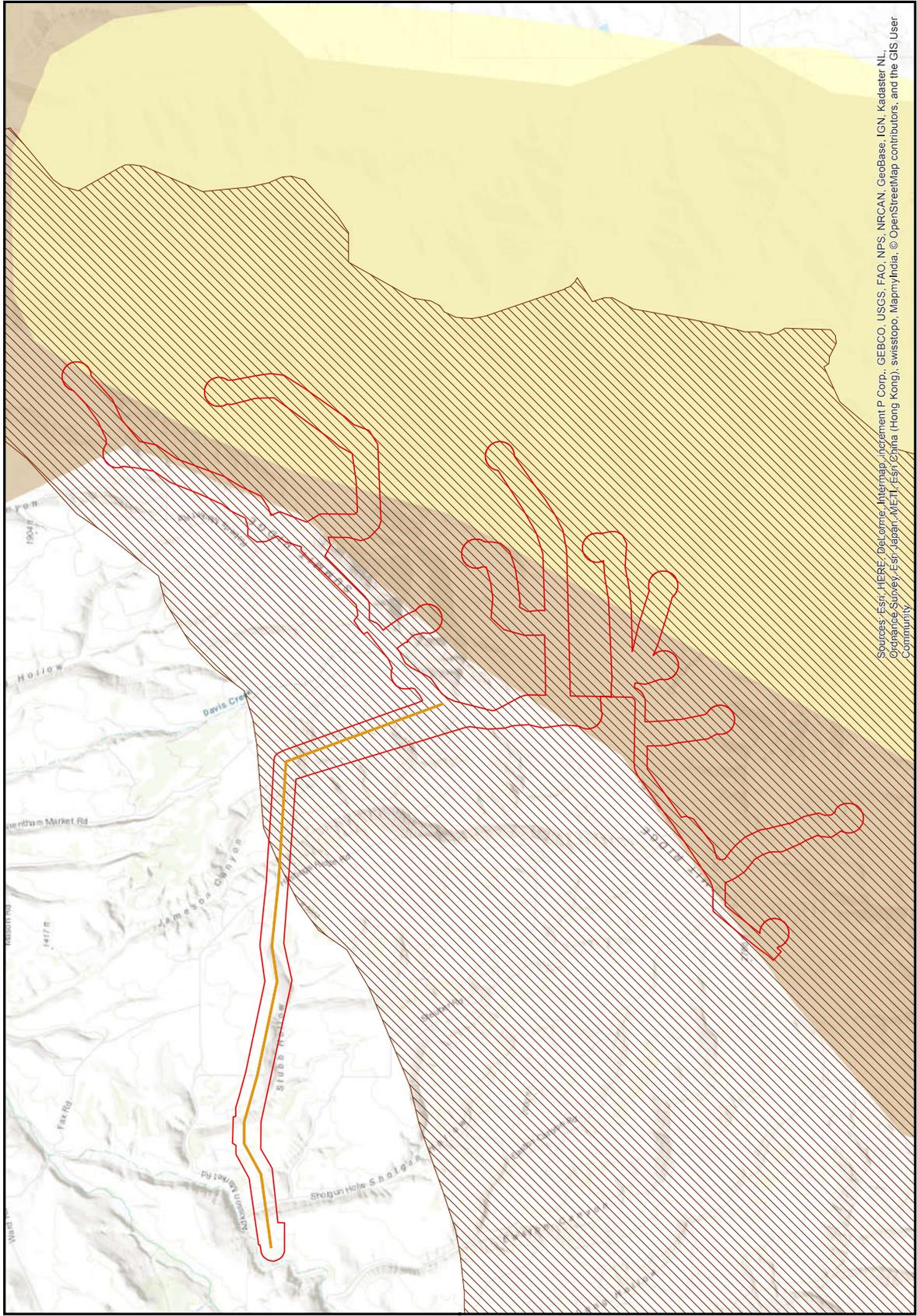
Figure 3

PATTERN ENERGY Summit Ridge

Big Game

Wasco County, OR
October 2018

-  Elk Winter Range
-  Deer Winter Range
-  Bighorn Herd Range
-  Transmission Route from substation to BPA 87WTG
-  Site Boundary



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



1:63,360 WGS84 UTM 10

Data Sources: ESRI 2007; roads, hydrography / USDA NAIP 2010; air photo / Pattern Energy; project infrastructure

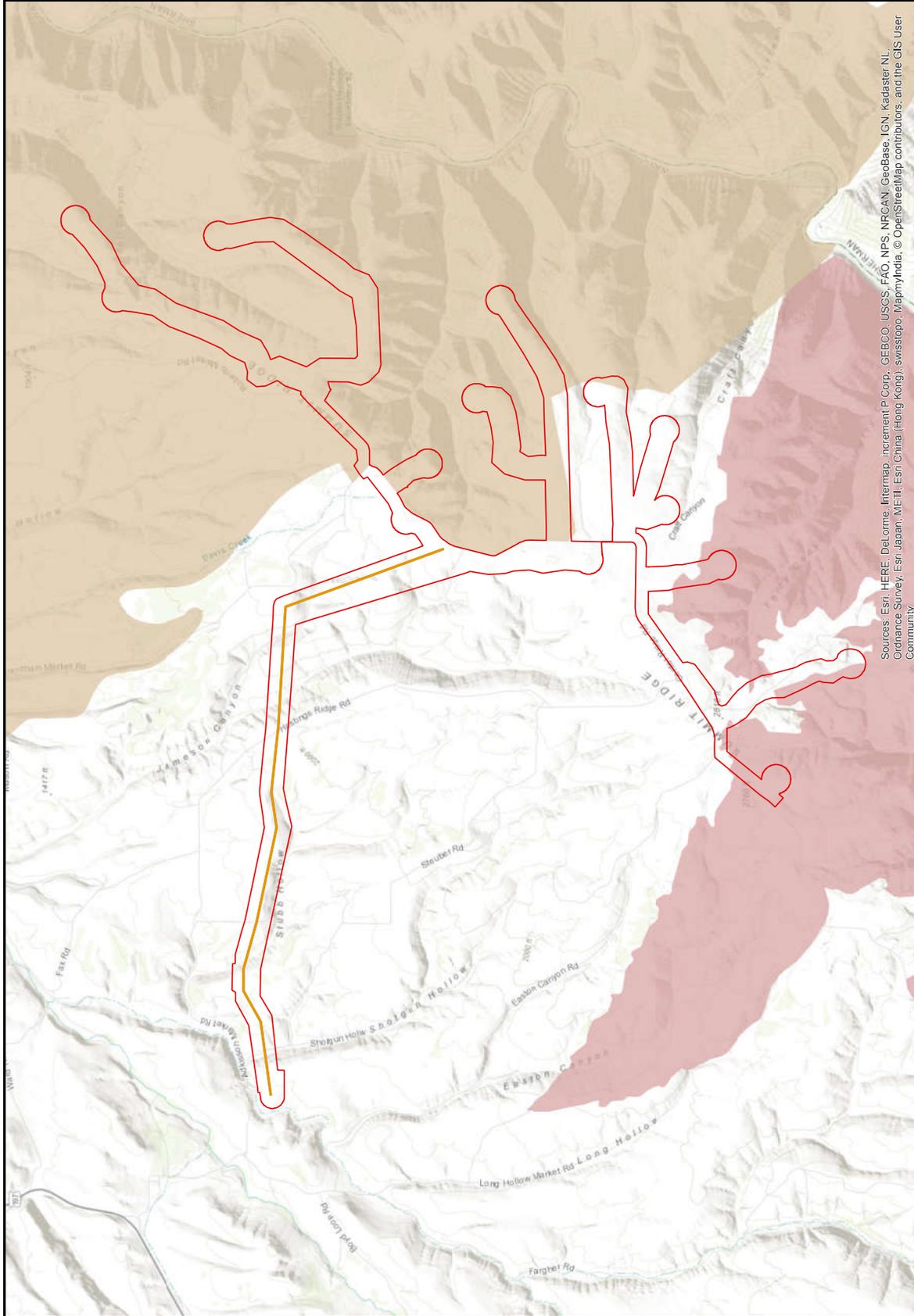
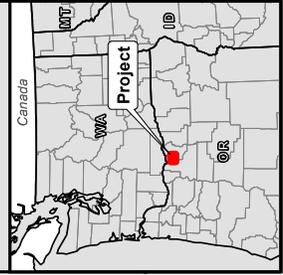
Figure 4

PATTERN ENERGY
Summit Ridge

Wildfire Map

Wasco County, OR
October 2018

-  Long Hollow Wildfire Boundary
-  Transmission Route from substation to BPA 87WTG
-  Site Boundary
-  Substation Wildfire Boundary



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Mapbox India, © OpenStreetMap contributors, and the GIS User Community



1:63,360 WGS84 UTM 10

Data Sources: ESRI 2007; roads, hydrography / USDA NAIP 2010; air photo / Pattern Energy ; project infrastructure

Attachment E: Revegetation and Weed Control Plan

Summit Ridge Wind Farm: Draft Revegetation and Weed Control Plan

1. Introduction

This Revegetation and Weed Control Plan ("Plan") describes the methods and standards to restore temporarily disturbed areas from construction of the Summit Ridge Wind Farm (Summit Ridge).¹ The certificate holder is not required to restore areas occupied by permanent facility components (the "footprint") under this Plan.

