

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

| In the Matter of Request for Amendment 5 for the
Wheatridge Wind Energy Facility Site Certificate

) ~~DRAFT~~ PROPOSED ORDER ON
) REQUEST FOR AMENDMENT 5 TO
) THE SITE CERTIFICATE
)

| ~~April 17~~ May 11, 2020

[Tracked changes version: All changes presented in red-line]

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I. INTRODUCTION

The Oregon Department of Energy (Department or ODOE) issues this ~~draft~~ proposed order in accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-03~~7165~~, based on its review and comments received on the record of the draft proposed order public hearing of Request for Amendment 5 (RFA5 or amendment request) to the Wheatridge Wind Energy Facility site certificate. The certificate holder for the facility is Wheatridge Wind Energy, LLC, a wholly owned indirect subsidiary of NextEra Energy Resources, LLC (NEER) (certificate holder/certificate holder owner).

Request for Amendment 5 to the Wheatridge Wind Energy Facility site certificate (RFA5 or amendment request) seeks Council approval of issuance of two site certificates based entirely on the previously approved site certificate. Specific previously approved facility components would be included in one site certificate for a facility named Wheatridge Renewable Energy Facility I (WREFI) – to include 40 wind turbines (100 megawatts (MW)) and related or supporting facilities, located entirely within Morrow County; and in the other site certificate for a facility named Wheatridge Renewable Energy Facility II (WREFII) – all other previously approved facility components, located within Morrow and Umatilla counties.

The certificate holder seeks approval of administrative amendments to previously imposed conditions primarily for the WREFI site certificate, including removal of reference to facility components (i.e. intraconnection transmission line) or to Umatilla County, which no longer apply to WREFI. The certificate holder seeks approval of substantive condition amendments imposed under the Council's Fish and Wildlife Habitat and Retirement and Financial Assurance standards, to remove a seasonal restriction for construction activities within designated mule deer winter range habitat; and to modify the decommissioning amount for each of the respective facilities based on the split and sharing of facility components across two site certificates. The site certificates would contain all previously imposed conditions, unless otherwise evaluated in this order. The current certificate holder, Wheatridge Wind Energy, LLC and certificate holder owner, NextEra Energy Resources, LLC (NEER) would be maintained for WREFI. The certificate holder for WREFII would include a new entity, Wheatridge Wind II, LLC, recently created by NEER as another wholly owned indirect subsidiary, where similar to the existing and proposed amended WREFI site certificate, NEER would be the WREFII certificate holder owner and owner with control or possession of the certificate holder.

In the amendment request, the certificate holder requests that Council apply the transfer process under OAR 345-027-0400 based on the change in certificate holder for WREFI. However, because the owner of the certificate holder, or the owner of the entity to be in control or possession of the facility would remain as NEER, in accordance with the intent of the language under OAR 345-025-0006(15), the Department recommends Council find that changes in certificate holder, when the certificate holder is a sole purpose limited liability company reliant upon its parent company, and the parent company is the owner of the certificate holder, not to trigger the OAR 345-027-0400 transfer process.

Based upon review of this amendment request, the Department recommends Council approve the amendment request and issue two site certificates for WREFI and WREFII based entirely on Council's previous final orders for the Wheatridge Wind Energy Facility site certificate, subject to the existing and recommended new and amended conditions set forth in this order.

I.A. Certificate Holder and Owner Information

The current certificate holder for the Wheatridge Wind Energy Facility site certificate is as follows:

Wheatridge Wind Energy, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

Certificate Holder Owner/Certificate Holder

NextEra Energy Resources, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

I.B. WREFI and WREFII Certificate Holder and Owner Information

For the WREFI site certificate, the certificate holder and certificate holder owner will remain the same as the current certificate holder, as follows:

Wheatridge Wind Energy, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

WREFI Certificate Holder Owner/Certificate Holder

NextEra Energy Resources, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

For the WREFII site certificate, the certificate holder and certificate holder owner is as follows:

Wheatridge Wind II, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

WREFII Certificate Holder Owner/Certificate Holder

NextEra Energy Resources, LLC
FEW/JB
700 Universe Blvd.
Juno Beach, FL 33408

I.C. Approved Facility Components, Site Boundary and Corridors

Approved Facility Components

The Wheatridge Wind Energy Facility (facility) site certificate, as amended November 2019, authorizes construction and operation of a 650 megawatt (MW) wind and solar facility, to be located within both Morrow and Umatilla counties. The facility, as approved, would include up to 292 wind turbines and up to 900 acres of solar energy generation equipment. The wind turbines could include a range of technologies with varying dimensions. Wind turbine dimensions may not exceed 476 feet in maximum blade tip height (tower hub height plus blade length); 197 feet in maximum blade length; 278 feet in maximum hub height; and 393 feet in rotor diameter. The individual wind turbine generating capacity may not exceed 2.5 MW.

Related or supporting facilities to wind facility components, as approved, would include up to 32 miles of up to two parallel overhead 230 kilovolt (kV) intraconnection transmission lines that would traverse one of four approved routing options, as further described below. Related or supporting facilities, as approved, would also include an electrical collection system, up to two collector substations, up to 12 meteorological towers, supervisory control and data acquisition (SCADA) systems, up to two operations and maintenance (O&M) buildings, up to two battery storage systems (20 and 30 MW, each) up to 72 miles of new or improved access roads, and temporary construction areas.

Solar energy facility components could include up to two solar arrays located within Wheatridge West (further described below), entirely within Morrow County, on Exclusive Farm Use zoned land. The solar arrays consist of photovoltaic panels mounted onto tracking modules and arranged in strings within the solar micrositing corridors. Strings of modules are connected by electrical collector lines and inverters that convert the direct current power generated by panels to alternating current power. Transformers placed near the inverters step up power to 34.5 kV for transmission to the Wheatridge West substation. The maximum layout including total number of modules, configuration, dimensions, total energy generating capacity and

1 mounting system of solar array components shall be substantially as described in Request for
2 Amendment 4.

3
4 Related or supporting facilities to solar facility components, as approved, would include above-
5 and belowground 34.5 kV electrical collection system; internal service roads, gates and
6 perimeter fencing; collector substation expansion; and, up to 41 distributed battery storage
7 systems.

8
9 *Approved Site Boundary*

10
11 The facility site is located within a site boundary of approximately 14,624 acres, south of
12 Interstate 84 and northeast of Lexington in Umatilla and Morrow counties. The facility site is
13 divided into two groups, Wheatridge West and Wheatridge East. Wheatridge West is located
14 entirely within Morrow County, bisected by Oregon Highway 207, approximately 5 miles
15 northeast of Lexington and approximately 7 miles northwest of Heppner. Wheatridge East is
16 located approximately 16 miles northeast of Heppner and includes land in both Morrow and
17 Umatilla counties. Wheatridge West and Wheatridge East would be connected via a 230 kV
18 transmission line or “intraconnection” transmission line (see Figure 1, *Facility Regional Location*
19 below).



Approved Micrositing Corridors

Micrositing corridor means a continuous area of land within which construction of facility components may occur subject to site specific conditions.¹ Council authorizes micrositing corridors for wind facilities when a certificate holder has adequately studied the entire corridor and demonstrated compliance with Council standards based on impacts of facility components anywhere within the corridor. For this facility, the site boundary is equivalent to the micrositing corridor.

The site boundary contains two separate micrositing corridors, one for wind facility components and one for solar facility components. Micrositing corridors for wind turbines are a minimum of approximately 660 feet in width around turbines, and wider in some locations. The site boundary width around site access roads and electrical collection lines (collector lines) is narrower, between 200 feet and 500 feet in width. The micrositing corridor is wider for the area surrounding the substations, meteorological towers (met towers), the operation and maintenance (O&M) buildings, and construction yards.

Micrositing corridors for solar facility components include the area for Solar Array 1 and Solar Array 2, which includes private access roads, service roads, a 34.5 kV collection system, gates and perimeter security fence, as presented in Figure 2: *Approved Site Boundary and Micrositing Corridors*.

Approved Intraconnection Transmission Line Corridor

The certificate holder obtained approval of four routing options for the 230 kV intraconnection transmission line that interconnects Wheatridge West and Wheatridge East for the transmission of generated power. The intraconnection transmission line corridor is approximately 1,000-feet in width and ranges in length from 24.5 to 31.5 miles, based upon the four approved transmission line route options.

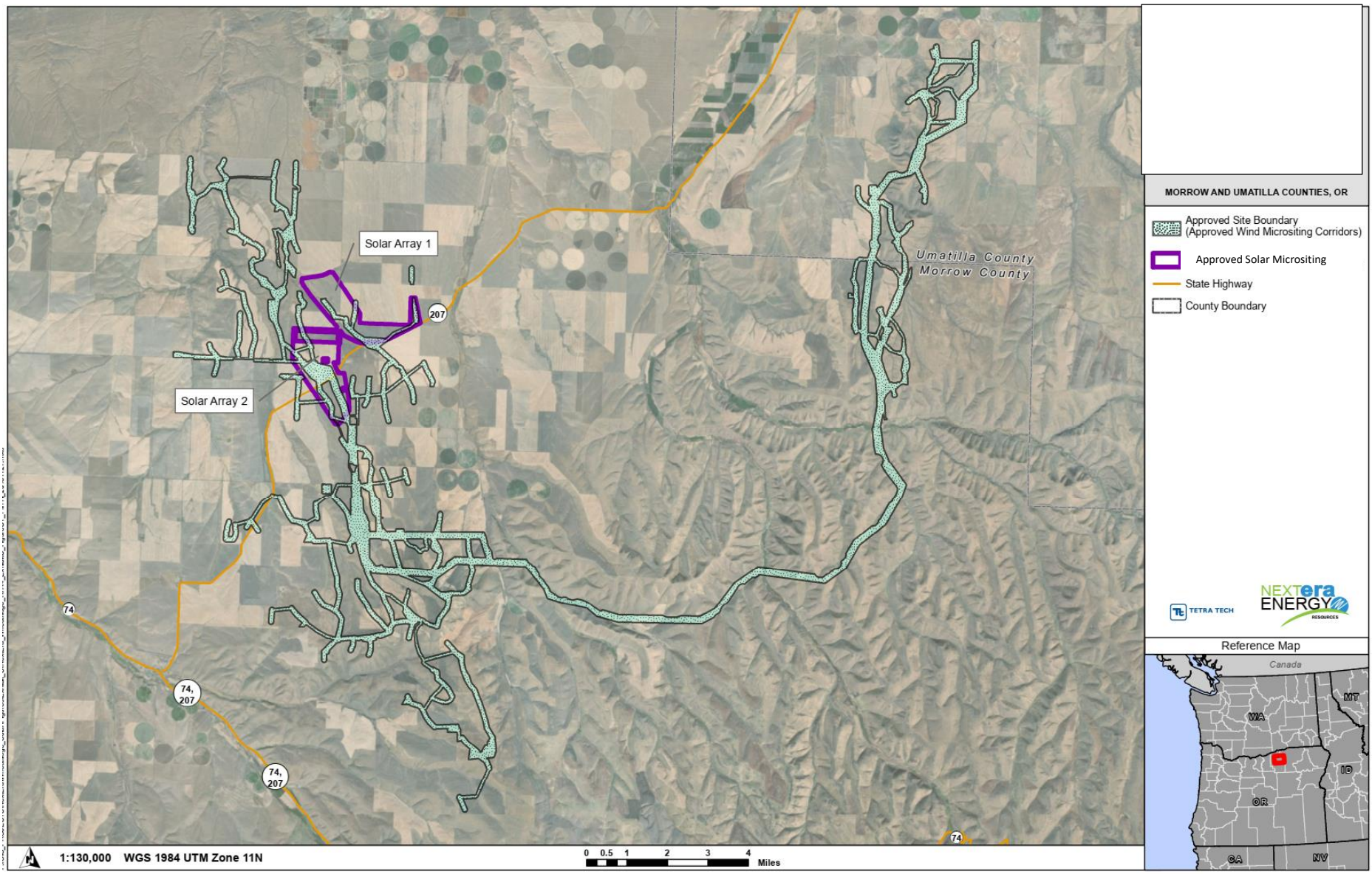
The approved 230 kV intraconnection transmission line route options, as presented in ASC Exhibit C (Figures C-4a through C-4d), are summarized below:

- Option 1: 31.5-mile 230 kV intraconnection transmission line extending from Wheatridge East Substation 3 to Wheatridge West Substation 1
- Option 2: 31.3-mile 230 kV intraconnection transmission line extending from Wheatridge East Substation 3 to Wheatridge West Substation 2b, and then to Wheatridge West Substation 2a (alternate)

¹ OAR 345-001-0010(32)

- 1 • Option 3: 24.5-mile 230 kV intraconnection transmission line extending from
2 Wheatridge West Substation 1 to Wheatridge East Substation 3
3
- 4 • Option 4: 27.8 mile 230 kV intraconnection transmission line extending from
5 Wheatridge West Substation 2a to Wheatridge West Substation 2b, and then to
6 Wheatridge East Substation 3
7
- 8

1 **Figure 2: Approved Site Boundary and Micrositing Corridors**



I.D. Procedural History

The Council issued the *Final Order on the Application for Site Certificate* for the Wheatridge Wind Energy Facility (Final Order on ASC) on April 28, 2017. The site certificate became effective on May 24, 2017. On June 14, 2017, the certificate holder submitted Request for Amendment 1 (RFA1) of the site certificate, requesting to transfer certificate holder ownership from Swaggart Wind Power, LLC to a new parent company, NextEra Energy Resources, LLC. The Council issued the *Final Order on RFA1* and first amended site certificate on July 27, 2017. The first amended site certificate became effective on August 17, 2017.

On May 18, 2018, the certificate holder submitted Request for Amendment 2 (RFA2) and Request for Amendment 3 (RFA3). RFA2 requested approval for construction and operation of two battery storage systems, to be located in Wheatridge East and one in Wheatridge West. RFA3 requested approval to modify wind turbine specifications for maximum blade-tip height. The Council issued the *Final Order on RFA3* and second amended site certificate on November 16, 2018; Council issued the *Final Order on RFA2* and third amended site certificate on December 14, 2018. On July 1, 2019 the certificate holder submitted Request for Amendment 4 (RFA4) seeking approval to add 1,527 acres to the site boundary for construction and operation of 150 MW of photovoltaic solar power generation equipment and up to 41 distributed energy storage (battery) systems. The Council approved *Final Order on RFA4* and issued the fourth amended site certificate on November 22, 2019.

The procedural history of Request for Amendment 5 (RFA5 or amendment request) is described in Section III.B. *Amendment Process* of this order.

II. AMENDMENT PROCESS

II.A. Requested Amendment

The certificate holder requests Council approval to amend the existing site certificate by creating two new site certificates based entirely on the existing site certificate, but including only 40 of the previously approved 292 wind turbines (totaling approximately 100 MW capacity) into one site certificate, with all remaining facility components in another site certificate, with new facility names - Wheatridge Renewable Energy Facility I (WREFI) and Wheatridge Renewable Energy Facility II (WREFII). The certificate holder owner for the WREFI and WREFII would be NEER, the parent company and owner of both certificate holders, Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC.

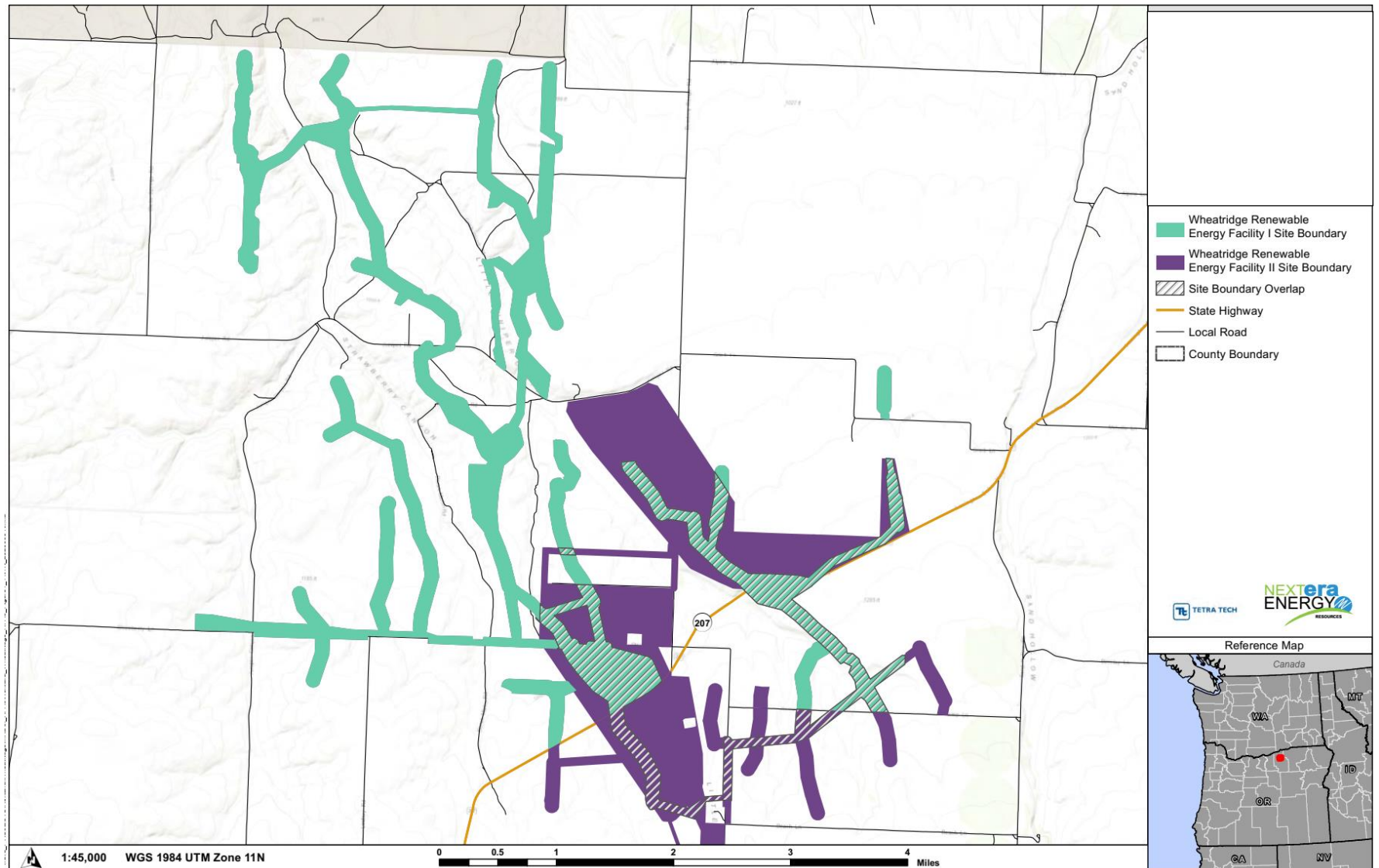
The WREFI site boundary would be redefined, from the previously approved 14,624 acres to approximately 2,8823,100.5 acres, located entirely on private property within Morrow County, as represented in Figure 3: *WREFI and WREFII Site Boundaries*. Previously approved facility components in the WREFI site certificate would include 40 wind turbines (up to 100 MW total capacity), and related or supporting facilities including up to 20 miles of mostly underground electrical collection system, one collector substation, 2 permanent meteorological towers,

1 communication and Supervisory Control and Data Acquisition (SCADA) system, up to 20 miles of
2 new or improved access roads, temporary construction areas, and battery storage systems.

3
4 The WREFII site boundary would be redefined, from the previously approved 14,624 acres to
5 approximately ~~11,742~~12,432.05 acres, located entirely on private property within Morrow and
6 Umatilla counties, as represented in Figure 3: *WREFI and WREFII Site Boundaries*. Previously
7 approved facility components in the WREFII site certificate would include up to 252 wind
8 turbines (up to 400 MW total capacity), 900 acres of solar photovoltaic energy generation
9 equipment (up to 150 MW total capacity), and all remaining related or supporting facilities
10 (approximately 68 miles of electrical collection system, up to 3 collector substations, up to 32
11 miles of up to 2 overhead 230 kV intraconnection transmission lines, up to 10 meteorological
12 towers, communication and SCADA system, up to 2 O&M buildings, up to 61 miles of new or
13 improved access roads, temporary construction areas, and battery storage systems.

14
15 The certificate holder proposes to share some related or supporting facilities between WREFI
16 and WREFII, in areas of overlapping site boundary, including one collector substation, SCADA
17 system, O&M building, access roads, staging areas and the ~~20 and~~ 30 MW battery storage
18 systems. All shared facilities would be represented as related or supporting facilities in the
19 WREFI and WREFII site certificate, with the exception of the shared O&M building, which would
20 only be reflected in the WREFII site certificate.

1 **Figure 3: WREFI and WREFII Site Boundaries**



II.B. Amendment Review Process

Council rules describe the processes for transfers, Type A, Type B, and Type C review of a request for amendment at OAR 345-027-0351. The Type A review is the standard or “default” site certificate amendment process for changes that require an amendment. Type C review process is associated with construction-related changes. The key procedural difference between the Type A and Type B review is that the Type A review includes a public hearing on the draft proposed order and an opportunity for a contested case proceeding. The primary timing differences between Type A and Type B review are the maximum allowed timelines for the Department’s determination of completeness of the preliminary request for amendment, as well as the issuance of the draft proposed order, and proposed order. It is important to note that Council rules authorize the Department to adjust the timelines for these specific procedural requirements, if necessary.

A certificate holder may submit an amendment determination request to the Department for a written determination of whether a request for amendment justifies review under the Type B review process. The certificate holder has the burden of justifying the appropriateness of the Type B review process as described in OAR 345-027-0351(3). The Department may consider, but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether to process an amendment request under Type B review.

On March 6, 2020, the certificate holder submitted a Type B Review amendment determination request (Type B Review ADR), requesting the Department’s review and determination of whether, based on evaluation of the OAR 345-027-0357(8) factors, the amendment request could be reviewed under the Type B review process. On March 25, 2020, the Department determined that Request for Amendment 5 of the Wheatridge Wind Energy Facility Site Certificate justifies Type B review, based on the low level of complexity, the limited level of reviewing agency interest in the proposed changes anticipated by the Department, and the low likelihood of significant adverse impacts or additional mitigation from the proposed change.

Pursuant to OAR 345-027-0363(2), on March 25, 2020, the Department determined the preliminary amendment request to be incomplete and issued requests for additional information.² The certificate holder provided responses to the information request on March 10, 2020. After reviewing the responses to its information request, on March 13, 2020, the Department determined the RFA to be complete. Under OAR 345-027-0363(5), an RFA is complete when the Department finds that a certificate holder has submitted information adequate for the Council to make findings or impose conditions for all applicable laws and Council standards. On April 16, 2020, the Department posted the complete amendment request to the facility project website within an announcement notifying the public that the complete RFA had been received and is available for viewing.

² WRWAMD5 Completeness Determination and RAI 2020-03-25.

II.C. Council Review Process

On April 17, 2020, the Department issued ~~this the~~ draft proposed order, and a notice of a 22-day comment period on RFA5 and the draft proposed order (notice), extending from April 17 through May 8, 2020. The notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility, to a current list of property owners supplied by the certificate holder in March 2020, and to a list of reviewing agencies as defined in OAR 345-001-0010(52). The Department received four comments on the record of the draft proposed order, including non-substantive comments from Oregon Department of Fish and Wildlife, Oregon Department of State Lands, and Morrow County Planning Department; and, substantive comments from the certificate holder.

On May 11, 2020, the Department issued the proposed order, addressing comments received from the certificate holder on the record of the DPO public hearing (see Attachment B of this order for all DPO comments), along with a notice of proposed order issuance. The proposed order notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility, to a current list of property owners supplied by the certificate holder in March 2020, and to a list of reviewing agencies as defined in OAR 345-001-0010(52).

~~To raise an issue on the record of the draft proposed order, a person must raise the issue in a written comment submitted after the date of the notice of the draft proposed order received by the Department before the written comment deadline. The Council will not accept or consider public comments on RFA5 or on the draft proposed order after the written comment deadline, listed above, that closes the record on the draft proposed order. After the Department considers all comments received before the comment deadline for the draft proposed order, but not more than 21 days after the comment deadline, the Department will issue a proposed order. The proposed order shall recommend approval, modification, or denial of the second amended site certificate. Upon issuance of the proposed order, the Department will issue a notice of the proposed order.~~

The Council, may adopt, modify or reject the proposed order based on the considerations described in OAR 345-027-0375. In a written final order, the Council shall either grant or deny issuance of the two new site certificates, as requested through the amendment request. In making a decision to grant or deny issuance of an amended site certificate, the Council shall apply the applicable laws and Council standards required under OAR 345-027-0375 and in effect on the dates described in OAR 345-027-0375-(3). The Council's final order is subject to judicial review by the Oregon Supreme Court as provided in ORS 469.403.

II.D. Applicable Division 27 Rule Requirements

A site certificate amendment is necessary under OAR 345-027-0350(4) because the certificate holder requests to design, construct, and operate the facility in a manner different from the description in the site certificate and would require modification to existing conditions in the site certificate.

The Type B amendment review process (consisting of rules 345-027-0359, -0360, -0363, -0365, -0368, -0372, and -0375) shall apply to the Council's review of a request for amendment that the Department or the Council approves for Type B review under 345-027-0357.

III. REVIEW OF THE REQUESTED AMENDMENT

Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety." ORS 469.401(2) further provides that the Council must include in the amended site certificate "conditions for the protection of the public health and safety, for the time for completion of construction, and to ensure compliance with the standards, statutes and rules described in ORS 469.501 and ORS 469.503."³ The Council implements this statutory framework by adopting findings of fact, conclusions of law, and conditions of approval concerning the amended facility's compliance with the Council's Standards for Siting Facilities at OAR 345, Divisions 22, 24, 26, and 27.

This ~~draft~~ proposed order includes the Department's ~~initial~~ analysis of whether the changes proposed in RFA5 satisfy each applicable Council Standard based on the information in the record and comments received on the record of the draft proposed order public hearing, which extended from April 17 to May 8, 2020. Following the written comment period on the draft proposed order, the Department will issue its proposed order, which will include the Department's consideration of the comments and any additional evidence received on the record of the draft proposed order.

III.A. Standards Potentially Impacted by Request for Amendment 5

III.A.1 General Standard of Review: OAR 345-022-0000

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

(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards

³ ORS 469.401(2).

1 *adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the*
2 *facility outweigh the damage to the resources protected by the standards the facility*
3 *does not meet as described in section (2);*

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

14 * * *

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

21 22 **Findings of Fact**

23
24 OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council
25 to find that a preponderance of evidence on the record supports the conclusion that the
26 proposed changes would comply with the requirements of EFSC statutes and the siting
27 standards adopted by the Council and that the proposed changes would comply with all other
28 Oregon statutes and administrative rules applicable to the issuance of proposed two new site
29 certificates.

30
31 OAR 345-022-0000(2) and (3) apply to RFAs where a certificate holder has shown that the
32 proposed facility modifications cannot meet Council standards or has shown that there is no
33 reasonable way to meet the Council standards through mitigation or avoidance of the damage
34 to protected resources; and, for those instances, establish criteria for the Council to evaluate in
35 making a balancing determination. In RFA5, the certificate holder has not represented that the
36 proposed amendments cannot meet an applicable Council standard. Therefore, OAR 345-022-
37 0000(2) and (3) would not apply to this review.

38 39 *Certificate Expiration (OAR 345-027-0013)*

40
41 ORS 469.370(12) requires the Council to "specify in the site certificate the date by which
42 construction of the facility must begin." ORS 469.401(2) requires that the site certificate contain

a condition “for the time for completion of construction.” Under OAR 345-025-0006(4), the certificate holder must begin construction on the facility no later than the construction beginning date specified by Council in the site certificate. “Construction” is defined in ORS 469.300(6) and OAR 345-010-0010(12) to mean “work performed on a site, excluding surveying, exploration or other activities to define or characterize the site, the cost of which exceeds \$250,000.”

For the Wheatridge Wind Energy Facility site certificate, General Standard Conditions 1 and 2 establish the construction commencement and completion deadlines for the previously approved wind and solar facility components. In RFA5, the certificate holder requests Council amend General Standard Conditions 1 and 2 for the proposed new WREFI site certificate, removing the deadlines for solar facility components because the WREFI site certificate would only include wind energy generation equipment (up to 40 wind turbines). Because the certificate holder represents that WREFI would not include solar facility components, the Department recommends Council amend the conditions for the WREFI site certificate only, as follows:

Recommended Amended General Standard of Review Condition 1 (WREFI): The certificate holder shall:

- a. Begin construction of wind facility components and its related or supporting facilities, by May 24, 2020. On or before May 24, 2020, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010.
- ~~b. Begin construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2022). On or before November 22, 2022, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010.~~

Recommended Amended General Standard of Review Condition 2 (WREFI): The certificate holder shall:

- a. Complete construction of the wind facility components and its related or supporting facilities by May 24, 2023. The certificate holder shall promptly notify the Department of the date of completion of construction.
- ~~b. Complete construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2025. On or before November 22, 2025, the certificate holder shall promptly notify the Department of the date of completion of construction.~~

1 *Site Specific Conditions [OAR 345-025-0010]*

2
3 The Council rules include “site specific” conditions at OAR 345-025-0010 that the Council may
4 include in the site certificate to address issues specific to certain facility types or proposed
5 features of facilities.⁴ Because the previously approved facility includes a 230 kV
6 intraconnection transmission line, Council previously imposed Site Specific Condition 1 to
7 establish the approved corridor for which construction and operation of the transmission line
8 was authorized. The certificate holder requests that the condition be removed in the site
9 certificate for WREFI because the 230 kV intraconnection transmission line, if constructed,
10 would only be part of the WREFII facility. Because the certificate holder represents that WREFI
11 would not include the 230 kV intraconnection transmission line, the Department recommends
12 Council amend the condition for the WREFI site certificate only, as follows:

13
14 **Recommended Deleted Site Specific Condition 1 (WREFI):** ~~The Council shall specify an~~
15 ~~approved corridor in the site certificate and shall allow the certificate holder to construct~~
16 ~~the pipeline or transmission line anywhere within the corridor, subject to the conditions of~~
17 ~~the site certificate. If the applicant has analyzed more than one corridor in its application for~~
18 ~~a site certificate, the Council may, subject to the Council’s standards, approve more than~~
19 ~~one corridor.~~
20 ~~The transmission line corridors approved by EFSC pursuant to this condition is described in~~
21 ~~Section 2.3 of the site certificate, and presented in the facility site map (see Attachment A~~
22 ~~of the site certificate.~~

23
24 The Council has also adopted rules at OAR Chapter 345, Division 26 to ensure that construction,
25 operation, and retirement of facilities are accomplished in a manner consistent with the
26 protection of public health, safety, and welfare and protection of the environment. These rules
27 include requirements for compliance plans, inspections, reporting and notification of incidents.⁵
28 Pursuant to OAR 345-026-0048, certificate holders are required to submit a compliance plan to
29 the Department following receipt of a site certificate or amended site certificate demonstrating
30 its intent to comply with applicable site certificate conditions.

31
32 The WREFI and WREFII certificate holders are required to submit compliance plans, prior to the
33 established construction completion deadlines, for pre-construction and construction
34 requirements of related or supporting facilities not yet constructed. The WREFI and WREFII

⁴ Site-Specific Conditions at OAR 345-025-0010(1)-(3), and (6)-(7) do not apply to the proposed facility based on facility energy source/type (solar photovoltaic power generation facility with related and supporting facilities including a proposed 230 kV transmission line).

⁵ Applicable rule requirements established in OAR Chapter 345, Division 26 include OAR 345-026-0080, OAR 345-026-0105, and OAR 345-026-0170. Applicable rule requirements are also established in OAR 345-026-0048, which was not identified in the draft proposed order, and identifies a requirement for certificate holder’s to submit to the department a plan for demonstrating compliance with each site certificate condition.

1 certificate holders are required to submit compliance plans in annual reports to the
2 Department for ongoing operational condition requirements.

3
4 **Conclusions of Law**

5
6 Based on the foregoing recommended findings of fact and conclusions of law, and subject to
7 compliance with the recommended amended and deleted conditions for the proposed new
8 WREFI site certificate, the Department recommends that the Council find that the certificate
9 holders would continue to satisfy the requirements of OAR 345-022-0000.

10
11 **III.A.2 Organizational Expertise: OAR 345-022-0010**

- 12
13 *(1) To issue a site certificate, the Council must find that the applicant has the organizational*
14 *expertise to construct, operate and retire the proposed facility in compliance with*
15 *Council standards and conditions of the site certificate. To conclude that the applicant*
16 *has this expertise, the Council must find that the applicant has demonstrated the ability*
17 *to design, construct and operate the proposed facility in compliance with site certificate*
18 *conditions and in a manner that protects public health and safety and has demonstrated*
19 *the ability to restore the site to a useful, non-hazardous condition. The Council may*
20 *consider the applicant's experience, the applicant's access to technical expertise and the*
21 *applicant's past performance in constructing, operating and retiring other facilities,*
22 *including, but not limited to, the number and severity of regulatory citations issued to*
23 *the applicant.*
24
25 *(2) The Council may base its findings under section (1) on a rebuttable presumption that an*
26 *applicant has organizational, managerial and technical expertise, if the applicant has an*
27 *ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate*
28 *the facility according to that program.*
29
30 *(3) If the applicant does not itself obtain a state or local government permit or approval for*
31 *which the Council would ordinarily determine compliance but instead relies on a permit*
32 *or approval issued to a third party, the Council, to issue a site certificate, must find that*
33 *the third party has, or has a reasonable likelihood of obtaining, the necessary permit or*
34 *approval, and that the applicant has, or has a reasonable likelihood of entering into, a*
35 *contractual or other arrangement with the third party for access to the resource or*
36 *service secured by that permit or approval.*
37
38 *(4) If the applicant relies on a permit or approval issued to a third party and the third party*
39 *does not have the necessary permit or approval at the time the Council issues the site*
40 *certificate, the Council may issue the site certificate subject to the condition that the*
41 *applicant shall not commence construction or operation as appropriate until the third*
42 *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 with proposed changes in compliance with Council standards and all site certificate
9 conditions, and in a manner that protects public health and safety, as well as its ability to
10 restore the site to a useful, non-hazardous condition. The Council may consider the certificate
11 holder's experience and past performance in constructing, operating and retiring other facilities
12 in determining compliance with the Council's Organizational Expertise standard. Subsections (3)
13 and (4) address third party permits.

14
15 For this amendment request, because the certificate holder owner for WREFI and WREFII would
16 remain NEER, which was evaluated and approved by Council in April 2017 (Final Order on
17 Amendment 1), the Department presents findings specific to sub(1) and (3) of the standard.
18 Sub(1) requires the Council to find, amongst other requirements, that the certificate holder has
19 demonstrated the organizational expertise to restore the site to a useful, non-hazardous
20 condition. Sub(3) addresses third-party permits or approvals and requires Council to find that
21 services normally under Council jurisdiction but secured by a third-party are reasonably likely to
22 be obtained and that the certificate holder has, or has a reasonable likelihood of entering into,
23 a contract or other arrangement with the third party for access to the service.

24
25 In RFA5, the certificate holder represents that previously approved related or supporting
26 facilities, including one collector substation, SCADA system, O&M building, 12 miles of access
27 road, temporary staging areas, and battery storage systems ~~(20 and~~ 30 MW systems adjacent to
28 O&M building/collector substation) would be shared under a "Common Facilities Agreement."
29 With the exception of the O&M building, all shared related or supporting facilities would be
30 identified as related or supporting facilities within WREFI and WREFII site certificates and (an
31 apportion of the cost) included in each facility decommissioning estimate. The Department
32 recommends Council evaluate facility components shared between two site
33 certificate/certificate holders to be substantially similar to a third-party resource.

34
35 In RFA5, the certificate holder provides a draft, confidential "Common Facilities Agreement,"
36 intended to be executed by Wheatridge Wind II, LLC and Wheatridge Wind Energy, LLC for the
37 sharing of the above-referenced facility components. Because the certificate holders' are both
38 wholly owned indirect subsidiaries of NEER, which acts as the certificate holder owner and
39 entity with control of both certificate holders, the Department recommends that, in accordance
40 with OAR 345-022-0010(3), the Council find that the certificate holders' have a reasonable
41 likelihood of entering into a contractual or other arrangement for access to the shared facilities.
42 In addition, because the "Common Facilities Agreement" may not be fully executed (i.e.

approved) at the time the Council would issue the site certificates, the Department recommends that that the Council adopt the following condition, which ensures that access to the facility resources is secured ~~prior to~~within 30 days of sharing or of operation of shared facilities. The Department also recommends Council impose requirements in the same condition, based on shared facilities, to ensure full coverage of the site restoration compliance obligation, as required per Sub(1) of the standard, which obligates both certificate holders to notify the Department, and evaluate, any substantial changes to shared related or supporting facilities or of termination or ceasing of facility operations:⁶

Recommended New Organizational Expertise Condition 11 (WREFI and WREFII): The

certificate holder is authorized to share related or supporting facilities including the Wheatridge West collector substation, SCADA system, access roads, temporary staging areas, and battery storage systems (~~20 and~~ 30 MW systems, as approved in Final Order on Amendment 2), all of which are governed under both WREFI and WREFII site certificates.