Revegetation and restoration measures are designed to support wildlife habitat, control erosion, and mitigate against the invasion of noxious weed species into newly disturbed areas. Where vegetation has been damaged or removed during construction, the certificate holder must restore suitable vegetation to pre-disturbance condition or better. In addition, the certificate holder shall maintain erosion and sediment control measures implemented during the construction phase, until the affected areas are restored as described within this Plan, and the risk of erosion has been eliminated. The overall goal of this Plan is to return temporarily disturbed habitat to as close to pre-construction conditions as possible. The Plan contains the following objectives:

- Promote recovery of disturbed areas;
- Re-establish native plant communities in non-cultivated areas and re-establish regular farming practices in cultivated areas;
- Control the introduction and spread of undesirable plants;
- Protect the site from erosion; and
- Support existing wildlife habitat.

These objectives will be achieved by a combination of techniques, including, but not limited to the following:

- Installing and maintaining appropriate erosion control best management practices (BMPs) and construction limit staking per the Oregon Department of Environmental Quality (DEQ) 1200-C permit;
- Revegetation of non-cultivated disturbed areas with native grasses and forbs (flowering plants) and resuming crop production in cultivated areas;
- Controlling weed germination and growth during and after construction; and
- Establishing a regular monitoring program during and after construction to ensure the continued successful development of restored areas, and to quickly identify new populations of weeds.

¹ This plan is incorporated by reference in the site certificate for Summit Ridge 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. Facility Description and Habitat Inventory

Summit Ridge Wind, LLC (certificate holder) received a Site Certificate from the Energy Facility Siting Council in 2011, which authorized the construction and operation of a 194.4 megawatt (MW) wind energy generation facility in Wasco County, Oregon. The facility is located approximately 17 miles southeast of The Dalles and eight miles east of Dufur. In addition to the turbine strings, additional facilities such as access roads, underground and overhead transmission lines, and a substation are included within the facility site boundary.

The goal of this plan is to return temporarily disturbed habitat areas (such as road shoulders, underground electric cable trenches, and temporarily disturbed areas around tower sites) to a condition that is commensurate to, or better than, pre-construction conditions. Habitat areas temporarily disturbed, by habitat category and subtype, are presented in Table 1 below.

Table 1: Estimate of Temporary Habitat Impacts, by Habitat Category and Subtype²

Habitat Category and Subtype	Acres
Category 2	
Shrub-steppe – Big Sagebrush Shrub Steppe	0.37
Category 2 – Big Game Winter Range	
Developed/Disturbed Revegetated Grassland	18
Grassland – Native Perennial Grassland	6.69
Shrub-steppe – Rabbit/Buckwheat Shrub-steppe	3.34
Category 2 – Big Game Winter Range	
Developed/Disturbed – Old Field	0.67
Grassland – Exotic Annual Grassland	19.09
Total Temporary Impacts to be Revegetated = 48.16	
*To be updated during pre-construction, based on final facility design.	

As demonstrated by the table above, construction of the facility would temporarily impact approximately 48.16 acres of habitat.

3. Revegetation Procedures (Temporarily Disturbed Areas)

The following methods and protocol are to be followed for all areas of temporary ground and/or vegetation disturbance in the upland habitats throughout the site boundary.

² Note that temporarily impacted habitat includes Category 3 and 4, but is considered Category 2 habitat based on the presence of Big Game Winter Range habitat.

3.1 Pre-Disturbance Wildlife Habitat Vegetation Assessment

The site certificate for the facility requires restoration of disturbed areas to satisfy the requirements of the Fish and Wildlife Habitat standard (OAR 345-022-0060), which aligns with the mitigation goals and policies within the ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635 Division 415). In order to meet the ‘no net loss of habitat quality’ goal of the mitigation policy, the certificate holder shall revegetate disturbed areas according to a set of agreed-upon success criteria that return the site to pre-disturbance condition.

Revegetation success is measured at approved, fixed-point pairs of reference and monitoring sites within the disturbed area. Reference sites are used as a proxy for pre-disturbance condition while accounting for changes not within control of the certificate holder, such as climatic variability and landscape-scale shifts in plant communities. As presented in Table 1, the following Category 2 habitat subtypes would be temporarily disturbed during construction: Shrub-steppe (Big Sagebrush); Developed / Disturbed Revegetated Grassland; Grassland – Native Perennial Grassland; Shrub-steppe (Rabbit / Buckwheat); Developed / Disturbed – Old Field; and Grassland – Exotic Annual Grassland. Therefore, at a minimum, the certificate holder shall identify six paired monitoring and reference site locations. However, it is recommended to identify many monitoring sites per reference site, within areas of distinct habitat, as necessary for statistical rigor.

Prior to facility construction, the certificate holder shall identify paired monitoring and reference sites in consultation with ODFW and the Department. Reference sites should be identified that closely resemble the pre-disturbance characteristics of the revegetation area monitoring site as indicated by site conditions, including vegetation density, relative proportion of desirable vegetation and species diversity of desirable vegetation. “Desirable vegetation” is defined as those species included in the seed mix or native or native-like species, excluding noxious weeds. The certificate holder shall consider land use patterns, soil type, local terrain and noxious weed densities in selecting paired monitoring and reference sites. After the paired monitoring and reference sites are selected by the certificate holder and approved by the Department and ODFW, these sites shall remain in the same location unless approval is obtained by the Department and ODFW.

Pre-disturbance wildlife habitat conditions of the paired monitoring and reference sites shall be determined based on a pre-construction vegetation inventory, to be conducted by a qualified biologist. The pre-construction wildlife habitat vegetation assessment shall include:

- The ODFW habitat category for the area disturbed (Consistent with the evaluation approved per Condition 10.1)
- Photos representing the habitat,
- Vegetation density (percent cover, percent bare ground, percent cover by plant species)
- Vegetation structural stage, slope, soil type
- An assessment of the relative proportion of desirable vegetation as determined by the average number of stems of desirable vegetation per square foot or by a visual scan of the area, noting overall recovery status.

- As assessment of species diversity of desirable vegetation.

The pre-disturbance vegetation inventory shall be submitted for review and approval by the Department, in consultation with ODFW prior to the agency consultation described in Section 3.2 of this plan.

3.2 Pre-Revegetation Agency Consultation

Prior to construction, the certificate holder shall consult with ODFW, ODOE, and the Wasco County Weed Control Authority to discuss its pre-disturbance vegetation inventory, which must include habitat category and habitat subtype conditions, paired monitoring and reference site locations, conditions, revegetation methods, erosion and sediment control measures, and an implementation schedule.

Six months prior to commercial operation, the certificate holder will meet with ODFW, ODOE, and Wasco County Weed Control Authority to review the actual extent and conditions of temporarily disturbed areas, confirm that the revegetation methods agreed upon during pre-construction review are still appropriate, and to re-visit reference and monitoring sites.

3.3 Revegetation Methods

Revegetation of temporarily disturbed areas will include several important aspects, including topsoil management, selection of an appropriate seed mix, and control of noxious and other undesirable plant species. The certificate holder shall choose planting methods based on site-specific factors such as slope, erosion potential, and the size of the area in need of revegetation. Disturbed ground may require chemical or mechanical weed control before weeds have a chance to go to seed.