- a. ~~Prior-Within 30 days of~~ use by both certificate holders of the shared facilities, the certificate holder must provide evidence to the Department that ~~Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC~~the certificate holders of the shared facilities have an executed agreement for shared use of ~~the collector substation, SCADA system, access roads, staging areas, and battery storage system~~any constructed shared facilities.
- b. If WREFI or WREFII propose to substantially modify any of the shared facilities listed in sub(a) of this condition, each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates.
- c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Retirement and Financial Assurance Condition 5, for the operational facility, if facilities are decommissioned at different times.

Based on compliance with the above-recommended condition, the Department recommends Council find that the certificate holder has a reasonably likelihood of obtaining access to the shared facilities, of entering into a contract to obtain access to the shared facilities, and of ensuring site certificate responsibility of the shared facilities for the duration of facility operation.

⁶ On the record of the DPO, certificate holder requested changes to Condition 11 to clarify the timing of when a shared-used agreement must be provided, and administrative edits. NEER also clarified that the previously-approved 20-MW battery storage system would not be shared between WREFI and WREFII.

Compliance with Council Standards and Site Certificate Conditions

Council previously imposed several conditions under the Organizational Expertise standard which the certificate holder requests be amended for WREFI, to remove reference to Umatilla County and third-party permits which are identified as not applicable. The Department recommends Council find the proposed amendments, as presented below, to be administrative and accurate given type of facility components and location of facility components within the WREFI site certificate. The Department recommends Council impose the following amended conditions in the WREFI site certificate:

Recommended Amended Organizational Expertise Condition 7 (WREFI): Prior to construction, the certificate holder must provide the department ~~and Umatilla and Morrow Counties~~ with the name(s) and location(s) of the aggregate source and evidence of the source's county permit(s).

Recommended Amended Organizational Expertise Condition 8 (WREFI): The certificate holder must:

- a. Prior to construction of wind facility components, provide evidence to the department and Morrow ~~and Umatilla counties~~ county that the third party that will construct, own and operate the interconnection transmission line has obtained all necessary approvals and permits for that interconnection transmission line and that the certificate holder has a contract with the third party for use of the transmission line.
- ~~b. Prior to construction of solar facility components approved in the Fourth Amended Site Certificate, provide to the Department a list of all third-party permits that would normally be governed by the site certificate and that are necessary for construction and operation (e.g. Water Pollution Control Facilities Permit, Air Contaminant Discharge Permit, Limited Water Use License). Once obtained, the certificate holder shall provide copies of third-party permits to the Department. During construction and operation, promptly report to the Department if any third-party permits referenced in sub(b) of this condition have been cited for a Notice of Violation.~~

Conclusions of Law

Based on the evidence in the record, and subject to compliance with the existing and recommended new and amended conditions, the Department recommends Council finds that the certificate holders would continue to satisfy the requirements of the Council's Organizational Expertise standard.

III.A.3 Structural Standard: OAR 345-022-0020

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

(1) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site;

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

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

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

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

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

Findings of Fact

As provided in section (1) above, the Structural Standard generally requires the Council to evaluate whether the applicant (certificate holder) has adequately characterized the potential seismic, geological and soil hazards of the site, and whether the applicant (certificate holder) can design, engineer and construct the facility to avoid dangers to human safety and the environment from these hazards.⁷ Pursuant to OAR 345-022-0020(2), the Council may issue a

⁷ OAR 345-022-0020(3) does not apply to this facility because the facility, with proposed changes, is a not a special criteria facility under OAR 345-015-0310.

1 site certificate for a wind energy facility without making findings regarding compliance with the
2 Structural Standard; however, the Council may apply the requirements of the standard to
3 impose site certificate conditions.

4
5 Council previously found that the certificate holder demonstrated compliance with the
6 Structural Standard. Because there are no physical changes and no new geographic area
7 proposed in this amendment request, the proposed changes would not impact Council's
8 previous findings of compliance. The certificate holder, however, requests approval of an
9 administrative change to the previously imposed Structural Standard Condition 3 for the WREFI
10 site certificate, removing reference to a fault located in Umatilla County. Based on review of the
11 condition and location of the fault, the Department recommends Council find the proposed
12 condition amendments, as presented below, to be administrative and accurate given location
13 of facility components to be included in the WREFI site certificate. The Department
14 recommends Council impose the following amended condition in the WREFI site certificate:

15
16 **Recommended Amended Structural Standard Condition 3 (WREFI):** Prior to construction,
17 the certificate holder shall include as part of the geotechnical investigation required per
18 Structural Standard Condition 1, an investigation of all potentially active faults within the
19 site boundary, ~~including the fault labeled as 2438 on Figures H-1 and H-2 of ASC Exhibit H.~~
20 The investigation shall include a description of the potentially active faults, their potential
21 risk to the facility, and any additional mitigation that will be undertaken by the certificate
22 holder to ensure safe design, construction, and operation of the facility.

23 24 Conclusions of Law

25
26 Based on the foregoing analysis, and subject to existing and recommended amended
27 conditions, the Department recommends Council finds that the facilities, with proposed
28 changes, would continue to comply with the Structural Standard.

29 30 III.A.3 Soil Protection: OAR 345-022-0022

31
32 *To issue a site certificate, the Council must find that the design, construction and*
33 *operation of the facility, taking into account mitigation, are not likely to result in a*
34 *significant adverse impact to soils including, but not limited to, erosion and chemical*
35 *factors such as salt deposition from cooling towers, land application of liquid effluent,*
36 *and chemical spills.*
37

Findings of Fact

The Soil Protection standard requires the Council to find that, taking into account mitigation, the design, construction and operation of a facility, with proposed changes, are not likely to result in a significant adverse impact to soils.

Council previously found that the certificate holder demonstrated compliance with the Soil Protection standard. Because there are no physical changes and no new geographic area proposed in this amendment request, the proposed changes would not impact Council's previous findings of compliance. The certificate holder, however, requests approval of an administrative change to the previously imposed Soil Protection Condition 5 and deletion of Soil Protection Condition 7 for the WREFI site certificate, removing reference to and requirements specific to the O&M building, which would be a shared facility component but not a related or supporting facility to WREFI (related or supporting facility only to WREFII). Because the certificate holder proposes for the O&M building, and all compliance requirements including decommissioning, to be fully accounted for in the WREFII site certificate, the Department recommends Council find the proposed condition amendments, as presented below, to be administrative and accurate. The Department recommends Council impose the following amended conditions in the WREFI site certificate:

Recommended Amended Soil Protection Condition 5 (WREFI): Prior to beginning facility operation, the certificate holder shall provide the Department a copy of an operational SPCC plan, if required per DEQ's Hazardous Waste Program. If an SPCC plan is not required, the certificate holder shall prepare and submit to the Department for review and approval an operational Spill Prevention and Management plan. The Spill Prevention and Management Plan shall include at a minimum the following procedures and BMPs:

- Procedures for oil and hazardous material emergency response consistent with OAR 340, Division 100-122 and 142
- Procedures demonstrating compliance with all applicable local, state, and federal environmental laws and regulations for handling hazardous materials used onsite in a manner that protects public health, safety, and the environment
- Current inventory (type and quantity) of all hazardous materials stored onsite, specifying the amounts at each ~~O&M building~~, substation and battery storage system components
- Restriction limiting onsite storage of diesel fuel or gasoline
- Requirement to store lubricating and dielectric oils in quantities equal to or greater than 55-gallons in qualified oil-filled equipment
- Preventative measures and procedures to avoid spills
 - Procedures for chemical storage
 - Procedures for chemical transfer
 - Procedures for chemical transportation
 - Procedures for fueling and maintenance of equipment and vehicles

- Employee training and education
- Clean-up and response procedures, in case of an accidental spill or release
- Proper storage procedures
- Reporting procedures in case of an accidental spill or release

Recommended Deleted Soil Protection Condition 7 (WREFI): ~~Prior to beginning construction of the O&M buildings, the certificate holder shall secure any necessary septic system permits from DEQ. Copies of the necessary permits must be provided to the department prior to beginning construction of the O&M buildings.~~

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions of law, and subject to compliance with the existing and recommended amended site certificate conditions, the Department recommends that the Council find that the facilities, with proposed changes, would comply with the Council's Soil Protection standard.

III.A.4 Land Use: OAR 345-022-0030

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

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

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

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

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

(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies

1 *with the statewide planning goals or an exception to any applicable statewide*
2 *planning goal is justified under section (4); or*

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

8 ***

9 **Findings of Fact**

10
11 The Land Use standard requires the Council to find that the proposed O&M demonstration
12 activity would continue to comply with local applicable land use substantive criteria, as well as
13 the statewide planning goals adopted by the Land Conservation and Development Commission
14 (LCDC).⁸

15
16 Council previously found that the certificate holder demonstrated compliance with the Land
17 Use standard. Because there are no physical changes and no new geographic area proposed in
18 this amendment request, the proposed changes would not impact Council's previous findings of
19 compliance. The certificate holder, however, requests deletion of conditions for the WREFI site
20 certificate where the conditions were imposed to align with Umatilla County zoning ordinance
21 provisions; and, amendment of conditions that reference the O&M building, which would be
22 shared between WREFI and WREFII site certificates but under the control, ownership and
23 responsibility entirely of the WREFII site certificate including decommissioning.

24
25 Based on the Department's review of the findings associated with the previously imposed
26 conditions, the Department agrees that the proposed condition amendments and deletions are
27 limited to requirements that would no longer apply to WREFI based on facility component and
28 location. Therefore, the Department recommends Council impose the following amended
29 conditions and remove the recommended deleted conditions from the WREFI site certificate:

30
31 **Recommended Amended Land Condition 1 (WREFI):** The certificate holder shall design the
32 facility to comply with the following setback distances in Morrow County:

- 33 a. Wind turbines shall be setback from the property line of any abutting property of any
34 non-participant property owners a minimum of 110 percent of maximum blade tip
35 height of the wind turbine tower.
36 b. Wind turbines shall be setback 100 feet from all property boundaries, including
37 participant property boundaries within the site boundary, if practicable.
38 c. Wind turbine foundations shall not be located on any property boundary, including
39 participant property boundaries within the site boundary.
40 d. Wind turbines shall be setback 110% of the overall tower-to-blade tip height from the
41 boundary right-of-way of county roads, state and interstate highways.

⁸ The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504.

- e. ~~Perimeter fenceline of solar facility components shall be setback: 20 feet from property fronting on a local minor collector road rights of way; 30 feet from property fronting on a major collector road right of way; and 80 feet from an arterial road right of way, unless other provisions for combining access are provided and approved by the county.~~
- f. ~~East and west sides of perimeter fenceline of solar facility components shall be setback 20 feet from adjacent land uses except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet.~~
- g. ~~North side of perimeter fenceline of solar facility components shall be setback a minimum of 25 feet.~~

Recommended Amended Land Use Condition 6 (WREFI): Before beginning construction, the certificate holder shall prepare a Weed Control Plan that is consistent with Morrow and Umatilla County weed control requirements to be approved by the department. The department shall consult with Morrow and Umatilla counties and ODFW. The final plan must be submitted to the department no less than 30 days prior to the beginning of construction. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.

Recommended Amended Land Use Condition 7 (WREFI): Prior to construction, the certificate holder must provide the department and Umatilla and Morrow Counties with the name(s) and location(s) of the aggregate source and evidence of the source's county permit(s).

Recommended Amended Land Use Condition 11 (WREFI): The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall:

- a. Locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices;
- b. Place turbines and transmission intraconnection lines along the margins of cultivated areas to reduce the potential for conflict with farm operations, where feasible.
- c. ~~Site solar array collector lines, if aboveground, within or adjacent to an existing road, railroad or transmission line right of way; parallel to an existing transmission corridor; or co-located with existing transmission line or each other, unless not technically feasible due to lack of availability, geographic constraints, engineering limitations, or other reasons as agreed upon by the Department consistent with this condition.~~
- d. Bury underground communication and electrical lines within the area disturbed by temporary road widening, where possible.

Recommended Amended Land Use Condition 12 (WREFI): Prior to beginning construction, the certificate holder shall consult with surrounding landowners and lessees and shall consider proposed measures to reduce or avoid any adverse impacts to farm practices on surrounding lands and to avoid any increase in farming costs during construction and

operation of the facility. Prior to beginning construction, the certificate holder shall provide evidence of this consultation to the department ~~and~~, Morrow County, ~~and Umatilla County~~.

Recommended Amended Land Use Condition 14 (WREFI): During design and construction of the facility, the certificate holder shall ensure that fencing and landscaping selected and used for the ~~O&M building and similar~~ facility components sited within Morrow County blend with the nature of the surrounding area.

Recommended Deleted Land Use Condition 15 (WREFI): ~~Before beginning construction, the certificate holder must:~~

- ~~a. Pay the requisite fee(s) and obtain a Zoning Permit(s) from Umatilla County for facility components sited within Umatilla County, including, but not limited to, turbines, substation, O&M building, and the intraconnection line.~~
- ~~b. Provide the Department and county with a building permit application that includes a third party technical report which:
 - ~~1. Evaluates fire hazards, and~~
 - ~~2. Presents mitigation and recommendations for a fire suppression system designed for the battery storage systems.~~~~
- ~~c. The certificate holder shall provide copies of the third party technical report and issued permits to the Department.~~

Recommended Deleted Land Use Condition 16 (WREFI): ~~During micrositing of the facility, the certificate holder shall ensure that wind turbines are sited based on a minimum setback of:~~

- ~~a. 110% of the overall tower to blade tip height from the boundary right-of-way of county roads and state and interstate highways in Umatilla and Morrow counties.~~
- ~~b. 2 miles from turbine towers to a city urban growth boundary.~~
- ~~c. 1 mile from turbine towers to land within Umatilla County lands zoned Unincorporated Community.~~
- ~~d. 2 miles from turbine towers to rural residences within Umatilla County.~~
- ~~e. 164 feet (50 meters) from tower and facility components to known archeological, historical and cultural sites or CTUIR cultural site.~~

Recommended Deleted Land Use Condition 20 (WREFI): ~~During design and construction, the certificate holder must ensure that the O&M building in Umatilla County is consistent with the character of similar agricultural buildings used by commercial farmers or ranchers in Umatilla County.~~

Recommended Deleted Land Use Condition 22 (WREFI): ~~During facility design and construction of new access roads and road improvements, the certificate holder shall implement best management practices after consultation with the Umatilla County Soil~~

~~Water Conservation district. The new and improved road designs must be reviewed and certified by a civil engineer.~~

Recommended Deleted Land Use Condition 14 (WREFI): ~~Before beginning electrical production, the certificate holder shall provide the location of each turbine tower, electrical collecting lines, the O&M building, the substation, project access roads, and portion of the intraconnection transmission line located in Umatilla County to the department and Umatilla County in a format suitable for GPS mapping.~~

Recommended Deleted Land Use Condition 21 (WREFI): ~~Before beginning construction, the certificate holder shall record in the real property records of Umatilla County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.~~

Recommended Amended Land Use Condition 23 (WREFI): Before beginning decommissioning activities, the certificate holder must provide a copy of the final retirement plan to Morrow County ~~and Umatilla County.~~

Recommended Amended Land Use Condition 25 (WREFI): Before beginning electrical production, the certificate holder shall prepare an Operating and Facility Maintenance Plan (Plan) and submit the Plan to the department for approval in consultation with ~~Umatilla and Morrow Counties.~~

Recommended Deleted Land Use Condition 26 (WREFI): ~~Within 90 days of the commencement of electrical service from Wheatridge East, the certificate holder shall provide a summary of as-built changes to the department and Umatilla County.~~

Recommended Deleted Land Use Condition 28 (WREFI): ~~During construction and operation of the facility, the certificate holder shall deliver a copy of the annual report required under OAR 345-026-0080 to the Umatilla County Planning Commission on an annual basis.~~

Conclusions of Law

Based on the foregoing recommended findings and the evidence in the record, and subject to compliance with existing and recommended amended and deleted site certificate conditions, the Department recommends the Council find that the facilities, with proposed changes, would continue to comply with the Land Use standard.

III.A.5 Retirement and Financial Assurance: OAR 345-022-0050

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

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

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

Findings of Fact

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.⁹ In addition, it requires a demonstration that the certificate holder can obtain 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.

Council previously found that the certificate holder demonstrated compliance with the Retirement and Financial Assurance standard. However, because the amendment request proposes to share related or supporting facilities including one collector substation, SCADA system, access roads, staging areas, and battery storage systems (20 and 30 MW systems approved in Final Order on Amendment 2) between the WREFI and WREFII site certificate, under a "Common Facilities Agreement," the Department focuses the evaluation on the decommissioning estimate and decommissioning responsibility, if facility decommissioning occurs at different times, to ensure accurate accounting and responsibility of the shared facilities.

For the previously approved wind facility components, Council previously found that the certificate holder's estimate plus the Department's additional contingencies equal to \$19.5 million (Q3 2018 dollars) was a reasonable estimate of an amount satisfactory to restore the facility site to a useful, non-hazardous condition. Based on RFA5 Attachment 4 Retirement Cost Estimate, and represented in the table below, the full decommissioning amount for the laydown yards, battery storage system, access roads (for 12 ~~of 61~~ miles in WREFI; 61 ~~of 61~~ miles in WREFII) and SCADA system are included in both WREFI and WREFII decommissioning estimates. For the O&M building, full decommissioning amount is included in the WREFII decommissioning estimate; and an apportioned decommissioning amount is applied for 3

⁹ OAR 345-022-0050(1).

1 ~~collector substations to the collector substation~~ (0.33 ~~percent of the total~~ of the total cost, or
2 approximately \$62,500) in the WREFI decommissioning estimate and remaining amount (~~02.77~~
3 ~~67 percent~~ of the total, or approximately \$~~125502~~,000) included in the WREFII
4 decommissioning estimate. Based on the table presented below, the Department recommends
5 Council find that all previously approved decommissioning costs are accounted for, including
6 accurate accounting for shared facilities.¹⁰

¹⁰ On the record of the DPO, the certificate holder suggested clarifications and edits to the retirement cost estimate table, Table 1: Facility Decommissioning Cost Estimate, to correct line-item calculation errors and allocation of tasks between the two facilities. Based upon review of the requested adjustments to WREFI and WREFII decommissioning estimates, the Department agrees with the suggested clarifications and refinements, and has incorporated the edits.

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility (Final Order on ASC, April 2017)		WREFI		WREFII	
		No. of Components	Total Cost	No. of Components	Total Cost	No. of Components	Total Cost
Wind Facility Components (Approved in 2017)							
Wind Turbines							
Disconnect electrical	\$212	292	\$61,904	40	\$8,480 9,400	252	\$53,424
Remove turbine blades, hubs and nacelles	\$5,900	292	\$1,722,800	40	\$236,000	252	\$1,486,800
Remove turbine towers (per ton of steel)	\$82	57,232	\$4,693,024	13,064	\$1,071,248	44,168	\$3,621,776
Remove turbine foundations	\$52	8,264	\$429,707**	1,132	\$58,864	7,132	\$370,864
Remove pad transformers and foundations	\$2,538	292	\$741,096	40	\$101,520	252	\$639,576
Restore turbine site	\$1,138	292	\$332,296	40	\$45,520	252	\$286,776
Meteorological Towers							
Dismantle and dispose	\$10,393	12	\$124,716	21	\$20,786 10,393	12 10	\$124,716 103,930
O&M Facilities							
Dismantle and dispose	\$62,886	2	\$125,772	0	0	2	\$125,772
Substations							
Dismantle and dispose	\$188,094	3	\$564,282	0.33	\$62, 071 491	0.772 .67	\$502,211 144,832
Transmission Lines							
Above-ground collector Lines (per mile)	\$6,459	10.83	\$69,951	0	0	10.83	\$69,951

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility (Final Order on ASC, April 2017)		WREFI		WREFII	
		No. of Components	Total Cost	No. of Components	Total Cost	No. of Components	Total Cost
Transmission Lines (per mile)	\$29,611	63	\$1,865,493	<u>0</u>	<u>0</u>	63	\$1,865,493
Junction Boxes (per unit)	\$51	60	\$3,060	<u>0</u>	<u>0</u>	60	\$3,060
<i>Access Roads</i>							
Road -removal, grading and seeding (per mile)	\$23,555	37.17*	\$875,539	12*	\$282,660	61*	\$1,436,855
<i>Restore Additional Areas Disturbed by Facility Removal</i>							
Grading and seeding around access roads, met towers, O&M facilities and turbine turnouts (per acre)	\$8,706	128.4	\$1,204,802**	43.32	\$377,122	128.4 85.08	\$740,706 1,204,802
Seeding around collector line structures, transmission lines, crane paths and temporary laydown areas (per acre)	\$3,398	144.19	\$489,958	0	0	144.19	\$489,958
<i>General Costs</i>							
Permits, mobilization, engineering, overhead	\$465,536	--	\$465,536	--	\$151,398	--	\$314,138 465,536
<i>Wind Facility Components Subtotal</i>							
Subtotal (Q3 2015) =			\$13,769,936	--	\$2,415,669	--	\$12,111,290
Subtotal (Q2 2020) =			\$16,113,722	--	\$2,630,664	--	\$13,189,195

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility (Final Order on ASC, April 2017)				WREFI		WREFII	
		No. of Components		Total Cost		No. of Components	Total Cost	No. of Components	Total Cost
Battery Storage Systems (Approved in 2018)									
		30MW	20MW	30MW	20MW	30MW		20/30MW	
Field Management (Per Day)	\$1,341	15	10	\$20,115	\$13,410	15	\$20,115	25	\$33,525
Battery Removal (Per Day)	\$1,482	13	9	\$19,275	\$13,338	13	\$19,275	22	\$32,613
Transport Batteries (Per Battery)	\$1,487	7	5	\$10,409	\$7,435	7	\$10,409	12	\$17,844
Battery Disposal Fees (Per Ton)	\$200	131	87	\$26,200	\$17,400	131	\$26,200	218	\$43,600
Structural Demolition (Per Ton)	\$110	130	87	\$14,257	\$9,570	130	\$14,257	217	\$23,827
Transport of Demolition Waste (Per Load)	\$1,375	7	5	\$9,625	\$6,875	7	\$9,625	12	\$16,500
Structural Demolition Waste Disposal Fees (Per Ton)	\$30	130	87	\$3,900	\$2,600	130	\$3,900	217	\$6,500
Concrete Breaking and Excavation (Per Cubic Yard)	\$46	260	173	\$11,960	\$7,958	260	\$11,960	433	\$19,918
Concrete Transport Offsite (Per Cubic Yard)	\$63	260	173	\$16,380	\$10,899	260	\$16,380	433	\$27,279
Underground Utility Removal (Per Day)	\$1,101	3	2	\$3,303	\$2,202	3	\$3,303	5	\$5,505

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility (Final Order on ASC, April 2017)				WREFI		WREFII	
		No. of Components		Total Cost		No. of Components	Total Cost	No. of Components	Total Cost
Restoration (Per Cubic Yard)	\$33	300	200	\$9,990	\$6,600	300	\$9,990	500	\$16,590
Battery Storage Systems Subtotal									
Subtotal (Q3 2018) =				\$145,414	\$98,287	--	\$145,414	--	\$243,701
15% Subcontractor Markup =				\$21,803	\$14,745	--	\$21,803	--	\$46,548
Subtotal with Markup (Q3 2018) =				\$167,226	\$113,030	--	\$167,226	--	\$280,256
Subtotal (Q2 2020) =				\$172,511	\$114,595	--	\$172,511	--	\$287,106
Wind Facility Components and Battery Storage Systems – Summary Total (Q2 2020 Dollars)									
Wind Facility Components (Q2 2020) =							\$2,630,664	--	\$13,189,195
Battery Storage Systems (Q2 2020) =							\$172,511	--	\$287,106
Wind Facility Components and Battery Storage Systems (Q2 2020) (without ODOE Contingencies) =							\$2,803,175	--	\$13,476,301
ODOE Applied Contingencies									
1% Performance Bond =							\$28,031	--	\$134,763
10% Project Management =							\$280,317	--	\$1,347,630
10% Future Development =							\$280,317	--	\$1,347,630
Wind Facility Components and Battery Storage Systems (Q2 2020) (with ODOE Contingencies)							\$3,391,842	--	\$16,306,324
Notes: <u>* Council's Final Order on the ASC (April 2017) approved up to 73 miles of new and improved access roads, and identified approximately 37.17 miles for facility decommissioning. As part of RFA5, the certificate holder identifies that facility decommissioning would include 73 miles, consistent with the maximum total linear access road length.</u> <u>**Due to rounding of variables included in calculation, numbers may not sum to exact totals. WRWAPP. ASC Exhibit W.</u>									

1
2
3

Based on the requested split in facility components, and analysis presented above, the Department recommends Council amend the previously imposed Retirement and Financial Assurance Condition 5 in the WREFI and WREFII site certificate to reflect the updated decommissioning amount for each facility, to be provided as a bond or letter of credit prior to construction, as presented below:

Recommended Amended Retirement and Financial Assurance Condition 5 (WREFI): Before beginning construction of the:

a. Wind energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the wind facility components is ~~\$19.5~~ 3,689,000 3.4 million dollars (~~Q23 2020~~ 2018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition:

~~b. Solar energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the solar facility components is \$9.4 million dollars (Q4 2018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition:~~

1. The certificate holder may adjust the amount of the initial bond or letter of credit based on the final design configuration of the facility. Any revision to the restoration costs should be adjusted to the date of issuance as described in (2) and subject to review and approval by the Council.

2. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:

i. Adjust the amount of the bond or letter of credit (expressed in ~~Q23 2018~~ 2020 dollars for wind facility components and ~~Q4 2018~~ 2018 dollars for solar facility components) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the ~~third~~ second quarter ~~2018~~ 2020 index value and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust ~~third~~ second quarter ~~2018~~ 2020 dollars to present value.

ii. Round the result total to the nearest \$1,000 to determine the financial assurance amount.

3. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council.

- 1 4. The certificate holder shall use a form of bond or letter of credit approved by the
2 Council. The certificate holder shall describe the status of the bond or letter of
3 credit in the annual report submitted to the Council under OAR 345-026-0080.
4 The bond or letter of credit shall not be subject to revocation or reduction
5 before retirement of the facility site.
6

7 **Recommended Amended Retirement and Financial Assurance Condition 5 (WREFII):**

8 Before beginning construction of the:

- 9 a. Wind energy facility components or its related or supporting facilities, the certificate
10 holder shall submit to the State of Oregon, through the Council, a bond or letter of
11 credit naming the State of Oregon, acting by and through the Council, as beneficiary or
12 payee. The initial bond or letter of credit amount for the wind facility components is
13 \$~~19.5~~ 16.32 million dollars (Q~~23~~ 20~~20~~18 dollars), to be adjusted to the date of issuance,
14 and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this
15 condition:...

16
17 As recommended under the Council's Organizational Expertise standard, the Department
18 recommends Council impose a condition requiring that if either WREFI and WREFII facility
19 ceases operation or is decommissioned, that both certificate holders be required to submit an
20 amendment determination request or request for site certificate amendment to evaluate the
21 site certificate requirements applicable to the shared facilities, and specifically the
22 decommissioning amount covered in the bond or letter of credit provided to the State, to
23 ensure that the compliance obligation and responsibility of the shared facilities is accurately
24 covered under the remaining site certificate.
25

26 **Conclusions of Law**

27
28 Based on the foregoing recommended findings of fact, and subject to compliance with the
29 existing and recommended amended Retirement and Financial Assurance conditions, the
30 Department recommends that the Council find that the facilities, with proposed changes,
31 would continue to comply with the Council's Retirement and Financial Assurance standard.
32

1 III.A.6 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 create requirements to mitigate impacts to fish and
16 wildlife habitat, based on the quantity and quality of the habitat as well as the nature, extent,
17 and duration of the potential impacts to the habitat. The policy also establishes a habitat
18 classification system based on value the habitat would provide to a species or group of species.
19 There are six habitat categories; Category 1 being the most valuable and Category 6 the least
20 valuable.

21
22 Council previously found that the certificate holder demonstrated compliance with the Fish and
23 Wildlife Habitat standard. Because there are no physical changes or new geographic area
24 proposed in this amendment request, the proposed changes would not impact Council's
25 previous findings of compliance. The certificate holder, however, substantively requests to
26 delete previously imposed Fish and Wildlife Condition 3 which establishes seasonal restrictions
27 for construction activities within ODFW's designated mule deer winter range habitat. Based on
28 the Department's review of ODFW's big game winter range overlay with the WREFI site
29 boundary, the site boundary would be located outside of the designated mule deer winter
30 range habitat. Therefore, the Department agrees that the seasonal restrictions would no longer
31 apply to facility components included in the WREFI site certificate and recommends Council
32 delete the condition as requested.

33
34 In addition, the certificate holder requests an administrative change to previously imposed Fish
35 and Wildlife Habitat Condition 11 for the WREFI site certificate to remove reference to Umatilla
36 County. Based on review of the condition and location of WREFI facility components, the
37 Department recommends Council find the proposed condition amendment, as presented
38 below, to be administrative and accurate given location of facility components within the
39 WREFI site certificate. The Department recommends Council impose the following amended
40 condition in the WREFI site certificate:

Recommended Deleted Fish and Wildlife Condition 3: ~~No construction shall occur in mule deer winter range during winter, defined as December 1 to March 31. Mule deer winter range is based on data to be provided by ODFW at the time of construction. Upon request by the certificate holder, the Department may provide exceptions to this restriction. The certificate holder's request must include a justification for the request including any actions the certificate holder will take to avoid, minimize or mitigate impacts to mule deer winter range during winter in the relevant area. The Department will consult with ODFW on any request made under this condition.~~

Recommended Amended Fish and Wildlife Habitat Condition 11 (WREFI): Before beginning construction, the certificate holder shall prepare and receive approval of a final Revegetation Plan, provided as Attachment E to this order, from the department, in consultation with Umatilla and Morrow counties county and ODFW. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions, and subject to compliance with existing and recommended amended site certificate conditions, the Department recommends the Council find that the facilities, with proposed changes, would comply ~~to comply~~ with the Council's Fish and Wildlife Habitat standard.

III.A.7 Scenic Resources: OAR 345-022-0080

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

Findings of Fact

OAR 345-022-0080 requires the Council to determine that the design, construction and operation of the proposed facility are not likely to have a "significant adverse impact" to any significant or important scenic resources and values within the analysis area. In applying the standard set forth in OAR 345-022-0080(1), the Council assesses visual impacts of facility structures on significant or important scenic resources described in "local land use plans, tribal land management plans and federal land management plans for any lands located within the analysis area described in the project order."

Council previously found that the certificate holder demonstrated compliance with the Scenic Resources standard. Because there are no physical changes proposed in this amendment request, the proposed changes would not impact Council's previous findings of compliance. The certificate holder, however, requests an administrative change to previously imposed Scenic Resources Conditions 1 and 2, to remove reference to the O&M building as this would be a shared facility, but not a related or supporting facility under the WREFI site certificate and represented as a related or supporting facility, fully controlled and owned, under the WREFI site certificate. The certificate holder also seeks to remove reference to the intraconnection transmission line in the WREFI site certificate, as this is not a facility component requested to be included. Based on review of the conditions, the Department recommends Council find the proposed condition amendment, as presented below, to be administrative and accurate. The Department recommends Council impose the following amended condition in the WREFI site certificate:

Recommended Amended Scenic Resources Condition 1 (WREFI): To reduce visual impacts associated with lighting facility structures, other than lighting on structures subject to the requirements of the Federal Aviation Administration or the Oregon Department of Aviation, the certificate holder shall implement the following measures:

- a. Outdoor night lighting at the collector substations, ~~Operations and Maintenance Buildings,~~ and battery storage systems, must be
 - i. The minimum number and intensity required for safety and security;
 - ii. Directed downward and inward within the facility to minimize backscatter and offsite light trespass; and
 - iii. Have motion sensors and switches to keep lights turned off when not needed.

Recommended Amended Scenic Resources Condition 2 (WREFI): The certificate holder shall:

- a. Design and construct the ~~O&M buildings~~ battery storage systems to be generally consistent with the character of agricultural buildings used by farmers or ranchers in the area, and the buildings shall be finished in a neutral color to blend with the surrounding landscape;
- b. Paint or otherwise finish turbine structures in a grey, white, or off-white, low reflectivity coating to minimize reflection and contrast with the sky, unless required otherwise by the local code applicable to the structure location.
- c. ~~Design and construct support towers for the intraconnection transmission lines using either wood or steel structures and utilize finish with a low reflectivity coating;~~
- d. Finish substation structures and battery storage systems utilizing neutral colors to blend with the surrounding landscape;
- e. Minimize use of lighting and design lighting to prevent offsite glare;
- f. Not display advertising or commercial signage on any part of the proposed facility;
- g. Limit vegetation clearing and ground disturbance to the minimum area necessary to safely and efficiently install the facility equipment;

- h. Water access roads and other areas of ground disturbance during construction, as needed, to avoid the generation of airborne dust; and
- i. Restore and revegetate temporary impact areas as soon as practicable following completion of construction.

Conclusion of Law

Based on the foregoing recommended findings of fact and conclusions, and existing and recommended amended conditions, the Department recommends that the Council find that the facilities, with proposed changes, would continue to comply with the Council's Scenic Resources standard.

III.A.8 Public Services: OAR 345-022-0110

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

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

Findings of Fact

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

Council previously found that the certificate holder demonstrated compliance with the Public Services standard. The proposed changes included in the amendment request would not impact Council's previous findings of compliance. The certificate holder, however, requests administrative changes to previously imposed Public Services Conditions 1, 6, 7, 8 and 10 to remove reference to Umatilla County or public services located in Umatilla County (i.e. Echo

Rural Fire Protection District); and deletion of a condition specific to a septic system that would be installed with the O&M building, which would not apply. Based on review of the proposed condition deletion and amendments, the Department recommends Council delete and impose the following amended conditions in the WREFI site certificate:

Recommended Deleted Public Services Condition 1 (WREFI): ~~During operation of the facility, the certificate holder shall discharge sanitary wastewater generated at the O&M buildings to licensed on-site septic systems in compliance with State permit requirements. The certificate holder shall design each septic system for a discharge capacity of less than 2,500 gallons per day.~~

Recommended Amended Public Services Condition 6 (WREFI): Prior to construction, the certificate holder shall prepare a Traffic Management Plan that includes the procedures and actions described in this order and the mitigation measures identified in ASC Exhibit U, Section 3.5.4. The plan shall be approved by the department in consultation with the appropriate transportation service providers. The plan shall be maintained onsite and implemented throughout construction of the facility.

In addition, the certificate holder shall include the following information in the plan:

- a. Procedures to provide advance notice to all affected local jurisdictions and adjacent landowners of construction deliveries and the potential for heavy traffic on local roads;
- b. A policy of including traffic control procedures in contract specifications for construction of the facility;
- c. Procedures to maintain at least one travel lane at all times to the extent reasonably possible so that roads will not be closed to traffic because of construction vehicles;
- d. A policy of ensuring that no equipment or machinery is parked or stored on any county road whether inside or outside the site boundary. The certificate holder may temporarily park equipment off the road but within county rights-of-way with the approval of the Morrow County and Umatilla County Public Works Departments;
- e. A policy to encourage and promote carpooling for the construction workforce; and
- f. Procedures to keep state highways and county roads free of gravel that may be tracked out on intersecting roads at facility access points.

Recommended Amended Public Services Condition 7 (WREFI): Before beginning construction, the certificate holder must enter into Road Use Agreements with the Morrow County and Umatilla County Public Works Department. The Agreements must include, at a minimum, a pre-construction assessment of road surfaces under Morrow County and Umatilla County jurisdiction, construction monitoring, and post-construction inspection and repair. A copy of the Road Use Agreements with Morrow County and Umatilla County must be submitted to the department before beginning construction. If required by Morrow County or Umatilla County, the certificate holder shall post bonds to ensure funds are available to repair and maintain roads affected by the facility.

Recommended Amended Public Services Condition 8 (WREFI): The certificate holder shall design and construct new access roads and private road improvements to standards approved by ~~Umatilla County or~~ Morrow County. Where modifications of county roads are necessary, the certificate holder shall construct the modifications entirely within the county road rights-of-way and in conformance with county road design standards subject to the approval of the ~~Umatilla County and~~ Morrow County Public Works Departments.