3.3.1 Topsoil Management and Decompaction

The certificate holder shall restore topsoil to pre-construction condition or better. Preservation and/or replacement of native topsoil not only ensures a healthy, nutrient-rich seed bed, but also incorporates the native seed bank, increasing overall species richness and potential for full recovery of the site to natural conditions. Areas without sufficient topsoil recover at a slower rate, and tend to be colonized by exotic species much sooner, than areas with native topsoil.

During construction, topsoil should be kept in place where possible. Where it is necessary to remove topsoil, it shall be stockpiled in appropriate locations and protected with erosion control BMPs per the DEQ 1200-C permit. Stockpiled topsoil shall be windrowed inside of the clearing limits, kept separate from subsoil, and protected from wind and water erosion. If topsoil is removed from its place of origin, it shall be labeled and tracked so that it may be replaced appropriately prior to commencement revegetation.

Another contributing factor to restoration success is the condition of the seed bed at the time of seeding. Compacted soil does not provide an optimal environment for seed germination and establishment, but can instead lead to a lack of vegetative cover and thus increased erosion potential over time. In preparation for seeding activities, areas compacted by construction activities shall be ripped to a depth of 12" where feasible and roughened to provide maximum seed-soil contact.

3.3.2 Seed Mixture

The facility is expected to result in temporary disturbance to approximately 48.16 acres of non-agricultural land, subject to verification as part of the preconstruction habitat assessment required per Condition 10.1. The certificate holder will reseed this area after construction during the period from September to April of any given year to ensure sufficient soil moisture for germination and plant establishment. One seed mixture was developed for use in the revegetation of all temporarily disturbed habitats within the site boundary (Table 2). This seed mixture will be used, unless an alternative mixture is requested by a landowner, or agency biologist. The certificate holder will submit a request for approval from the Department, in consultation with ODFW, for any alternative mixture. To re-establish plant communities of most value to wildlife, native species are included in the seed mixture, as well as certain non-native species that ODFW has determined to be beneficial to wildlife. Species were selected based on a variety of factors including tolerance to xeric conditions and seed availability.

Plant materials (seed and nursery stock) used in revegetation must be adapted to the conditions of the site in order to have the best chance of germination and long-term survival. All plant materials shall meet the following requirements, pending approval by ODFW and the Wasco County Weed Department:

- Seed and nursery stock shall be "source identified". The original source for the plant material should be Columbia Plateau Ecoregion (north-central Oregon State). The seed should be a locally adapted biotype, adapted to conditions similar to the project site.
- Seed shall be certified "weed free", indicating there are no noxious weeds in the seed.
- Seed application rates shall be based on pure live seed per pound, which is passed upon purity and germination testing.
- Seed shall be tested within 120 days of application for purity, germination, and noxious weed content. Inert matter should not exceed 10%. A tetrazolium test may be performed on forb species which are limited in availability in order to assess viability of the seed before it is used.

The certificate holder shall seed disturbed cropland areas with wheat or other crop seed. The certificate holder shall consult with the landowner and farm operator to determine species composition, seed and fertilizer application rates and application methods. Cropland areas are successfully revegetated when the replanted areas achieve crop production comparable to adjacent non-disturbed cultivated areas. The certificate holder shall consult with the landowner or farmer to determine whether these areas have been successfully revegetated and shall report to the Department on the success of revegetation in these areas.

Table 2: Proposed Seed Mixes for Summit Ridge Wind Farm

Habitat Types	Species	Lbs/Acre (Pure Live Seed)
Native and Revegetated Grassland	Sherman big bluegrass (<i>Poa Secunda</i>)	2
	Magnar basin wildrye (<i>Leymus cinereus</i>)	2
	Whitman bearless wheatgrass (<i>Pseudoroegneria spicata</i> ssp. <i>Inermis</i>)	2
	Sandberg's bluegrass (<i>Poa sandbergii</i>)	2.5
	Idaho fescue (<i>Festuca idahoensis</i>)	2.5
	Basin big sagebrush (<i>Artemisia tridentate</i> ssp. <i>Tridentata</i>)	1
	TOTAL	12
Sagebrush and Rabbitbrush dominated Shrub-Steppe	Bluebunch Wheatgrass (<i>Pseudoroegneria spicata</i>)	11
	Idaho fescue (<i>Festuca idahoensis</i>)	4
	Sandberg's bluegrass (<i>Poa sandbergii</i>)	2
	Bottlebrush Squirreltail (<i>Elymus elymoides</i>)	0.5
	Silky Lupine (<i>Lupinus sericeus</i>)	0.5
	Common Yarrow (<i>Achillea millefolium</i>)	0.5
	Threadleaf fleabane (<i>Erigeron filifolius</i>)	0.1
	Basin big sagebrush (<i>Artemisia tridentate</i> ssp. <i>Tridentata</i>)	0.1
	Gray rabbit-brush (<i>Chrysothamnus naseosus</i>)	0.1
	TOTAL	18.8
Agricultural Fields	Revegetated in accordance with landowner requirements	

5.3.3 Seed Planting Methods

A combination of broadcast seeding, drill seeding, and hydroseeding shall be used to apply the seed; the choice of method will depend on slope and other site conditions. For example, drill seeding and broadcast seeding should be used as appropriate on areas with a slope of less than 3:1, and hydroseeding should be used on areas with a slope of greater than 3:1. Seeding rates (pounds of pure live seed per acre) must be adjusted according to the seeding method used. For hydroseeding, green-dyed, wood-fiber mulch shall be added to the slurry mixture at a rate of 1000 pounds per acre. In addition to serving as a carrying agent for the seed, the biodegradable green mulch serves as a tracer for visually checking distribution to ensure complete and uniform coverage of the disturbed areas. Seeding activities should be scheduled during the period from September to April of any given year.

3.4 Revegetation Monitoring and Records

Successful revegetation will re-establish the native plant community through slow, but progressively steady, vegetative growth. Any problems with seeding should be identified and promptly corrected. In

order to properly assess the progress of vegetation establishment, the certificate holder shall maintain a record of revegetation work for both cropland and wildlife habitat areas.

Following completion of construction, the certificate holder will submit its vegetation monitoring methodology to ODFW and the Department for approval prior to monitoring. Within each revegetation area monitoring site, the investigator shall evaluate the progress of wildlife habitat recovery in comparison to the reference sites. The investigator shall evaluate the following site conditions (within the general revegetation area, revegetation monitoring sites, and within the reference sites):

- Degree of erosion due to disturbance activities (high, moderate or low).
- Vegetation density.
- Relative proportion of desirable vegetation as determined by the average number of stems of desirable vegetation per square foot or by a visual scan of the area, noting overall recovery status.
- Species diversity of desirable vegetation.

Following the initial year of seeding, monitoring will occur annually for the first five years. After the first growing season following initial seeding (Year 1), a qualified investigator shall inspect all areas of revegetation, including each paired monitoring and reference site, to assess revegetation success based on the success criteria and to recommend remedial actions, if needed.

During the initial 5-years of annual monitoring, the certificate holder's qualified investigator (ecologist or botanist) shall evaluate whether a revegetated wildlife habitat area is trending toward meeting the success criteria by comparing the approved, fixed-point revegetation area monitoring site to an approved, fixed-point reference site. The certificate holder's qualified investigator shall compare the revegetation area monitoring sites to the selected reference sites, unless some event (such as wildfire, tilling, or intensive livestock grazing) has changed the vegetation conditions of a reference site so that it no longer represents undisturbed conditions of the revegetation area monitoring site. If such events have eliminated all suitable reference sites for a revegetation area monitoring site, the investigator, in consultation with the Department and ODFW, shall select one or more new reference sites. Following the selection of a new reference site, an updated table and latitude/longitudinal data shall be provided to the Department within a 6-month revegetation record report or annual compliance report, whichever report is submitted first.

The certificate holder shall submit, electronically, to the Department and ODFW the revegetation inspection report in a semi-annual report. The report shall include the investigator's assessment of whether the revegetated area monitoring sites are trending toward meeting the success criteria; whether the monitoring sites adequately represent revegetation success of equivalent habitat/habitat subtype of non-monitoring site revegetated areas; assessment of factors impacting the ability of the revegetated area monitoring sites to trend towards meeting the success criteria; description of appropriate weed control measures as recommended by the Department in consultation with ODFW and Sherman County Weed Control Authority; and, any remedial actions recommended.

If an area is not trending toward meeting the success criteria at Year 5 and has not been converted by the landowner to an inconsistent use, the certificate holder may propose and the Department may require remedial action and additional monitoring based on an evaluation of site capability. As an alternative, the certificate holder or the Department, in consultation with ODFW, may conclude that revegetation of the area was unsuccessful and propose appropriate mitigation for the permanent loss of habitat quality and quantity. The certificate holder shall implement the remedial action plan, subject to the approval of the Department in consultation with ODFW.

The certificate holder shall maintain a record of revegetation activities. In the record, the certificate holder shall include the date that construction activity was completed in the area to be restored, a description of the affected area (location, acres affected and pre-disturbances condition) and supporting figures representing the revegetated area, the date that revegetation work began and a description of the work done within the affected area. The certificate holder shall update the revegetation records as revegetation work occurs. The certificate holder shall report revegetation activities to the Department every-six months for the first 5-years after the completion of facility construction. After five years, any revegetation actions will be described in the annual report per OAR 345-026-0080(e).

3.5 Revegetation Success Criteria

In each monitoring report to the Department, the certificate holder shall provide an assessment of revegetation success for all previously-disturbed wildlife habitat areas. While the monitoring report shall evaluate whether all previously-disturbed wildlife habitat areas are trending towards revegetation success, the success criteria are evaluated based on the revegetation success of the approved revegetated monitoring sites compared to the approved, reference sites. A wildlife habitat area is successfully revegetated when the habitat quality is equal to, or better than, the habitat quality of the pre-construction ODFW habitat category of the reference sites as follows:

- Vegetation density is equal to or greater than that of the reference site.
- Relative proportion of desirable vegetation is equal to or greater than that of the reference site.
- Species diversity of desirable vegetation is equal to or greater than that of the reference site

When the Department, in consultation with ODFW, finds that the conditions of the wildlife habitat area revegetation monitoring sites satisfy the criteria for revegetation success, the Department shall conclude that the certificate holder has met the restoration obligations for that area. If the Department finds that the landowner has converted a temporarily disturbed wildlife habitat area to a use that is inconsistent with these success criteria (i.e. agricultural use), prior to the area achieving success criteria, the Department shall conclude that the certificate holder has no further obligation to restore the area for wildlife habitat uses and that the area shall be considered permanently disturbed. However, the certificate holder shall be responsible for meeting the obligations of the Council's Fish and Wildlife Habitat standard, including providing compensatory mitigation for these areas. Mitigation shall be determined by the Department, in consultation with ODFW.

4. Weed Control Methods

Weed control will be a priority for the life of the facility and should begin early to prevent infestations and development of substantial weed seed reservoirs in the soil. Emphasis will be placed on avoiding infestations and controlling populations of state-listed noxious weeds known to occur on the site. These species are listed in Table 3.

In addition to these state-listed weed species, the Wasco County Weed Department maintains its own weed list including special pest species. Weed species on the County list that are documented to occur on the site are also included in Table 3.

4.1 Preconstruction Noxious Weed Inventory

Before initial weed treatment begins, the certificate holder will evaluate target species and their identification, and to identify native species to be avoided.

4.2 Best Management Practices

Control will be accomplished through use of herbicides targeted to the individual weed species, cleaning vehicles prior to entering the construction site (to reduce the potential for transporting non-native species to the construction areas), hand eradication, mowing, and use of fabric mulch or biobarriers.

Control of cheatgrass during the fall establishment period is essential in order to reduce competition with seeded plants. As a general strategy, the herbicide Plateau® may be applied during the fall prior to fall rains, as a pre-emergent cheatgrass treatment; however, this should only be done where seed application will be by rangeland drill such that the desirable grass seed will have minimal contact with the herbicide.

Table 3: Designated Oregon Noxious Weeds Observed During Field Surveys

Scientific Name	Common Name	ODA Status	Wasco County Weed Classification
<i>Apocynum sp.</i>	Dogbane		C
<i>Centourea diffits o</i>	Diffuse knapweed	B list	B
<i>Cirsium orvense</i>	Canada thistle	B list	B
<i>Cirsium vulgare</i>	Bull thistle	B list	
<i>Convolvulus orvensis</i>	Field bindweed	B list	C
<i>Conzya conodensis</i>	Horseweed		Q
<i>Lepidium latifolium</i>	Perennial pepperweed	B list	C
<i>Solsolo koli</i>	Russian thistle		C
<i>Verboscum thomis</i>	Common mullein		Q

Note: The Oregon State Weed Boar’s Noxious Weed Classification System designates noxious weeds as either “A” and may be given the additional designation of “T”

Table 3: Designated Oregon Noxious Weeds Observed During Field Surveys

Scientific Name	Common Name	ODA Status	Wasco County Weed Classification
<ul style="list-style-type: none"> • "A" Designated Weed- a weed of known economic importance which occurs in the state in small enough infestations to make eradication or containment possible; or is not known to occur, but its presence in neighboring states make future occurrence in Oregon seem imminent. • "B" Designated Weed- a weed of economic importance which is regionally abundant, but which may have a limited distribution in some counties. • "T" Designated Weed- a priority noxious weed designated by the Oregon State Weed Board as a target species which the ODA will develop and implement a statewide management plan. "T" designated noxious weeds are species selected from either the "A" or "B" list. <p>The Wasco County Weed List and Classifications are as follows:</p> <ul style="list-style-type: none"> • "A" Pests- a weed of known economic importance which occurs in the county in small enough infestations to make eradication practical. • "B" Pests- a weed of known economic importance and of limited distribution within the county and is subject to intensive control or eradication, where feasible, at the county level. • "C" Pests- a weed that also has economic importance but is more widely spread. Control of these weeds will be limited by conditions that warrant special attention. • "Q" Pests- a weed that exists in the county, but is of little, no, or undetermined economic importance. However, they are to be monitored and subject to control if they begin to appear threatening. 			

Glyphosate can then be applied over the winter, as needed in areas where cheatgrass has germinated, at a rate of four ounces per acre to seeded areas in February or March, before seeded grasses have germinated but after cheatgrass has germinated. A higher concentration may be required and will be determined based on incidental take after initial application. Frequent monitoring of such areas during this time period is encouraged, in order to determine whether sites are suitable for herbicide application. A less dilute rate of glyphosate should be applied to areas that have been disturbed and not seeded, if and when needed.

Other approaches may be used to control non-native plants, depending on site conditions, plant species, and project schedule and budget. These approaches include cleaning vehicles prior to entering the construction site (to reduce the potential for transporting non-native species to the construction areas), hand eradication, mowing, and use of fabric mulch or biobarriers. These approaches shall be considered on a site-specific basis, and applied by professionals trained to identify exotics for selective plant management. All chemical applications shall be made by licensed, trained and certified professionals, in accordance with strict health and safety procedures and with practices that comply fully with state and federal regulations. Use of Plateau® as a pre-emergent should be done with caution, as it may have an adverse effect on desired grasses where the seed was broadcast or hydraulically applied (i.e., no separation between seed and soil treated with Plateau®). It may be appropriate to experiment in some locations with Plateau® applied at a rate (or rates) substantially less than the six ounce rate recommended by the manufacturer for cheatgrass control in established rangelands.

The Plan shall be finalized prior to construction through coordination with ODFW and the Wasco County Weed Department, and shall be implemented during construction and for the life of the facility.

4.3 Weed Monitoring and Records

Monitoring will be conducted on an annual basis for the life of the facility to assess weed growth and to recommend weed control measures. The weed monitoring will consist of two general components:

- Site survey to identify weed species that have established within the disturbed areas
- Inspections of treated areas to assess the success of weed treatments.

The site survey will be a pedestrian survey of disturbed areas in mid to late May. The survey will be scheduled to be initiated slightly before the herbicide application to identify any weed species. The focus will be on weed species observed prior to construction on site, as well as other species on the Wasco County weed list that might require different control measures.

The certificate holder shall report the status of controlling and preventing the spread of and introduction of noxious weed species in its annual report, in accordance with OAR 345-026-0080.