Recommended Amended Public Services Condition 10 (WREFI): During construction of the facility, the certificate holder shall provide for 24-hour on-site security, and shall establish effective communications between on-site security personnel and the Morrow County Sheriff's Office ~~and Umatilla County Sheriff's Office.~~

Recommended Amended Public Services Condition 13 (WREFI): Prior to construction, the certificate holder shall prepare an Emergency Management Plan that includes the procedures and actions described in this order and in ASC Exhibit U. The certificate holder shall submit the plan to ODOE for review and approval in consultation with the appropriate local fire protection districts (including the City of Heppner Volunteer Fire Department, and Lone Rural Fire Protection District, ~~and Echo Rural Fire Protection District~~) prior to construction. The plan shall be maintained onsite and implemented throughout construction and operation of the facility. Any updates to the plan shall be provided to the department within 30 days. All onsite workers shall be trained on the fire prevention and safety procedures contained in the plan prior to working on the facility....

III.A.9 Division 23 Standards

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

III.A.9.1 Siting Standards for Transmission Lines: OAR 345-024-0090

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

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

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

Findings of Fact

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

Council previously found that the certificate holder demonstrated compliance with the Siting Standards for Transmission Lines. Because there are no physical changes or new geographic area proposed in this amendment request, the proposed changes would not impact Council's previous findings of compliance. The certificate holder, however, requests an administrative change to previously imposed Siting Standards for Transmission Line Condition 1, to remove to the intraconnection transmission line in the WREFI site certificate, as this is not a facility component requested be included. Based on review of the condition, the Department recommends Council find the proposed condition amendment, as presented below, to be administrative and accurate. The Department recommends Council impose the following amended condition in the WREFI site certificate:

Recommended Amended Siting Standard Condition 1 (WREFI): During construction, the certificate holder shall take reasonable steps to reduce or manage human exposure to electromagnetic fields and submit verification to the Department, including:

- a. Constructing all aboveground collector and transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line.
- b. Constructing all aboveground 34.5-kV transmission lines with a minimum clearance of 25 feet from the ground.
- c. ~~Constructing all aboveground 230-kV transmission lines with a minimum clearance of 30 feet from the ground.~~
- d. Developing and implementing a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, irrigation systems, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line (OAR 345-025-0010(4)).

- e. Providing to landowners a map of underground, with any applicable NESC demarking for underground facilities, and overhead transmission lines on their property and advising landowners of possible health and safety risks from induced currents caused by electric and magnetic fields.
- f. Designing and maintaining all transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.
- g. Increasing the ~~interconnection~~ transmission line height, shielding the electric field, or installing access barriers, if needed, to prevent induced current and nuisance shock of mobile vehicles.
- h. Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable.
- i. Designing, constructing and operating the transmission line in accordance with the requirements of the version of the National Electrical Safety Code that is most current at the time that final engineering of each of these components is completed (OAR 345-025-0010(4)).
- j. Implement a safety protocol to ensure adherence to NESC grounding requirements

Conclusion of Law

For the reasons discussed above, and subject to compliance with the existing and recommended amended site certificate conditions, the Department recommends that the Council find that the facilities, with proposed changes, would not result in a significant adverse impact under OAR 345-024-0090 would comply with the Council's Siting Standards for Transmission Lines.

III.A.10 Division 24 Standards

The Council's Division 24 standards include specific standards for the siting of wind project, which is further evaluated below.

III.A.10.1 Public Health and Safety Standards for Wind Energy Facilities: OAR 345-024-0010

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

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

(2) Can design, construct and operate the facility to preclude structural failure of the tower or blades that could endanger the public safety and to have adequate safety devices and

1 *testing procedures designed to warn of impending failure and to minimize the consequences*
2 *of such failure.*

3
4 **Findings of Fact**

5
6 OAR 345-024-0010 requires the Council to consider specific public health and safety standards
7 related to wind energy facilities. Under this standard, the Council must evaluate a certificate
8 holder's proposed measures to exclude members of the public from proximity to the turbine
9 blades and electrical equipment, and the certificate holder's ability to design, construct and
10 operate the facility, with proposed changes, to prevent structural failure of the tower or blades
11 and to provide sufficient safety devices to warn of failure.

12
13 Council previously found that the certificate holder demonstrated compliance with the Public
14 Health and Safety for Wind Facilities standard. Because there are no physical changes proposed
15 in this amendment request, the proposed changes would not impact Council's previous findings
16 of compliance. The certificate holder, however, requests an administrative change to previously
17 imposed Public Health and Safety Standards for Wind Facilities Condition 5, to remove
18 reference to Umatilla County Planning Department in the WREFI site certificate, as there would
19 be no WREFI facility components located within Umatilla County. Based on review of the
20 condition, the Department recommends Council find the proposed condition amendment, as
21 presented below, to be administrative and accurate. The Department recommends Council
22 impose the following amended condition in the WREFI site certificate:

23
24 **Recommended Amended Public Health and Safety Standards for Wind Facilities Condition**
25 **5 (WREFI):** The certificate holder shall notify the department, the Morrow County Planning
26 Department ~~and the Umatilla County Planning Department~~ within 72 hours of any accidents
27 including mechanical failures on the site associated with construction or operation of the
28 facility that may result in public health or safety concerns.

29
30 **Conclusions of Law**

31
32 Based on the foregoing analysis, and subject to compliance with existing and recommended
33 amended conditions, the Department recommends the Council find that the facilities, with
34 proposed changes, would continue to comply with the Council's Public Health and Safety
35 Standards for Wind Energy Facilities.

36
37 **III.A.11 Other Applicable Regulatory Requirements Under Council Jurisdiction**

38
39 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-022-
40 0000), the Council must determine whether the proposed facility complies with "all other
41 Oregon statutes and administrative rules...as applicable to the issuance of a site certificate for
42 the proposed facility." This section addresses the applicable Oregon statutes and administrative

rules that are not otherwise addressed in Council standards, including the Oregon Department of Environmental Quality's noise control regulations.

III.A.11.1 Noise Control Regulations: OAR 340-035-0035

(1) Standards and Regulations:

(b) New Noise Sources:

(B) New Sources Located on Previously Unused Site:

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

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

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

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

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

(iii) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise

sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

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

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

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

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

could contribute to the noise level is disabled.

Findings of Fact

The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy facilities.

Council previously found that the certificate holder demonstrated compliance with the Noise Control Regulations. Because there are no physical changes proposed in this amendment request, the proposed changes would not impact Council's previous findings of compliance. The certificate holder, however, requests an administrative change to previously imposed Noise Control Condition 2 in the WREFI site certificate to remove reference in the condition to facility components that would not be included in the site certificate, specifically solar facility components and distributed energy storage system components, which are specific to battery storage systems that would be located within the solar arrays. Based on review of the condition, the Department recommends Council find the proposed condition amendment, as presented below, to be administrative and accurate. The Department recommends Council impose the following amended condition in the WREFI site certificate:

Recommended Amended Noise Control Condition 2 (WREFI): Prior to construction, the certificate holder shall provide to the department:

- a. Information that identifies the final design locations of all facility components to be built at the facility;
- b. The maximum sound power level for the facility components and the maximum sound power level and octave band data for the turbine type(s), transformers (substation ~~and solar array~~), invertors, ~~AC and DC-coupled~~ battery storage cooling system selected for the facility based on manufacturers' warranties or confirmed by other means acceptable to the department;
- c. The results of the noise analysis of the final facility design performed in a manner consistent with the requirements of OAR 340-035-0035(1)(b)(B) (iii)(IV) and (VI). The analysis must demonstrate to the satisfaction of the department that the total noise generated by the facility (including turbines, transformers, invertors, ~~AC and DC-coupled~~ battery storage cooling systems) would meet the ambient noise degradation test and maximum allowable test at the appropriate measurement point for all potentially-affected noise sensitive properties, or that the certificate holder has obtained the legally effective easement or real covenant for expected exceedances of the ambient noise degradation test described (d) below. The analysis must also identify the noise reduction operation (NRO) mode approach that will be used during facility operation and include a figure that depicts the turbines that will be operating in NRO

mode and the associated dBA reduction level; if required to meet the maximum allowable decibel threshold of 50 dBA; and,

Conclusions of Law

Based on the foregoing findings, the Department recommends that the Council find that the proposed RFA2 O&M demonstration activity would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).

III.B. Standards Not Likely to Be Impacted by Request for Amendment 5

RFA5, as described throughout this order, solely requests authorization to split, and share some, previously approved facility components within previously approved site boundary and micrositing corridors, but redefined based on specific facility components covered in each of two certificates. Based on the largely administrative nature of the amendment request, with the exception of substantive changes evaluated under the Council's Organizational Expertise, Fish and Wildlife Habitat, and Retirement and Financial Assurance standards of this order, the Department recommends Council find that the standards listed below are not likely to be impacted by RFA5.

Sections III.B.1 through III.B.7 present the language of the identified standards and other applicable laws and regulations not likely to be impacted by RFA5, for reference purposes only.

III.B.1 Protected Areas: OAR 345-022-0040

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

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

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

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

4
5 (d) National and state wildlife refuges, including but not limited to Ankeny, Bandon
6 Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart
7 Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,
8 Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper
9 Klamath, and William L. Finley;

10
11 (e) National coordination areas, including but not limited to Government Island,
12 Ochoco and Summer Lake;

13
14 (f) National and state fish hatcheries, including but not limited to Eagle Creek and
15 Warm Springs;

16
17 (g) National recreation and scenic areas, including but not limited to Oregon Dunes
18 National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon
19 Cascades Recreation Area, and Columbia River Gorge National Scenic Area;

20
21 (h) State parks and waysides as listed by the Oregon Department of Parks and
22 Recreation and the Willamette River Greenway;

23
24 (i) State natural heritage areas listed in the Oregon Register of Natural Heritage
25 Areas pursuant to ORS 273.581;

26
27 (j) State estuarine sanctuaries, including but not limited to South Slough Estuarine
28 Sanctuary, OAR Chapter 142;

29
30 (k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers
31 designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed
32 as potentials for designation;

33
34 (l) Experimental areas established by the Rangeland Resources Program, College of
35 Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site,
36 the Starkey site and the Union site;

37
38 (m) Agricultural experimental stations established by the College of Agriculture,
39 Oregon State University, including but not limited to: Coastal Oregon Marine
40 Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension
41 Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia
42 Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research

Center, Moro North Willamette Research and Extension Center, Aurora East Oregon Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath Falls;

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

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

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

III.B.2 Threatened and Endangered Species: OAR 345-022-0070

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

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

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

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

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

1 III.B.3 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

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 impacts to:*

6
7 *(a) Historic, cultural or archaeological resources that have been listed on, or would*
8 *likely be listed on the National Register of Historic Places;*

9
10 *(b) For a facility on private land, archaeological objects, as defined in ORS*
11 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

12
13 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*

14
15 *(2) The Council may issue a site certificate for a facility that would produce power from*
16 *wind, solar or geothermal energy without making the findings described in section (1).*
17 *However, the Council may apply the requirements of section (1) to impose conditions on*
18 *a site certificate issued for such a facility.*

19 ***

20 III.B.4 Recreation: OAR 345-022-0100

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

28
29 *(a) Any special designation or management of the location;*

30 *(b) The degree of demand;*

31 *(c) Outstanding or unusual qualities;*

32 *(d) Availability or rareness;*

33 *(e) Irreplaceability or irretrievability of the opportunity.*

34 ***

35 III.B.5 Waste Minimization: OAR 345-022-0120

36
37 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
38 *Council must find that, to the extent reasonably practicable:*

39
40 *(a) The applicant's solid waste and wastewater plans are likely to minimize*
41 *generation of solid waste and wastewater in the construction and operation of the*

1 *facility, and when solid waste or wastewater is generated, to result in recycling and*
2 *reuse of such wastes;*

3
4 *(b) The applicant's plans to manage the accumulation, storage, disposal and*
5 *transportation of waste generated by the construction and operation of the facility*
6 *are likely to result in minimal adverse impact on surrounding and adjacent areas.*

7
8 *(2) The Council may issue a site certificate for a facility that would produce power from*
9 *wind, solar or geothermal energy without making the findings described in section (1).*
10 *However, the Council may apply the requirements of section (1) to impose conditions on*
11 *a site certificate issued for such a facility.*

12 ***

13 III.B.6 Division 24 Standards

14
15 The Council's Division 24 standards include specific standards for the siting of wind project,
16 which is further evaluated below.

17 III.B.6.1 Cumulative Effects Standard for Wind Energy Facilities OAR 345-024-0015

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

- 21
22
23
24 *(1) Using existing roads to provide access to the facility site, or if new roads are needed,*
25 *minimizing the amount of land used for new roads and locating them to reduce adverse*
26 *environmental impacts.*
27 *(2) Using underground transmission lines and combining transmission routes.*
28 *(3) Connecting the facility to existing substations, or if new substations are needed,*
29 *minimizing the number of new substations.*
30 *(4) Designing the facility to reduce the risk of injury to raptors or other vulnerable wildlife in*
31 *areas near turbines or electrical equipment.*
32 *(5) Designing the components of the facility to minimize adverse visual features.*
33 *(6) Using the minimum lighting necessary for safety and security purposes and using*
34 *techniques to prevent casting glare from the site, except as otherwise required by the*
35 *Federal Aviation Administration or the Oregon Department of Aviation.*

36 III.B.7 Other Applicable Regulatory Requirements Under Council Jurisdiction

37
38
39 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-022-
40 0000), the Council must determine whether the proposed facility complies with "all other
41 Oregon statutes and administrative rules...as applicable to the issuance of a site certificate for
42 the proposed facility." This section addresses the applicable Oregon statutes and administrative

1 rules that are not otherwise addressed in Council standards, including the Oregon Department
2 of State Lands' Removal Fill Law and Oregon Department of Water Resources' Water Rights
3 Law.

4
5 III.B.7.1 Removal-Fill
6

7 *The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands*
8 *(DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50*
9 *cubic yards or more of material is removed, filled, or altered within any "waters of the state."¹¹*
10 *The Council, in consultation with DSL, must determine whether a removal-fill permit is needed*
11 *and if so, whether a removal-fill permit should be issued.*

12
13 III.B.7.2 Water Rights
14

15 *Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources*
16 *Department (OWRD) administers water rights for appropriation and use of the water resources*
17 *of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility*
18 *would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires*
19 *that if a facility needs a groundwater permit, surface water permit, or water right transfer, that*
20 *a decision on authorizing such a permit rests with the Council.*
21

¹¹ ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

V. PROPOSED CONCLUSIONS AND ORDER

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

1. The proposed changes included in Request for Amendment 5 of the Wheatridge Wind Energy Facility site certificate complies with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.
2. The proposed changes included in Request for Amendment 5 of the Wheatridge Wind Energy Facility complies with the standards adopted by the Council pursuant to ORS 469.501.
3. The proposed changes included in Request for Amendment 5 of the Wheatridge Wind Energy Facility site certificate complies with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the facility.

Accordingly, the Department recommends that the Council find that the proposed changes included in Request for Amendment 5 of the Wheatridge Wind Energy Facility site certificate complies with the General Standard of Review (OAR 345-022-0000). The Department recommends that the Council find, based on a preponderance of the evidence on the record, that the site certificate may be amended as requested.

Draft Proposed Order

The Department recommends that the Council approve Amendment 5 of the Wheatridge Wind Energy Facility site certificate.

Issued this ~~17th~~-11th day of ~~April~~-May 2020

The OREGON DEPARTMENT OF ENERGY

By: _____

**Todd Cornett, Assistant Director
Oregon Department of Energy, Energy Facility Siting Division**

ATTACHMENTS

- Attachment A: Draft Amended Site Certificates
- Attachment B: ~~{Reserved for}~~ Draft Proposed Order Comments
- Attachment C: Draft Amended Habitat Mitigation Plans
- Attachment D: Draft Amended Revegetation Plans
- Attachment E: Draft Amended Noxious Weed Control Plans
- Attachment F: Draft Amended Wildlife Monitoring and Mitigation Plans

Attachment A: Draft Amended Site Certificates

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

~~Fourth Amended~~ Site
Certificate for the
Wheatridge ~~Wind~~ Renewable
Energy Facility I

ISSUANCE DATES

Site Certificate	TBD April 28, 2017
First Amended Site Certificate	July 27, 2017
Second Amended Site Certificate	November 16, 2018
Third Amended Site Certificate	December 14, 2018
Fourth Amended Site Certificate	November 22, 2019

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WHEATRIDGE ~~RENEWABLE WIND~~ ENERGY FACILITY I SITE CERTIFICATE

Attachments

Attachment A Facility Site Boundary Map

Acronyms and Abbreviations

ASC	Application for Site Certificate
Council	Oregon Energy Facility Siting Council
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
ESCP	Erosion and Sediment Control Plan
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statute
NRHP	National Register of Historic Places
WGS	Washington Ground Squirrel

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council), ~~and~~ Wheatridge Wind Energy, LLC (certificate holder), and NextEra Energy Resources, LLC (NEER). Wheatridge Wind Energy, LLC which is a wholly-owned indirect subsidiary of NEER and NEER is the certificate holder owner, or in other words has control and possession of the certificate holder. NextEra Energy Resources, LLC (NextEra or parent company). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing certificate holder to construct, operate and retire the Wheatridge ~~Wind Renewable~~ Energy Facility I (facility) at the below described site within Morrow ~~and Umatilla~~ Countyes, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules (ORS 469.401(2)).

The findings of fact, reasoning and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, incorporated herein by this reference: (a) the *Final Order on the Application for Site Certificate for the Wheatridge Wind Energy Facility* issued on April 28, 2017 (hereafter, *Final Order on the Application*); (b) *Final Order on Request for Transfer* issued on July 27, 2017; *Final Order on Request for Amendment 3* issued on November 16, 2018; *Final Order on Request for Amendment 2* issued on December 14, 2018; ~~and~~ *Final Order on Request for Amendment 4* issued on November 22, 2019; and *Final Order on Request for Amendment 5* issued TBD. In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: (1) *Final Order on Request for Amendment 5* (12) *Final Order on Request for Amendment 4* (23) *Final Order on Request for Amendment 2*; (34) *Final Order on Request for Amendment 3*; (45) *Final Order on Request for Amendment 1*; (56) *Final Order on the Application*, and (6) the record of the proceedings that led to the above referenced orders. This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

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

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings

or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of this site certificate (ORS 469.430).

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

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

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-04010 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

2.0 Facility Location

The energy facility and its related ~~and or~~ supporting facilities are located within Morrow ~~and Umatilla~~ counties. The site boundary, as defined in OAR 345-001-0010, encompasses approximately ~~3,100.5~~ ~~2,882~~ ~~14,624~~ acres of private land and includes the perimeter of the energy facility site, its related and supporting facilities, all temporary laydown and staging areas and all transmission corridors and micro-siting corridors proposed by the certificate holder, as approved by the Council.¹

The energy facility ~~is divided into two groups, Wheatridge West and Wheatridge East. Wheatridge West~~ is located entirely within Morrow County, bisected by Oregon Highway 207, approximately 5 miles northeast of Lexington and approximately 7 miles northwest of Heppner. ~~Wheatridge East is located approximately 16 miles northeast of Heppner and includes land in both Morrow and Umatilla counties. Wheatridge West and Wheatridge East are connected via a 230-kV transmission line or “intraconnection” transmission line~~ (see facility site boundary map provided in Attachment A).

2.1 Site Boundary

The site boundary encompasses a total of ~~3,100.5~~ ~~2,882~~ ~~14,624~~ acres of privately owned land: ~~2,956 acres in Wheatridge East, 10,042 acres in Wheatridge West, and 1,626 acres in the intraconnection transmission line corridor.~~ Table 1 identifies the Public Land Survey System sections in which the site boundary is located.

Table 1. Location of Site Boundary by Township, Range and Section

Township	Range	Section(s)
Wheatridge East		
1N	28E	4, 5, 8, 9, 16, 17, 21
2N	28E	2, 3, 9, 10, 11, 14, 15, 16, 21, 22, 27, 28, 29, 32, 33
Wheatridge West		
2N	25E	25, 26, 27, 34, 35, 36
1N	25E	1, 2, 11, 12, 13, 14, 15, 22, 23, 24
1N	26E	4, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 32, 33
1S	25E	1, 12
1S	26E	2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 34, 35, 36
2S	26E	1, 12
Intraconnection Corridor		
1S	27E	7, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24
1S	28E	3, 4, 7, 8, 9, 16, 17, 18
1N	28E	28, 33

¹ Energy facility site, as defined in OAR 345-001-0010(54), means all land upon which an energy facility is located or proposed to be located.

For this facility, the certificate holder requested that the site boundary represent the “micrositing corridor” for the placement of facility components to allow some flexibility in specific component locations and design in response to site-specific conditions and engineering requirements to be determined prior to construction. The Council permits final siting flexibility within a micrositing corridor when the certificate holder demonstrates that requirements of all applicable standards have been satisfied by adequately evaluating the entire corridor and location of facility components anywhere within the corridor.

2.2 Micrositing Corridors

The certificate holder requested flexibility to locate components of the energy facility and its related and supporting facilities within a micrositing corridor to allow adjustment of the specific location of components, while establishing outer boundaries of potential construction for purposes of evaluating potential impacts.

~~The site boundary contains two separate micrositing corridors, one for wind facility components and one for solar facility components.~~ Micrositing corridors for wind turbines are a minimum of approximately 660 feet in width around turbines, and wider in some locations. The site boundary width around site access roads and electrical collection lines (collector lines) is narrower, between 200 feet and 500 feet in width. The micrositing corridor is wider for the area surrounding the substations, meteorological towers (met towers), ~~O&M building,~~ and construction yards.

~~Micrositing corridors for solar facility components, as presented in Figure 1 Solar Micrositing Corridors of this amended site certificate, include the area for Solar Array 1 and Solar Array 2, which includes private access roads, service roads, a 34.5 kV collection system, gates and perimeter security fence.~~

2.3 Intraconnection Transmission Line Corridor for the Wind Facility

~~The certificate holder obtained approval of four routing options associated with the wind facility for the 230 kV intraconnection transmission line that interconnects Wheatridge West and Wheatridge East for the transmission of generated power. The intraconnection transmission line corridor is approximately 1,000 feet in width and ranges in length from 24.5 to 31.5 miles, based upon the four approved transmission line route options.~~

~~The four approved transmission line route options range in length from 24.5 to 31.5 miles and would follow the same alignment for approximately 18 miles from the Wheatridge East substation to the crossing at Sand Hollow Road. For the remainder of the route, Options 1 and 3 traverse the same alignment, with Option 1 extending 7 miles longer than Option 3; Option 2 and 4 traverse the same alignment, with Option 2 extending 3.5 miles longer than Option 4. Option 1 and 2 differ for an approximately 4 mile segment located between Sand Hollow Road and the Wheatridge West substation (primary), with Option 2 traversing from Sand Hollow Road through the alternative (2b) Wheatridge West substation to the primary (1) Wheatridge West substation. The four approved routing options and associated transmission line corridors are presented in Attachment A of the site certificate (and are clearly delineated in figures provided in ASC Exhibit C).~~

3.0 Facility Description

The facility includes wind ~~and solar~~ energy generation components, ~~each~~ with related or supporting facilities. The energy generation capacity of the facility, ~~with wind and solar components~~, at full build out by the specified construction completion deadlines is ~~650-100~~ MW. Wind energy facility components are further described in Section 3.1 and 3.1.1 of this site certificate; ~~solar energy facility components are further described in Section 3.2 and 3.2.1 of this site certificate.~~

3.1 Wind Energy Facility Components

The construction commencement deadline for the wind energy facility and its related or supporting facilities must begin by May 24, 2020 (under General Standard Condition 1 (GEN-GS-01) and construction of these components must be completed on or before May 24, 2023 (under General Standard Condition 2 (GEN-GS-02)).

Wind energy generation components include up to ~~292~~ 40 wind turbines with a total generating capacity up to 100 MW. Wind turbines each consist of a nacelle, a three-bladed rotor, turbine tower and foundation. The nacelle houses the equipment such as the gearbox, generator, brakes, and control systems for the turbine. The total height of the turbine tower and blades (tip-height) ranges between 431 and ~~476~~99.7 feet, depending on the turbine model selected.

The base of each wind turbine tower foundation requires a cleared area (typically a gravel pad) up to 80 feet in diameter. The turbines are grouped in linear “strings” within the micrositing corridor and interconnect with a 34.5 kV electrical collection system (described below). Most wind turbine types include a generator step-up (GSU) transformer installed at the base of the tower that would be used to increase the voltage of the turbine to that of the electrical collection system. Table 2 shows the range of turbine specifications approved for use at the facility site.

Table 2: Approved Wind Turbine Dimensions

Specification	Maximum (ft)
Blade Length	204.1
Hub Height	291.3
Rotor Diameter	416.7
Total Height (tower height plus blade length)	499.7
Aboveground Blade-Tip Clearance	70.5
Wind turbine types with the maximum dimension specifications shall be equipped with Low Noise Trailing Edge blades.	

3.2 Related or Supporting Facilities ~~to Wind Energy Facility Components~~

Related or supporting facilities ~~to the wind energy facility components~~, as described below, must commence construction by May 24, 2020 and complete construction by May 24, 2023:

- Electrical collection system (includes up to ~~88~~ 20 miles of mostly underground 34.5 kV collector lines)
- ~~Up to three~~ One collector substations
- ~~Up to 32 miles of up to two overhead, parallel 230 kV transmission lines~~
- Up to ~~12~~ permanent meteorological (MET) towers
- Communication and Supervisory Control and Data Acquisition (SCADA) System
- ~~Up to 7320 miles of new or improved access roads~~
- Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas)
- Battery Storage Systems (~~20 and 30 MW, each~~ located on up to 5 acres) and Interconnection Facilities

~~Construction of these related or supporting facilities must be complete by May 24, 2023.~~

Electrical Collection System

The electrical collection system includes up to ~~88~~ 20 miles of mostly underground 34.5 kV collector lines. Electrical connections are located underground or in enclosed junction boxes between the turbine and the pad-mounted GSU transformer. From the GSU transformer to the collector lines the connections are installed along and between the turbine strings to collect power generated by each wind turbine and to route the power to ~~one of three~~ the collector substation, which step up the power from 34.5 kV to 230 kV.

The collector lines are underground, to the extent practicable, in trenches approximately three-feet wide and not less than two- to three-feet deep, generally alongside access roads, to minimize ground disturbance. Where land use and soil conditions make a buried depth of three-feet infeasible, collector lines may be buried at a depth of less than three feet, while still adhering to National Electrical Safety Code (NESC) standards.

~~Collector lines may be run overhead in situations where a buried cable would be infeasible or would create unnecessary impacts, such as at stream or canyon crossings. Overhead collector lines are supported by a wooden or steel pole structure. Each support pole has been buried approximately 6 feet in the ground and extends to a height of approximately 60 feet above ground, spaced 100 to 200 feet apart. Overhead collector lines are only anticipated in Wheatridge West. The facility includes up to 10.8 miles of overhead collector lines; however, the specific locations of overhead collector lines will not be known until site geotechnical work has been completed during pre-construction activities.~~

~~No more than 88 miles of collector lines would be needed for wind facility components.~~

Collector Substations

The facility includes ~~up to two~~ one substations ~~within Wheatridge West and one substation within Wheatridge East. The proposed substation locations are presented in ASC Exhibit C. However,~~ Wheatridge has requested, and Council grants, the ability to microsite the final location ~~and number (up to three) of substations~~ within the micrositing corridor.

Prior to construction, ~~the~~ substation site will be cleared and graded, with a bed of crushed rock applied for a durable surface. ~~Each~~ ~~The~~ collector substation is located on a two- to ten-acre site, enclosed by a locked eight-foot tall wire mesh fence. ~~Each~~ ~~The~~ substation consists of transformers, transmission line termination structures, a bus bar, circuit breakers and fuses, control systems, meters, and other equipment.

~~230 kV Intraconnection Transmission Line~~

~~The facility includes one or two parallel overhead 230 kV intraconnection transmission lines supported by H-frame or monopole structures constructed of either wood or steel that extends 24.5 to 31.5 miles in length, depending on the route option selected. The 230 kV overhead transmission line structures are approximately 60 to 150 feet tall and spaced approximately 400 to 800 feet apart depending on the terrain. Each transmission line route requires acquisition of an approximately 150-foot wide right-of-way from private landowners.~~

~~—~~

~~The four approved transmission line routing options and associated corridors for the intraconnection transmission line are described below (see Attachment A figure and figures contained in ASC Exhibit C):~~

- ~~• Option 1: Two Project Substations to Longhorn~~
 - ~~○ This option runs from Substation 3 in Wheatridge East to Substation 1 in Wheatridge West and then to the proposed UEC/CB Strawberry substation, just to the west of Wheatridge West, for interconnection to a UEC or UEC/CB operated Gen-tie Line to the proposed BPA Longhorn substation. The intraconnection line route is 31.5 miles (50.5 kilometers) in length.~~
- ~~• Option 2: Three Project Substations to Longhorn (Final facility design with battery storage system would not include this routing option)~~
 - ~~○ This option runs from Substation 3 in Wheatridge East to Substation 2b in Wheatridge West, then on to Substation 2a in Wheatridge West, and then to the proposed UEC/CB Strawberry substation, just west of Wheatridge West, for interconnection to a UEC or UEC/CB operated Gen-tie Line to the proposed BPA Longhorn substation. The intraconnection line route is 31.3 miles (50.3 kilometers) in length.~~
- ~~• Option 3: Two Project Substations to Stanfield~~
 - ~~○ This option runs from Substation 1 in Wheatridge West to Substation 3 in Wheatridge East for interconnection to a UEC operated Gen-tie Line to the proposed BPA Stanfield substation. The intraconnection line route is 24.5 miles (39.4 kilometers) in length.~~
- ~~• Option 4: Three Project Substations to Stanfield (Final facility design with battery storage system would not include this routing option)~~

- ~~This option runs from Substation 2a in Wheatridge West to Substation 2b in Wheatridge West, and then to Substation 3 in Wheatridge East for interconnection to a UEC-operated Gen-tie Line to the proposed BPA Stanfield substation. The intraconnection line route is 27.8 miles (44.7 kilometers) in length.~~

Meteorological Towers

The facility includes up to 12 permanent met towers. ~~Up to five met towers are sited in Wheatridge East and up to seven met towers are sited in Wheatridge West for the collection of wind speed and direction data.~~ Each met tower has a free-standing, non-guyed design and is approximately 328 feet (100 meters) in height. Installation of permanent met towers results in approximately 98-feet (30-meters) in diameter of temporary land disturbance per tower and approximately 32-feet (10-meter) in diameter of permanent land disturbance per tower. Permanent met towers are fitted with safety lighting and paint as required by the Federal Aviation Administration (FAA).

Communication and SCADA System

The facility includes a communication system, consisting of fiber optic and copper communication lines that connect the turbines, met towers, and substations to the O&M buildings. A SCADA system is installed in the O&M buildings to enable remote operation to collect operating data for each wind turbine, and to archive wind and performance data. SCADA system wires are collocated with the collector lines both in the underground trenches and overhead, if necessary.

O&M Buildings

~~The facility includes up to two O&M buildings, each located on up to 1.1 acres, one within Wheatridge East and one within Wheatridge West. Each O&M building consists of a single-story, prefabricated structure approximately 6,000 to 9,000 square feet in size, and includes an office, break room, kitchen, lavatory with shower, utility room, covered vehicle parking, storage for maintenance supplies and equipment, and SCADA system. A permanent, fenced, graveled parking and storage area for employees, visitors, and equipment is located adjacent to each O&M building. Each building is served by an on-site well and septic system and power supplied by a local service provider using overhead and/or underground lines.~~

Access Roads

Primary access to the facility site is from Interstate 84 (I-84) via Bombing Range Road or Oregon Route 207 (OR-207). The certificate holder completed improvements to existing public roads to accommodate construction activities, including flattening crests or filling dips, widening sharp corners, or adding road base material; the certificate holder is required to consult with the appropriate county road master on specific improvements prior to construction. The certificate holder committed to completing upgrade to existing roads according to applicable state and county road standards and after consultation with Morrow ~~and Umatilla~~ County staff. The certificate holder is required to implement a road use agreement with each county to specify requirements, including that all existing public roads used to access the site would be left in as good or better condition than that which existed prior to the start of construction.

Access to the turbines, construction yards, substations, and O&M buildings is from a network of private access roads constructed or improved by the certificate holder. The certificate holder will grade and gravel all newly constructed and improved site access roads to meet load requirements for heavy construction equipment, as necessary. Following turbine construction, the certificate holder will narrow the site access roads for use during operations and maintenance. The additional disturbed width required during construction will be restored following the completion of construction by removing gravel surfacing, restoring appropriate contours with erosion and stormwater control best management practices (BMPs), decompacting as needed, and revegetating the area appropriately.

In the maximum impact scenario, wind energy facility components will require up to ~~73~~ 20 miles of access roads.

~~Temporary access roads were needed for the construction of the intraconnection transmission line(s). The intraconnection transmission line(s) can be constructed and maintained using only large trucks rather than heavy construction cranes, and construction will occur during the dry time of year when the ground surface is hard enough to support those vehicles. Therefore, the interconnection transmission lines do not include permanent access roads. The total mileage of the temporary access roads needed for constructing the intraconnection transmission line(s) depends on the intraconnection line route option chosen. The shortest route would require approximately 22.8 miles of access roads, while the longest would require approximately 25.5 miles.~~

Additional Construction Yards

The facility includes up to ~~four~~ two temporary construction yards located within the site boundary to facilitate the delivery and assembly of material and equipment. The construction yards are used for temporary storage of diesel and gasoline fuels, which are located in an above-ground 1,000-gallon diesel and 500-gallon gasoline tank, within designated secondary containments areas.

Each construction yard occupies between 15 and 20 acres, and was graded and gravel surfaced. The certificate holder is required to restore all construction yards to pre-construction conditions unless an agreement with the landowner leads to some or all of the construction yard being retained after construction.

In addition, the certificate holder may utilize one or more temporary concrete batch plant areas, located within the construction yard area. The temporary concrete batch plants are permitted and operated by the selected contractor.

Battery Storage Systems and Interconnection Facilities (DC Coupled)

The battery storage systems associated with wind energy facility components include the following:

- Series of modular containers or a building per system (~~approximately 80 feet long, 100 feet wide and 15-20 feet tall for the 20 MW system~~); approximately 190 feet long, 100 feet wide and 15-20 feet tall for the 30 MW system)
 - Each system would contain lithium-ion batteries within battery modules placed in anchored racks within containers or building.

- Approximately eighteen 2.7 mega-voltampere (MVA) inverters with associated step up transformers with a combined footprint approximately 8 feet by 4 feet.
- Each system would be equipped with a gas pressured deluge fire suppression system, independent smoke detection system, and external fire water tank
- Each system would include a cooling system comprised of a bank of four power conditioning system fan units with motor
- Control house, approximately 16 feet by 11 feet, with an external heating, ventilation and air conditioning unit (HVAC)
- Protective device; skid-mounted power transformer; and bi-directional inverter

Battery and inverter equipment would be electrically connected via a combination of aboveground cable trays, underground conduit, and covered cable trenches. Site surfacing would remain primarily gravel. The battery storage systems would interconnect with the facility substations via feeder lines.

3.3 Shared (WREFI and WREFII) Related or Supporting Facilities

The WREFI and Wheatridge Renewable Energy Facility II (WREFII) site certificates were originally approved as one site certificate for the Wheatridge Wind Energy Facility (April 2017). In May 2020, facility components were split or bifurcated into two separate site certificates, but identified that certain related or supporting facilities would be shared or used by both facilities. Sharing of facility components, or use by multiple facilities, is allowable in the EFSC process when the compliance obligation and applicable regulatory requirements for the shared facilities is adequately covered under both site certificates, including under normal operational circumstances, ceasing/termination of operation, emergencies and compliance issues or violations.

The certificate holder is authorized to share related or supporting facilities between the WREFI and WREFII facilities, including the Wheatridge West collector substation, SCADA system, battery storage system, temporary laydown areas, and access roads. These related or supporting facilities are included in both WREFI and WREFII site certificates. Compliance with site certificate conditions and EFSC standards which apply to these shared related or supporting facilities are shared between WREFI and WREFII site certificates and certificate holders. In accordance with Organizational Expertise Condition 11, if either certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, both certificate holders are obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future. Additionally, each certificate holder is obligated to demonstrate to the Department that a “Common Facilities Agreement” or similarly legally binding agreement has been fully executed between certificate holders to ensure approval and agreement of access to the shared resources has been obtained prior to operation of shared facilities.

~~3.2~~ ~~Solar Energy Facility Components~~

~~The construction commencement deadline for the solar energy facility and its related or supporting facilities must begin by DATE TBD [three years following effective site certificate date] (under General Standard Condition 1 (GEN-GS-01) and construction of these components must be completed on or before DATE TBD [three years from date of construction commencement] (under General Standard Condition 2 (GEN-GS-02)).~~

~~Solar energy facility components include up to two solar arrays located within Wheatridge West, entirely within Morrow County, on Exclusive Farm Use zoned land. The solar arrays consist of photovoltaic panels mounted onto tracking modules and arranged in strings within the solar micro-siting corridors. Strings of modules are connected by electrical collector lines and inverters that convert the direct current power generated by panels to alternating current power. Transformers placed near the inverters step up power to 34.5 kV for transmission to the Wheatridge West substation. The maximum layout including total number of modules, configuration, dimensions, total energy generating capacity and mounting system of solar array components shall be substantially as described in Request for Amendment 4.~~

~~*Photovoltaic Modules and Racking*~~

~~Each solar module is approximately 6 feet by 3 feet, placed on a nonspecular, galvanized steel rack. Each set of approximately 70 racked modules is mounted approximately 5 feet off the ground on a single-axis tracker that would rotate 60 degrees to the east and west. Each tracker is supported by steel posts; post depth varies depending on soil conditions, but the posts are typically placed 8 feet below the surface. The maximum of height of the modules at full tilt would be approximately 16 feet.~~

~~*Combiner Boxes, Inverters and Transformers*~~

~~The current produced by solar modules is in the form of direct current (DC). Within each module block, several DC electrical conduits (cables on the back of the modules) aggregate electricity produced from each of the modules into a combiner box. Approximately 18 combiner boxes are located throughout each module block for a total of approximately 740 combiner boxes. The photovoltaic modules are arranged into blocks, with each block connecting via collector lines to approximately 41 modular inverter enclosures. Inverters convert DC current into alternating current (AC) power to then be transmitted to the grid. The inverter AC output voltage (480 volts) is stepped up to a higher voltage (34.5 kilovolts [kV]) by approximately 41 pad-mounted transformers designed to integrate with the inverter.~~

3.2.1 — Related or Supporting Facility to Solar Energy Facility Components

~~Related or supporting facilities associated with the solar facility must begin construction by the dates described in General Standard Condition 1 (GEN-GS-01) and construction must be completed, substantially as described below, by the deadline stated in General Standard Condition 2 (GEN-GS-02).~~

~~*Electrical Collection System*~~

~~Electricity generated from the solar energy facility components are aggregated via underground 34.5-kV cables to an above- or belowground 34.5-kV collector line that interconnect to Wheatridge West collector substation. Underground AC electrical cables are buried to a minimum of 3 feet. Overhead collector lines are supported by a wooden or steel monopole structure, with foundations extending 6 feet in depth and structure height of approximately 60 feet above ground. The collection system also includes two 34.5-kV collector line routes outside of the perimeter fenceline; one route extends approximately 2.32 miles from Solar Array 1 to Wheatridge West collector substation. The second~~

collector line interconnects Solar Array 1 to Solar Array 2 and extends approximately 0.66 miles along Bombing Range Road.

~~*Service Roads, Gates, and Fencing*~~

~~Service roads, approximately 16 feet wide, located within and around the perimeter of the proposed solar arrays, and within the solar micrositing corridors, to facilitate access for construction and maintenance purposes. Vegetation is cleared and maintained along perimeter roads to provide a vegetation clearance area extending 100 feet wide for fire safety. Internal roads are all-weather, compacted gravel and approximately 20 feet wide, with an internal turning radius of 28 feet. Vegetation maintenance along solar array interior roads includes mowing to a height no more than 3 inches.~~

~~The perimeter service road is bordered by a 7 or 8-foot-high chain-link security fence. There is also a locked security entrance gates to allow vehicle and pedestrian access.~~

~~*Wheatridge West Collector Substation Expansion*~~

~~Wheatridge West collector substation (by Strawberry Lane) includes 10 acres, 5 of which accommodate electrical equipment such as an additional transformer, switches, protective relay and metering equipment needed to handle the power generated by the solar energy facility components.~~

~~*Battery Storage System Sites — Distributed Locations (AC Coupled)*~~

~~Solar energy facility components include approximately 41 distributed sites of sites of of lithium-ion batteries housed within concrete containers or similar containment throughout and within the solar array fencelines. Each container measures up to 12 feet wide, 36 feet long and 10 feet tall. Lithium-ion battery storage systems are modular systems. Each module contains multiple smaller battery cells, each measuring up to 3.2 by 7 centimeters. Modules are contained in anchored racks within the concrete containers; typically, each rack houses 12 battery modules along with a switchgear assembly. Cooling equipment is located either on top of the concrete containers or along the side.~~

4.0 Site Certificate Conditions

4.1 Condition Format

The conditions in Sections 4.2 through 4.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.)². The table below presents a “key” for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as “GS”; the Soil Protection standard is represented in the condition numbering as “SP” and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council’s General Standard of Review, and is condition number 1.

² The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.

4.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
GEN-GS-01	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Begin construction of wind facility components and its related or supporting facilities, by May 24, 2020. On or before May 24, 2020, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010. Begin construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2022). On or before November 22, 2022, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010. <p>[Final Order on ASC, General Standard Condition 1; AMD2; AMD4; AMD5] [Mandatory Condition OAR 345-025-0006(4)]</p>
GEN-GS-02	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Complete construction of the wind facility components and its related or supporting facilities by May 24, 2023. The certificate holder shall promptly notify the Department of the date of completion of construction. Complete construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2025. On or before November 22, 2025, the certificate holder shall promptly notify the Department of the date of completion of construction. <p>[Final Order on ASC, General Standard Condition 2; AMD2; AMD4; AMD5] [Mandatory Condition OAR 345-025-0006(4)]</p>
GEN-GS-03	<p>The certificate holder shall design, construct, operate, and retire the facility:</p> <ol style="list-style-type: none"> Substantially as described in the site certificate; In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and In compliance with all applicable permit requirements of other state agencies. <p>[Final Order on ASC, Mandatory Condition 2] [OAR 345-025-0006(3)]</p>
GEN-GS-04	<p>Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and:</p>

	<ul style="list-style-type: none"> a. The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line or pipeline occurs during the certificate holder's negotiations to acquire construction rights on another part of the site; or b. The certificate holder would construct and operate part of a wind energy facility on that part of the site even if other parts of the facility were modified by amendment of the site certificate or were not built. <p>[Final Order on ASC, Mandatory Condition 3] [OAR 345-025-0006 (5)]</p>
GEN-GS-05	<p>If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the department describing the impact on the facility and any affected site certificate conditions.</p> <p>[Final Order on ASC, Mandatory Condition 6] [OAR 345-025-0000(6)]</p>
GEN-GS-06	<p>The Council shall include as conditions in the site certificate all representations in the site certificate application and supporting record the Council deems to be binding commitments made by the applicant.</p> <p>[Final Order on ASC, Mandatory Condition 5] [OAR 345-025-0006(10)]</p>

GEN-GS-07	<p>Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.</p> <p>[Final Order on ASC, Mandatory Condition 6] [OAR 345--025-0006(11)]</p>
GEN-GS-08	<p>The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence.</p> <p>[Final Order on ASC, Mandatory Condition 7] [OAR 345-025-0006(12)]</p>
GEN-GS-09	<p>The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose mitigation actions.</p> <p>[Final Order on ASC, Mandatory Condition 8] [OAR 345-025-0006 (13)]</p>
GEN-GS-10	<p>The certificate holder shall notify the department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.</p> <p>[Final Order on ASC, Mandatory Condition 9] [OAR 345-025-0006 (14)]</p>
GEN-GS-11	<p>Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the department of the proposed new owners. The requirements of OAR 345-027-04100 apply to any transfer of ownership that requires a transfer of the site certificate.</p> <p>[Final Order on ASC, Mandatory Condition 10] [OAR 345--025-0006 (15)]</p>
GEN-GS-12	<p>The Council shall specify an approved corridor in the site certificate and shall allow the certificate holder to construct the pipeline or transmission line anywhere within the corridor, subject to the conditions of the site certificate. If the applicant has analyzed more than one corridor in its application for a site certificate, the Council may, subject to the Council's standards, approve more than one corridor.</p> <p>The transmission line corridors approved by EFSC pursuant to this condition is described in Section 2.3 of the site certificate, and presented in the facility site map (see Attachment A of the site certificate.</p> <p>[Final Order on ASC, Site Specific Condition 1] [OAR 345-025-0010(5)]</p>
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	<p>Any matter of non-compliance under the site certificate is the responsibility of the certificate holder. Any notice of violation issued under the site certificate will be issued to the certificate holder. Any civil penalties under the site certificate will be levied on the certificate holder.</p>

	[Final Order on ASC, Organizational Expertise Condition 5]
GEN-OE-02	<p>In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the department.</p> <p>[Final Order on ASC, Organizational Expertise Condition 6]</p>
GEN-OE-03	<p>During facility construction and operation, the certificate holder shall report to the Department, within 7 days, any change in the corporate structure of the parent company, NextEra Energy Resources, LLC. The certificate holder shall report promptly to the Department any change in its access to the resources, expertise, and personnel of NextEra Energy Resources, LLC.</p> <p>[Amendment #1 , Organizational Expertise Condition 9]</p>
GEN-OE-04	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Prior to and during construction, as applicable, provide evidence to the Department that a contractual agreement has been obtained for transport and disposal of battery and battery waste by a licensed hauler and requires the third-party to comply with all applicable laws and regulations, including applicable provisions of 49 CFR 173.185. Prior to transporting and disposing of battery and battery waste during facility operations, provide evidence to the Department that a contractual agreement has been obtained for transport and disposal of battery and battery waste by a licensed hauler and requires the third-party to comply with all applicable laws and regulations, including applicable provisions of 49 CFR 173.185. <p>[Final Order on AMD2, Organizational Expertise Condition 10]</p>
GEN-OE-05	<p>The certificate holder is authorized to share related or supporting facilities including the Wheatridge West collector substation, SCADA system, access roads, temporary staging areas, and battery storage systems (20 and 30 MW systems, as approved in Final Order on Amendment 2), all of which are governed under both WREFI and WREFII site certificates.</p> <ol style="list-style-type: none"> Prior to <u>Within 30 days of</u> use by both certificate holders of the shared facilities, the certificate holder must provide evidence to the Department that Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC <u>the certificate holders of the shared facilities</u> have an executed agreement for shared use of the collector substation, SCADA system, access roads, staging areas, and battery storage system <u>any constructed shared facilities</u>. If WREFI or WREFII propose to substantially modify any of the shared facilities listed in sub(a) of this condition, each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates in order to accurately account for any significant change in the decommissioning amount required under Retirement and Financial Assurance Condition 5. c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Retirement and Financial Assurance Condition 5, for the operational facility, if facilities are decommissioned at different times.

STANDARD: STRUCTURAL (SS) [OAR 345-022-0020]

GEN-SS-01	<p>The certificate holder shall design, engineer, and construct the facility in accordance with the current versions of the latest International Building Code, Oregon Structural Specialty Code, and building codes as adopted by the State of Oregon at the time of construction.</p> <p>[Final Order on ASC, Structural Standard Condition 2]</p>
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STANDARD: LAND USE (LU) [OAR 345-022-0030]

GEN-LU-01	<p>The certificate holder shall design the facility to comply with the following setback distances in Morrow County:</p> <ol style="list-style-type: none"> Wind turbines shall be setback from the property line of any abutting property of any non-participant property owners a minimum of 110 percent of maximum blade tip height of the wind turbine tower. Wind turbines shall be setback 100 feet from all property boundaries, including participant property boundaries within the site boundary, if practicable. Wind turbine foundations shall not be located on any property boundary, including participant property boundaries within the site boundary. Wind turbines shall be setback 110% of the overall tower-to-blade tip height from the boundary right-of-way of county roads, state and interstate highways. Perimeter fenceline of solar facility components shall be setback: 20 feet from property fronting on a local minor collector road rights of way; 30 feet from property fronting on a major collector road right of way; and 80 feet from an arterial road right of way, unless other provisions for combining access are provided and approved by the county. East and west sides of perimeter fenceline of solar facility components shall be setback 20 feet from adjacent land uses except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet. North side of perimeter fenceline of solar facility components shall be setback a minimum of 25 feet. <p>[Final Order on ASC; AMD3 Land Use Condition 1; AMD4; AMD5]</p>
GEN-LU-02	<p>During design and construction of the facility, the certificate holder shall:</p> <ol style="list-style-type: none"> Obtain an access permit for changes in access on Morrow County roads; and Improve or develop private access roads impacting intersections with Morrow County roads in compliance with Morrow County access standards. <p>[Final Order on ASC, Land Use Condition 4]</p>
GEN-LU-03	<p>During design and construction, the certificate holder shall implement the following actions on all meteorological towers approved through the site certificate:</p> <ol style="list-style-type: none"> Paint the towers in alternating bands of white and red or aviation orange; or Install aviation lighting as recommended by the Federal Aviation Administration. <p>[Final Order on ASC, Land Use Condition 9]</p>
GEN-LU-04	<p>The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall:</p> <ol style="list-style-type: none"> Locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices;

	<ul style="list-style-type: none"> b. Place turbines and transmission intraconnection lines along the margins of cultivated areas to reduce the potential for conflict with farm operations, where feasible. c. Site solar array collector lines, if aboveground, within or adjacent to an existing road, railroad or transmission line right-of-way; parallel to an existing transmission corridor; or co-located with existing transmission line or each other, unless not technically feasible due to lack of availability, geographic constraints, engineering limitations, or other reasons as agreed upon by the Department consistent with this condition. d. Bury underground communication and electrical lines within the area disturbed by temporary road widening, where possible. <p>[Final Order on ASC, Land Use Condition 11; AMD4; AMD5]</p>
GEN-LU-05	<p>During design and construction of the facility, the certificate holder shall ensure that fencing and landscaping selected and used for the O&M building and similar facility components sited within Morrow County blend with the nature of the surrounding area.</p> <p>[Final Order on ASC, Land Use Condition 14; AMD5]</p>
GEN-LU-06	<p>During micrositing of the facility, the certificate holder shall ensure that wind turbines are sited based on a minimum setback of:</p> <ul style="list-style-type: none"> a. 110% of the overall tower to blade tip height from the boundary right-of-way of county roads and state and interstate highways in Umatilla and Morrow counties. b. 2 miles from turbine towers to a city urban growth boundary. c. 1 mile from turbine towers to land within Umatilla County lands zoned Unincorporated Community. d. 2 miles from turbine towers to rural residences within Umatilla County. e. 164 feet (50 meters) from tower and facility components to known archeological, historical and cultural sites or CTUIR cultural site. <p>[Final Order on ASC;AMD3 Land Use Condition 16;]</p>
GEN-LU-07	<p>During design and construction, the certificate holder must ensure that the O&M building in Umatilla County is consistent with the character of similar agricultural buildings used by commercial farmers or ranchers in Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 20]</p>

GEN-LU-08	<p>During facility design and construction of new access roads and road improvements, the certificate holder shall implement best management practices after consultation with the Umatilla County Soil Water Conservation district. The new and improved road designs must be reviewed and certified by a civil engineer.</p> <p>[Final Order on ASC, Land Use Condition 22]</p>
GEN-LU-09	<p>Before beginning electrical production, the certificate hold shall provide the location of each turbine tower, electrical collecting lines, the O&M building, the substation, project access roads, and portion of the intraconnection transmission line located in Umatilla County to the department and Umatilla County in a format suitable for GPS mapping.</p> <p>[Final Order on ASC, Land Use Condition 24]</p>
GEN-LU-10	<p>During construction and operation of the facility, the certificate holder shall deliver a copy of the annual report required under OAR 345-026-0080 to the Umatilla County Planning Commission on an annual basis.</p> <p>[Final Order on ASC, Land Use Condition 28]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN-RF-01	<p>The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.</p> <p>[Final Order on ASC, Retirement and Financial Assurance Condition 1]</p> <p>[Mandatory Condition OAR 345-025-0006(7)]</p>
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
GEN-FW-01	<p>During construction and operation, the certificate holder shall impose a 20 mile per hour speed limit on new and improved private access roads, which have been approved as a related and supporting facility to the energy facility.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 2]</p>
GEN-FW-02	<p>The certificate holder shall construct all overhead collector and transmission intraconnection lines in accordance with the latest Avian Power Line Interaction Committee design standards, and shall only install permanent meteorological towers that are unguyed.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 6]</p>
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN-SR-01	<p>To reduce visual impacts associated with lighting facility structures, other than lighting on structures subject to the requirements of the Federal Aviation Administration or the Oregon Department of Aviation, the certificate holder shall implement the following measures:</p> <ol style="list-style-type: none"> a. Outdoor night lighting at the collector substations, Operations and Maintenance Buildings, and battery storage systems, must be <ol style="list-style-type: none"> i. The minimum number and intensity required for safety and security; ii. Directed downward and inward within the facility to minimize backscatter and offsite light trespass; and iii. Have motion sensors and switches to keep lights turned off when not needed. <p>[Final Order on ASC, Scenic Resources Condition 1, AMD2; AMD5]</p>

GEN-SR-02	<p>The certificate holder shall:</p> <ul style="list-style-type: none"> a. Design and construct the O&M buildings battery storage systems to be generally consistent with the character of agricultural buildings used by farmers or ranchers in the area, and the buildings shall be finished in a neutral color to blend with the surrounding landscape; b. Paint or otherwise finish turbine structures in a grey, white, or off-white, low reflectivity coating to minimize reflection and contrast with the sky, unless required otherwise by the local code applicable to the structure location. c. Design and construct support towers for the intraconnection transmission lines using either wood or steel structures and utilize finish with a low reflectivity coating; d. Finish substation structures and battery storage systems utilizing neutral colors to blend with the surrounding landscape; e. Minimize use of lighting and design lighting to prevent offsite glare; f. Not display advertising or commercial signage on any part of the proposed facility; g. Limit vegetation clearing and ground disturbance to the minimum area necessary to safely and efficiently install the facility equipment; h. Water access roads and other areas of ground disturbance during construction, as needed, to avoid the generation of airborne dust; and i. Restore and revegetate temporary impact areas as soon as practicable following completion of construction. <p>[Final Order on ASC, Scenic Resources Condition 2, AMD2;AMD5]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
GEN-PS-01	<p>During construction and operation, the certificate holder shall coordinate with its solid waste handler to provide the information solicited through the Oregon Department of Environmental Quality's Recycling Collector Survey to the Morrow County waste shed representative on an annual basis.</p> <p>[Final Order on ASC, Public Services Condition 5]</p>
GEN-PS-02	<p>The certificate holder shall construct turbine towers with no exterior ladders or access to the turbine blades and shall install locked tower access doors. The O&M buildings shall be fenced. The certificate holder shall keep tower access doors and O&M buildings locked at all times, except when authorized personnel are present.</p> <p>[Final Order on ASC, Public Services Condition 11]</p>

GEN-PS-03	<p>Prior to construction and operation of the facility, , the certificate holder must provide employee fire prevention and response training that includes instruction on facility fire hazards, fire safety, emergency notification procedures, use of fire safety equipment, and fire safety rules and regulations. The certificate holder shall notify the department and the first-response agencies listed in the Emergency Management Plan developed to comply with Public Services Condition 13 at least 30 days prior to the annual training to provide an opportunity to participate in the training. Equivalent training shall be provided to new employees or subcontractors working on site that are hired during the fire season. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 18]</p>
GEN-PS-04	<p>The certificate holder shall design, construct and maintain the battery storage systems within a 100 foot vegetation free zone.</p> <p>[Final Order on AMD2, Public Services Condition 23]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
GEN-WF-01	<p>During construction and operation, the certificate holder shall follow manufacturers' recommended handling instructions and procedures to prevent damage to turbine or turbine tower components.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 3]</p>
GEN-WF-02	<p>The certificate holder shall notify the department, the Morrow County Planning Department and the Umatilla County Planning Department within 72 hours of any accidents including mechanical failures on the site associated with construction or operation of the facility that may result in public health or safety concerns.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 5; AMD5]</p>

4.3 Pre-Construction (PRE) Conditions

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	<p>Before beginning construction, the certificate holder shall notify the department of the identity and qualifications of the major design, engineering and construction contractor(s) for the facility. The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities. The certificate holder shall report to the department any changes of major contractors.</p> <p>[Final Order on ASC, Organizational Expertise Condition 1]</p>
PRE-OE-02	<p>Before beginning construction, the certificate holder shall notify the department of the identity and qualifications of the construction manager to demonstrate that the construction manager is qualified in environmental compliance and has the capability to ensure compliance with all site certificate conditions.</p> <p>[Final Order on ASC, Organizational Expertise Condition 2]</p>
PRE-OE-03	<p>Prior to construction, the certificate holder shall contractually require all construction contractors and subcontractors involved in the construction of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.</p> <p>[Final Order on ASC, Organizational Expertise Condition 3]</p>
PRE-OE-04	<p>Before beginning construction, the certificate holder shall notify the department before conducting any work on the site that does not qualify as surveying, exploration, or other activities to define or characterize the site. The notice must include a description of the work and evidence that its value is less than \$250,000 or evidence that the certificate holder has satisfied all conditions that are required prior to beginning construction.</p> <p>[Final Order on ASC, Organizational Expertise Condition 4]</p>
PRE-OE-05	<p>Prior to construction, the certificate holder must provide the department and Umatilla and Morrow Counties with the name(s) and location(s) of the aggregate source and evidence of the source's county permit(s).</p> <p>[Final Order on ASC, Organizational Expertise Condition 7]</p>
PRE-OE-06	<p>The certificate holder must:</p> <ol style="list-style-type: none"> Prior to construction of wind facility components, provide evidence to the department and Morrow and Umatilla counties county that the third party that will construct, own and operate the interconnection transmission line has obtained all necessary approvals and permits for that interconnection transmission line and that the certificate holder has a contract with the third party for use of the transmission line. Prior to construction of solar facility components approved in the Fourth Amended Site Certificate, provide to the Department a list of all third-party permits that would normally be governed by the site certificate and that are necessary for construction and operation (e.g. Water Pollution Control Facilities Permit, Air Contaminant Discharge Permit, Limited Water Use License). Once obtained, the certificate holder shall provide copies of third-party permits to the Department.

During construction and operation, promptly report to the Department if any third-party permits referenced in sub(b) of this condition have been cited for a Notice of Violation.[Final Order on ASC, Organizational Expertise Condition 8; AMD4; AMD5]

STANDARD: STRUCTURAL (SS) [OAR 345-022-0020]

PRE-SS-01	<p>Before beginning construction, the certificate holder must:</p> <ol style="list-style-type: none">Submit a protocol to the Department and Oregon Department of Geology & Mineral Industries (DOGAMI), for review, with the applicable codes, standards, and guidelines to be used, and proposed geotechnical work to be conducted for the site-specific geotechnical investigation report.Following receipt and review of Department and DOGAMI comments on the protocol per (a), the certificate holder shall conduct a site-specific geological and geotechnical investigation, and shall report its findings to DOGAMI and the department. The report shall be used by the certificate holder in final facility layout and design. The department shall review, in consultation with DOGAMI, and confirm that the investigation report includes an adequate assessment of the following information:<ul style="list-style-type: none">Subsurface soil and geologic conditions of the site boundaryDefine and delineate geological and geotechnical hazards, and means to mitigate these hazardsGeotechnical design criteria and data for the turbine foundations, foundations of substations, O&M buildings, battery storage systems, roads, and other related and supporting facilitiesDesign data for installation of underground and overhead collector lines, and overhead transmission linesInvestigation of specific areas with potential for slope instability and landslide hazards. Landslide hazard evaluation shall be conducted by LIDAR and field work, as recommended by DOGAMIInvestigations of the swell and collapse potential of loess soils within the site boundary. <p>[Final Order on ASC, Structural Standard Condition 1; AMD2]</p>
PRE-SS-02	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1, an investigation of all potentially active faults within the site boundary, including the fault labeled as 2438 on Figures H-1 and H-2 of ASC Exhibit H. The investigation shall include a description of the potentially active faults, their potential risk to the facility, and any additional mitigation that will be undertaken by the certificate holder to ensure safe design, construction, and operation of the facility.</p> <p>[Final Order on ASC, Structural Standard Condition 3; AMD5]</p>
PRE-SS-03	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1 an investigation of specific areas with potential for slope instability and shall site turbine strings appropriate to avoid potential hazards. The landslide hazards shall be investigated and mapped before final facility layout and design. The landslide hazard evaluation shall be conducted by a combination of LIDAR and field work.</p> <p>[Final Order on ASC, Structural Standard Condition 4]</p>
PRE-SS-04	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1, an investigation of the swell and collapse potential of loess soil in the site boundary. Based on the results of the investigation, the certificate holder shall include mitigation measures including, as necessary, over-excavating and replacing loess soil with structural fill, wetting and compacting, deep foundations, or avoidance of specific areas.</p> <p>[Final Order on ASC, Structural Standard Condition 5]</p>
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRE-SP-01	<p>Prior to beginning construction, the certificate holder shall provide a copy of a DEQ-approved construction Spill Prevention Control and Countermeasures (SPCC) plan, to be implemented during</p>

	facility construction. The SPCC plan shall include the measures described in Exhibit I of ASC and in the final order approving the site certificate. [Final Order on ASC, Soil Protection Condition 3]
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PRE-SP-02	<p>Prior to construction, the certificate holder shall ensure that the final Revegetation Plan includes a program to protect and restore agricultural soils temporarily disturbed during facility construction. As described in the final order, agriculture soils shall be properly excavated, stored, and replaced by soil horizon. Topsoil shall be preserved and replaced. The Revegetation Plan shall be finalized pursuant to Fish and Wildlife Habitat Condition 11.</p> <p>[Final Order on ASC, Soil Protection Condition 4]</p>
PRE-SP-03	<p>Prior to beginning construction of the O&M buildings, the certificate holder shall secure any necessary septic system permits from DEQ. Copies of the necessary permits must be provided to the department prior to beginning construction of the O&M buildings.</p> <p>[Final Order on ASC, Soil Protection Condition 7]</p>
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	<p>Before beginning construction, the certificate holder shall complete the following:</p> <ol style="list-style-type: none"> Pay the requisite fee and obtain a Zoning Permit from Morrow County for all facility components sited in Morrow County; and Obtain all other necessary local permits, including building permits. Provide the county with a building permit application, a third party technical report which includes: <ol style="list-style-type: none"> Evaluates fire hazards and; Presents mitigation and recommendations for a fire suppression system designed for the battery storage systems. The certificate holder shall provide copies of the third-party technical report and issued permits to the Department. <p>[Final Order on ASC, Land Use Condition 3; AMD2]</p>
PRE-LU-02	<p>Before beginning construction, the certificate holder shall pay the requisite fee and obtain a Conditional Use Permit as required under Morrow County Zoning Ordinance Article 6 Section 6.015.</p> <p>[Final Order on ASC, Land Use Condition 5]</p>
PRE-LU-03	<p>Before beginning construction, the certificate holder shall prepare a Weed Control Plan that is consistent with Morrow and Umatilla County weed control requirements to be approved by the department. The department shall consult with Morrow and Umatilla counties and ODFW. The final plan must be submitted to the department no less than 30 days prior to the beginning of construction. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.</p> <p>[Final Order on ASC, Land Use Condition 6; AMD5]</p>
PRE-LU-04	<p>Before beginning construction, the certificate holder shall record in the real property records of Morrow County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.</p> <p>[Final Order on ASC, Land Use Condition 7]</p>
PRE-LU-05	<p>Prior to beginning construction, the certificate holder shall consult with surrounding landowners and lessees and shall consider proposed measures to reduce or avoid any adverse impacts to farm practices on surrounding lands and to avoid any increase in farming costs during construction and operation of the facility. Prior to beginning construction, the certificate holder shall provide evidence of this consultation to the department, Morrow County, and Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 12; AMD5]</p>

PRE-LU-06	<p>Before beginning construction, the certificate holder shall work with the Morrow County Road Department to identify specific construction traffic related concerns, and develop a traffic management plan that specifies necessary traffic control measures to mitigate the effects of the temporary increase in traffic. The certificate holder must provide a copy of the traffic management plan to the department and Morrow County, and must implement the traffic management plan during construction.</p> <p>[Final Order on ASC, Land Use Condition 13]</p>
PRE-LU-07	<p>Before beginning construction, the certificate holder must:</p> <ul style="list-style-type: none"> a. Pay the requisite fee(s) and obtain a Zoning Permit(s) from Umatilla County for facility components sited within Umatilla County, including, but not limited to, turbines, substation, O&M building, and the intraconnection line. b. Provide the Department and county with a building permit application that includes a third party technical report which: <ul style="list-style-type: none"> 1. Evaluates fire hazards, and 2. Presents mitigation and recommendations for a fire suppression system designed for the battery storage systems. c. The certificate holder shall provide copies of the third party technical report and issued permits to the Department. <p>[Final Order on ASC, Land Use Condition 15; AMD2]</p>
PRE-LU-08	<p>Prior to facility construction, the certificate holder shall install gates and no trespassing signs at all private access roads established or improved for the purpose of facility construction and operation if requested by the underlying landowner.</p> <p>[Final Order on ASC, Land Use Condition 18; AMD4]</p>
PRE-LU-09	<p>Before beginning construction, the certificate holder shall record in the real property records of Umatilla County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.</p> <p>[Final Order on ASC, Land Use Condition 21]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
PRE-RF-01	<p>Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.</p> <p>[Final Order on ASC, Retirement and Financial Assurance Condition 4]</p> <p>[Mandatory Condition OAR 345-025-0006(8)]</p>

PRE-RF-02	<p>Before beginning construction of the:</p> <ol style="list-style-type: none"> a. Wind energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the wind facility components is \$19.5 <u>3,689,0003.4</u> million dollars (Q23 <u>202018</u> dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition: b. Solar energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the solar facility components is \$9.4 million dollars (Q4 2018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition: <ol style="list-style-type: none"> 1. The certificate holder may adjust the amount of the initial bond or letter of credit based on the final design configuration of the facility. Any revision to the restoration costs should be adjusted to the date of issuance as described in (2) and subject to review and approval by the Council. 2. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation: <ol style="list-style-type: none"> i. Adjust the amount of the bond or letter of credit (expressed in Q23 <u>202018</u> dollars for wind facility components and Q4 2018 dollars for solar facility components)) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the <u>third-second</u> quarter 202018 index value and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust <u>third-second</u> quarter 202018 dollars to present value. ii. Round the result total to the nearest \$1,000 to determine the financial assurance amount. 3. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council. 4. The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site. <p>[Final Order on ASC, Retirement and Financial Assurance Condition 5; AMD2; AMD4; <u>AMD5</u>]</p>
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STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]

PRE-FW-01	<p>Prior to final site design and facility layout, the certificate holder shall conduct a field-based habitat survey to confirm the habitat categories of all areas that will be affected by facility components, as well as the locations of any sensitive resources such as active raptor and other bird nests. The survey shall be planned in consultation with the department and ODFW, and survey protocols shall be confirmed with the department and ODFW. Following completion of the field survey, and final layout design and engineering, the certificate holder shall provide the department and ODFW a report containing the results of the survey, showing expected final location of all facility components, the habitat categories of all areas that will be affected by facility components, and the locations of any sensitive resources.</p> <p>The report shall also include an updated version of Table FW-1 Potential Temporary and Permanent Impacts by Habitat Category and Type of the final order, showing the acres of expected temporary and permanent impacts to each habitat category, type, and sub-type. The pre-construction survey shall be used to complete final design, facility layout, and micro-siting of facility components. As part of the report, the certificate holder shall include its impact assessment methodology and calculations, including assumed temporary and permanent impact acreage for each transmission structure, wind turbine, access road, and all other facility components. If construction laydown yards are to be retained post construction, due to a landowner request or otherwise, the construction laydown yards must be calculated as permanent impacts, not temporary.</p> <p>In classifying the affected habitat into habitat categories, the certificate holder shall consult with the department and ODFW. The certificate holder shall not begin construction of the facility until the habitat assessment, categorization, and impact assessment has been approved by the department, in consultation with ODFW. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 1]</p>
PRE-FW-02	<p>Prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW.</p> <ol style="list-style-type: none">The final WMMP must be submitted and ODOE's concurrence received prior to the beginning of construction. ODOE shall consult with ODFW on the final WMMP. The certificate holder shall implement the requirements of the approved WMMP during all phases of construction and operation of the facility.The WMMP 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 the WMMP agreed to by the Department. <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 4]</p>
PRE-FW-03	<p>Prior to construction, the certificate holder shall flag all environmentally sensitive areas as restricted work zones. Restricted work zones shall include but not be limited to areas with sensitive or protected plant species, including candidate species, wetlands and waterways that are not authorized for construction impacts, areas with seasonal restrictions, and active state sensitive species bird nests.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 8]</p>

PRE-FW-04	<p>Before beginning construction the certificate holder shall prepare and receive approval from the department of a final Habitat Mitigation Plan. The final Habitat Mitigation Plan shall be based on the final facility design and shall be approved by the department in consultation with ODFW. The Council retains the authority to approve, reject or modify the final HMP.</p> <ol style="list-style-type: none"> The final Habitat Mitigation Plan and the department's approval must be received prior to beginning construction. The department shall consult with ODFW on the final plan. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility. The certificate holder shall calculate the size of the habitat mitigation area according to the final design configuration of the facility and the estimated areas of habitat affected in each habitat category, in consultation with the department, as per the pre-construction survey results and impact assessment calculations called for in Fish and Wildlife Habitat Condition 1. The certificate holder shall acquire the legal right to create, enhance, maintain, and protect the habitat mitigation area, as long as the site certificate is in effect, by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the department prior to the start of construction. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the final Habitat Mitigation Plan. The certificate holder shall provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map and available acres by habitat category and subtype in tabular format. The final HMP shall include an implementation schedule for all mitigation actions, including securing the conservation easement, conducting the ecological uplift actions at the habitat mitigation area, revegetation and restoration of temporarily impacted areas, and monitoring. The mitigation actions shall be implemented according to the following schedule, as included in the HMP: <ol style="list-style-type: none"> Restoration and revegetation of temporary construction-related impact area shall be conducted as soon as possible following construction. The certificate holder shall obtain legal authority to conduct the required mitigation work at the compensatory habitat mitigation site before commencing construction. The habitat enhancement actions at the compensatory habitat mitigation site shall be implemented concurrent with construction. The final HMP shall include a monitoring and reporting program for evaluating the effectiveness of all mitigation actions, including restoration of temporarily impacted areas and ecological uplift actions at the habitat mitigation area. The final HMP shall include mitigation in compliance with the Council's Fish and Wildlife Habitat standard, including mitigation for temporary impacts to Category 4 habitat (shrub-steppe habitat); and, mitigation for all Category 2 habitat impacts that meet the mitigation goal of no net loss of habitat quality or quantity, plus a net benefit of habitat quality or quantity. The final HMP 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. <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 10]</p>
PRE-FW-05	<p>Before beginning construction, the certificate holder shall prepare and receive approval of a final Revegetation Plan, provided as Attachment E to this order, from the department, in consultation</p>

with Umatilla and Morrow counties county and ODFW. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.
[Final Order on ASC, Fish and Wildlife Habitat Condition 11; [AMD5](#)]

STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]

PRE-TE-01	<p>Prior to construction, the certificate holder shall determine the boundaries of Category 1 Washington ground squirrel habitat. The certificate holder shall hire a qualified professional biologist who has experience in detection of Washington ground squirrel to conduct pre-construction surveys using a survey protocol approved by the department in consultation with ODFW. The biologist shall survey all areas of suitable habitat within 1,000 feet of any ground disturbing activity. Ground disturbing activity refers to any potential impact, whether permanent or temporary. The protocol surveys shall be conducted in the active squirrel season (March 1 to May 31) prior to construction commencement. The protocol survey is valid for three years. If construction begins within three years of conducting the protocol survey, but not within one year of the protocol survey, the certificate holder shall conduct a pre-construction survey only within areas of suitable Washington ground squirrel habitat where ground disturbing activity would occur.</p> <p>The certificate holder shall provide written reports of the surveys to the department and to ODFW and shall identify the boundaries of Category 1 Washington ground squirrel (WGS) habitat. The certificate holder shall not begin construction within suitable habitat until the identified boundaries of Category 1 WGS habitat have been approved by the department, in consultation with ODFW.</p> <p>The certificate holder shall avoid any permanent or temporary disturbance in all Category 1 WGS habitat. The certificate holder shall ensure that these sensitive areas are correctly marked with exclusion flagging and avoided during construction.</p> <p>[Final Order on ASC, Threatened and Endangered Species Condition 1]</p>
PRE-TE-02	<p>In accordance with Fish and Wildlife Habitat Condition 4, prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW. The final WMMP shall include a program to monitor potential impacts from facility operation on Washington ground squirrel. Monitoring shall be of any known colonies and shall be completed on the same schedule as the raptor nest monitoring for the facility. The monitoring surveys shall include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the historic location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, shall be documented and the extent of those colonies should be delineated as well. These newly discovered colonies shall also be included in any future WGS monitoring activities.</p> <p>[Final Order on ASC, Threatened and Endangered Species Condition 2]</p>
PRE-TE-03	<p>To avoid potential impacts to Laurent's milkvetch, the certificate holder must:</p> <ol style="list-style-type: none"> i. Conduct preconstruction plant surveys for Laurent's milkvetch within 100-feet of temporary and permanent disturbance from all facility components, unless extent of survey area within suitable habitat from temporary and permanent disturbance is otherwise agreed upon by the Department on consultation with Oregon Department of Agriculture. If the species is found to occur, the certificate holder must install protection flagging around the plant population and avoid any ground disturbance within this zone.