5. Plan Amendments

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

Attachment F: Wildlife Monitoring and Mitigation Plan

SUMMIT RIDGE WIND FARM
FINAL ORDER

Summit Ridge Wind Farm: Wildlife Monitoring and Mitigation Plan

[FINAL ORDER, EXHIBIT 2, AUGUST 19, 2011]

1 This plan describes wildlife monitoring that the certificate holder shall conduct during
2 operation of the Summit Ridge Wind Farm (Summit Ridge).¹ The monitoring objectives are to
3 determine whether the facility causes significant fatalities of birds and bats and to determine
4 whether the facility results in a loss of habitat quality.

5 Summit Ridge is located in Wasco County, Oregon and is located in the Columbia Plateau
6 Ecoregion (CPE). The facility is expected to consist of up to 87 turbine towers with 1.8- to 2.3-
7 megawatt (MW) turbines, for a maximum generating capacity of up to 200.1 MW. Associated
8 components and related or supporting facilities include turbine pads, maintenance roads,
9 overhead and underground 34.5-kilovolt collector cables, an Operations and Maintenance
10 building, a temporary concrete batch plant, and approximately eight miles of 230-kilovolt
11 overhead transmission line.

12 The certificate holder shall use experienced and properly trained personnel (“investigators”)
13 to conduct the monitoring required under this plan. The professional qualifications of the
14 investigators are subject to approval by the Oregon Department of Energy (ODOE, or
15 Department). For all components of this plan except the Wildlife Reporting and Handling
16 System, the certificate holder shall hire independent third party investigators (not employees of
17 the certificate holder) to perform monitoring tasks.

18 The *Wildlife Monitoring and Mitigation Plan* (WMMP) for Summit Ridge has the following
19 components:

20 **1) Fatality monitoring program, including:**

- 21 a) Carcass removal trials
- 22 b) Searcher efficiency trials
- 23 c) Fatality search protocol
- 24 d) Statistical analysis
- 25 e) Mitigation

26 **2) Grassland bird displacement study**

27 **3) Raptor nest surveys**

- 28 a) Short-term monitoring
- 29 b) Long-term monitoring
- 30 c) Analysis
- 31 d) Mitigation

32 **4) Wildlife reporting and handling process**

33 **5) Data reporting requirements**

¹ This plan is incorporated by reference in the site certificate for Summit Ridge 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 and is intended to function in coordination with any federally required mitigation, including an Avian and Bat Protection Plan, entered into by Summit Ridge and the USFWS pursuant to the BGEPA.

SUMMIT RIDGE WIND FARM
FINAL ORDER

6) Process for amending the WMMP

Based on the results of the monitoring programs, mitigation of significant impacts may be required. The selection of the mitigation actions should allow for flexibility in creating appropriate responses to monitoring results that cannot be known in advance. If the Department determines that mitigation is needed, the certificate holder shall propose appropriate mitigation actions to the Department and shall carry out mitigation actions approved by the Department, subject to review by the Oregon Energy Facility Siting Council (Council).

FATALITY MONITORING

Seasons for fatality monitoring will be as follows:

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

Fatality monitoring will be conducted over two consecutive years, with half of the turbines being searched each year. At the end of the two years, all turbines will have been searched for a full year. The certificate holder, in consultation with the Oregon Department of Fish and Wildlife (ODFW), shall select search plots based on a systematic sampling design that ensures that the selected search plots are representative of the habitat conditions in different parts of the site. It is anticipated that each search plot will contain one or two turbines – this will be confirmed when the final layout is available. Search plots will be square and will be centered on the turbine location(s) and will have a length equal to the maximum blade tip height of the turbine contained within the plot (maximum blade tip height is the turbine hub-height plus one-half the rotor diameter). Maps of the search plots will be provided to ODOE before beginning fatality monitoring at the Project. The same search plots will be used in subsequent monitoring years.

In each monitoring year, fatality monitoring searches will be conducted at the rates of frequency shown below. Over the course of one monitoring year, 16 searches would be conducted, as follows:

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

Fatality monitoring will begin one month after commencement of commercial operation of the facility. If the fatality rates during the first two years of monitoring at Summit Ridge do not exceed any of the thresholds of concern and are within the range of the fatality rates found at other wind power facilities in the region, then the investigators will perform a subsequent year of monitoring in Year 5 of operations.

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 If fatality rates during the first two years of monitoring at Summit Ridge exceed any of the
2 thresholds of concern or exceed the range of fatality rates found at other wind power facilities in
3 the region, the certificate holder shall propose additional mitigation for Department and ODFW
4 review within 6 months after reporting the fatality rates to the Department. Alternatively, the
5 certificate holder may opt to conduct a third year of fatality monitoring immediately following the
6 initial two years of monitoring if the certificate holder believes that the results of initial
7 monitoring were anomalous. If the certificate holder takes this option, the investigators still must
8 perform the monitoring in Year 5 of operations as described above.

9 During each year of fatality monitoring, both carcass removal trials and searcher efficiency
10 trials will be conducted, as discussed below.

11 **CARCASS REMOVAL TRIALS**

12 The objective of the carcass removal trials is to estimate the length of time avian and bat
13 carcasses remain in the search area. "Carcass removal" refers to the disappearance—due to
14 predation, scavenging, farming activity, or other means—of a carcass from the search area.
15 Obtaining this estimate will allow the adjustment of fatality estimates to account for removal bias.
16 Removal rates will be estimated by size class, habitat type, and season.

17 One carcass removal trial will be conducted during each season of fatality monitoring. Each
18 trial will involve the placement and observation of at least ten small bird carcasses and ten large
19 bird carcasses. The "small bird" size class will use carcasses of house sparrows, starlings,
20 commercially available game bird chicks, or legally obtained native birds to simulate passerines.
21 The "large bird" size class will use carcasses of raptors provided by agencies, commercially
22 available adult game birds, or cryptically colored chickens to simulate raptors, game birds, and
23 waterfowl. The investigators may use carcasses found during fatality monitoring searches. If
24 fresh bat carcasses are available, they may also be used.

25 To avoid confusion with turbine-related fatalities, carcasses will not be placed in fatality
26 monitoring search plots. Instead, they will be placed at non-searched turbines at sufficient
27 distance from turbines that are searched so as not to attract scavengers to the search plots. The
28 carcass removal trial plots will be distributed proportionately within habitat categories and
29 subtypes similar to the search plots. The carcasses will be placed randomly within the carcass
30 removal trial plots and in a variety of postures—hidden, partially hidden, and exposed. Trial
31 carcasses will be marked discreetly for recognition by searchers and other personnel.

32 Carcasses will be checked for a period of 35 days to determine removal rates. They will be
33 checked approximately every day for the first 4 days, and then on day 7, day 10, day 14, day 21,
34 day 28 and day 35. This schedule may vary depending on actual carcass removal rates, weather
35 conditions, and coordination with other survey work. At the end of the 35-day period, the trial
36 carcasses and scattered feathers will be removed.

37 Scavenger (or other removal) activity that results in scattering of feathers or other carcass
38 parts will not constitute removal if evidence of the carcass remains within an area comparable to
39 the search plot size, and if the evidence would be discernible to a searcher during a normal
40 survey. Before beginning removal trials for any subsequent year of fatality monitoring, the
41 certificate holder shall report the results of the first year of removal trials to the Department and
42 ODFW. In the report, the certificate holder shall analyze whether four removal trials per year, as
43 described above, provide sufficient data to accurately estimate adjustment factors for carcass
44 removal. The number of removal trials may be adjusted up or down, subject to the approval of the
45 Department.
46

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 **SEARCHER EFFICIENCY TRIALS**

2 The purpose of searcher efficiency trials is to estimate the percentage of bird and bat fatalities
3 that searchers are able to find. Searcher efficiency trials will be conducted on the fatality
4 monitoring search plots in both grassland/shrub-steppe and cultivated agriculture habitat types.
5 Searcher efficiency will be estimated by size class and by season. A pooled estimate of searcher
6 efficiency will enable adjustment of fatality estimates to account for detection bias.

7 A searcher efficiency trial will be conducted during each of the seasons defined above during
8 the years in which the fatality monitoring occurs. Each trial will involve approximately 25
9 carcasses (approximately 100 carcasses per year). The number of days needed to complete each
10 trial (and thus the number of carcasses required each trial-day) will be varied among seasons so
11 that searchers will not know the total number of trial carcasses being used on any given day.
12 Personnel conducting fatality searches will not be made aware of the dates or plots on which
13 searcher efficiency trials will be conducted.