- ii. Ensure that any plant protection zone established under (i) above is included on construction plans showing the final design locations.
 - iii. If herbicides are used to control weeds, the certificate holder shall follow the manufacturer's guidelines in establishing a buffer area around confirmed populations of Laurent's milkvetch. Herbicides must not be used within the established buffers.
 - iv. If avoidance cannot be maintained, the certificate holder may request that the Department consider an avoidance exception, authorized through Council concurrence as further described below. The exception request must include an impact assessment and mitigation plan for the affected species including but not be limited to:
 - 1. Literature review and/or field studies that inform the current status of the species within the survey area or region, if survey area does not contain sufficient information to develop a statistically viable approach for determining impact significance;
 - 2. A description of the individual(s) or population(s) identified within the survey area that would be avoided and impacted;
 - 3. An evaluation of facility impacts on the survival or recovery of the species, in accordance with the Threatened and Endangered Species standard;
 - 4. Proposed mitigation measures such as: funded studies that improve understanding of reproductive biology and pollination; development of seed germination, propagation, and transplanting protocols; and/or, compensatory mitigation project including conservation easement(s) and species propagation, protection, and habitat enhancement measures, and/or other proposed mitigation measures that would benefit the affected species.
 - 5. The Department's review and determination of the exception request shall be conducted in consultation with the Oregon Department of Agriculture, or a third-party consultant. The Department's determination on the exception request must be concurred with by Council. Council retains authority to reject, modify or concur with the exception request.
- [Final Order on ASC; AMD3; Threatened and Endangered Species Condition 3; AMD4]

STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]

PRE-HC-01	<p>Before beginning construction, the certificate holder shall provide to the department a map showing the final design locations of all components of the facility, the areas that will be temporarily disturbed during construction and the areas that were surveyed in 2013-14 for historic, cultural, and archaeological resources.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 1]</p>
PRE-HC-02	<p>Before beginning construction, the certificate holder shall mark the buffer areas established under Historic, Cultural, and Archeological Resources Condition 3 for all identified historic, cultural, or archaeological resource sites (including those of unknown age) on construction maps and drawings as "no entry" areas. A copy of current maps and drawings must be maintained onsite during construction and made available to the department upon request.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 2]</p>
PRE-HC-03	<p>Before beginning construction, the certificate holder shall ensure that a qualified archeologist, as defined in OAR 736-051-0070, trains construction contractors on how to identify sensitive historic, cultural, and archaeological resources present onsite and on measures to avoid accidental damage to identified resource sites. Records of such training must be maintained onsite during construction, and made available to the department upon request.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 4]</p>

STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]

PRE-PS-01

Prior to construction, the certificate holder shall prepare a Traffic Management Plan that includes the procedures and actions described in this order and the mitigation measures identified in ASC Exhibit U, Section 3.5.4. The plan shall be approved by the department in consultation with the appropriate transportation service providers. The plan shall be maintained onsite and implemented throughout construction of the facility.

In addition, the certificate holder shall include the following information in the plan:

- a. Procedures to provide advance notice to all affected local jurisdictions and adjacent landowners of construction deliveries and the potential for heavy traffic on local roads;
- b. A policy of including traffic control procedures in contract specifications for construction of the facility;
- c. Procedures to maintain at least one travel lane at all times to the extent reasonably possible so that roads will not be closed to traffic because of construction vehicles;
- d. A policy of ensuring that no equipment or machinery is parked or stored on any county road whether inside or outside the site boundary. The certificate holder may temporarily park equipment off the road but within county rights-of-way with the approval of the Morrow County and Umatilla County Public Works Departments;
- e. A policy to encourage and promote carpooling for the construction workforce; and
- f. Procedures to keep state highways and county roads free of gravel that may be tracked out on intersecting roads at facility access points.

[Final Order on ASC, Public Services Condition 6; [AMD5](#)]

PRE-PS-02	<p>Before beginning construction, the certificate holder must enter into Road Use Agreements with the Morrow County and Umatilla County Public Works Department. The Agreements must include, at a minimum, a pre-construction assessment of road surfaces under Morrow County and Umatilla County jurisdiction, construction monitoring, and post-construction inspection and repair. A copy of the Road Use Agreements with Morrow County and Umatilla County must be submitted to the department before beginning construction. If required by Morrow County or Umatilla County, the certificate holder shall post bonds to ensure funds are available to repair and maintain roads affected by the facility.</p> <p>[Final Order on ASC, Public Services Condition 7: AMD5]</p>
PRE-PS-03	<p>The certificate holder shall design and construct new access roads and private road improvements to standards approved by Umatilla County or Morrow County. Where modifications of county roads are necessary, the certificate holder shall construct the modifications entirely within the county road rights-of-way and in conformance with county road design standards subject to the approval of the Umatilla County and Morrow County Public Works Departments.</p> <p>[Final Order on ASC, Public Services Condition 8: AMD5]</p>
PRE-PS-04	<p>Before beginning construction, the certificate holder shall submit to the Federal Aviation Administration (FAA) and the Oregon Department of Aviation an FAA Form 7460-1 Notice of Proposed Construction or Alteration for each turbine. Before beginning construction, the certificate holder shall submit to the department the results of the Oregon Department of Aviation aeronautical study and determination. If the department, in consultation with the Oregon Department of Aviation, determines that any turbine would adversely impact an airport's ability to provide service by obstructing the airport's primary or horizontal surface, the department, in consultation with the Oregon Department of Aviation and the certificate holder, shall determine appropriate mitigation, if any, prior to construction.</p> <p>[Final Order on ASC, Public Services Condition 9]</p>

PRE-PS-05	<p>Prior to construction, the certificate holder shall prepare an Emergency Management Plan that includes the procedures and actions described in this order and in ASC Exhibit U. The certificate holder shall submit the plan to ODOE for review and approval in consultation with the appropriate local fire protection districts (including the City of Heppner Volunteer Fire Department, and Lone Rural Fire Protection District, and Echo Rural Fire Protection District) prior to construction. The plan shall be maintained onsite and implemented throughout construction and operation of the facility. Any updates to the plan shall be provided to the department within 30 days. All onsite workers shall be trained on the fire prevention and safety procedures contained in the plan prior to working on the facility.</p> <p>Additional information that shall be included in the plan:</p> <ul style="list-style-type: none"> a. Current contact information of at least two facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site. The contact information must include name, telephone number(s), physical location, and email address for the listed contact(s). An updated list must be provided to the fire protection agencies immediately upon any change of contact information. A copy of the contact list, and any updates as they occur, must also be provided to the Department, along with a list of the agencies that received the contact information. b. Identification of agencies that participated in developing the plan; c. Identification of agencies that are designated as first response agencies or are included in any mutual aid agreements with the facility; d. A list of any other mutual aid agreements or fire protection associations in the vicinity of the facility; e. Contact information for each agency listed above; f. Communication protocols for both routine and emergency events and the incident command system to be used in the event a fire response by multiple agencies is needed at the facility; g. Access and fire response at the facility site during construction and operations. Fire response plans during construction should address regular and frequent communication amongst the agencies regarding the number and location of construction sites within the site boundary, access roads that are completed and those still under construction, and a temporary signage system until permanent addresses and signs are in place; h. The designated meeting location in case of evacuation; i. Staff training requirements; and <p>Copies of mutual aid, fire protection association, or other agreements entered into concerning fire protection at the facility site.</p> <p>[Final Order on ASC, Public Services Condition 13; AMD5]</p>
PRE-PS-06	<p>Before beginning construction, the certificate holder shall develop and implement, or require its contractors to develop and implement, a site health and safety plan that informs workers and others onsite about first aid techniques and what to do in case of an emergency. The health and safety plan will include preventative measures, important telephone numbers, the locations of onsite fire extinguishers, and the names, locations and contact information of nearby hospitals. All onsite workers shall be trained in safety and emergency response, as per the site health and safety plan. The site health and safety plan must be updated on an annual basis, maintained throughout the construction and operations and maintenance phases of the facility, and available upon request by the department.</p> <p>[Final Order on ASC, Public Services Condition 20]</p>

PRE-PS-07	<p>Before beginning construction, the certificate holder shall ensure that all construction workers are certified in first aid, cardio pulmonary resuscitation (CPR), and the use of an automated external defibrillator (AED). The certificate holder must retain records of the certifications and provide them to the department upon request. The certificate holder shall also ensure that an AED is available onsite at all times that construction activities are occurring.</p> <p>[Final Order on ASC, Public Services Condition 21]</p>
STANDARD: WASTE MINIMIZATION (WM,) [OAR 345-022-0120]	
PRE-WM-01	<p>Prior to construction, the certificate holder shall develop a construction waste management plan, to be implemented during all phases of facility construction, which includes at a minimum the following details:</p> <ol style="list-style-type: none"> Specification of the number and types of waste containers to be maintained at construction sites and construction yards Description of waste segregation methods for recycling or disposal. Names and locations of appropriate recycling and waste disposal facilities, collection requirements, and hauling requirements to be used during construction. <p>The certificate holder shall maintain a copy of the construction waste management plan onsite and shall provide to the department a report on plan implementation in the 6-month construction report required pursuant to OAR 345-026-0080(1)(a).</p> <p>[Final Order on ASC, Waste Minimization Condition 2]</p>
PRE-WM-02	<p>Prior to construction, the certificate holder shall investigate and confirm that no surface waters, shallow groundwater, or drinking water sources will be adversely impacted by the usage of concrete washout water in the foundations of facility components, and shall submit an investigation report to the department. Prior to construction, the department, in consultation with DEQ, shall review the results of the investigation report and shall verify that the plan to dispose of concrete washout water in the foundations of facility components is unlikely to adversely impact surface waters, shallow groundwater, or drinking water sources. The applicant's investigation shall be based on the anticipated final facility layout and design. If the results of the investigation show that the proposed concrete washout water disposal method would cause adverse impacts to surface water, shallow groundwater, or drinking water sources, the applicant shall propose mitigation measures to reduce potential impacts, for review and approval by the department in consultation with DEQ, prior to construction.</p> <p>[Final Order on ASC, Waste Minimization Condition 3]</p>
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]	
PRE-TL-01	<p>Prior to construction, the certificate holder shall schedule a time to brief the OPUC Safety, Reliability, and Security Division (Safety) Staff as to how it will comply with OAR Chapter 860, Division 024 during design, construction, operations, and maintenance of the facilities.</p> <p>[Final Order on ASC, Siting Standard Condition 2]</p>

STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

PRE-NC-01

Prior to construction, the certificate holder shall provide to the department:

- a. Information that identifies the final design locations of all facility components to be built at the facility;
- b. The maximum sound power level for the facility components and the maximum sound power level and octave band data for the turbine type(s), transformers (substation ~~and solar array~~), invertors, ~~AC- and DC-coupled~~ battery storage cooling system selected for the facility based on manufacturers' warranties or confirmed by other means acceptable to the department;
- c. The results of the noise analysis of the final facility design performed in a manner consistent with the requirements of OAR 340-035-0035(1)(b)(B) (iii)(IV) and (VI). The analysis must demonstrate to the satisfaction of the department that the total noise generated by the facility (including turbines, transformers, invertors, ~~AC- and DC-coupled~~ battery storage cooling systems) would meet the ambient noise degradation test and maximum allowable test at the appropriate measurement point for all potentially-affected noise sensitive properties, or that the certificate holder has obtained the legally effective easement or real covenant for expected exceedances of the ambient noise degradation test described (d) below. The analysis must also identify the noise reduction operation (NRO) mode approach that will be used during facility operation and include a figure that depicts the turbines that will be operating in NRO mode and the associated dBA reduction level; if required to meet the maximum allowable decibel threshold of 50 dBA; and,
- d. For each noise-sensitive property where the certificate holder relies on a noise waiver to demonstrate compliance in accordance with OAR 340-035-0035(1)(b)(B)(iii)(III), a copy of the legally effective easement or real covenant pursuant to which the owner of the property authorizes the certificate holder's operation of the facility to increase ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA at the appropriate measurement point. The legally effective easement or real covenant must: include a legal description of the burdened property (the noise sensitive property); be recorded in the real property records of the county; expressly benefit the property on which the wind energy facility is located; expressly run with the land and bind all future owners, lessees or holders of any interest in the burdened property; and not be subject to revocation without the certificate holder's written approval.

[Final Order on ASC; AMD3; Noise Control Condition 2; ~~AMD5~~]

4.4 Construction (CON) Conditions

Condition Number	Construction (CON) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
CON-SP-01	During construction, the certificate holder shall conduct all work in compliance with a final Erosion and Sediment Control Plan (ESCP) that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C. [Final Order on ASC, Soil Protection Condition 1]
CON-SP-02	During construction, the erosion and sediment control best management practices and measures as described in ASC Exhibit I, Section 5.2 and listed in the final order approving the site certificate shall be included and implemented as part of the final ESCP. [Final Order on ASC, Soil Protection Condition 2]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
CON-LU-01	During construction, the certificate holder shall comply with the following requirements: <ul style="list-style-type: none"> a. Construction vehicles shall use previously disturbed areas including existing roadways and tracks. b. Temporary construction yards and laydown areas shall be located within the future footprint of permanent structures to the extent practicable. c. New, permanent roadways will be the minimum width allowed while still being consistent with safe use and satisfying county road and safety standards. d. Underground communication and electrical lines will be buried within the area disturbed by temporary road widening to the extent practicable. [Final Order on ASC, Land Use Condition 8]
CON-LU-02	During construction, the certificate holder shall install smooth turbine tower structures and turbine nacelles that lack perching or nesting opportunities for birds. [Final Order on ASC, Land Use Condition 17]
CON-LU-03	During construction, the certificate holder shall install the electrical cable collector system underground, where practicable. In agricultural areas, the collector system lines must be installed at a depth of 3 feet or deeper as necessary to prevent adverse impacts on agriculture operations. In all other areas, the collector system lines must be installed a minimum of 3 feet where practicable. [Final Order on ASC, Land Use Condition 19]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
CON-FW-01	No construction shall occur in mule deer winter range during winter, defined as December 1 to March 31. Mule deer winter range is based on data to be provided by ODFW at the time of construction. Upon request by the certificate holder, the Department may provide exceptions to this restriction. The certificate holder's request must include a justification for the request including any actions the certificate holder will take to avoid, minimize or mitigate impacts to mule deer winter range during winter in the relevant area. The Department will consult with ODFW on any request made under this condition. [Final Order on ASC, Fish and Wildlife Habitat Condition 3; AMD4]

CON-FW-02	<p>Prior to construction, the certificate holder shall develop a construction plan that demonstrates construction activities within 0.25-mile of previously identified active nest sites are scheduled to avoid the sensitive nesting and breeding season. Previously identified active nest sites are those identified through the pre-construction raptor nest survey as required through Condition PRE-FW-01 and may also include any previously identified active nest sites from previous surveys.</p> <p>During construction within the time periods listed below, the certificate holder shall implement buffer zones around active nest sites of the species listed below. Active nest sites shall be identified based on the Condition PRE-FW-01 pre-construction nest survey and be monitored during construction by a biological monitor, both of which shall be based on a protocol approved by the Department in consultation with ODFW- specifying methodology and frequency of monitoring. No ground-disturbing activities within the buffer zone shall occur during the seasonal restrictions. The construction workforce and facility employees must be provided maps with the locations of the buffer zones and be instructed to avoid ground-disturbing activity within the buffer zone during construction activities.</p> <table><tr><th>Sensitive Status Species</th><th>Buffer Size (Radius Around Nest Site):</th><th>Sensitive Nesting and Breeding Season :</th></tr><tr><td>Western burrowing owl</td><td>0.25 mile</td><td>April 1 to August 15</td></tr><tr><td>Ferruginous hawk</td><td>0.25 mile</td><td>March 15 to August 15</td></tr><tr><td>Swainson’s hawk</td><td>0.25 mile</td><td>April 1 to August 15</td></tr></table> <p>If avoidance within the buffer restrictions cannot be maintained, the certificate holder may request approval from the Department in consultation with ODFW on a mitigation and conservation strategy for condition compliance. [Final Order on ASC; AMD3 Fish and Wildlife Habitat Condition 5; <u>AMD4</u>]</p>	Sensitive Status Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season :	Western burrowing owl	0.25 mile	April 1 to August 15	Ferruginous hawk	0.25 mile	March 15 to August 15	Swainson’s hawk	0.25 mile	April 1 to August 15
Sensitive Status Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season :											
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Swainson’s hawk	0.25 mile	April 1 to August 15											
CON-FW-03	<p>During construction, the certificate holder shall employ a qualified environmental professional to provide environmental training to all personnel prior to working onsite, related to sensitive species present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements and other environmental issues. All personnel shall be given clear maps showing areas that are off-limits for construction, and shall be prohibited from working outside of the areas in the site boundary that have been surveyed and approved for construction. The certificate holder shall instruct construction personnel to report any injured or dead wildlife detected while on the site to the appropriate onsite environmental manager. Records of completed training shall be maintained onsite and made available to the department upon request.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 7]</p>												
CON-FW-04	<p>During construction, the certificate holder shall employ at a minimum one environmental inspector to be onsite daily. The environmental inspector shall oversee permit compliance and construction, and ensure that known sensitive environmental resources are protected. The environmental inspector shall prepare a weekly report during construction, documenting permit compliance and documenting any corrective actions taken. Reports shall be kept on file and available for inspection by the department upon request.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 9]</p>												

STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]

CON-HC-01

Prior to construction activities, the certificate holder must flag or otherwise mark a 200-foot avoidance buffer around historic archaeological sites, as identified by the maps and drawings prepared in accordance with Historic, Cultural, and Archeological Resources Conditions 1 and 2. No disturbance is allowed within the buffer zones, unless resources assumed likely NRHP eligible (e.g. 6B2H-MC-ISO-17, WR11-BB-IS-01, WR11-DM-04) are concurred not likely NRHP eligible through SHPO review; or, a Historic, Cultural, and Archaeological Resources mitigation plan is submitted and accepted by the Department and SHPO which includes measures such as: additional archival and literature review; video media publications; public interpretation funding; or other form of compensatory mitigation deemed appropriate by the Department, in consultation with SHPO. For historic archaeological sites, an archeological monitor must be present if construction activities are required within 200-feet of sites identified as potentially eligible for listing on the National Register of Historic Places (NRHP) unless otherwise agreed to by the Department and SHPO. The certificate holder may use existing private roads within the buffer areas but may not widen or improve private roads within the buffer areas. The no-entry restriction does not apply to public road rights-of-way within buffer areas. Flagging or marking must be removed immediately upon cessation of activities in the area that pose a threat of disturbance to the site being protected.

[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 3; AMD4]

CON-HC-02	<p>During construction, the certificate holder shall ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archeological or cultural resources are found during construction of the facility until a qualified archeologist can evaluate the significance of the find. The certificate holder shall notify the department and the Oregon State Historic Preservation Office (SHPO) of the find. If ODOE, in consultation with SHPO, determines that the resource meets the definition of an archaeological object, archaeological site, or is eligible or likely to be eligible for listing on the (NRHP), the certificate holder shall, in consultation with the department, SHPO, interested Tribes and other appropriate parties, make recommendations to the Council for mitigation, including avoidance, field documentation and data recovery. The certificate holder shall not restart work in the affected area until the department, in consultation with SHPO, agree that the certificate holder has demonstrated that it has complied with archeological resources protection regulations.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 5]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
CON-PS-01	<p>During construction, the certificate holder shall include the following additional measures in the construction waste management plan required by Waste Minimization Condition 2:</p> <ol style="list-style-type: none"> Recycling steel and other metal scrap. Recycling wood waste. Recycling packaging wastes such as paper and cardboard. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler or by using facility equipment and personnel to haul the waste. Waste hauling by facility personnel within Morrow County shall be performed in compliance with the Morrow County Solid Waste Management Ordinance, which requires that all loads be covered and secured. Segregating all hazardous and universal wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous and universal wastes. Discharging concrete truck rinse-out within foundation holes, completing truck wash-down off-site, and burying other concrete waste as fill on-site whenever possible. <p>[Final Order on ASC, Public Services Condition 3]</p>
CON-PS-02	<p>During construction of the facility, the certificate holder shall provide for 24-hour on-site security, and shall establish effective communications between on-site security personnel and the Morrow County Sheriff's Office and Umatilla County Sheriff's Office.</p> <p>[Final Order on ASC, Public Services Condition 10; AMD5]</p>
CON-PS-03	<p>During construction of the facility, the certificate holder shall ensure that turbine construction personnel are trained and equipped for fall protection, high angle, and confined space rescue. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 14]</p>
CON-PS-04	<p>During construction, the certificate holder shall design turbines to be constructed on concrete pads with a minimum of 10 feet of nonflammable and non-erosive ground cover on all sides. The certificate holder shall cover turbine pad areas with nonflammable, non-erosive material immediately following exposure during construction and shall maintain the pad area covering during facility operation.</p> <p>[Final Order on ASC, Public Services Condition 16]</p>

CON-PS-05	<p>During construction the certificate holder must maintain an area clear of vegetation for fire prevention around construction sites, including turbines and towers and any areas where work includes welding, cutting, grinding, or other flame- or spark-producing operations.</p> <p>[Final Order on ASC, Public Services Condition 17]</p>
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
CON-WM-01	<p>During construction, the certificate holder shall require construction contractors to complete the following for any off-site disposal of excess soil during construction activities:</p> <ol style="list-style-type: none"> Obtain and provide the certificate holder with a signed consent agreement between contractor and the party receiving the earth materials authorizing the acceptance and disposal of the excess soil; and, Confirm that all disposal sites have been inspected and approved by the certificate holder's environmental personnel to ensure that sensitive environmental resources, such as wetlands or high quality habitats, would not be impacted. <p>The certificate holder shall maintain copies of all signed consent agreements and disposal site inspection and approvals onsite and shall provide to the department in the 6-month construction report required pursuant to OAR 345-026-0080(1)(a).</p> <p>[Final Order on ASC, Waste Minimization Condition 1]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
CON-WF-01	<p>During construction, the certificate holder shall install pad-mounted step-up transformers at the base of each tower in steel boxes designed to protect the public from electrical hazards.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 1]</p>
CON-WF-02	<p>Prior to and during operations the certificate holder shall:</p> <ol style="list-style-type: none"> Install and maintain self-monitoring devices on each turbine, linked to sensors at the operations and maintenance building, connected to a fault annunciation panel or supervisory control and data acquisition (SCADA) system to alert operators to potentially dangerous conditions. The certificate holder shall maintain automatic equipment protection features in each turbine that would shut down the turbine and reduce the chance of a mechanical problem causing a fire. The certificate holder shall immediately remedy any dangerous conditions. Submit to the Department materials or other documentation demonstrating the facility's operational safety-monitoring program and cause analysis program, for review and approval. The program shall, at a minimum, include requirements for regular turbine blade and turbine tower component inspections and maintenance, based on wind turbine manufacturer recommended frequency. The certificate holder shall document inspection and maintenance activities including but not limited to date, turbine number, inspection type (regular or other), turbine tower and blade condition, maintenance requirements (i.e. equipment used, component repair or replacement description, impacted area location and size), and wind turbine operating status. This information shall be submitted to the Department pursuant to OAR 345-026-0080 in the facility's annual compliance report. In the event of blade or tower failure, the certificate holder shall report the incident to the Department within 72 hours, in accordance with OAR 345-026-0170(1), and shall, within 90-days of blade or tower failure event, submit a cause analysis to the Department for its compliance evaluation. <p>[Final Order on ASC;AMD3; Public Health and Safety Standards for Wind Facilities Condition 4]</p>

STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]

CON-TL-01

During construction, the certificate holder shall take reasonable steps to reduce or manage human exposure to electromagnetic fields and submit verification to the Department, including:

- a. Constructing all aboveground collector and transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line.
- b. Constructing all aboveground 34.5-kV transmission lines with a minimum clearance of 25 feet from the ground.
- c. ~~Constructing all aboveground 230-kV transmission lines with a minimum clearance of 30 feet from the ground.~~
- d. Developing and implementing a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, irrigation systems, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line (OAR 345-025-0010(4)).
- e. Providing to landowners a map of underground, with any applicable NESC demarking for underground facilities, and overhead transmission lines on their property and advising landowners of possible health and safety risks from induced currents caused by electric and magnetic fields.
- f. Designing and maintaining all transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.
- g. Increasing the ~~intraconnection~~ transmission line height, shielding the electric field, or installing access barriers, if needed, to prevent induced current and nuisance shock of mobile vehicles.
- h. Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable.
- i. Designing, constructing and operating the transmission line in accordance with the requirements of the version of the National Electrical Safety Code that is most current at the time that final engineering of each of these components is completed (OAR 345-025-0010(4)).
- j. Implement a safety protocol to ensure adherence to NESC grounding requirements

[Final Order on ASC, Siting Standard Condition 1; AMD4; ~~AMD5~~]

STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

CON-NC-01

During construction, to reduce construction noise impacts at nearby residences, the certificate holder shall:

- a. Establish and enforce construction site and access road speed limits;
- b. Utilize electrically-powered equipment instead of pneumatic or internal combustion powered equipment, where feasible;
- c. Locate material stockpiles and mobile equipment staging, parking, and maintenance areas as far as practicable away from noise sensitive properties;
- d. Utilize noise-producing signals, including horns, whistles, alarms, and bells for safety warning purposes only;
- e. Equip all noise-producing construction equipment and vehicles using internal combustion engines with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment; and,
- f. Establish a noise complaint response system. All construction noise complaints will be logged within 48 hours of issuance. The construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to the start of construction that will allow for resolution of noise problems that cannot be resolved by the site supervisor in a reasonable period of time. Records of noise complaints during construction must be made available to authorized representatives of the department upon request.

[Final Order on ASC, Noise Control Condition 1]

4.5 Pre-Operational (PRO) Conditions

Condition Number	Pre-Operational (PRO) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRO-SP-01	<p>Prior to beginning facility operation, the certificate holder shall provide the Department a copy of an operational SPCC plan, if required per DEQ's Hazardous Waste Program. If an SPCC plan is not required, the certificate holder shall prepare and submit to the Department for review and approval an operational Spill Prevention and Management plan. The Spill Prevention and Management Plan shall include at a minimum the following procedures and BMPs:</p> <ul style="list-style-type: none"> • Procedures for oil and hazardous material emergency response consistent with OAR 340, Division 100-122 and 142 • Procedures demonstrating compliance with all applicable local, state, and federal environmental laws and regulations for handling hazardous materials used onsite in a manner that protects public health, safety, and the environment • Current inventory (type and quantity) of all hazardous materials stored onsite, specifying the amounts at each O&M building, substation and battery storage system components • Restriction limiting onsite storage of diesel fuel or gasoline • Requirement to store lubricating and dielectric oils in quantities equal to or greater than 55-gallons in qualified oil-filled equipment • Preventative measures and procedures to avoid spills <ul style="list-style-type: none"> ○ Procedures for chemical storage ○ Procedures for chemical transfer ○ Procedures for chemical transportation ○ Procedures for fueling and maintenance of equipment and vehicles ○ Employee training and education • Clean-up and response procedures, in case of an accidental spill or release • Proper storage procedures • Reporting procedures in case of an accidental spill or release <p>[Final Order on ASC, Soil Protection Condition 5; AMD2; AMD5]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
PRO-PS-01	<p>Prior to operation of the facility, the certificate holder shall ensure that operations personnel are trained and equipped for fall protection and tower rescue, including high angle and confined space rescue. Refresher training in high angle and confined space rescue must be provided to operations personnel on an annual basis throughout the operational life of the facility. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 15]</p>
PRO-PS-02	<p>Before beginning operation of the facility, the certificate holder must provide a final site plan to the identified fire protection districts and first-responders included in the Emergency Management Plan. The certificate holder must indicate on the site plan the identification number assigned to each turbine and the actual location of all facility structures. The certificate</p>

	holder shall provide an updated site plan if additional turbines or other structures are later added to the facility. [Final Order on ASC, Public Services Condition 19]
PRO-PS-03	Prior to operation, the certificate holder must ensure that operations personnel remain current in their first aid/CPR/AED certifications throughout the operational life of the facility. The certificate holder must retain records of the certifications and provide them to the department upon request. The certificate holder shall also ensure that an AED is available onsite at all times that operations and maintenance personnel are at the facility. [Final Order on ASC, Public Services Condition 22]

4.6 Operational (OPR) Conditions

Condition Number	Operational (OPR) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
OPR-GS-01	<p>The certificate holder shall submit a legal description of the site to the Oregon Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.</p> <p>[Final Order on ASC, Mandatory Condition 1] [OAR 345-025-0006(2)]</p>
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
OPR-SP-01	<p>During facility operation, the certificate holder shall:</p> <ol style="list-style-type: none"> Routinely inspect and maintain all facility components including roads, pads, and other facility components and, as necessary, maintain or repair erosion and sediment control measures and reduce potential facility contribution to erosion. Restrict vehicles to constructed access roads, and ensure material laydown or other maintenance activities occur within graveled areas or within the maintenance area of the O&M buildings to avoid unnecessary compaction, erosion, or spill risk to the area surrounding the facility. If in order to serve the operational needs of the energy facility, or related and supporting facilities, the certificate holder intends to substantially modify an existing road or construct a new road, the certificate holder must submit and receive Council approval of an amendment to the site certificate prior to the modification or construction. <p>[Final Order on ASC, Soil Protection Condition 6]</p>
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR-LU-01	<p>Within one month of commencement of commercial operation, the certificate holder shall submit an as-built survey for each construction phase that demonstrates compliance with the setback requirements in Land Use Condition 1 to the department and Morrow County.</p> <p>[Final Order on ASC, Land Use Condition 2]</p>
OPR-LU-02	<p>During operation of the facility, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities using the same methods and monitoring procedures described in the final Revegetation Plan referenced in Fish and Wildlife Habitat Condition 11.</p> <p>[Final Order on ASC, Land Use Condition 10]</p>
OPR-LU-03	<p>Before beginning decommissioning activities, the certificate holder must provide a copy of the final retirement plan to Morrow County and Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 23; AMD5]</p>
OPR-LU-04	<p>Before beginning electrical production, the certificate holder shall prepare an Operating and Facility Maintenance Plan (Plan) and submit the Plan to the department for approval in consultation with Umatilla and Morrow Counties.</p> <p>[Final Order on ASC, Land Use Condition 25; AMD5]</p>

OPR-LU-05	Within 90 days of the commencement of electrical service from Wheatridge East, the certificate holder shall provide a summary of as-built changes to the department and Umatilla County. [Final Order on ASC, Land Use Condition 26]
OPR-LU-06	<p>Prior to facility retirement, the certificate holder must include the following minimum restoration activities in the proposed final retirement plan it submits to the Council pursuant to OAR 345-027-04110 or its equivalent:</p> <ol style="list-style-type: none"> 1. Dismantle turbines, towers, pad mounted transformers, meteorological towers and related aboveground equipment, and remove concrete pads to a depth of at least three feet below the surface grade. 2. Remove underground collection and communication cables that are buried less than three feet in depth and are deemed by Council to be a hazard or a source of interference with surface resource uses. 3. Remove gravel from areas surrounding turbine pads. 4. Remove and restore private access roads unless the landowners directs otherwise. 5. Following removal of facility components, grade disturbed areas as close as reasonably possible to the original contours and restore soils to a condition compatible with farm uses or other resources uses. 6. Revegetate disturbed areas in consultation with the land owner and in a manner consistent with the final Revegetation Plan referenced in Fish and Wildlife Habitat Condition 11. 7. If the landowner wishes to retain certain facilities, provide a letter from the land owner that identifies the roads, cleared pads, fences, gates and other improvements to be retained and a commitment from the land owner to maintain the identified facilities for farm or other purposes permitted under the applicable zone. <p>[Final Order on ASC, Land Use Condition 27]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
OPR-RF-01	<p>During facility operation, the certificate holder shall:</p> <ol style="list-style-type: none"> (a) Conduct monthly inspections of the battery storage systems, in accordance with manufacturer specifications. The certificate holder shall maintain documentation of inspections, including any corrective actions, and shall submit copies of inspection documentation in its annual report to the Department. (b) Provide evidence in its annual report to the Department of active property coverage under its commercial business insurance from high loss-catastrophic events, including but not limited to, onsite fire or explosion. <p>[Final Order on AMD2, Retirement and Financial Assurance Condition 6]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
OPR-PS-01	During operation of the facility, the certificate holder shall discharge sanitary wastewater generated at the O&M buildings to licensed on-site septic systems in compliance with State permit requirements. The certificate holder shall design each septic system for a discharge capacity of less than 2,500 gallons per day. [Final Order on ASC, Public Services Condition 1]
OPR-PS-02	<p>Except as provided in this condition, during facility operation, the certificate holder shall obtain water for on-site uses from on-site wells located near the O&M buildings. The certificate holder shall construct on-site wells subject to compliance with the provisions of ORS 537.765 relating to keeping a well log. The certificate holder shall not use more than 5,000 gallons of water per day from each of the two on-site wells. The certificate holder may obtain water from other sources for on-site uses subject to prior approval by the Department.</p>

[Final Order on ASC, Public Services Condition 2]	
OPR-PS-03	<p>(a) Prior to operation, the certificate holder shall submit to the Department for approval its Operational Waste Management Plan that includes but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Onsite handling procedure for operational replacement of damaged, defective or recalled lithium-ion batteries. The procedure shall identify applicable 49 CFR 173.185 provisions and address, at a minimum, onsite handling, packaging, interim storage, and segregation requirements. 2. Training employees to handle, replace, and store damaged, defective or recalled lithium-ion batteries; minimize and recycle solid waste. 3. Recycling paper products, metals, glass, and plastics. 4. Recycling used oil and hydraulic fluid. 5. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler or by using facility equipment and personnel to haul the waste. Waste hauling by facility personnel within Morrow County shall be performed in compliance with the Morrow County Solid Waste Management Ordinance, Section 5.000 Public Responsibilities, 5.010 Transportation of Solid Waste and 5.030 Responsibility for Propose Disposal of Hazardous Waste which requires that all loads be covered and secured and that operators be responsible for hazardous waste disposal in accordance with applicable regulatory requirements. 6. Segregating all hazardous and universal, non-recyclable wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights, lithium-ion batteries, lead-acid and nickel-cadmium batteries, and replaced, damaged, defective or recalled lithium-ion batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous and universal wastes. <p>(b) During operation, the certificate holder shall implement the approved Operational Waste Management Plan.</p> <p>[Final Order on ASC, Public Services Condition 4; AMD2]</p>
OPR-PS-04	<p>During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency at the facility site.</p> <p>[Final Order on ASC, Public Services Condition 12]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
OPR-WF-01	<p>During operation, the certificate holder shall ensure the each facility substation and battery storage systems are enclosed with appropriate fencing and locked gates to protect the public from electrical hazards.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 2; AMD2]</p>

STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]

OPR-TL-01	<p>During operation, the certificate holder shall:</p> <ol style="list-style-type: none">(1) Update the OPUC Safety Staff as to how the operator will comply with OAR Chapter 860, Division 024 on an ongoing basis considering future operations, maintenance, emergency response, and alterations until facility retirement.(2) File the following required information with the Commission:<ol style="list-style-type: none">a. 758.013 Operator of electric power line to provide Public Utility Commission with safety information; availability of information to public utilities. (1) Each person who is subject to the Public Utility Commission's authority under ORS 757.035 and who engages in the operation of an electric power line as described in ORS 757.035 must provide the commission with the following information before January 2 of each even-numbered year:<ol style="list-style-type: none">i. The name and contact information of the person that is responsible for the operation and maintenance of the electric power line, and for ensuring that the electric power line is safe, on an ongoing basis; andii. The name and contact information of the person who is responsible for responding to conditions that present an imminent threat to the safety of employees, customers and the public.iii. In the event that the contact information described in subsection (1) of this section changes or that ownership of the electric power line changes, the person who engages in the operation of the electric power line must notify the commission of the change as soon as practicable, but no later than within 90 days.iv. If the person described in subsection (1) of this section is not the public utility, as defined in ORS 757.005, in whose service territory the electric power line is located, the commission shall make the information provided to the commission under subsection (1) of this section available to the public utility in whose service territory the electric power line is located. [2013 c.235 §3](3) Provide OPUC Safety Staff with:<ol style="list-style-type: none">a. Maps and Drawings of routes and installation of electrical supply lines showing:<ul style="list-style-type: none">• Transmission lines and structures (over 50,000 Volts)• Distribution lines and structures - differentiating underground and overhead lines (over 600 Volts to 50,000 Volts)• Substations, roads and highways• Plan and profile drawings of the transmission lines (and name and contact information of responsible professional engineer). <p>[Final Order on ASC, Siting Standard Condition 3]</p>
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STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

OPR-NC-01	<p>During operation of the facility, if required to meet the maximum allowable decibel threshold of 50 dBA, the certificate holder shall only operate the facility in the NRO mode that is identified prior to construction pursuant to Noise Control Condition 2. After beginning operation of the facility, the certificate holder shall include a certification in its annual Compliance Report that the NRO mode turbines identified in the preconstruction analysis required by Noise Control Condition 2 are operating at or below the identified dBA reduction level.</p> <p>[Final Order on ASC, Noise Control Condition 3]</p>
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OPR-NC-02	<p>During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall notify the department within two working days of receiving a noise complaint related to the facility. The notification should include, but is not limited to, the date the certificate holder received the complaint, the nature of the complaint, the complainant's contact information, the location of the affected property, and any actions taken, or planned to be taken, by the certificate holder to address the complaint.</p> <p>[Final Order on ASC, Noise Control Condition 4]</p>
OPR-NC-03	<p>During operation, in response to a complaint from the owner of a noise sensitive property regarding noise levels from the facility, the Council may require the certificate holder to monitor and record the statistical noise levels to verify that the certificate holder is operating in compliance with the noise control regulations. The monitoring plan must be reviewed and approved by the department prior to implementation. The cost of such monitoring, if required, shall be borne by the certificate holder.</p> <p>[Final Order Noise Control Condition 5]</p>

4.7 Retirement Conditions (RET)

Condition Number	Retirement (RET) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET-RF-01	<p>The certificate holder must retire the facility in accordance with a retirement plan approved by the Council if the certificate holder permanently ceases construction or operation of the facility. The retirement plan must describe the activities necessary to restore the site to a useful, nonhazardous condition, as described in OAR 345-025-0006(9). After Council approval of the plan, the certificate holder must obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site.</p> <p>[Final Order Retirement and Financial Assurance Condition 2] [Mandatory Condition OAR 345-025-0006(9)]</p>
RET-RF-02	<p>If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-025-0006(9), the Council must notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the department to prepare a proposed final retirement plan for the Council's approval.</p> <p>Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, nonhazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder must pay any additional cost necessary to restore the site to a useful, nonhazardous condition. After completion of site restoration, the Council must issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.</p> <p>[Final Order Retirement and Financial Assurance Condition 3] [Mandatory Condition OAR 345-025-0006(16)]</p>

5.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-04100.

6.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

7.0 Execution

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council, ~~and by~~ Wheatridge Wind Energy, LLC (certificate holder), and NEER (certificate holder/certificate holder owner).

ENERGY FACILITY SITING COUNCIL

By: _____
Hanley Jenkins, II, Chair

Oregon Energy Facility Siting Council

Date: _____

WHEATRIDGE WIND ENERGY, LLC

By: _____
Matthew Handel, Vice President
Development, NextEra Energy Resources,
LLC on behalf of Wheatridge Wind Energy,
LLC

Date: _____

Attachment A
~~Wind Facility and Solar~~
~~Facility~~ WREFI Site Boundary
Maps (Figure 1 and 1.1, RFA
5 Wheatridge Wind Energy
Facility ~~ASC Exhibit C, Figure~~
~~C-2 and RFA4~~)

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

**~~Fourth Amended~~ Site
Certificate for the
Wheatridge ~~Wind Renewable~~
Energy Facility II**

ISSUANCE DATES

Site Certificate	TBD April 28, 2017
First Amended Site Certificate	July 27, 2017
Second Amended Site Certificate	November 16, 2018
Third Amended Site Certificate	December 14, 2018
Fourth Amended Site Certificate	November 22, 2019

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WHEATRIDGE ~~WIND~~ RENEWABLE ENERGY FACILITY II SITE CERTIFICATE

Attachments

Attachment A Facility Site Boundary Map

Acronyms and Abbreviations

ASC	Application for Site Certificate
Council	Oregon Energy Facility Siting Council
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
ESCP	Erosion and Sediment Control Plan
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statute
NRHP	National Register of Historic Places
WGS	Washington Ground Squirrel

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council), and Wheatridge Wind ~~II Energy~~, LLC (certificate holder), and NextEra Energy Resources, LLC (NEER). Wheatridge Wind Energy, LLC which is a wholly-owned indirect subsidiary of NEER and NEER is the certificate holder owner, or in other words has control and possession of the certificate holder NextEra Energy Resources, LLC (NextEra or parent company). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing certificate holder to construct, operate and retire the Wheatridge ~~Wind Energy Renewable Energy~~ Facility II (facility) at the below described site within Morrow and Umatilla counties, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules (ORS 469.401(2)).

The findings of fact, reasoning and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, incorporated herein by this reference: (a) the *Final Order on the Application for Site Certificate for the Wheatridge Wind Energy Facility* issued on April 28, 2017 (hereafter, *Final Order on the Application*); (b) *Final Order on Request for Transfer* issued on July 27, 2017; *Final Order on Request for Amendment 3* issued on November 16, 2018; *Final Order on Request for Amendment 2* issued on December 14, 2018; ~~and~~ *Final Order on Request for Amendment 4* issued on November 22, 2019; and *Final Order on Request for Amendment 5* issued TBD. In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: ~~(1) *Final Order on Request for Amendment 5* (12)~~ *Final Order on Request for Amendment 4* ~~(23)~~ *Final Order on Request for Amendment 2*; ~~(34)~~ *Final Order on Request for Amendment 3*; ~~(45)~~ *Final Order on Request for Amendment 1*; ~~(56)~~ *Final Order on the Application*, and (6) the record of the proceedings that led to the above referenced orders. This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

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

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings

or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of this site certificate (ORS 469.430).

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

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

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-04010 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

2.0 Facility Location

The energy facility and its related ~~and~~ or supporting facilities are located within Morrow and Umatilla counties. The site boundary, as defined in OAR 345-001-0010, encompasses approximately ~~14,624~~ ~~11,742~~ 12,432 acres of private land and includes the perimeter of the energy facility site, its related and supporting facilities, all temporary laydown and staging areas and all transmission corridors and micrositings corridors proposed by the certificate holder, as approved by the Council.¹

The energy facility is divided into two groups, Wheatridge West and Wheatridge East. Wheatridge West is located entirely within Morrow County, bisected by Oregon Highway 207, approximately 5 miles northeast of Lexington and approximately 7 miles northwest of Heppner. Wheatridge East is located approximately 16 miles northeast of Heppner and includes land in both Morrow and Umatilla counties. Wheatridge West and Wheatridge East are connected via a 230 kV transmission line or “intraconnection” transmission line (see facility site boundary map provided in Attachment A).

2.1 Site Boundary

The site boundary encompasses a total of ~~14,624~~ ~~11,742~~ 12,432 acres of privately owned land: 2,956 acres in Wheatridge East, ~~10,042~~ 7,850 acres in Wheatridge West, and 1,626 acres in the intraconnection transmission line corridor. Table 1 identifies the Public Land Survey System sections in which the site boundary is located.

Table 1. Location of Site Boundary by Township, Range and Section

Township	Range	Section(s)
Wheatridge East		
1N	28E	4, 5, 8, 9, 16, 17, 21
2N	28E	2, 3, 9, 10, 11, 14, 15, 16, 21, 22, 27, 28, 29, 32, 33
Wheatridge West		
2N	25E	25, 26, 27, 34, 35, 36
1N	25E	1, 2, 11, 12, 13, 14, 15, 22, 23, 24
1N	26E	4, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 32, 33
1S	25E	1, 12
1S	26E	2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 34, 35, 36
2S	26E	1, 12
Intraconnection Corridor		
1S	27E	7, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24
1S	28E	3, 4, 7, 8, 9, 16, 17, 18
1N	28E	28, 33

¹ Energy facility site, as defined in OAR 345-001-0010(54), means all land upon which an energy facility is located or proposed to be located.

For this facility, the certificate holder requested that the site boundary represent the “micrositing corridor” for the placement of facility components to allow some flexibility in specific component locations and design in response to site-specific conditions and engineering requirements to be determined prior to construction. The Council permits final siting flexibility within a micrositing corridor when the certificate holder demonstrates that requirements of all applicable standards have been satisfied by adequately evaluating the entire corridor and location of facility components anywhere within the corridor.

2.2 Micrositing Corridors

The certificate holder requested flexibility to locate components of the energy facility and its related and supporting facilities within a micrositing corridor to allow adjustment of the specific location of components, while establishing outer boundaries of potential construction for purposes of evaluating potential impacts.

The site boundary contains two separate micrositing corridors, one for wind facility components and one for solar facility components. Micrositing corridors for wind turbines are a minimum of approximately 660 feet in width around turbines, and wider in some locations. The site boundary width around site access roads and electrical collection lines (collector lines) is narrower, between 200 feet and 500 feet in width. The micrositing corridor is wider for the area surrounding the substations, meteorological towers (met towers), the operation and maintenance (O&M) buildings, and construction yards.

Micrositing corridors for solar facility components, as presented in Figure 1 *Solar Micrositing Corridors* of this amended site certificate, include the area for Solar Array 1 and Solar Array 2, which includes private access roads, service roads, a 34.5 kV collection system, gates and perimeter security fence.

2.3 Intraconnection Transmission Line Corridor for the Wind Facility

The certificate holder obtained approval of four routing options associated with the wind facility for the 230 kV intraconnection transmission line that interconnects Wheatridge West and Wheatridge East for the transmission of generated power. The intraconnection transmission line corridor is approximately 1,000-feet in width and ranges in length from 24.5 to 31.5 miles, based upon the four approved transmission line route options.

The four approved transmission line route options range in length from 24.5 to 31.5 miles and would follow the same alignment for approximately 18 miles from the Wheatridge East substation to the crossing at Sand Hollow Road. For the remainder of the route, Options 1 and 3 traverse the same alignment, with Option 1 extending 7 miles longer than Option 3; Option 2 and 4 traverse the same alignment, with Option 2 extending 3.5 miles longer than Option 4. Option 1 and 2 differ for an approximately 4 mile segment located between Sand Hollow Road and the Wheatridge West substation (primary), with Option 2 traversing from Sand Hollow Road through the alternative (2b) Wheatridge West substation to the primary (1) Wheatridge West substation. The four approved routing options and associated transmission line corridors are presented in Attachment A of the site certificate (and are clearly delineated in figures provided in ASC Exhibit C).

3.0 Facility Description

The facility includes wind and solar energy generation components, each with related or supporting facilities. The energy generation capacity of the facility, with wind and solar components, at full build out by the specified construction completion deadlines is ~~650~~550 MW. Wind energy facility components are further described in Section 3.1 and 3.1.1 of this site certificate; solar energy facility components are further described in Section 3.2 and 3.2.1 of this site certificate.

3.1 Wind Energy Facility Components

The construction commencement deadline for the wind energy facility and its related or supporting facilities must begin by May 24, 2020 (under General Standard Condition 1 (GEN-GS-01) and construction of these components must be completed on or before May 24, 2023 (under General Standard Condition 2 (GEN-GS-02)).

Wind energy generation components include up to ~~292~~ 252 wind turbines with a total generating capacity up to ~~500~~ 400 MW. Wind turbines each consist of a nacelle, a three-bladed rotor, turbine tower and foundation. The nacelle houses the equipment such as the gearbox, generator, brakes, and control systems for the turbine. The total height of the turbine tower and blades (tip-height) ranges between 431 and ~~476~~99.7 feet, depending on the turbine model selected.

The base of each wind turbine tower foundation requires a cleared area (typically a gravel pad) up to 80 feet in diameter. The turbines are grouped in linear “strings” within the micrositing corridor and interconnect with a 34.5 kV electrical collection system (described below). Most wind turbine types include a generator step-up (GSU) transformer installed at the base of the tower that would be used to increase the voltage of the turbine to that of the electrical collection system. Table 2 shows the range of turbine specifications approved for use at the facility site.

Table 2: Approved Wind Turbine Dimensions

Specification	Maximum (ft)
Blade Length	204.1
Hub Height	291.3
Rotor Diameter	416.7
Total Height (tower height plus blade length)	499.7
Aboveground Blade-Tip Clearance	70.5
Wind turbine types with the maximum dimension specifications shall be equipped with Low Noise Trailing Edge blades.	

3.1.1 Related or Supporting Facilities to Wind Energy Facility Components

Related or supporting facilities to the wind energy facility components as described below must commence construction by May 24, 2020:

- Electrical collection system (includes up to ~~88~~ 68 miles of mostly underground 34.5 kV collector lines)
- Up to three collector substations
- Up to 32 miles of up to two overhead, parallel 230 kV transmission lines
- Up to ~~12~~ 10 permanent meteorological (met) towers
- Communication and Supervisory Control and Data Acquisition (SCADA) System
- Up to two operations and maintenance (O&M) buildings
- Up to ~~73~~ 61 miles of new or improved access roads
- Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas)
- Battery Storage Systems (20 and 30 MW, each located on up to 5 acres) and Interconnection Facilities

Construction of these related or supporting facilities must be complete by May 24, 2023.

Electrical Collection System

The electrical collection system includes up to ~~88~~ 68 miles of mostly underground 34.5 kV collector lines. Electrical connections are located underground or in enclosed junction boxes between the turbine and the pad-mounted GSU transformer. From the GSU transformer to the collector lines the connections are installed along and between the turbine strings to collect power generated by each wind turbine and to route the power to one of three collector substations, which step up the power from 34.5 kV to 230 kV.

The collector lines are underground, to the extent practicable, in trenches approximately three-feet wide and not less than two- to three-feet deep, generally alongside access roads, to minimize ground disturbance. Where land use and soil conditions make a buried depth of three-feet infeasible, collector lines may be buried at a depth of less than three feet, while still adhering to National Electrical Safety Code (NESC) standards.

Collector lines may be run overhead in situations where a buried cable would be infeasible or would create unnecessary impacts, such as at stream or canyon crossings. Overhead collector lines are supported by a wooden or steel pole structure. Each support pole has been buried approximately 6 feet in the ground and extends to a height of approximately 60 feet above ground, spaced 100 to 200 feet apart. Overhead collector lines are only anticipated in Wheatridge West. The facility includes up to 10.8 miles of overhead collector lines; however, the specific locations of overhead collector lines will not be known until site geotechnical work has been completed during pre-construction activities.

No more than ~~88~~ 68 miles of collector lines would be needed for wind facility components.

Collector Substations

The facility includes up to two substations within Wheatridge West and one substation within Wheatridge East. The proposed substation locations are presented in ASC Exhibit C. However, Wheatridge has requested, and Council grants, the ability to microsite the final location and number (up to three) of substations within the micrositing corridor.

Prior to construction, substation sites will be cleared and graded, with a bed of crushed rock applied for a durable surface. Each collector substation is located on a two- to ten-acre site, enclosed by a locked eight-foot tall wire mesh fence. Each substation consists of transformers, transmission line termination structures, a bus bar, circuit breakers and fuses, control systems, meters, and other equipment.

230 kV Intraconnection Transmission Line

The facility includes one or two parallel overhead 230 kV intraconnection transmission lines supported by H-frame or monopole structures constructed of either wood or steel that extends 24.5 to 31.5 miles in length, depending on the route option selected. The 230 kV overhead transmission line structures are approximately 60 to 150 feet tall and spaced approximately 400 to 800 feet apart depending on the terrain. Each transmission line route requires acquisition of an approximately 150-foot wide right-of-way from private landowners.

The four approved transmission line routing options and associated corridors for the intraconnection transmission line are described below (see Attachment A figure and figures contained in ASC Exhibit C):

- Option 1: Two Project Substations to Longhorn
 - This option runs from Substation 3 in Wheatridge East to Substation 1 in Wheatridge West and then to the proposed UEC/CB Strawberry substation, just to the west of Wheatridge West, for interconnection to a UEC or UEC/CB operated Gen-tie Line to the proposed BPA Longhorn substation. The intraconnection line route is 31.5 miles (50.5 kilometers) in length.
- Option 2: Three Project Substations to Longhorn (Final facility design with battery storage system would not include this routing option)
 - This option runs from Substation 3 in Wheatridge East to Substation 2b in Wheatridge West, then on to Substation 2a in Wheatridge West, and then to the proposed UEC/CB Strawberry substation, just west of Wheatridge West, for interconnection to a UEC or UEC/CB operated Gen-tie Line to the proposed BPA Longhorn substation. The intraconnection line route is 31.3 miles (50.3 kilometers) in length.
- Option 3: Two Project Substations to Stanfield
 - This option runs from Substation 1 in Wheatridge West to Substation 3 in Wheatridge East for interconnection to a UEC operated Gen-tie Line to the proposed BPA Stanfield substation. The intraconnection line route is 24.5 miles (39.4 kilometers) in length.
- Option 4: Three Project Substations to Stanfield (Final facility design with battery storage system would not include this routing option)

- This option runs from Substation 2a in Wheatridge West to Substation 2b in Wheatridge West, and then to Substation 3 in Wheatridge East for interconnection to a UEC operated Gen-tie Line to the proposed BPA Stanfield substation. The intraconnection line route is 27.8 miles (44.7 kilometers) in length.

Meteorological Towers

The facility includes up to ~~12~~10 permanent met towers. Up to five met towers are sited in Wheatridge East and up to seven met towers are sited in Wheatridge West for the collection of wind speed and direction data. Each met tower has a free-standing, non-guyed design and is approximately 328 feet (100 meters) in height. Installation of permanent met towers results in approximately 98-feet (30-meters) in diameter of temporary land disturbance per tower and approximately 32-feet (10-meter) in diameter of permanent land disturbance per tower. Permanent met towers are fitted with safety lighting and paint as required by the Federal Aviation Administration (FAA).

Communication and SCADA System

The facility includes a communication system, consisting of fiber optic and copper communication lines that connect the turbines, met towers, and substations to the O&M buildings. A SCADA system is installed in the O&M buildings to enable remote operation to collect operating data for each wind turbine, and to archive wind and performance data. SCADA system wires are collocated with the collector lines both in the underground trenches and overhead, if necessary.

O&M Buildings

The facility includes up to two O&M buildings, each located on up to 1.1 acres, one within Wheatridge East and one within Wheatridge West. Each O&M building consists of a single-story, prefabricated structure approximately 6,000 to 9,000 square feet in size, and includes an office, break room, kitchen, lavatory with shower, utility room, covered vehicle parking, storage for maintenance supplies and equipment, and SCADA system. A permanent, fenced, graveled parking and storage area for employees, visitors, and equipment is located adjacent to each O&M building. Each building is served by an on-site well and septic system and power supplied by a local service provider using overhead and/or underground lines.

Access Roads

Primary access to the facility site is from Interstate 84 (I-84) via Bombing Range Road or Oregon Route 207 (OR-207). The certificate holder completed improvements to existing public roads to accommodate construction activities, including flattening crests or filling dips, widening sharp corners, or adding road base material; the certificate holder is required to consult with the appropriate county road master on specific improvements prior to construction. The certificate holder committed to completing upgrade to existing roads according to applicable state and county road standards and after consultation with Morrow and Umatilla County staff. The certificate holder is required to implement a road use agreement with each county to specify requirements, including that all existing public roads used to access the site would be left in as good or better condition than that which existed prior to the start of construction.

Access to the turbines, construction yards, substations, and O&M buildings is from a network of private access roads constructed or improved by the certificate holder. The certificate holder will grade and gravel all newly constructed and improved site access roads to meet load requirements for heavy construction equipment, as necessary. Following turbine construction, the certificate holder will narrow the site access roads for use during operations and maintenance. The additional disturbed width required during construction will be restored following the completion of construction by removing gravel surfacing, restoring appropriate contours with erosion and stormwater control best management practices (BMPs), decompacting as needed, and revegetating the area appropriately.

In the maximum impact scenario, wind energy facility components will require up to 73 miles of access roads.

Temporary access roads were needed for the construction of the intraconnection transmission line(s). The intraconnection transmission line(s) can be constructed and maintained using only large trucks rather than heavy construction cranes, and construction will occur during the dry time of year when the ground surface is hard enough to support those vehicles. Therefore, the interconnection transmission lines do not include permanent access roads. The total mileage of the temporary access roads needed for constructing the intraconnection transmission line(s) depends on the intraconnection line route option chosen. The shortest route would require approximately 22.8 miles of access roads, while the longest would require approximately 25.5 miles.

Additional Construction Yards

The facility includes up to four temporary construction yards located within the site boundary to facilitate the delivery and assembly of material and equipment. The construction yards are used for temporary storage of diesel and gasoline fuels, which are located in an above-ground 1,000-gallon diesel and 500-gallon gasoline tank, within designated secondary containments areas.

Each construction yard occupies between 15 and 20 acres, and was graded and gravel surfaced. The certificate holder is required to restore all construction yards to pre-construction conditions unless an agreement with the landowner leads to some or all of the construction yard being retained after construction.

In addition, the certificate holder may utilize one or more temporary concrete batch plant areas, located within the construction yard area. The temporary concrete batch plants are permitted and operated by the selected contractor.

Battery Storage Systems and Interconnection Facilities (DC Coupled)

The battery storage systems associated with wind energy facility components include the following:

- Series of modular containers or a building per system (approximately 80 feet long, 100 feet wide and 15-20 feet tall for the 20 MW system); approximately 190 feet long, 100 feet wide and 15-20 feet tall for the 30 MW system)
 - Each system would contain lithium-ion batteries within battery modules placed in anchored racks within containers or building.

- Approximately eighteen 2.7 mega-voltampere (MVA) inverters with associated step up transformers with a combined footprint approximately 8 feet by 4 feet.
- Each system would be equipped with a gas pressured deluge fire suppression system, independent smoke detection system, and external fire water tank
- Each system would include a cooling system comprised of a bank of four power conditioning system fan units with motor
- Control house, approximately 16 feet by 11 feet, with an external heating, ventilation and air conditioning unit (HVAC)
- Protective device; skid-mounted power transformer; and bi-directional inverter

Battery and inverter equipment would be electrically connected via a combination of aboveground cable trays, underground conduit, and covered cable trenches. Site surfacing would remain primarily gravel. The battery storage systems would interconnect with facility substations via feeder lines.

3.2 Solar Energy Facility Components

The construction commencement deadline for the solar energy facility and its related or supporting facilities must begin by November 22, 2022 ~~DATE TBD [three years following effective site certificate date]~~ (under General Standard Condition 1 (GEN-GS-01) and construction of these components must be completed on or before November 22, 2025 ~~DATE TBD [three years from date of construction commencement]~~ (under General Standard Condition 2 (GEN-GS-02)).

Solar energy facility components include up to two solar arrays located within Wheatridge West, entirely within Morrow County, on Exclusive Farm Use zoned land. The solar arrays consist of photovoltaic panels mounted onto tracking modules and arranged in strings within the solar micrositing corridors. Strings of modules are connected by electrical collector lines and inverters that convert the direct current power generated by panels to alternating current power. Transformers placed near the inverters step up power to 34.5 kV for transmission to the Wheatridge West substation. The maximum layout including total number of modules, configuration, dimensions, total energy generating capacity and mounting system of solar array components shall be substantially as described in Request for Amendment 4.

Photovoltaic Modules and Racking

Each solar module is approximately 6 feet by 3 feet, placed on a nonspecular, galvanized steel rack. Each set of approximately 70 racked modules is mounted approximately 5 feet off the ground on a single-axis tracker that would rotate 60 degrees to the east and west. Each tracker is supported by steel posts; post depth varies depending on soil conditions, but the posts are typically placed 8 feet below the surface. The maximum of height of the modules at full tilt would be approximately 16 feet.

Combiner Boxes, Inverters and Transformers

The current produced by solar modules is in the form of direct current (DC). Within each module block, several DC electrical conduits (cables on the back of the modules) aggregate electricity produced from each of the modules into a combiner box. Approximately 18 combiner boxes are located throughout each module block for a total of approximately 740 combiner boxes. The photovoltaic modules are arranged into blocks, with each block connecting via collector lines to

approximately 41 modular inverter enclosures. Inverters convert DC current into alternating current (AC) power to then be transmitted to the grid. The inverter AC output voltage (480 volts) is stepped up to a higher voltage (34.5 kilovolts [kV]) by approximately 41 pad-mounted transformers designed to integrate with the inverter.

3.2.1 Related or Supporting Facility to Solar Energy Facility Components

Related or supporting facilities associated with the solar facility must begin construction by the dates described in General Standard Condition 1 (GEN-GS-01) and construction must be completed, substantially as described below, by the deadline stated in General Standard Condition 2 (GEN-GS-02).

Electrical Collection System

Electricity generated from the solar energy facility components are aggregated via underground 34.5 kV cables to an above- or belowground 34.5 kV collector line that interconnect to Wheatridge West collector substation. Underground AC electrical cables are buried to a minimum of 3 feet. Overhead collector lines are supported by a wooden or steel monopole structure, with foundations extending 6 feet in depth and structure height of approximately 60 feet above ground. The collection system also includes two 34.5 kV collector line routes outside of the perimeter fenceline; one route extends approximately 2.32 miles from Solar Array 1 to Wheatridge West collector substation. The second collector line interconnects Solar Array 1 to Solar Array 2 and extends approximately 0.66 miles along Bombing Range Road.

Service Roads, Gates, and Fencing

Service roads, approximately 16-feet wide, located within and around the perimeter of the proposed solar arrays, and within the solar micro-siting corridors, to facilitate access for construction and maintenance purposes. Vegetation is cleared and maintained along perimeter roads to provide a vegetation clearance area extending 100-feet wide for fire safety. Internal roads are all-weather, compacted gravel and approximately 20 feet wide, with an internal turning radius of 28 feet. Vegetation maintenance along solar array interior roads includes mowing to a height no more than 3 inches.

The perimeter service road is bordered by a 7 or 8-foot-high chain-link security fence. There is also a locked security entrance gates to allow vehicle and pedestrian access.

Wheatridge West Collector Substation Expansion

Wheatridge West collector substation (by Strawberry Lane) includes 10 acres, 5 of which accommodate electrical equipment such as an additional transformer, switches, protective relay and metering equipment needed to handle the power generated by the solar energy facility components.

Battery Storage System Sites – Distributed Locations (AC Coupled)

Solar energy facility components include approximately 41 distributed sites of sites of lithium-ion batteries housed within concrete containers or similar containment throughout and within the solar

array fencelines. Each container measures up to 12 feet wide, 36 feet long and 10 feet tall. Lithium-ion battery storage systems are modular systems. Each module contains multiple smaller battery cells, each measuring up to 3.2 by 7 centimeters. Modules are contained in anchored racks within the concrete containers; typically, each rack houses 12 battery modules along with a switchgear assembly. Cooling equipment is located either on top of the concrete containers or along the side.

3.3 Shared (WREFI and WREFII) Related or Supporting Facilities

The WREFI and Wheatridge Renewable Energy Facility II (WREFII) site certificates were originally approved as one site certificate for the Wheatridge Wind Energy Facility (April 2017). In May 2020, facility components were split or bifurcated into two separate site certificates, but identified that certain related or supporting facilities would be shared or used by both facilities. Sharing of facility components, or use by multiple facilities, is allowable in the EFSC process when the compliance obligation and applicable regulatory requirements for the shared facilities is adequately covered under both site certificates, including under normal operational circumstances, ceasing/termination of operation, emergencies and compliance issues or violations.

The certificate holder is authorized to share related or supporting facilities between the WREFI and WREFII facilities, including the Wheatridge West collector substation, SCADA system, battery storage system, temporary laydown areas, and access roads. These related or supporting facilities are included in both WREFI and WREFII site certificates. Compliance with site certificate conditions and EFSC standards which apply to these shared related or supporting facilities are shared between WREFI and WREFII site certificates and certificate holders. In accordance with Organizational Expertise Condition 11, if either certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, both certificate holders are obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future. Additionally, each certificate holder is obligated to demonstrate to the Department that a “Common Facilities Agreement” or similarly legally binding agreement has been fully executed between certificate holders to ensure approval and agreement of access to the shared resources has been obtained prior to operation of shared facilities.

4.0 Site Certificate Conditions

4.1 Condition Format

The conditions in Sections 4.2 through 4.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.)². The table below presents a “key” for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as “GS”; the Soil Protection standard is represented in the condition numbering as “SP” and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council’s General Standard of Review, and is condition number 1.

² The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.

4.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
GEN-GS-01	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Begin construction of wind facility components and its related or supporting facilities, by May 24, 2020. On or before May 24, 2020, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010. Begin construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2022). On or before November 22, 2022, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010. <p>[Final Order on ASC, General Standard Condition 1; AMD2; AMD4] [Mandatory Condition OAR 345-025-0006(4)]</p>
GEN-GS-02	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Complete construction of the wind facility components and its related or supporting facilities by May 24, 2023. The certificate holder shall promptly notify the Department of the date of completion of construction. Complete construction of solar facility components and its related or supporting facilities, as approved the Fourth Amended Site Certificate, by November 22, 2025. On or before November 22, 2025, the certificate holder shall promptly notify the Department of the date of completion of construction. <p>[Final Order on ASC, General Standard Condition 2; AMD2; AMD4] [Mandatory Condition OAR 345-025-0006(4)]</p>
GEN-GS-03	<p>The certificate holder shall design, construct, operate, and retire the facility:</p> <ol style="list-style-type: none"> Substantially as described in the site certificate; In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and In compliance with all applicable permit requirements of other state agencies. <p>[Final Order on ASC, Mandatory Condition 2] [OAR 345-025-0006(3)]</p>
GEN-GS-04	<p>Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and:</p>

	<ul style="list-style-type: none"> a. The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line or pipeline occurs during the certificate holder's negotiations to acquire construction rights on another part of the site; or b. The certificate holder would construct and operate part of a wind energy facility on that part of the site even if other parts of the facility were modified by amendment of the site certificate or were not built. <p>[Final Order on ASC, Mandatory Condition 3] [OAR 345-025-0006 (5)]</p>
GEN-GS-05	<p>If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the department describing the impact on the facility and any affected site certificate conditions.</p> <p>[Final Order on ASC, Mandatory Condition 6] [OAR 345-025-0000(6)]</p>
GEN-GS-06	<p>The Council shall include as conditions in the site certificate all representations in the site certificate application and supporting record the Council deems to be binding commitments made by the applicant.</p> <p>[Final Order on ASC, Mandatory Condition 5] [OAR 345-025-0006(10)]</p>

GEN-GS-07	<p>Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.</p> <p>[Final Order on ASC, Mandatory Condition 6] [OAR 345--025-0006(11)]</p>
GEN-GS-08	<p>The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence.</p> <p>[Final Order on ASC, Mandatory Condition 7] [OAR 345-025-0006(12)]</p>
GEN-GS-09	<p>The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose mitigation actions.</p> <p>[Final Order on ASC, Mandatory Condition 8] [OAR 345-025-0006 (13)]</p>
GEN-GS-10	<p>The certificate holder shall notify the department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.</p> <p>[Final Order on ASC, Mandatory Condition 9] [OAR 345-025-0006 (14)]</p>
GEN-GS-11	<p>Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the department of the proposed new owners. The requirements of OAR 345-027-04100 apply to any transfer of ownership that requires a transfer of the site certificate.</p> <p>[Final Order on ASC, Mandatory Condition 10] [OAR 345--025-0006 (15)]</p>
GEN-GS-12	<p>The Council shall specify an approved corridor in the site certificate and shall allow the certificate holder to construct the pipeline or transmission line anywhere within the corridor, subject to the conditions of the site certificate. If the applicant has analyzed more than one corridor in its application for a site certificate, the Council may, subject to the Council's standards, approve more than one corridor.</p> <p>The transmission line corridors approved by EFSC pursuant to this condition is described in Section 2.3 of the site certificate, and presented in the facility site map (see Attachment A of the site certificate.</p> <p>[Final Order on ASC, Site Specific Condition 1] [OAR 345-025-0010(5)]</p>
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	<p>Any matter of non-compliance under the site certificate is the responsibility of the certificate holder. Any notice of violation issued under the site certificate will be issued to the certificate holder. Any civil penalties under the site certificate will be levied on the certificate holder.</p>

	[Final Order on ASC, Organizational Expertise Condition 5]
GEN-OE-02	<p>In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the department.</p> <p>[Final Order on ASC, Organizational Expertise Condition 6]</p>
GEN-OE-03	<p>During facility construction and operation, the certificate holder shall report to the Department, within 7 days, any change in the corporate structure of the parent company, NextEra Energy Resources, LLC. The certificate holder shall report promptly to the Department any change in its access to the resources, expertise, and personnel of NextEra Energy Resources, LLC.</p> <p>[Amendment #1 , Organizational Expertise Condition 9]</p>
GEN-OE-04	<p>The certificate holder shall:</p> <ol style="list-style-type: none"> Prior to and during construction, as applicable, provide evidence to the Department that a contractual agreement has been obtained for transport and disposal of battery and battery waste by a licensed hauler and requires the third-party to comply with all applicable laws and regulations, including applicable provisions of 49 CFR 173.185. Prior to transporting and disposing of battery and battery waste during facility operations, provide evidence to the Department that a contractual agreement has been obtained for transport and disposal of battery and battery waste by a licensed hauler and requires the third-party to comply with all applicable laws and regulations, including applicable provisions of 49 CFR 173.185. <p>[Final Order on AMD2, Organizational Expertise Condition 10]</p>
GEN-OE-05	<p><u>The certificate holder is authorized to share related or supporting facilities including the Wheatridge West collector substation, SCADA system, access roads, temporary staging areas, and battery storage systems (20 and 30 MW systems, as approved in Final Order on Amendment 2), all of which are governed under both WREFI and WREFII site certificates.</u></p> <ol style="list-style-type: none"> <u>Prior to use Within 30 days of use by both certificate holders of the shared facilities, the certificate holder must provide evidence to the Department that Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC the certificate holders of the shared facilities have an executed agreement for shared use of the collector substation, SCADA system, access roads, staging areas, and battery storage system many constructed shared facilities.</u> <u>If WREFI or WREFII propose to substantially modify any of the shared facilities listed in sub(a) of this condition, each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates in order to accurately account for any significant change in the decommissioning amount required under Retirement and Financial Assurance Condition 5.</u> <u>Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Retirement and Financial Assurance Condition 5, for the operational facility, if facilities are decommissioned at different times.</u> <p>[Final Order on AMD5; Organizational Expertise Condition 11]</p>
STANDARD: STRUCTURAL (SS) [OAR 345-022-0020]	

GEN-SS-01	The certificate holder shall design, engineer, and construct the facility in accordance with the current versions of the latest International Building Code, Oregon Structural Specialty Code, and building codes as adopted by the State of Oregon at the time of construction. [Final Order on ASC, Structural Standard Condition 2]
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STANDARD: LAND USE (LU) [OAR 345-022-0030]