14 Trial carcasses will be placed in the different habitat types roughly in proportion to the habitat
15 composition within the site boundary. During each season, a randomized selection of both small
16 bird and large bird carcasses will be used. The investigators shall use game birds or other legal
17 sources of avian species as test carcasses for the efficiency trials, and the investigators may use
18 carcasses found in fatality monitoring searches. The investigators shall select species with the
19 same coloration and size attributes as species found within the site boundary. If suitable test
20 carcasses are available, trials during the fall season will include several small brown birds to
21 simulate bat carcasses. Legally obtained bat carcasses will be used if available.

22 The carcasses will be placed randomly within the fatality monitoring search plots and in a
23 variety of postures—hidden, partially hidden, and exposed. The investigators shall mark the test
24 carcasses to differentiate them from other carcasses that might be found within the search plots,
25 and shall use methods similar to those used to mark removal test carcasses as long as the
26 procedure is sufficiently discreet and does not increase carcass visibility.

27 Each efficiency trial will be spread over the entire season to incorporate effects of varying
28 weather and vegetation growth. Trial carcasses will be placed before search personnel arrive;
29 where appropriate (if, for example, avian scavengers are suspected in the area), carcasses will be
30 placed before daylight.

31 The number and location of efficiency trial carcasses found during the carcass search will be
32 recorded. The number of efficiency trial carcasses available for detection during each trial-day
33 will be determined immediately after the day's searching by the person responsible for
34 distributing the carcasses. Following plot searches, all traces of test carcasses will be removed
35 from the site.

36 If new searchers are brought into the search team, additional searcher efficiency trials will be
37 conducted to ensure that detection rates incorporate searcher differences. The certificate holder
38 shall include a discussion of any changes in search personnel and any additional detection trials in
39 the reporting required under Section 5 of this plan.

40 Before beginning searcher efficiency trials for any subsequent year of fatality monitoring, the
41 certificate holder shall report the results of the first year efficiency trials to the Department and
42 ODFW. In the report, the certificate holder shall analyze whether the efficiency trials as described
43 above provide sufficient data to accurately estimate adjustment factors for searcher efficiency.
44 The number of searcher efficiency trials for any subsequent year of fatality monitoring may be
45 adjusted up or down, subject to the approval of the Department.
46

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 **FATALITY MONITORING SEARCH PROTOCOL**

2 The objective of fatality monitoring is to estimate the number of bird and bat fatalities that
3 are attributable to facility operation as an indicator of the impact of the facility on habitat quality.
4 The goal of bird and bat fatality monitoring is to estimate fatality rates and associated variances.
5 Standardized carcass searches will be conducted over two years (16 searches each year),
6 beginning one month after the start of commercial operation of the facility.

7 Fatality rates will be estimated using the statistical methods described below Section (d).
8 Fatality estimates will be computed annually for eight categories: 1) all birds, 2) small birds, 3)
9 large birds, 4) raptors, 5) grassland birds, 6) nocturnal migrants, 7) State Sensitive Species listed
10 under OAR 635-100-0040 and 8) bats. The certificate holder shall report annual fatality rates on
11 both a per-MW and per-turbine basis.

12 All carcasses located within areas surveyed, regardless of species, will be recorded and, if
13 possible, a cause of death determined based on necropsy results. If a different cause of death is
14 not apparent, the fatality will be attributed to facility operation. The total number of avian and bat
15 fatalities will be estimated by adjusting for carcass removal and searcher efficiency bias (Sections
16 (a) and (b)).

17 Trained personnel will conduct the carcass searches by walking parallel transects within the
18 search plots. Transects will be set at 6 meters apart in the area to be searched. A searcher will
19 walk at a rate of approximately 45 to 60 meters per minute along each transect, searching both
20 sides out to three meters for casualties. Search area and speed may be adjusted by habitat type
21 after evaluation of the first searcher efficiency trial. The searchers will record the condition of
22 each carcass found, using the following condition categories:

- 23 ▪ Intact: a carcass that is completely intact, is not badly decomposed and shows no
24 sign of being fed upon by a predator or scavenger
- 25 ▪ Scavenged: an entire carcass that shows signs of being fed upon by a predator or
26 scavenger, or portions of a carcass in one location (e.g., wings, skeletal remains,
27 legs, pieces of skin, etc.)
- 28 ▪ Feather Spot: 10 or more feathers or 2 or more primary feathers at one location
29 (indicative of predation or scavenging)

30 All carcasses (avian and bat) found during the standardized carcass searches will be
31 photographed, recorded, and labeled with a unique number. Each carcass will be bagged and
32 frozen for future reference, possible necropsy, or use in removal or searcher efficiency trials. A
33 copy of the data sheet for each carcass will be kept with the carcass at all times. For each carcass
34 found, searchers will record species, sex and age when possible, date and time collected, location
35 (global positioning system coordinates), condition (e.g., intact, scavenged, feather spot) and any
36 comments that may indicate cause of death. Searchers will photograph each carcass as found and
37 will map the find on a detailed map of the search area showing the location of nearby wind
38 turbines, power poles, fence, building, or overhead line structures. Collection of state
39 endangered, threatened, sensitive, or other state protected species will be coordinated with
40 ODFW. Collection of federally-listed endangered or threatened species and avian species
41 protected under the Migratory Bird Treaty Act will be coordinated with the U.S. Fish and
42 Wildlife Service (USFWS). Appropriate collection permits will be obtained from ODFW and
43 USFWS.

44 Carcasses may be discovered incidental to formal carcass searches (such as while driving
45 between search plots or while setting up carcass removal or searcher efficiency trials). All such
46 carcasses will be recorded, analyzed, and collected just like those found during formal searches.

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 If the incidentally discovered carcass is found within a formal search plot, the fatality data will be
2 included in the calculation of fatality rates. If the incidentally discovered carcass is found outside
3 a formal search plot, the data will be reported separately.

4 A protocol for handling injured birds will be developed and followed. Any injured native
5 birds found on the facility site will be carefully captured by a trained biologist or technician and
6 transported to an approved rehabilitation specialist (Blue Mountain Wildlife in Pendleton or other
7 certified wildlife care center). The certificate holder shall pay costs, if any, charged for time and
8 expenses related to care and rehabilitation of injured native birds found on the site, unless the
9 cause of injury is clearly demonstrated to be unrelated to the facility operations.

10 **STATISTICAL METHODS FOR FATALITY ESTIMATES**

11 The estimate of the total number of wind facility-related fatalities will be based on:

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

19

20 The following variables are used in the equations below:

- 21 c_i the number of carcasses detected at plot i for the study period of interest (e.g.,
22 one year) for which the cause of death is either unknown or is attributed to the
23 Project
24 n the number of search plots
25 k the number of turbines searched (includes the turbines centered within each
26 search plot and a proportion of the number of turbines adjacent to search plots to
27 account for the effect of adjacent turbines on the search plot buffer area)
28 \bar{c} the average number of carcasses observed per turbine per year
29 s the number of carcasses used in removal trials
30 s_e the number of carcasses in removal trials that remain in the study area after 40
31 days
32 se standard error (square of the sample variance of the mean)
33 t_i the time (days) a carcass remains in the study area before it is removed
34 \bar{t} the average time (days) a carcass remains in the study area before it is removed
35 d the total number of carcasses placed in searcher efficiency trials
36 p the estimated proportion of detectable carcasses found by searchers
37 I the average interval between searches in days
38 $\hat{\pi}$ the estimated probability that a carcass is both available to be found during a
39 search and is found

² If a different cause of death is not apparent, the fatality will be attributed to facility operation.

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 m_i the estimated annual average number of fatalities per turbine per year, adjusted
2 for removal and observer detection bias

3 C nameplate energy output of turbine in megawatts (MW)

4 The estimated average number of carcasses (\bar{c}) observed per turbine per year is:

$$5 \quad \bar{c} = \frac{\sum_{i=1}^n c_i}{k}. \quad (1)$$

6 Estimates of carcass removal are used to adjust carcass counts for removal bias. Mean carcass
7 removal time (\bar{t}) is the average length of time a carcass remains at the site before it is removed:

$$8 \quad \bar{t} = \frac{\sum_{i=1}^s t_i}{s - s_c}. \quad (2)$$

9 This estimator is the maximum likelihood estimator assuming the removal times follow an
10 exponential distribution and there is right-censoring of data. Any removal trial carcasses still
11 remaining at 35 days are collected, yielding censored observations at 35 days. If all trial carcasses
12 are removed before the end of the trial, then s_c is 0, and \bar{t} is just the arithmetic average of the
13 removal times. Removal rates will be estimated by carcass size (small and large), habitat type,
14 and season.

15 Observer detection rates (i.e., searcher efficiency rates) are expressed as p , the proportion of
16 trial carcasses that are detected by searchers. Observer detection rates will be estimated by
17 carcass size, habitat type, and season.

18 The estimated per-turbine annual fatality rate (m_i) is calculated by:

$$19 \quad m_i = \frac{\bar{c}}{\hat{\pi}}, \quad (3)$$

20 where $\hat{\pi}$ includes adjustments for both carcass removal (from scavenging and other means)
21 and observer detection bias assuming that the carcass removal times t_i follow an exponential
22 distribution. Under these assumptions, this detection probability is estimated by:

$$23 \quad \hat{\pi} = \frac{\bar{t} \cdot p}{I} \cdot \left[\frac{\exp\left(\frac{I}{\bar{t}}\right) - 1}{\exp\left(\frac{I}{\bar{t}}\right) - 1 + p} \right]. \quad (4)$$

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

$$25 \quad m = \frac{m_i}{C}. \quad (5)$$

26 Fatality estimates will be calculated for: (1) all birds, (2) small birds, (3) large birds, (4)
27 raptors, (5) grassland birds, (6) nocturnal migrants 7) State Sensitive Species listed under OAR
28 635-100-0040 and 8) bats. Differences in observed nocturnal migrant and bat fatality rates for lit

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 turbines, unlit turbines that are adjacent to lit turbines, and unlit turbines that are not adjacent to
2 lit turbines will be compared graphically and statistically.

3 The final reported estimates of m , associated standard errors, and 90% confidence intervals
4 will be calculated using bootstrapping³. Bootstrapping is a computer simulation technique that is
5 useful for calculating point estimates, variances, and confidence intervals for complicated test
6 statistics. For each iteration of the bootstrap, \bar{c} , \bar{t} , p , $\hat{\pi}$, and m will be calculated. A total of
7 5,000 bootstrap iterations will be used. The reported estimates will be the means of the 5,000
8 bootstrap estimates. The standard deviation of the bootstrap estimates is the estimated standard
9 error. The lower 5th and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the
10 lower limit and upper limit of 90% confidence intervals.

11 **MITIGATION**

12 Mitigation may be appropriate if fatality rates exceed a threshold of concern. For the purpose
13 of determining whether a threshold has been exceeded, the average annual fatality rates will be
14 calculated by species groups after monitoring is completed. Based on current knowledge of the
15 species that are likely to use the habitat in the area of the facility, and based on thresholds
16 established for other EFSC-level permitted wind projects⁴, the following thresholds apply to
17 Summit Ridge:

Species Group	Threshold of Concern (fatalities per MW)
Raptors (All eagles, hawks, falcons and owls)	0.09
Raptor species of special concern (Swainson's hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl and any federal threatened or endangered raptor species.)	0.06
Grassland species (All native bird species that rely on grassland habitat and are either resident species occurring year round or species that nest in the area, excluding horned lark, burrowing owl and northern harrier.)	0.59
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above.)	0.2
Bat species as a group	2.5

³ Manly, B.F. 1997. Randomization, bootstrap, and Monte Carlo methods in biology. 2nd edition. Chapman and Hall, New York. 399 pp.

⁴ The Council adopted "thresholds of concern" for raptors, grassland species, and state sensitive avian species in the Final Order on the Application for the Klondike III Wind Project (June 30, 2006) and for bats in the Final Order on the Application for the Biglow Canyon Wind Farm (June 30, 2006). As explained in the Klondike III order: "Although the threshold numbers provide a rough measure for deciding whether the Council should be concerned about observed fatality rates, the thresholds have a very limited scientific basis. The exceeding of a threshold, by itself, would not be a scientific indicator that operation of the facility would result in range-wide population level declines of any of the species affected. The thresholds are provided in the Wildlife Monitoring and Mitigation Plan to guide consideration of additional mitigation based on two years of monitoring data."

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 If the data show that a threshold of concern for a species group has been exceeded, additional
2 mitigation may be implemented (if determined to be warranted by ODOE and ODFW). ODOE
3 may also determine that mitigation is appropriate if fatality rates for individual avian or bat
4 species (especially State Sensitive Species) are higher than expected and at a level of biological
5 concern. If mitigation is warranted, the certificate holder will proposed appropriate mitigation
6 measures in consultation with the ODOE and ODFW to benefit the affected species.

7 Mitigation may include, but is not limited to, protection of nesting habitat for the affected
8 group of native species (as through a conservation easement or similar agreement), enhancement
9 of the protected tract by weed removal and control, increasing the diversity of native grasses and
10 forbs, planting sagebrush or other shrubs, constructing and maintaining artificial nest structures
11 for raptors, improving wildfire response, and/or conducting research or making a contribution to
12 research that will aid in better understanding the affected species and its conservation needs in the
13 region.

14 The certificate holder shall implement mitigation as approved by the Department and ODFW,
15 subject to review by the Council. The Department may recommend additional, targeted data
16 collection if the need for mitigation is unclear based on the information available at the time. The
17 certificate holder shall implement such data collection as approved by the Council.

18 **GRASSLAND BIRD DISPLACEMENT STUDY**

19 A grassland bird displacement study was begun as part of pre-construction biological surveys
20 of the Summit Ridge Wind Power Project. Five 300 m-long and 100 m-wide transects were
21 established perpendicular to proposed turbine strings, and five control transects were established
22 at least 800 m away from proposed turbines or roads. Transects (both experimental and control)
23 were placed in native habitat where grassland bird species were expected to occur. Transects were
24 each surveyed three times during the spring 2009 breeding season. Grassland birds that were
25 documented on-site during baseline surveys conducted in 2009 included grasshopper sparrow,
26 savannah sparrow, vesper sparrow, Brewer's sparrow, western meadowlark, and horned lark. The
27 long-billed curlew, a shorebird that utilizes grassland habitats during the summer months, was
28 also detected during avian use surveys.

29 Two years of post-construction surveys will be conducted using the same transects and
30 methods used in pre-construction surveys. The objective of this before-and-after design is to
31 determine if there are noticeable changes in the presence and overall use by grassland bird species
32 as a result of facility construction and operation. It is hoped that this study will provide
33 information on whether operation of Summit Ridge discourages use of the area by the indicator
34 species, grasshopper sparrow. Post-construction surveys will, however, include observations of
35 common species such as western meadowlark, savannah sparrow, vesper sparrow, and Brewer's
36 sparrow to provide information on the presence and distribution of these species within the study
37 area and their behavior relative to turbine locations. Post-construction surveys will begin in the
38 first spring after the facility is fully operational.

39 A comprehensive report of this research will be submitted to ODOE following the completion
40 of the second year of post-construction surveys. The report will include maps showing transects
41 walked and specific areas of use by the indicator species, plus analysis of any changes noted in
42 distances from turbines by grassland bird species before and after Summit Ridge construction.
43 The report will also include a description of vegetation compared to pre-construction conditions
44 as recorded in the first year(s), including notes on any changes in land use, wildfire influences,
45 and grazing, and describing any areas of intense vegetation impact.
46

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 **RAPTOR NEST SURVEYS**

2 The objectives of raptor nest surveys are: (1) to estimate the size of the local breeding
3 populations of raptor species that nest on the ground or aboveground in trees or other
4 aboveground nest locations in the vicinity of the facility; and (2) to determine whether operation
5 of the facility results in a reduction of nesting activity or nesting success in the local populations
6 of the following raptor species: Swainson's hawk, golden eagle, bald eagle, ferruginous hawk,
7 and burrowing owl.

8 The certificate holder shall conduct short-term and long-term monitoring. The investigators
9 will use aerial and ground surveys to evaluate nest success by gathering data on active nests, on
10 nests with young, and on young fledged. The investigators will analyze the data as described in
11 Section 3(c) and will share the data with state and federal biologists.