GEN-LU-01	<p>The certificate holder shall design the facility to comply with the following setback distances in Morrow County:</p> <ul style="list-style-type: none"> a. Wind turbines shall be setback from the property line of any abutting property of any non-participant property owners a minimum of 110 percent of maximum blade tip height of the wind turbine tower. b. Wind turbines shall be setback 100 feet from all property boundaries, including participant property boundaries within the site boundary, if practicable. c. Wind turbine foundations shall not be located on any property boundary, including participant property boundaries within the site boundary. d. Wind turbines shall be setback 110% of the overall tower-to-blade tip height from the boundary right-of-way of county roads, state and interstate highways. e. Solar facility components shall be setback: 20 feet from property fronting on a local minor collector road rights of way; 30 feet from property fronting on a major collector road right of way; and 80 feet from an arterial road right of way, unless other provisions for combining access are provided and approved by the county. f. East and west sides of solar facility components shall be setback 20 feet from adjacent land uses except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet. g. North side of solar facility components shall be setback a minimum of 25 feet from any abutting property or taxlot. <p>[Final Order on ASC; AMD3 Land Use Condition 1; AMD4]</p>
GEN-LU-02	<p>During design and construction of the facility, the certificate holder shall:</p> <ul style="list-style-type: none"> a. Obtain an access permit for changes in access on Morrow County roads; and b. Improve or develop private access roads impacting intersections with Morrow County roads in compliance with Morrow County access standards. <p>[Final Order on ASC, Land Use Condition 4]</p>
GEN-LU-03	<p>During design and construction, the certificate holder shall implement the following actions on all meteorological towers approved through the site certificate:</p> <ul style="list-style-type: none"> a. Paint the towers in alternating bands of white and red or aviation orange; or b. Install aviation lighting as recommended by the Federal Aviation Administration. <p>[Final Order on ASC, Land Use Condition 9]</p>
GEN-LU-04	<p>The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall:</p> <ul style="list-style-type: none"> a. Locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices; b. Place turbines and transmission intraconnection lines along the margins of cultivated areas to reduce the potential for conflict with farm operations, where feasible. c. Site solar array collector lines, if aboveground, within or adjacent to an existing road, railroad or transmission line right-of-way; parallel to an existing transmission corridor; or

	<p>co-located with existing transmission line or each other, unless not technically feasible due to lack of availability, geographic constraints, engineering limitations, or other reasons as agreed upon by the Department consistent with this condition.</p> <p>d. Bury underground communication and electrical lines within the area disturbed by temporary road widening, where possible.</p> <p>[Final Order on ASC, Land Use Condition 11; AMD4]</p>
GEN-LU-05	<p>During design and construction of the facility, the certificate holder shall ensure that fencing and landscaping selected and used for the O&M building and similar facility components sited within Morrow County blend with the nature of the surrounding area.</p> <p>[Final Order on ASC, Land Use Condition 14]</p>
GEN-LU-06	<p>During micrositing of the facility, the certificate holder shall ensure that wind turbines are sited based on a minimum setback of:</p> <ol style="list-style-type: none"> 110% of the overall tower-to-blade tip height from the boundary right-of-way of county roads and state and interstate highways in Umatilla and Morrow counties. 2 miles from turbine towers to a city urban growth boundary. 1 mile from turbine towers to land within Umatilla County lands zoned Unincorporated Community. 2 miles from turbine towers to rural residences within Umatilla County. 164 feet (50 meters) from tower and facility components to known archeological, historical and cultural sites or CTUIR cultural site. <p>[Final Order on ASC;AMD3 Land Use Condition 16;]</p>
GEN-LU-07	<p>During design and construction, the certificate holder must ensure that the O&M building in Umatilla County is consistent with the character of similar agricultural buildings used by commercial farmers or ranchers in Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 20]</p>

GEN-LU-08	<p>During facility design and construction of new access roads and road improvements, the certificate holder shall implement best management practices after consultation with the Umatilla County Soil Water Conservation district. The new and improved road designs must be reviewed and certified by a civil engineer.</p> <p>[Final Order on ASC, Land Use Condition 22]</p>
GEN-LU-09	<p>Before beginning electrical production, the certificate hold shall provide the location of each turbine tower, electrical collecting lines, the O&M building, the substation, project access roads, and portion of the intraconnection transmission line located in Umatilla County to the department and Umatilla County in a format suitable for GPS mapping.</p> <p>[Final Order on ASC, Land Use Condition 24]</p>
GEN-LU-10	<p>During construction and operation of the facility, the certificate holder shall deliver a copy of the annual report required under OAR 345-026-0080 to the Umatilla County Planning Commission on an annual basis.</p> <p>[Final Order on ASC, Land Use Condition 28]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN-RF-01	<p>The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.</p> <p>[Final Order on ASC, Retirement and Financial Assurance Condition 1] [Mandatory Condition OAR 345-025-0006(7)]</p>
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
GEN-FW-01	<p>During construction and operation, the certificate holder shall impose a 20 mile per hour speed limit on new and improved private access roads, which have been approved as a related and supporting facility to the energy facility.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 2]</p>
GEN-FW-02	<p>The certificate holder shall construct all overhead collector and transmission intraconnection lines in accordance with the latest Avian Power Line Interaction Committee design standards, and shall only install permanent meteorological towers that are unguyed.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 6]</p>
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN-SR-01	<p>To reduce visual impacts associated with lighting facility structures, other than lighting on structures subject to the requirements of the Federal Aviation Administration or the Oregon Department of Aviation, the certificate holder shall implement the following measures:</p> <ul style="list-style-type: none"> a. Outdoor night lighting at the collector substations, Operations and Maintenance Buildings, and battery storage systems, must be <ul style="list-style-type: none"> i. The minimum number and intensity required for safety and security; ii. Directed downward and inward within the facility to minimize backscatter and offsite light trespass; and iii. Have motion sensors and switches to keep lights turned off when not needed. <p>[Final Order on ASC, Scenic Resources Condition 1, AMD2]</p>

GEN-SR-02	<p>The certificate holder shall:</p> <ul style="list-style-type: none"> a. Design and construct the O&M buildings and battery storage systems to be generally consistent with the character of agricultural buildings used by farmers or ranchers in the area, and the buildings shall be finished in a neutral color to blend with the surrounding landscape; b. Paint or otherwise finish turbine structures in a grey, white, or off-white, low reflectivity coating to minimize reflection and contrast with the sky, unless required otherwise by the local code applicable to the structure location. c. Design and construct support towers for the intraconnection transmission lines using either wood or steel structures and utilize finish with a low reflectivity coating; d. Finish substation structures and battery storage systems utilizing neutral colors to blend with the surrounding landscape; e. Minimize use of lighting and design lighting to prevent offsite glare; f. Not display advertising or commercial signage on any part of the proposed facility; g. Limit vegetation clearing and ground disturbance to the minimum area necessary to safely and efficiently install the facility equipment; h. Water access roads and other areas of ground disturbance during construction, as needed, to avoid the generation of airborne dust; and i. Restore and revegetate temporary impact areas as soon as practicable following completion of construction. <p>[Final Order on ASC, Scenic Resources Condition 2, AMD2]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
GEN-PS-01	<p>During construction and operation, the certificate holder shall coordinate with its solid waste handler to provide the information solicited through the Oregon Department of Environmental Quality's Recycling Collector Survey to the Morrow County waste shed representative on an annual basis.</p> <p>[Final Order on ASC, Public Services Condition 5]</p>
GEN-PS-02	<p>The certificate holder shall construct turbine towers with no exterior ladders or access to the turbine blades and shall install locked tower access doors. The O&M buildings shall be fenced. The certificate holder shall keep tower access doors and O&M buildings locked at all times, except when authorized personnel are present.</p> <p>[Final Order on ASC, Public Services Condition 11]</p>

GEN-PS-03	<p>Prior to construction and operation of the facility, , the certificate holder must provide employee fire prevention and response training that includes instruction on facility fire hazards, fire safety, emergency notification procedures, use of fire safety equipment, and fire safety rules and regulations. The certificate holder shall notify the department and the first-response agencies listed in the Emergency Management Plan developed to comply with Public Services Condition 13 at least 30 days prior to the annual training to provide an opportunity to participate in the training. Equivalent training shall be provided to new employees or subcontractors working on site that are hired during the fire season. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 18]</p>
GEN-PS-04	<p>The certificate holder shall design, construct and maintain the battery storage systems within a 100 foot vegetation free zone.</p> <p>[Final Order on AMD2, Public Services Condition 23]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
GEN-WF-01	<p>During construction and operation, the certificate holder shall follow manufacturers' recommended handling instructions and procedures to prevent damage to turbine or turbine tower components.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 3]</p>
GEN-WF-02	<p>The certificate holder shall notify the department, the Morrow County Planning Department and the Umatilla County Planning Department within 72 hours of any accidents including mechanical failures on the site associated with construction or operation of the facility that may result in public health or safety concerns.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 5]</p>

4.3 Pre-Construction (PRE) Conditions

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	<p>Before beginning construction, the certificate holder shall notify the department of the identity and qualifications of the major design, engineering and construction contractor(s) for the facility. The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities. The certificate holder shall report to the department any changes of major contractors.</p> <p>[Final Order on ASC, Organizational Expertise Condition 1]</p>
PRE-OE-02	<p>Before beginning construction, the certificate holder shall notify the department of the identity and qualifications of the construction manager to demonstrate that the construction manager is qualified in environmental compliance and has the capability to ensure compliance with all site certificate conditions.</p> <p>[Final Order on ASC, Organizational Expertise Condition 2]</p>
PRE-OE-03	<p>Prior to construction, the certificate holder shall contractually require all construction contractors and subcontractors involved in the construction of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.</p> <p>[Final Order on ASC, Organizational Expertise Condition 3]</p>
PRE-OE-04	<p>Before beginning construction, the certificate holder shall notify the department before conducting any work on the site that does not qualify as surveying, exploration, or other activities to define or characterize the site. The notice must include a description of the work and evidence that its value is less than \$250,000 or evidence that the certificate holder has satisfied all conditions that are required prior to beginning construction.</p> <p>[Final Order on ASC, Organizational Expertise Condition 4]</p>
PRE-OE-05	<p>Prior to construction, the certificate holder must provide the department and Umatilla and Morrow Counties with the name(s) and location(s) of the aggregate source and evidence of the source's county permit(s).</p> <p>[Final Order on ASC, Organizational Expertise Condition 7]</p>
PRE-OE-06	<p>The certificate holder must:</p> <ol style="list-style-type: none"> Prior to construction of wind facility components, provide evidence to the department and Morrow and Umatilla counties that the third party that will construct, own and operate the interconnection transmission line has obtained all necessary approvals and permits for that interconnection transmission line and that the certificate holder has a contract with the third party for use of the transmission line. Prior to construction of solar facility components approved in the Fourth Amended Site Certificate, provide to the Department a list of all third-party permits that would normally be governed by the site certificate and that are necessary for construction and operation (e.g. Water Pollution Control Facilities Permit, Air Contaminant Discharge Permit, Limited Water Use License). Once obtained, the certificate holder shall provide copies of third-party permits to the Department. During construction and operation, promptly report to the Department if any third-party permits referenced in sub(b) of this condition have been cited for a Notice of Violation.

STANDARD: STRUCTURAL (SS) [OAR 345-022-0020]

PRE-SS-01	<p>Before beginning construction, the certificate holder must:</p> <ol style="list-style-type: none">Submit a protocol to the Department and Oregon Department of Geology & Mineral Industries (DOGAMI), for review, with the applicable codes, standards, and guidelines to be used, and proposed geotechnical work to be conducted for the site-specific geotechnical investigation report.Following receipt and review of Department and DOGAMI comments on the protocol per (a), the certificate holder shall conduct a site-specific geological and geotechnical investigation, and shall report its findings to DOGAMI and the department. The report shall be used by the certificate holder in final facility layout and design. The department shall review, in consultation with DOGAMI, and confirm that the investigation report includes an adequate assessment of the following information:<ul style="list-style-type: none">Subsurface soil and geologic conditions of the site boundaryDefine and delineate geological and geotechnical hazards, and means to mitigate these hazardsGeotechnical design criteria and data for the turbine foundations, foundations of substations, O&M buildings, battery storage systems, roads, and other related and supporting facilitiesDesign data for installation of underground and overhead collector lines, and overhead transmission linesInvestigation of specific areas with potential for slope instability and landslide hazards. Landslide hazard evaluation shall be conducted by LIDAR and field work, as recommended by DOGAMIInvestigations of the swell and collapse potential of loess soils within the site boundary. <p>[Final Order on ASC, Structural Standard Condition 1; AMD2]</p>
PRE-SS-02	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1, an investigation of all potentially active faults within the site boundary, including the fault labeled as 2438 on Figures H-1 and H-2 of ASC Exhibit H. The investigation shall include a description of the potentially active faults, their potential risk to the facility, and any additional mitigation that will be undertaken by the certificate holder to ensure safe design, construction, and operation of the facility.</p> <p>[Final Order on ASC, Structural Standard Condition 3]</p>
PRE-SS-03	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1 an investigation of specific areas with potential for slope instability and shall site turbine strings appropriate to avoid potential hazards. The landslide hazards shall be investigated and mapped before final facility layout and design. The landslide hazard evaluation shall be conducted by a combination of LIDAR and field work.</p> <p>[Final Order on ASC, Structural Standard Condition 4]</p>
PRE-SS-04	<p>Prior to construction, the certificate holder shall include as part of the geotechnical investigation required per Structural Standard Condition 1, an investigation of the swell and collapse potential of loess soil in the site boundary. Based on the results of the investigation, the certificate holder shall include mitigation measures including, as necessary, over-excavating and replacing loess soil with structural fill, wetting and compacting, deep foundations, or avoidance of specific areas.</p> <p>[Final Order on ASC, Structural Standard Condition 5]</p>
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRE-SP-01	<p>Prior to beginning construction, the certificate holder shall provide a copy of a DEQ-approved construction Spill Prevention Control and Countermeasures (SPCC) plan, to be implemented during</p>

	facility construction. The SPCC plan shall include the measures described in Exhibit I of ASC and in the final order approving the site certificate. [Final Order on ASC, Soil Protection Condition 3]
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PRE-SP-02	<p>Prior to construction, the certificate holder shall ensure that the final Revegetation Plan includes a program to protect and restore agricultural soils temporarily disturbed during facility construction. As described in the final order, agriculture soils shall be properly excavated, stored, and replaced by soil horizon. Topsoil shall be preserved and replaced. The Revegetation Plan shall be finalized pursuant to Fish and Wildlife Habitat Condition 11.</p> <p>[Final Order on ASC, Soil Protection Condition 4]</p>
PRE-SP-03	<p>Prior to beginning construction of the O&M buildings, the certificate holder shall secure any necessary septic system permits from DEQ. Copies of the necessary permits must be provided to the department prior to beginning construction of the O&M buildings.</p> <p>[Final Order on ASC, Soil Protection Condition 7]</p>
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	<p>Before beginning construction, the certificate holder shall complete the following:</p> <ol style="list-style-type: none"> Pay the requisite fee and obtain a Zoning Permit from Morrow County for all facility components sited in Morrow County; and Obtain all other necessary local permits, including building permits. Provide the county with a building permit application, a third party technical report which includes: <ol style="list-style-type: none"> Evaluates fire hazards and; Presents mitigation and recommendations for a fire suppression system designed for the battery storage systems. The certificate holder shall provide copies of the third-party technical report and issued permits to the Department. <p>[Final Order on ASC, Land Use Condition 3; AMD2]</p>
PRE-LU-02	<p>Before beginning construction, the certificate holder shall pay the requisite fee and obtain a Conditional Use Permit as required under Morrow County Zoning Ordinance Article 6 Section 6.015.</p> <p>[Final Order on ASC, Land Use Condition 5]</p>
PRE-LU-03	<p>Before beginning construction, the certificate holder shall prepare a Weed Control Plan that is consistent with Morrow and Umatilla County weed control requirements to be approved by the department. The department shall consult with Morrow and Umatilla counties and ODFW. The final plan must be submitted to the department no less than 30 days prior to the beginning of construction. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.</p> <p>[Final Order on ASC, Land Use Condition 6]</p>
PRE-LU-04	<p>Before beginning construction, the certificate holder shall record in the real property records of Morrow County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.</p> <p>[Final Order on ASC, Land Use Condition 7]</p>
PRE-LU-05	<p>Prior to beginning construction, the certificate holder shall consult with surrounding landowners and lessees and shall consider proposed measures to reduce or avoid any adverse impacts to farm practices on surrounding lands and to avoid any increase in farming costs during construction and operation of the facility. Prior to beginning construction, the certificate holder shall provide evidence of this consultation to the department, Morrow County, and Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 12]</p>

PRE-LU-06	<p>Before beginning construction, the certificate holder shall work with the Morrow County Road Department to identify specific construction traffic related concerns, and develop a traffic management plan that specifies necessary traffic control measures to mitigate the effects of the temporary increase in traffic. The certificate holder must provide a copy of the traffic management plan to the department and Morrow County, and must implement the traffic management plan during construction.</p> <p>[Final Order on ASC, Land Use Condition 13]</p>
PRE-LU-07	<p>Before beginning construction, the certificate holder must:</p> <ol style="list-style-type: none"> Pay the requisite fee(s) and obtain a Zoning Permit(s) from Umatilla County for facility components sited within Umatilla County, including, but not limited to, turbines, substation, O&M building, and the intraconnection line. Provide the Department and county with a building permit application that includes a third party technical report which: <ol style="list-style-type: none"> Evaluates fire hazards, and Presents mitigation and recommendations for a fire suppression system designed for the battery storage systems. The certificate holder shall provide copies of the third-party technical report and issued permits to the Department. <p>[Final Order on ASC, Land Use Condition 15; AMD2]</p>
PRE-LU-08	<p>Prior to facility construction, the certificate holder shall install gates and no trespassing signs at all private access roads established or improved for the purpose of facility construction and operation if requested by the underlying landowner.</p> <p>[Final Order on ASC, Land Use Condition 18; AMD4]</p>
PRE-LU-09	<p>Before beginning construction, the certificate holder shall record in the real property records of Umatilla County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.</p> <p>[Final Order on ASC, Land Use Condition 21]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
PRE-RF-01	<p>Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.</p> <p>[Final Order on ASC, Retirement and Financial Assurance Condition 4]</p> <p>[Mandatory Condition OAR 345-025-0006(8)]</p>

PRE-RF-02	<p>Before beginning construction of the:</p> <ol style="list-style-type: none"> a. Wind energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the wind facility components is \$19.5 16.32 million dollars (Q23 202018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition: b. Solar energy facility components or its related or supporting facilities, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the solar facility components is \$9.4 million dollars (Q4 2018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (2) of this condition: <ol style="list-style-type: none"> 1. The certificate holder may adjust the amount of the initial bond or letter of credit based on the final design configuration of the facility. Any revision to the restoration costs should be adjusted to the date of issuance as described in (2) and subject to review and approval by the Council. 2. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation: <ol style="list-style-type: none"> i. Adjust the amount of the bond or letter of credit (expressed in Q23 202018 dollars for wind facility components and Q4 2018 dollars for solar facility components)) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the third-second quarter 202018 index value and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust third-second quarter 202018 dollars to present value. ii. Round the result total to the nearest \$1,000 to determine the financial assurance amount. 3. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council. 4. The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site. <p>[Final Order on ASC, Retirement and Financial Assurance Condition 5; AMD2; AMD4]</p>
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STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]

PRE-FW-01	<p>Prior to final site design and facility layout, the certificate holder shall conduct a field-based habitat survey to confirm the habitat categories of all areas that will be affected by facility components, as well as the locations of any sensitive resources such as active raptor and other bird nests. The survey shall be planned in consultation with the department and ODFW, and survey protocols shall be confirmed with the department and ODFW. Following completion of the field survey, and final layout design and engineering, the certificate holder shall provide the department and ODFW a report containing the results of the survey, showing expected final location of all facility components, the habitat categories of all areas that will be affected by facility components, and the locations of any sensitive resources.</p> <p>The report shall also include an updated version of Table FW-1 Potential Temporary and Permanent Impacts by Habitat Category and Type of the final order, showing the acres of expected temporary and permanent impacts to each habitat category, type, and sub-type. The pre-construction survey shall be used to complete final design, facility layout, and micro-siting of facility components. As part of the report, the certificate holder shall include its impact assessment methodology and calculations, including assumed temporary and permanent impact acreage for each transmission structure, wind turbine, access road, and all other facility components. If construction laydown yards are to be retained post construction, due to a landowner request or otherwise, the construction laydown yards must be calculated as permanent impacts, not temporary.</p> <p>In classifying the affected habitat into habitat categories, the certificate holder shall consult with the department and ODFW. The certificate holder shall not begin construction of the facility until the habitat assessment, categorization, and impact assessment has been approved by the department, in consultation with ODFW. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 1]</p>
PRE-FW-02	<p>Prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW.</p> <ol style="list-style-type: none">The final WMMP must be submitted and ODOE's concurrence received prior to the beginning of construction. ODOE shall consult with ODFW on the final WMMP. The certificate holder shall implement the requirements of the approved WMMP during all phases of construction and operation of the facility.The WMMP 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 the WMMP agreed to by the Department. <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 4]</p>
PRE-FW-03	<p>Prior to construction, the certificate holder shall flag all environmentally sensitive areas as restricted work zones. Restricted work zones shall include but not be limited to areas with sensitive or protected plant species, including candidate species, wetlands and waterways that are not authorized for construction impacts, areas with seasonal restrictions, and active state sensitive species bird nests.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 8]</p>

PRE-FW-04	<p>Before beginning construction the certificate holder shall prepare and receive approval from the department of a final Habitat Mitigation Plan. The final Habitat Mitigation Plan shall be based on the final facility design and shall be approved by the department in consultation with ODFW. The Council retains the authority to approve, reject or modify the final HMP.</p> <ol style="list-style-type: none"> a. The final Habitat Mitigation Plan and the department's approval must be received prior to beginning construction. The department shall consult with ODFW on the final plan. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility. b. The certificate holder shall calculate the size of the habitat mitigation area according to the final design configuration of the facility and the estimated areas of habitat affected in each habitat category, in consultation with the department, as per the pre-construction survey results and impact assessment calculations called for in Fish and Wildlife Habitat Condition 1. c. The certificate holder shall acquire the legal right to create, enhance, maintain, and protect the habitat mitigation area, as long as the site certificate is in effect, by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the department prior to the start of construction. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the final Habitat Mitigation Plan. d. The certificate holder shall provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map and available acres by habitat category and subtype in tabular format. e. The final HMP shall include an implementation schedule for all mitigation actions, including securing the conservation easement, conducting the ecological uplift actions at the habitat mitigation area, revegetation and restoration of temporarily impacted areas, and monitoring. The mitigation actions shall be implemented according to the following schedule, as included in the HMP: <ol style="list-style-type: none"> i. Restoration and revegetation of temporary construction-related impact area shall be conducted as soon as possible following construction. ii. The certificate holder shall obtain legal authority to conduct the required mitigation work at the compensatory habitat mitigation site before commencing construction. The habitat enhancement actions at the compensatory habitat mitigation site shall be implemented concurrent with construction. f. The final HMP shall include a monitoring and reporting program for evaluating the effectiveness of all mitigation actions, including restoration of temporarily impacted areas and ecological uplift actions at the habitat mitigation area. g. The final HMP shall include mitigation in compliance with the Council's Fish and Wildlife Habitat standard, including mitigation for temporary impacts to Category 4 habitat (shrub-steppe habitat); and, mitigation for all Category 2 habitat impacts that meet the mitigation goal of no net loss of habitat quality or quantity, plus a net benefit of habitat quality or quantity. h. The final HMP 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. <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 10]</p>
PRE-FW-05	<p>Before beginning construction, the certificate holder shall prepare and receive approval of a final Revegetation Plan, provided as Attachment E to this order, from the department, in consultation</p>

with Umatilla and Morrow counties and ODFW. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.
[Final Order on ASC, Fish and Wildlife Habitat Condition 11]

STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]

PRE-TE-01	<p>Prior to construction, the certificate holder shall determine the boundaries of Category 1 Washington ground squirrel habitat. The certificate holder shall hire a qualified professional biologist who has experience in detection of Washington ground squirrel to conduct pre-construction surveys using a survey protocol approved by the department in consultation with ODFW. The biologist shall survey all areas of suitable habitat within 1,000 feet of any ground disturbing activity. Ground disturbing activity refers to any potential impact, whether permanent or temporary. The protocol surveys shall be conducted in the active squirrel season (March 1 to May 31) prior to construction commencement. The protocol survey is valid for three years. If construction begins within three years of conducting the protocol survey, but not within one year of the protocol survey, the certificate holder shall conduct a pre-construction survey only within areas of suitable Washington ground squirrel habitat where ground disturbing activity would occur.</p> <p>The certificate holder shall provide written reports of the surveys to the department and to ODFW and shall identify the boundaries of Category 1 Washington ground squirrel (WGS) habitat. The certificate holder shall not begin construction within suitable habitat until the identified boundaries of Category 1 WGS habitat have been approved by the department, in consultation with ODFW.</p> <p>The certificate holder shall avoid any permanent or temporary disturbance in all Category 1 WGS habitat. The certificate holder shall ensure that these sensitive areas are correctly marked with exclusion flagging and avoided during construction.</p> <p>[Final Order on ASC, Threatened and Endangered Species Condition 1]</p>
PRE-TE-02	<p>In accordance with Fish and Wildlife Habitat Condition 4, prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW. The final WMMP shall include a program to monitor potential impacts from facility operation on Washington ground squirrel. Monitoring shall be of any known colonies and shall be completed on the same schedule as the raptor nest monitoring for the facility. The monitoring surveys shall include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the historic location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, shall be documented and the extent of those colonies should be delineated as well. These newly discovered colonies shall also be included in any future WGS monitoring activities.</p> <p>[Final Order on ASC, Threatened and Endangered Species Condition 2]</p>
PRE-TE-03	<p>To avoid potential impacts to Laurent's milkvetch, the certificate holder must:</p> <ol style="list-style-type: none"> i. Conduct preconstruction plant surveys for Laurent's milkvetch within 100-feet of temporary and permanent disturbance from all facility components, unless extent of survey area within suitable habitat from temporary and permanent disturbance is otherwise agreed upon by the Department on consultation with Oregon Department of Agriculture. If the species is found to occur, the certificate holder must install protection flagging around the plant population and avoid any ground disturbance within this zone.

ii.	Ensure that any plant protection zone established under (i) above is included on construction plans showing the final design locations.
iii.	If herbicides are used to control weeds, the certificate holder shall follow the manufacturer's guidelines in establishing a buffer area around confirmed populations of Laurent's milkvetch. Herbicides must not be used within the established buffers.
iv.	<p>If avoidance cannot be maintained, the certificate holder may request that the Department consider an avoidance exception, authorized through Council concurrence as further described below. The exception request must include an impact assessment and mitigation plan for the affected species including but not be limited to:</p> <ul style="list-style-type: none"> • Literature review and/or field studies that inform the current status of the species within the survey area or region, if survey area does not contain sufficient information to develop a statistically viable approach for determining impact significance; • A description of the individual(s) or population(s) identified within the survey area that would be avoided and impacted; • An evaluation of facility impacts on the survival or recovery of the species, in accordance with the Threatened and Endangered Species standard; • Proposed mitigation measures such as: funded studies that improve understanding of reproductive biology and pollination; development of seed germination, propagation, and transplanting protocols; and/or, compensatory mitigation project including conservation easement(s) and species propagation, protection, and habitat enhancement measures, and/or other proposed mitigation measures that would benefit the affected species. • The Department's review and determination of the exception request shall be conducted in consultation with the Oregon Department of Agriculture, or a third-party consultant. The Department's determination on the exception request must be concurred with by Council. Council retains authority to reject, modify or concur with the exception request. <p>[Final Order on ASC; AMD3; Threatened and Endangered Species Condition 3; AMD4]</p>

STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]

PRE-HC-01	<p>Before beginning construction, the certificate holder shall provide to the department a map showing the final design locations of all components of the facility, the areas that will be temporarily disturbed during construction and the areas that were surveyed in 2013-14 for historic, cultural, and archaeological resources.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 1]</p>
PRE-HC-02	<p>Before beginning construction, the certificate holder shall mark the buffer areas established under Historic, Cultural, and Archeological Resources Condition 3 for all identified historic, cultural, or archaeological resource sites (including those of unknown age) on construction maps and drawings as "no entry" areas. A copy of current maps and drawings must be maintained onsite during construction and made available to the department upon request.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 2]</p>
PRE-HC-03	<p>Before beginning construction, the certificate holder shall ensure that a qualified archeologist, as defined in OAR 736-051-0070, trains construction contractors on how to identify sensitive historic, cultural, and archaeological resources present onsite and on measures to avoid accidental damage to identified resource sites. Records of such training must be maintained onsite during construction, and made available to the department upon request.</p>

STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]

PRE-PS-01

Prior to construction, the certificate holder shall prepare a Traffic Management Plan that includes the procedures and actions described in this order and the mitigation measures identified in ASC Exhibit U, Section 3.5.4. The plan shall be approved by the department in consultation with the appropriate transportation service providers. The plan shall be maintained onsite and implemented throughout construction of the facility.

In addition, the certificate holder shall include the following information in the plan:

- a. Procedures to provide advance notice to all affected local jurisdictions and adjacent landowners of construction deliveries and the potential for heavy traffic on local roads;
- b. A policy of including traffic control procedures in contract specifications for construction of the facility;
- c. Procedures to maintain at least one travel lane at all times to the extent reasonably possible so that roads will not be closed to traffic because of construction vehicles;
- d. A policy of ensuring that no equipment or machinery is parked or stored on any county road whether inside or outside the site boundary. The certificate holder may temporarily park equipment off the road but within county rights-of-way with the approval of the Morrow County and Umatilla County Public Works Departments;
- e. A policy to encourage and promote carpooling for the construction workforce; and
- f. Procedures to keep state highways and county roads free of gravel that may be tracked out on intersecting roads at facility access points.

[Final Order on ASC, Public Services Condition 6]

PRE-PS-02	<p>Before beginning construction, the certificate holder must enter into Road Use Agreements with the Morrow County and Umatilla County Public Works Departments. The Agreements must include, at a minimum, a pre-construction assessment of road surfaces under Morrow County and Umatilla County jurisdiction, construction monitoring, and post-construction inspection and repair. A copy of the Road Use Agreements with Morrow County and Umatilla County must be submitted to the department before beginning construction. If required by Morrow County or Umatilla County, the certificate holder shall post bonds to ensure funds are available to repair and maintain roads affected by the facility.</p> <p>[Final Order on ASC, Public Services Condition 7]</p>
PRE-PS-03	<p>The certificate holder shall design and construct new access roads and private road improvements to standards approved by Umatilla County or Morrow County. Where modifications of county roads are necessary, the certificate holder shall construct the modifications entirely within the county road rights-of-way and in conformance with county road design standards subject to the approval of the Umatilla County and Morrow County Public Works Departments.</p> <p>[Final Order on ASC, Public Services Condition 8]</p>
PRE-PS-04	<p>Before beginning construction, the certificate holder shall submit to the Federal Aviation Administration (FAA) and the Oregon Department of Aviation an FAA Form 7460-1 Notice of Proposed Construction or Alteration for each turbine. Before beginning construction, the certificate holder shall submit to the department the results of the Oregon Department of Aviation aeronautical study and determination. If the department, in consultation with the Oregon Department of Aviation, determines that any turbine would adversely impact an airport's ability to provide service by obstructing the airport's primary or horizontal surface, the department, in consultation with the Oregon Department of Aviation and the certificate holder, shall determine appropriate mitigation, if any, prior to construction.</p> <p>[Final Order on ASC, Public Services Condition 9]</p>

PRE-PS-05	<p>Prior to construction, the certificate holder shall prepare an Emergency Management Plan that includes the procedures and actions described in this order and in ASC Exhibit U. The certificate holder shall submit the plan to ODOE for review and approval in consultation with the appropriate local fire protection districts (including the City of Heppner Volunteer Fire Department, Lone Rural Fire Protection District, and Echo Rural Fire Protection District) prior to construction. The plan shall be maintained onsite and implemented throughout construction and operation of the facility. Any updates to the plan shall be provided to the department within 30 days. All onsite workers shall be trained on the fire prevention and safety procedures contained in the plan prior to working on the facility.</p> <p>Additional information that shall be included in the plan:</p> <ul style="list-style-type: none"> a. Current contact information of at least two facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site. The contact information must include name, telephone number(s), physical location, and email address for the listed contact(s). An updated list must be provided to the fire protection agencies immediately upon any change of contact information. A copy of the contact list, and any updates as they occur, must also be provided to the Department, along with a list of the agencies that received the contact information. b. Identification of agencies that participated in developing the plan; c. Identification of agencies that are designated as first response agencies or are included in any mutual aid agreements with the facility; d. A list of any other mutual aid agreements or fire protection associations in the vicinity of the facility; e. Contact information for each agency listed above; f. Communication protocols for both routine and emergency events and the incident command system to be used in the event a fire response by multiple agencies is needed at the facility; g. Access and fire response at the facility site during construction and operations. Fire response plans during construction should address regular and frequent communication amongst the agencies regarding the number and location of construction sites within the site boundary, access roads that are completed and those still under construction, and a temporary signage system until permanent addresses and signs are in place; h. The designated meeting location in case of evacuation; i. Staff training requirements; and <p>Copies of mutual aid, fire protection association, or other agreements entered into concerning fire protection at the facility site.</p> <p>[Final Order on ASC, Public Services Condition 13]</p>
PRE-PS-06	<p>Before beginning construction, the certificate holder shall develop and implement, or require its contractors to develop and implement, a site health and safety plan that informs workers and others onsite about first aid techniques and what to do in case of an emergency. The health and safety plan will include preventative measures, important telephone numbers, the locations of onsite fire extinguishers, and the names, locations and contact information of nearby hospitals. All onsite workers shall be trained in safety and emergency response, as per the site health and safety plan. The site health and safety plan must be updated on an annual basis, maintained throughout the construction and operations and maintenance phases of the facility, and available upon request by the department.</p> <p>[Final Order on ASC, Public Services Condition 20]</p>

PRE-PS-07	<p>Before beginning construction, the certificate holder shall ensure that all construction workers are certified in first aid, cardio pulmonary resuscitation (CPR), and the use of an automated external defibrillator (AED). The certificate holder must retain records of the certifications and provide them to the department upon request. The certificate holder shall also ensure that an AED is available onsite at all times that construction activities are occurring.</p> <p>[Final Order on ASC, Public Services Condition 21]</p>
STANDARD: WASTE MINIMIZATION (WM,) [OAR 345-022-0120]	
PRE-WM-01	<p>Prior to construction, the certificate holder shall develop a construction waste management plan, to be implemented during all phases of facility construction, which includes at a minimum the following details:</p> <ul style="list-style-type: none"> a. Specification of the number and types of waste containers to be maintained at construction sites and construction yards b. Description of waste segregation methods for recycling or disposal. c. Names and locations of appropriate recycling and waste disposal facilities, collection requirements, and hauling requirements to be used during construction. <p>The certificate holder shall maintain a copy of the construction waste management plan onsite and shall provide to the department a report on plan implementation in the 6-month construction report required pursuant to OAR 345-026-0080(1)(a).</p> <p>[Final Order on ASC, Waste Minimization Condition 2]</p>
PRE-WM-02	<p>Prior to construction, the certificate holder shall investigate and confirm that no surface waters, shallow groundwater, or drinking water sources will be adversely impacted by the usage of concrete washout water in the foundations of facility components, and shall submit an investigation report to the department. Prior to construction, the department, in consultation with DEQ, shall review the results of the investigation report and shall verify that the plan to dispose of concrete washout water in the foundations of facility components is unlikely to adversely impact surface waters, shallow groundwater, or drinking water sources. The applicant's investigation shall be based on the anticipated final facility layout and design. If the results of the investigation show that the proposed concrete washout water disposal method would cause adverse impacts to surface water, shallow groundwater, or drinking water sources, the applicant shall propose mitigation measures to reduce potential impacts, for review and approval by the department in consultation with DEQ, prior to construction.</p> <p>[Final Order on ASC, Waste Minimization Condition 3]</p>
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]	
PRE-TL-01	<p>Prior to construction, the certificate holder shall schedule a time to brief the OPUC Safety, Reliability, and Security Division (Safety) Staff as to how it will comply with OAR Chapter 860, Division 024 during design, construction, operations, and maintenance of the facilities.</p> <p>[Final Order on ASC, Siting Standard Condition 2]</p>

STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

PRE-NC-01

Prior to construction, the certificate holder shall provide to the department:

- a. Information that identifies the final design locations of all facility components to be built at the facility;
- b. The maximum sound power level for the facility components and the maximum sound power level and octave band data for the turbine type(s), transformers (substation and solar array), invertors, AC- and DC-coupled battery storage cooling system selected for the facility based on manufacturers' warranties or confirmed by other means acceptable to the department;
- c. The results of the noise analysis of the final facility design performed in a manner consistent with the requirements of OAR 340-035-0035(1)(b)(B) (iii)(IV) and (VI). The analysis must demonstrate to the satisfaction of the department that the total noise generated by the facility (including turbines, transformers, invertors, AC- and DC-coupled battery storage cooling systems) would meet the ambient noise degradation test and maximum allowable test at the appropriate measurement point for all potentially-affected noise sensitive properties, or that the certificate holder has obtained the legally effective easement or real covenant for expected exceedances of the ambient noise degradation test described (d) below. The analysis must also identify the noise reduction operation (NRO) mode approach that will be used during facility operation and include a figure that depicts the turbines that will be operating in NRO mode and the associated dBA reduction level; if required to meet the maximum allowable decibel threshold of 50 dBA; and,
- d. For each noise-sensitive property where the certificate holder relies on a noise waiver to demonstrate compliance in accordance with OAR 340-035-0035(1)(b)(B)(iii)(III), a copy of the legally effective easement or real covenant pursuant to which the owner of the property authorizes the certificate holder's operation of the facility to increase ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA at the appropriate measurement point. The legally effective easement or real covenant must: include a legal description of the burdened property (the noise sensitive property); be recorded in the real property records of the county; expressly benefit the property on which the wind energy facility is located; expressly run with the land and bind all future owners, lessees or holders of any interest in the burdened property; and not be subject to revocation without the certificate holder's written approval.