12 **SHORT-TERM MONITORING**

13 Short-term monitoring will be done in two monitoring periods. The first monitoring period
14 will be in the first two raptor nesting seasons after completion of construction of the facility. The
15 second monitoring period will be in the fifth year after construction is completed. The certificate
16 holder shall provide a summary of the first-period results in the monitoring report described in
17 Section 5 of this WMMP. After the second monitoring period, the investigators will analyze the
18 data compared to the baseline data.

19 During each monitoring period, the investigators will conduct a minimum of one aerial and
20 one ground survey for raptor nests in late May or early June and additional surveys as described
21 in this section. The survey area is the area within the facility site and a 2-mile buffer zone around
22 the site. For the ground surveys while checking for nesting success (conducted within the facility
23 site and up to a maximum of ½ mile from the facility site), nests outside the leased project
24 boundary will be checked from an appropriate distance where feasible, depending on permission
25 from the landowner for access.

26 All nests discovered during pre-construction surveys and any nests discovered during post-
27 construction surveys, whether active or inactive, will be given identification numbers. Nest
28 locations will be recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global
29 positioning system coordinates will be recorded for each nest. Locations of inactive nests will be
30 recorded because they could become occupied during future years.

31 Determining nest occupancy may require one or two visits to each nest. Aerial surveys for
32 nest occupancy will be conducted within the facility site and a 2-mile buffer. For occupied nests,
33 the certificate holder will determine nesting success by a minimum of one ground visit to
34 determine the species, number of young and young fledged within the facility site and up to ½
35 mile from the facility site. "Nesting success" means that the young have successfully fledged (the
36 young are independent of the core nest site).

37 If burrowing owl nest sites are discovered, the investigators will monitor them according to
38 the following protocol. This species is not easily detected during aerial raptor nest surveys. The
39 investigators shall record active burrowing owl nest sites in the vicinity of the facility as they are
40 discovered during other wildlife monitoring tasks. Any nests discovered during post-construction
41 surveys, whether active or showing signs of intermittent use by the species, will be given
42 identification numbers. Nest locations will be recorded on U.S. Geological Survey 7.5-minute
43 quadrangle maps. Global positioning system coordinates will be recorded for each nest site.
44 Coordinates for ancillary burrows used by one nesting pair or a group of nesting pairs will also be
45 recorded. Locations of inactive nests will be recorded because they could become occupied
46 during future years.

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 The investigators shall conduct burrowing owl monitoring in the same years as the raptor nest
2 surveys described above. For occupied nests, the investigators shall determine nesting success by
3 a minimum of one ground visit to determine species, number of young and young fledged. Three
4 visits to the nest sites may be necessary to determine outcome. Nests that cannot be monitored
5 due to the landowner denying access will be checked from a distance where feasible.

6 If burrowing owl nests are discovered during the first year of post-construction raptor nest
7 surveys (the first raptor nesting season after construction is completed), the investigators shall
8 monitor those nest locations during the second year of surveys in the fourth year after
9 construction is completed. Thereafter, the investigators shall monitor all known burrowing owl
10 nest locations as a part of the long-term raptor nest monitoring program described in Section 2(b)
11 below.

12 **LONG-TERM MONITORING**

13 In addition to the three years of post-construction raptor nest surveys described in Section
14 2(a), the investigators shall conduct long-term raptor nest surveys at 5-year intervals for the life of
15 the facility.⁵ Investigators will conduct the first long-term raptor nest survey in the raptor nesting
16 season of the tenth year after construction is completed and will repeat the survey at 5-year
17 intervals thereafter. In conducting long-term surveys, the investigators will follow the same
18 survey protocols as described above in Section 2(a) unless the investigators propose alternative
19 protocols that are approved by the Department. In developing an alternative protocol, the
20 investigators will consult with ODFW and will take into consideration other monitoring
21 conducted in adjacent areas. The investigators will analyze the data and report after each year of
22 long-term raptor nest surveys.

23 **ANALYSIS**

24 The investigators will analyze the raptor nesting data to determine whether a reduction in
25 either nesting success or nest use has occurred in the survey area. Impacts may have to be judged
26 based on trends in the data, results from other wind energy facility monitoring studies, and
27 literature on what is known regarding the populations in the region. If the analysis indicates a
28 reduction in raptor nesting success or nest use, then the certificate holder will propose appropriate
29 mitigation for the affected species as described in Section 2(d) and will implement mitigation as
30 approved by the Department, subject to review by the Council.

31 Reductions in nesting success or nest use could be due to operation of Summit Ridge or some
32 other cause. The investigators shall attribute the reduction to operation of the facility if the wind
33 turbine closest to the affected nest site is a Summit Ridge turbine, unless the certificate holder
34 demonstrates, and the Department agrees, that the reduction was due to a different cause. At a
35 minimum, if the analysis shows that a Swainson's hawk, ferruginous hawk, bald eagle, golden
36 eagle, or burrowing owl has abandoned a nest territory within the facility site or within ½ mile of
37 the facility site, or has not fledged any young over two successive surveys within that same area,
38 the investigators will assume the abandonment or unsuccessful fledging is due to operation of the
39 facility unless another cause can be demonstrated convincingly.

40 **MITIGATION**

41 If the analysis shows a reduction in nesting success or nest use, the certificate holder shall
42 implement mitigation if the Department determines that mitigation is appropriate. The certificate
43 holder shall propose mitigation for the affected species in consultation with the Department and

⁵ 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.

SUMMIT RIDGE WIND FARM
FINAL ORDER

1 ODFW, and shall implement mitigation as approved by the Council. Mitigation should be
2 designed to benefit the affected species or contribute to overall scientific knowledge and
3 understanding of what causes nest abandonment or nest failure. Mitigation may be designed to
4 proceed in phases over several years. It may include, but is not limited to, additional raptor nest
5 monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably
6 within the general area of the facility), or participation in research projects designed to improve
7 scientific understanding of the needs of the affected species. Mitigation may take into
8 consideration whether the mitigation required or provided in conjunction with other components
9 of the WMMP or *Habitat Mitigation Plan* would also benefit the raptor species whose nesting
10 success was adversely affected.

11 **WILDLIFE REPORTING AND HANDLING PROCESS**

12 The certificate holder shall establish a training program for facility maintenance personnel to
13 report avian and bat casualties while conducting routine duties associated with the operation of
14 the facility. This program will include initial response, handling, and reporting of bird and bat
15 carcasses discovered incidental to maintenance operations.

16 All avian and bat carcasses discovered by maintenance personnel will be photographed and
17 the data recorded as would be done for carcasses within the formal search sample during
18 scheduled searches. If incidental finds are made, maintenance personnel will notify a project
19 biologist. The biologist will collect the carcass, or will instruct maintenance personnel to have an
20 on-site carcass handling permittee collect the carcass. That permittee will be a person who is
21 listed on state and federal scientific or salvage collection permits and who is available to process
22 (collect) the find on the day it is discovered. The find will be processed on the same day as it is
23 discovered. The certificate holder shall coordinate collection of state endangered, threatened,
24 sensitive, or other state protected species with ODFW. The certificate holder shall coordinate
25 collection of federally-listed endangered or threatened species and Migratory Bird Treaty Act
26 protected avian species with the USFWS.

27 During the years in which fatality monitoring occurs, if maintenance personnel discover
28 incidental finds outside the search plots for the fatality monitoring searches, the data will be
29 reported separately from fatality monitoring data. If maintenance personnel discover carcasses
30 within search plots, the data will be included in the calculation of fatality rates.

31 **DATA REPORTING REQUIREMENTS**

32 Wildlife monitoring data and analysis will be reported to ODOE. Monitoring data include
33 fatality monitoring program data, grassland bird study data, raptor nest use and success data, and
34 wildlife reporting and handling data. These reports may be included in the annual report required
35 under OAR 345-026-0080 or submitted as a separate document at the same time the annual report
36 is submitted.

37 USFWS and ODFW will be notified immediately if any federal or state endangered or
38 threatened species are killed or injured on the Summit Ridge site.

39 **PROCESS FOR AMENDING THE WMMP**

40 This WMMP may be amended from time to time by agreement of the certificate holder and
41 the Council. Such amendments may be made without amendment of the site certificate. The
42 Council authorizes the Department to agree to amendments to this plan and to mitigation actions
43 that may be required under this plan. The Department shall notify the Council of all amendments
44 and mitigation actions, and the Council retains the authority to approve, reject, or modify any
45 amendment of this plan or mitigation action agreed to by the Department.