[Final Order on ASC; AMD3; Noise Control Condition 2]

4.4 Construction (CON) Conditions

Condition Number	Construction (CON) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
CON-SP-01	During construction, the certificate holder shall conduct all work in compliance with a final Erosion and Sediment Control Plan (ESCP) that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C. [Final Order on ASC, Soil Protection Condition 1]
CON-SP-02	During construction, the erosion and sediment control best management practices and measures as described in ASC Exhibit I, Section 5.2 and listed in the final order approving the site certificate shall be included and implemented as part of the final ESCP. [Final Order on ASC, Soil Protection Condition 2]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
CON-LU-01	During construction, the certificate holder shall comply with the following requirements: <ul style="list-style-type: none"> a. Construction vehicles shall use previously disturbed areas including existing roadways and tracks. b. Temporary construction yards and laydown areas shall be located within the future footprint of permanent structures to the extent practicable. c. New, permanent roadways will be the minimum width allowed while still being consistent with safe use and satisfying county road and safety standards. d. Underground communication and electrical lines will be buried within the area disturbed by temporary road widening to the extent practicable. [Final Order on ASC, Land Use Condition 8]
CON-LU-02	During construction, the certificate holder shall install smooth turbine tower structures and turbine nacelles that lack perching or nesting opportunities for birds. [Final Order on ASC, Land Use Condition 17]
CON-LU-03	During construction, the certificate holder shall install the electrical cable collector system underground, where practicable. In agricultural areas, the collector system lines must be installed at a depth of 3 feet or deeper as necessary to prevent adverse impacts on agriculture operations. In all other areas, the collector system lines must be installed a minimum of 3 feet where practicable. [Final Order on ASC, Land Use Condition 19]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
CON-FW-01	No construction shall occur in mule deer winter range during winter, defined as December 1 to March 31. Mule deer winter range is based on data to be provided by ODFW at the time of construction. Upon request by the certificate holder, the Department may provide exceptions to this restriction. The certificate holder's request must include a justification for the request including any actions the certificate holder will take to avoid, minimize or mitigate impacts to mule deer winter range during winter in the relevant area. The Department will consult with ODFW on any request made under this condition. [Final Order on ASC, Fish and Wildlife Habitat Condition 3; AMD4]

CON-FW-02	<p>Prior to construction, the certificate holder shall develop a construction plan that demonstrates construction activities within 0.25-mile of previously identified active nest sites are scheduled to avoid the sensitive nesting and breeding season. Previously identified active nest sites are those identified through the pre-construction raptor nest survey as required through Condition PRE-FW-01 and may also include any previously identified active nest sites from previous surveys.</p> <p>During construction within the time periods listed below, the certificate holder shall implement buffer zones around active nest sites of the species listed below. Active nest sites shall be identified based on the Condition PRE-FW-01 pre-construction nest survey and be monitored during construction by a biological monitor, both of which shall be based on a protocol approved by the Department in consultation with ODFW- specifying methodology and frequency of monitoring. No ground-disturbing activities within the buffer zone shall occur during the seasonal restrictions. The construction workforce and facility employees must be provided maps with the locations of the buffer zones and be instructed to avoid ground-disturbing activity within the buffer zone during construction activities.</p> <table><tr><th>Sensitive Status Species</th><th>Buffer Size (Radius Around Nest Site):</th><th>Sensitive Nesting and Breeding Season :</th></tr><tr><td>Western burrowing owl</td><td>0.25 mile</td><td>April 1 to August 15</td></tr><tr><td>Ferruginous hawk</td><td>0.25 mile</td><td>March 15 to August 15</td></tr><tr><td>Swainson’s hawk</td><td>0.25 mile</td><td>April 1 to August 15</td></tr></table> <p>If avoidance within the buffer restrictions cannot be maintained, the certificate holder may request approval from the Department in consultation with ODFW on a mitigation and conservation strategy for condition compliance. [Final Order on ASC; AMD3 Fish and Wildlife Habitat Condition 5; <u>AMD4</u>]</p>	Sensitive Status Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season :	Western burrowing owl	0.25 mile	April 1 to August 15	Ferruginous hawk	0.25 mile	March 15 to August 15	Swainson’s hawk	0.25 mile	April 1 to August 15
Sensitive Status Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season :											
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Ferruginous hawk	0.25 mile	March 15 to August 15											
Swainson’s hawk	0.25 mile	April 1 to August 15											
CON-FW-03	<p>During construction, the certificate holder shall employ a qualified environmental professional to provide environmental training to all personnel prior to working onsite, related to sensitive species present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements and other environmental issues. All personnel shall be given clear maps showing areas that are off-limits for construction, and shall be prohibited from working outside of the areas in the site boundary that have been surveyed and approved for construction. The certificate holder shall instruct construction personnel to report any injured or dead wildlife detected while on the site to the appropriate onsite environmental manager. Records of completed training shall be maintained onsite and made available to the department upon request.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 7]</p>												
CON-FW-04	<p>During construction, the certificate holder shall employ at a minimum one environmental inspector to be onsite daily. The environmental inspector shall oversee permit compliance and construction, and ensure that known sensitive environmental resources are protected. The environmental inspector shall prepare a weekly report during construction, documenting permit compliance and documenting any corrective actions taken. Reports shall be kept on file and available for inspection by the department upon request.</p> <p>[Final Order on ASC, Fish and Wildlife Habitat Condition 9]</p>												

STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]

CON-HC-01

Prior to construction activities, the certificate holder must flag or otherwise mark a 200-foot avoidance buffer around historic archaeological sites, as identified by the maps and drawings prepared in accordance with Historic, Cultural, and Archeological Resources Conditions 1 and 2. No disturbance is allowed within the buffer zones, unless resources assumed likely NRHP eligible (e.g. 6B2H-MC-ISO-17, WR11-BB-IS-01, WR11-DM-04) are concurred not likely NRHP eligible through SHPO review; or, a Historic, Cultural, and Archaeological Resources mitigation plan is submitted and accepted by the Department and SHPO which includes measures such as: additional archival and literature review; video media publications; public interpretation funding; or other form of compensatory mitigation deemed appropriate by the Department, in consultation with SHPO. For historic archaeological sites, an archeological monitor must be present if construction activities are required within 200-feet of sites identified as potentially eligible for listing on the National Register of Historic Places (NRHP) unless otherwise agreed to by the Department and SHPO. The certificate holder may use existing private roads within the buffer areas but may not widen or improve private roads within the buffer areas. The no-entry restriction does not apply to public road rights-of-way within buffer areas. Flagging or marking must be removed immediately upon cessation of activities in the area that pose a threat of disturbance to the site being protected.

[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 3; AMD4]

CON-HC-02	<p>During construction, the certificate holder shall ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archeological or cultural resources are found during construction of the facility until a qualified archeologist can evaluate the significance of the find. The certificate holder shall notify the department and the Oregon State Historic Preservation Office (SHPO) of the find. If ODOE, in consultation with SHPO, determines that the resource meets the definition of an archaeological object, archaeological site, or is eligible or likely to be eligible for listing on the (NRHP), the certificate holder shall, in consultation with the department, SHPO, interested Tribes and other appropriate parties, make recommendations to the Council for mitigation, including avoidance, field documentation and data recovery. The certificate holder shall not restart work in the affected area until the department, in consultation with SHPO, agree that the certificate holder has demonstrated that it has complied with archeological resources protection regulations.</p> <p>[Final Order on ASC, Historic, Cultural, and Archeological Resources Condition 5]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
CON-PS-01	<p>During construction, the certificate holder shall include the following additional measures in the construction waste management plan required by Waste Minimization Condition 2:</p> <ol style="list-style-type: none"> Recycling steel and other metal scrap. Recycling wood waste. Recycling packaging wastes such as paper and cardboard. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler or by using facility equipment and personnel to haul the waste. Waste hauling by facility personnel within Morrow County shall be performed in compliance with the Morrow County Solid Waste Management Ordinance, which requires that all loads be covered and secured. Segregating all hazardous and universal wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous and universal wastes. Discharging concrete truck rinse-out within foundation holes, completing truck wash-down off-site, and burying other concrete waste as fill on-site whenever possible. <p>[Final Order on ASC, Public Services Condition 3]</p>
CON-PS-02	<p>During construction of the facility, the certificate holder shall provide for 24-hour on-site security, and shall establish effective communications between on-site security personnel and the Morrow County Sheriff's Office and Umatilla County Sheriff's Office.</p> <p>[Final Order on ASC, Public Services Condition 10]</p>
CON-PS-03	<p>During construction of the facility, the certificate holder shall ensure that turbine construction personnel are trained and equipped for fall protection, high angle, and confined space rescue. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 14]</p>
CON-PS-04	<p>During construction, the certificate holder shall design turbines to be constructed on concrete pads with a minimum of 10 feet of nonflammable and non-erosive ground cover on all sides. The certificate holder shall cover turbine pad areas with nonflammable, non-erosive material immediately following exposure during construction and shall maintain the pad area covering during facility operation.</p> <p>[Final Order on ASC, Public Services Condition 16]</p>

CON-PS-05	<p>During construction the certificate holder must maintain an area clear of vegetation for fire prevention around construction sites, including turbines and towers and any areas where work includes welding, cutting, grinding, or other flame- or spark-producing operations.</p> <p>[Final Order on ASC, Public Services Condition 17]</p>
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
CON-WM-01	<p>During construction, the certificate holder shall require construction contractors to complete the following for any off-site disposal of excess soil during construction activities:</p> <ol style="list-style-type: none"> Obtain and provide the certificate holder with a signed consent agreement between contractor and the party receiving the earth materials authorizing the acceptance and disposal of the excess soil; and, Confirm that all disposal sites have been inspected and approved by the certificate holder's environmental personnel to ensure that sensitive environmental resources, such as wetlands or high quality habitats, would not be impacted. <p>The certificate holder shall maintain copies of all signed consent agreements and disposal site inspection and approvals onsite and shall provide to the department in the 6-month construction report required pursuant to OAR 345-026-0080(1)(a).</p> <p>[Final Order on ASC, Waste Minimization Condition 1]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
CON-WF-01	<p>During construction, the certificate holder shall install pad-mounted step-up transformers at the base of each tower in steel boxes designed to protect the public from electrical hazards.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 1]</p>
CON-WF-02	<p>Prior to and during operations the certificate holder shall:</p> <ol style="list-style-type: none"> Install and maintain self-monitoring devices on each turbine, linked to sensors at the operations and maintenance building, connected to a fault annunciation panel or supervisory control and data acquisition (SCADA) system to alert operators to potentially dangerous conditions. The certificate holder shall maintain automatic equipment protection features in each turbine that would shut down the turbine and reduce the chance of a mechanical problem causing a fire. The certificate holder shall immediately remedy any dangerous conditions. Submit to the Department materials or other documentation demonstrating the facility's operational safety-monitoring program and cause analysis program, for review and approval. The program shall, at a minimum, include requirements for regular turbine blade and turbine tower component inspections and maintenance, based on wind turbine manufacturer recommended frequency. The certificate holder shall document inspection and maintenance activities including but not limited to date, turbine number, inspection type (regular or other), turbine tower and blade condition, maintenance requirements (i.e. equipment used, component repair or replacement description, impacted area location and size), and wind turbine operating status. This information shall be submitted to the Department pursuant to OAR 345-026-0080 in the facility's annual compliance report. In the event of blade or tower failure, the certificate holder shall report the incident to the Department within 72 hours, in accordance with OAR 345-026-0170(1), and shall, within 90-days of blade or tower failure event, submit a cause analysis to the Department for its compliance evaluation. <p>[Final Order on ASC;AMD3; Public Health and Safety Standards for Wind Facilities Condition 4]</p>

STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]

CON-TL-01	<p>During construction, the certificate holder shall take reasonable steps to reduce or manage human exposure to electromagnetic fields and submit verification to the Department, including:</p> <ul style="list-style-type: none">a. Constructing all aboveground collector and transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line.b. Constructing all aboveground 34.5-kV transmission lines with a minimum clearance of 25 feet from the ground.c. Constructing all aboveground 230-kV transmission lines with a minimum clearance of 30 feet from the ground.d. Developing and implementing a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, irrigation systems, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line (OAR 345-025-0010(4)).e. Providing to landowners a map of underground, with any applicable NESC demarking for underground facilities, and overhead transmission lines on their property and advising landowners of possible health and safety risks from induced currents caused by electric and magnetic fields.f. Designing and maintaining all transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.g. Increasing the intraconnection transmission line height, shielding the electric field, or installing access barriers, if needed, to prevent induced current and nuisance shock of mobile vehicles.h. Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable.i. Designing, constructing and operating the transmission line in accordance with the requirements of the version of the National Electrical Safety Code that is most current at the time that final engineering of each of these components is completed (OAR 345-025-0010(4)).j. Implement a safety protocol to ensure adherence to NESC grounding requirements <p>[Final Order on ASC, Siting Standard Condition 1; AMD4]</p>
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STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

CON-NC-01

During construction, to reduce construction noise impacts at nearby residences, the certificate holder shall:

- a. Establish and enforce construction site and access road speed limits;
- b. Utilize electrically-powered equipment instead of pneumatic or internal combustion powered equipment, where feasible;
- c. Locate material stockpiles and mobile equipment staging, parking, and maintenance areas as far as practicable away from noise sensitive properties;
- d. Utilize noise-producing signals, including horns, whistles, alarms, and bells for safety warning purposes only;
- e. Equip all noise-producing construction equipment and vehicles using internal combustion engines with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment; and,
- f. Establish a noise complaint response system. All construction noise complaints will be logged within 48 hours of issuance. The construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to the start of construction that will allow for resolution of noise problems that cannot be resolved by the site supervisor in a reasonable period of time. Records of noise complaints during construction must be made available to authorized representatives of the department upon request.

[Final Order on ASC, Noise Control Condition 1]

4.5 Pre-Operational (PRO) Conditions

Condition Number	Pre-Operational (PRO) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRO-SP-01	<p>Prior to beginning facility operation, the certificate holder shall provide the Department a copy of an operational SPCC plan, if required per DEQ's Hazardous Waste Program. If an SPCC plan is not required, the certificate holder shall prepare and submit to the Department for review and approval an operational Spill Prevention and Management plan. The Spill Prevention and Management Plan shall include at a minimum the following procedures and BMPs:</p> <ul style="list-style-type: none"> • Procedures for oil and hazardous material emergency response consistent with OAR 340, Division 100-122 and 142 • Procedures demonstrating compliance with all applicable local, state, and federal environmental laws and regulations for handling hazardous materials used onsite in a manner that protects public health, safety, and the environment • Current inventory (type and quantity) of all hazardous materials stored onsite, specifying the amounts at each O&M building, substation and battery storage system components • Restriction limiting onsite storage of diesel fuel or gasoline • Requirement to store lubricating and dielectric oils in quantities equal to or greater than 55-gallons in qualified oil-filled equipment • Preventative measures and procedures to avoid spills <ul style="list-style-type: none"> ○ Procedures for chemical storage ○ Procedures for chemical transfer ○ Procedures for chemical transportation ○ Procedures for fueling and maintenance of equipment and vehicles ○ Employee training and education • Clean-up and response procedures, in case of an accidental spill or release • Proper storage procedures • Reporting procedures in case of an accidental spill or release <p>[Final Order on ASC, Soil Protection Condition 5; AMD2]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
PRO-PS-01	<p>Prior to operation of the facility, the certificate holder shall ensure that operations personnel are trained and equipped for fall protection and tower rescue, including high angle and confined space rescue. Refresher training in high angle and confined space rescue must be provided to operations personnel on an annual basis throughout the operational life of the facility. The certificate holder must retain records of the training and provide them to the department upon request.</p> <p>[Final Order on ASC, Public Services Condition 15]</p>
PRO-PS-02	<p>Before beginning operation of the facility, the certificate holder must provide a final site plan to the identified fire protection districts and first-responders included in the Emergency Management Plan. The certificate holder must indicate on the site plan the identification number assigned to each turbine and the actual location of all facility structures. The certificate</p>

	holder shall provide an updated site plan if additional turbines or other structures are later added to the facility. [Final Order on ASC, Public Services Condition 19]
PRO-PS-03	Prior to operation, the certificate holder must ensure that operations personnel remain current in their first aid/CPR/AED certifications throughout the operational life of the facility. The certificate holder must retain records of the certifications and provide them to the department upon request. The certificate holder shall also ensure that an AED is available onsite at all times that operations and maintenance personnel are at the facility. [Final Order on ASC, Public Services Condition 22]

4.6 Operational (OPR) Conditions

Condition Number	Operational (OPR) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
OPR-GS-01	<p>The certificate holder shall submit a legal description of the site to the Oregon Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.</p> <p>[Final Order on ASC, Mandatory Condition 1] [OAR 345-025-0006(2)]</p>
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
OPR-SP-01	<p>During facility operation, the certificate holder shall:</p> <ol style="list-style-type: none"> Routinely inspect and maintain all facility components including roads, pads, and other facility components and, as necessary, maintain or repair erosion and sediment control measures and reduce potential facility contribution to erosion. Restrict vehicles to constructed access roads, and ensure material laydown or other maintenance activities occur within graveled areas or within the maintenance area of the O&M buildings to avoid unnecessary compaction, erosion, or spill risk to the area surrounding the facility. If in order to serve the operational needs of the energy facility, or related and supporting facilities, the certificate holder intends to substantially modify an existing road or construct a new road, the certificate holder must submit and receive Council approval of an amendment to the site certificate prior to the modification or construction. <p>[Final Order on ASC, Soil Protection Condition 6]</p>
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR-LU-01	<p>Within one month of commencement of commercial operation, the certificate holder shall submit an as-built survey for each construction phase that demonstrates compliance with the setback requirements in Land Use Condition 1 to the department and Morrow County.</p> <p>[Final Order on ASC, Land Use Condition 2]</p>
OPR-LU-02	<p>During operation of the facility, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities using the same methods and monitoring procedures described in the final Revegetation Plan referenced in Fish and Wildlife Habitat Condition 11.</p> <p>[Final Order on ASC, Land Use Condition 10]</p>
OPR-LU-03	<p>Before beginning decommissioning activities, the certificate holder must provide a copy of the final retirement plan to Morrow County and Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 23]</p>
OPR-LU-04	<p>Before beginning electrical production, the certificate holder shall prepare an Operating and Facility Maintenance Plan (Plan) and submit the Plan to the department for approval in consultation with Umatilla and Morrow Counties.</p> <p>[Final Order on ASC, Land Use Condition 25]</p>

OPR-LU-05	<p>Within 90 days of the commencement of electrical service from Wheatridge East, the certificate holder shall provide a summary of as-built changes to the department and Umatilla County.</p> <p>[Final Order on ASC, Land Use Condition 26]</p>
OPR-LU-06	<p>Prior to facility retirement, the certificate holder must include the following minimum restoration activities in the proposed final retirement plan it submits to the Council pursuant to OAR 345-02527-01100006(9) or its equivalent:</p> <ol style="list-style-type: none"> 1. Dismantle turbines, towers, pad mounted transformers, meteorological towers and related aboveground equipment, and remove concrete pads to a depth of at least three feet below the surface grade. 2. Remove underground collection and communication cables that are buried less than three feet in depth and are deemed by Council to be a hazard or a source of interference with surface resource uses. 3. Remove gravel from areas surrounding turbine pads. 4. Remove and restore private access roads unless the landowners directs otherwise. 5. Following removal of facility components, grade disturbed areas as close as reasonably possible to the original contours and restore soils to a condition compatible with farm uses or other resources uses. 6. Revegetate disturbed areas in consultation with the land owner and in a manner consistent with the final Revegetation Plan referenced in Fish and Wildlife Habitat Condition 11. 7. If the landowner wishes to retain certain facilities, provide a letter from the land owner that identifies the roads, cleared pads, fences, gates and other improvements to be retained and a commitment from the land owner to maintain the identified facilities for farm or other purposes permitted under the applicable zone. <p>[Final Order on ASC, Land Use Condition 27]</p>
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
OPR-RF-01	<p>During facility operation, the certificate holder shall:</p> <ol style="list-style-type: none"> (a) Conduct monthly inspections of the battery storage systems, in accordance with manufacturer specifications. The certificate holder shall maintain documentation of inspections, including any corrective actions, and shall submit copies of inspection documentation in its annual report to the Department. (b) Provide evidence in its annual report to the Department of active property coverage under its commercial business insurance from high loss-catastrophic events, including but not limited to, onsite fire or explosion. <p>[Final Order on AMD2, Retirement and Financial Assurance Condition 6]</p>
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0110]	
OPR-PS-01	<p>During operation of the facility, the certificate holder shall discharge sanitary wastewater generated at the O&M buildings to licensed on-site septic systems in compliance with State permit requirements. The certificate holder shall design each septic system for a discharge capacity of less than 2,500 gallons per day.</p> <p>[Final Order on ASC, Public Services Condition 1]</p>
OPR-PS-02	<p>Except as provided in this condition, during facility operation, the certificate holder shall obtain water for on-site uses from on-site wells located near the O&M buildings. The certificate holder shall construct on-site wells subject to compliance with the provisions of ORS 537.765 relating to keeping a well log. The certificate holder shall not use more than 5,000 gallons of water per day from each of the two on-site wells. The certificate holder may obtain water from other sources for on-site uses subject to prior approval by the Department.</p>

OPR-PS-03	<p>(a) Prior to operation, the certificate holder shall submit to the Department for approval its Operational Waste Management Plan that includes but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Onsite handling procedure for operational replacement of damaged, defective or recalled lithium-ion batteries. The procedure shall identify applicable 49 CFR 173.185 provisions and address, at a minimum, onsite handling, packaging, interim storage, and segregation requirements. 2. Training employees to handle, replace, and store damaged, defective or recalled lithium-ion batteries; minimize and recycle solid waste. 3. Recycling paper products, metals, glass, and plastics. 4. Recycling used oil and hydraulic fluid. 5. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler or by using facility equipment and personnel to haul the waste. Waste hauling by facility personnel within Morrow County shall be performed in compliance with the Morrow County Solid Waste Management Ordinance, Section 5.000 Public Responsibilities, 5.010 Transportation of Solid Waste and 5.030 Responsibility for Propose Disposal of Hazardous Waste which requires that all loads be covered and secured and that operators be responsible for hazardous waste disposal in accordance with applicable regulatory requirements. 6. Segregating all hazardous and universal, non-recyclable wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights, lithium-ion batteries, lead-acid and nickel-cadmium batteries, and replaced, damaged, defective or recalled lithium-ion batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous and universal wastes. <p>(b) During operation, the certificate holder shall implement the approved Operational Waste Management Plan.</p> <p>[Final Order on ASC, Public Services Condition 4; AMD2]</p>
OPR-PS-04	<p>During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency at the facility site.</p> <p>[Final Order on ASC, Public Services Condition 12]</p>
STANDARD: PUBLIC HEALTH AND SAFETY FOR WIND FACILITIES (WF) [OAR 345-024-0010]	
OPR-WF-01	<p>During operation, the certificate holder shall ensure each facility substation and battery storage systems are enclosed with appropriate fencing and locked gates to protect the public from electrical hazards.</p> <p>[Final Order on ASC, Public Health and Safety Standards for Wind Facilities Condition 2; AMD2]</p>

STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (TL) [OAR 345-024-0090]

OPR-TL-01	<p>During operation, the certificate holder shall:</p> <ol style="list-style-type: none">(1) Update the OPUC Safety Staff as to how the operator will comply with OAR Chapter 860, Division 024 on an ongoing basis considering future operations, maintenance, emergency response, and alterations until facility retirement.(2) File the following required information with the Commission:<ol style="list-style-type: none">a. 758.013 Operator of electric power line to provide Public Utility Commission with safety information; availability of information to public utilities. (1) Each person who is subject to the Public Utility Commission's authority under ORS 757.035 and who engages in the operation of an electric power line as described in ORS 757.035 must provide the commission with the following information before January 2 of each even-numbered year:<ol style="list-style-type: none">i. The name and contact information of the person that is responsible for the operation and maintenance of the electric power line, and for ensuring that the electric power line is safe, on an ongoing basis; andii. The name and contact information of the person who is responsible for responding to conditions that present an imminent threat to the safety of employees, customers and the public.iii. In the event that the contact information described in subsection (1) of this section changes or that ownership of the electric power line changes, the person who engages in the operation of the electric power line must notify the commission of the change as soon as practicable, but no later than within 90 days.iv. If the person described in subsection (1) of this section is not the public utility, as defined in ORS 757.005, in whose service territory the electric power line is located, the commission shall make the information provided to the commission under subsection (1) of this section available to the public utility in whose service territory the electric power line is located. [2013 c.235 §3](3) Provide OPUC Safety Staff with:<ol style="list-style-type: none">a. Maps and Drawings of routes and installation of electrical supply lines showing:<ul style="list-style-type: none">• Transmission lines and structures (over 50,000 Volts)• Distribution lines and structures - differentiating underground and overhead lines (over 600 Volts to 50,000 Volts)• Substations, roads and highways• Plan and profile drawings of the transmission lines (and name and contact information of responsible professional engineer). <p>[Final Order on ASC, Siting Standard Condition 3]</p>
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STANDARD: NOISE CONTROL REGULATION (NC) [OAR 345-035-0035]

OPR-NC-01	<p>During operation of the facility, if required to meet the maximum allowable decibel threshold of 50 dBA, the certificate holder shall only operate the facility in the NRO mode that is identified prior to construction pursuant to Noise Control Condition 2. After beginning operation of the facility, the certificate holder shall include a certification in its annual Compliance Report that the NRO mode turbines identified in the preconstruction analysis required by Noise Control Condition 2 are operating at or below the identified dBA reduction level.</p> <p>[Final Order on ASC, Noise Control Condition 3]</p>
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OPR-NC-02	<p>During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall notify the department within two working days of receiving a noise complaint related to the facility. The notification should include, but is not limited to, the date the certificate holder received the complaint, the nature of the complaint, the complainant's contact information, the location of the affected property, and any actions taken, or planned to be taken, by the certificate holder to address the complaint.</p> <p>[Final Order on ASC, Noise Control Condition 4]</p>
OPR-NC-03	<p>During operation, in response to a complaint from the owner of a noise sensitive property regarding noise levels from the facility, the Council may require the certificate holder to monitor and record the statistical noise levels to verify that the certificate holder is operating in compliance with the noise control regulations. The monitoring plan must be reviewed and approved by the department prior to implementation. The cost of such monitoring, if required, shall be borne by the certificate holder.</p> <p>[Final Order Noise Control Condition 5]</p>

4.7 Retirement Conditions (RET)

Condition Number	Retirement (RET) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET-RF-01	<p>The certificate holder must retire the facility in accordance with a retirement plan approved by the Council if the certificate holder permanently ceases construction or operation of the facility. The retirement plan must describe the activities necessary to restore the site to a useful, nonhazardous condition, as described in OAR 345-025-0110(5)0006(9). After Council approval of the plan, the certificate holder must obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site.</p> <p>[Final Order Retirement and Financial Assurance Condition 2] [Mandatory Condition OAR 345-025-0006(9)]</p>
RET-RF-02	<p>If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-025-0110(5)0006(9), the Council must notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the department to prepare a proposed final retirement plan for the Council's approval.</p> <p>Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, nonhazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder must pay any additional cost necessary to restore the site to a useful, nonhazardous condition. After completion of site restoration, the Council must issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.</p> <p>[Final Order Retirement and Financial Assurance Condition 3] [Mandatory Condition OAR 345-025-0006(16)]</p>

5.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-04100.

6.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

7.0 Execution

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council, ~~and by~~ Wheatridge Wind II Energy, LLC (certificate holder), and NEER (certificate holder/certificate holder owner).

ENERGY FACILITY SITING COUNCIL

By: _____
Hanley Jenkins, II, Chair

Oregon Energy Facility Siting Council

Date: _____

WHEATRIDGE WIND II ENERGY, LLC

By: _____
Matthew Handel, Vice President
Development, NextEra Energy Resources,
LLC on behalf of Wheatridge Wind II
Energy, LLC

Date: _____

Attachment A
~~Wind Facility and Solar~~
~~Facility~~ Site Boundary Maps
(~~ASC Exhibit C, Figure C-2~~
~~and RFA4RFA5, Figure 1.2~~)

Attachment B: Draft Proposed Order Comments

ESTERSON Sarah * ODOE

Subject: Wheatridge Wind Energy Facility: Notice of Comment Period on Request for Amendment 5 of Site Certificate/Draft Proposed Order

From: Steve Cherry <Steve.P.Cherry@state.or.us>

Sent: Friday, April 17, 2020 3:36 PM

To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>

Subject: RE: Wheatridge Wind Energy Facility: Notice of Comment Period on Request for Amendment 5 of Site Certificate/Draft Proposed Order

Sarah,
ODFW does not have any comments on this proposed amendment. Thanks

Steve

ESTERSON Sarah * ODOE

From: Stephen Wrecsics <swrecsics@co.morrow.or.us>
Sent: Friday, April 24, 2020 4:13 PM
To: ESTERSON Sarah * ODOE
Cc: Stephanie Case; Gregg Zody
Subject: Morrow County Comment Letter, Wheatridge RFA5
Attachments: RFA5 24APR20 Wheatridge Comment Letter.pdf

Sarah,

Please find Morrow County's comments on RFA5 for Wheatridge.
Hope everything is good on your end!

Have a great weekend,

Stephen Wrecsics

GIS Planning Technician | Planning Department
Morrow County, Oregon

A: P.O. Box 40, Irrigon Oregon 97844

P: 541.676.9061 x 5504

W: www.co.morrow.or.us



PLANNING DEPARTMENT

PO Box 40 • 205 Third Street NE
Irrigon, Oregon 97844
(541) 922-4624

April 24, 2020

Sarah Esterson, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301

Dear Mrs. Clifford,

Morrow County appreciates the opportunity to comment on Request for Amendment 5 (RFA5) of the Wheatridge Wind Energy Facility Site Certificate. It is the understanding of Morrow County that RFA5 proposes to bifurcate the site certificate and transfer a portion of the site certificate to a new limited liability company.

At this time, Morrow County does not have any comments related to RFA5.

Again, the opportunity to comment is very much appreciated. It has been a pleasure working with you and other Department staff to date, and I anticipate that will continue. Should you have any questions about this comment letter, or need additional information, please do not hesitate to contact me.

Regards,

A handwritten signature in blue ink, appearing to read "Stephen Wrecksics", written over a faint background watermark of the Morrow County seal and the word "COUNTY".

Stephen Wrecksics

GIS Planning Technician

Cc: Stephanie Case, Interim Morrow County Planning Director
Matt Scrivner and Sandra Pointer, Morrow County Public Works

Wheatridge Wind Energy Facility
Request for Comments, RFA5

April 24, 2020

Page 1 of 1

ESTERSON Sarah * ODOE

Subject: Wheatridge Wind Energy Facility: Notice of Comment Period on Request for Amendment 5 of Site Certificate/Draft Proposed Order

From: HARTMAN Heidi <heidi.m.hartman@state.or.us>

Sent: Thursday, May 7, 2020 12:29 PM

To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>

Subject: RE: Wheatridge Wind Energy Facility: Notice of Comment Period on Request for Amendment 5 of Site Certificate/Draft Proposed Order

Hi Sarah,

If there's no proposed changes to removal and/or fill actions to waters of the state, I have no comments regarding Wheatridge Wind Energy, LLC to split, and the share some, facility components into two site certificates, named Wheatridge Renewable Energy Facility I (WREFI) and Wheatridge Renewable Energy Facility II (WREFII).

Heidi Hartman

Aquatic Resource Coordinator

*Baker, Gilliam, Grant, Hood River, Jefferson, Morrow,
Sherman, Umatilla, Union, Wallowa*

Oregon Department of State Lands

1645 NE Forbes Road, Suite 112

Bend, OR 97701

Office: 541-388-6060 | **Fax:** 541-388-6480 | **Cell:** 541-419-7650

pronouns: she/her/hers

ESTERSON Sarah * ODOE

From: Solsby, Anneke <Anneke.Solsby@tetrattech.com>
Sent: Friday, May 8, 2020 10:27 AM
To: ESTERSON Sarah * ODOE
Cc: Konkol, Carrie; Lawlor, David; Pappalardo, Mike
(MIKE.PAPPALARDO@nexteraenergy.com)
Subject: Wheatridge RFA 5 - Certificate Holder DPO Comments
Attachments: Wheatridge_RFA5_DPO_Comment_Responses.pdf

Hi Sarah,

Please see the attached certificate holder comments on the DPO. Let me know if there are any questions.

Enjoy the nice weather!

Anneke Van der Mast Solsby | Environmental Planner
Anneke.Solsby@tetrattech.com

Tetra Tech | Portland
1750 SW Harbor Way, Suite 400 | Portland, OR 97201
Direct: 503.721.7217 | Fax: 503.227.1287 | Cell: 503.860.9076

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Think Green - Not every email needs to be printed.

May 8, 2020

Ms. Sarah Esterson
Siting Analyst
Oregon Department of Energy
550 Capitol St. NE, 1st Floor
Salem, OR 97301

**Subject: Wheatridge Wind Energy Facility Request for Amendment 5 –
Comments on Draft Proposed Order**

Dear Ms. Esterson:

NextEra Energy Resources, LLC (NextEra), on behalf of Wheatridge Wind Energy, LLC (the Certificate Holder), is providing the following comment and clarifications with respect to the Wheatridge Wind Energy Facility Request for Amendment 5 (RFA5) Draft Proposed Order the Draft Proposed Order (DPO).

- Please see suggested edits for accuracy to the cost estimate table provided on page 35 of the DPO provided in Attachment 1.
- Please see the suggested red-line edits to New Organizational Expertise Condition 11, in consideration of timing of the commercial transaction finalization and associated Energy Facility Siting Council permitting process.

Recommended New Organizational Expertise Condition 11 (WREFI and WREFII):

The certificate holder is authorized to share related or supporting facilities including the Wheatridge West collector substation, SCADA system, access roads, temporary staging areas, and battery storage systems (~~20 and~~ 30 MW systems, as approved in Final Order on Amendment 2), all of which are governed under both WREFI and WREFII site certificates.

a. ~~Prior to~~ Within 30 days of use by both certificate holders of the shared facilities, the certificate holder must provide evidence to the Department that the ~~certificate holders of the shared facilities Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC~~ have an executed agreement for shared use of ~~the collector substation, SCADA system, access roads, staging areas, and battery storage system~~ any constructed shared facilities.

- Please update references to “WREFI and WREFI Site Boundaries” to “WREFI and WREFII Site Boundaries” as fitting throughout DPO.

- Site boundary acres – Please amend site boundary acreages for WREFI and WREFII. Overlapping site boundary areas were previously not included in site boundary area calculations. Therefore, the site boundary acreages should be: WREFI 3,100.50 acres and WREFII 12,432.05 acres.
- Please make following edit on Page 30 – Prior to beginning construction, the certificate holder shall provide evidence of this consultation to the department **and** Morrow County.
- Please make following change on Page 32 – Based on RFA5 Attachment 4 Retirement Cost Estimate, and represented in the table below, the full decommissioning amount for the laydown yards, battery storage system, access roads (for 12 ~~of 61~~ miles in WREFI; 61 ~~of 61~~ miles in WREFII) and SCADA system are included in both WREFI and WREFII decommissioning estimates.
- Please delete duplicate "would comply" phrase on Page 39.
- Please add reference to AMD5 to GEN-LU-01 and other conditions as applicable.
- Please remove any references to the 20-megawatt battery storage for WREFI.

Thank you for your consideration.

On behalf of Wheatridge Wind Energy LLC,

Sincerely,



Mike Pappalardo

Environmental Services Manager

NextEra Energy Resources

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility		WREFI		WREFII	
		No. of Components	Total Cost	No. of Components	Total Cost	No. of Components	Total Cost
Wind Facility Components (Approved in 2017)							
Wind Turbines							
Disconnect electrical	\$212	292	\$61,904	40	\$9,400 8,480	252	\$53,424
Remove turbine blades, hubs and nacelles	\$5,900	292	\$1,722,800	40	\$236,000	252	\$1,486,800
Remove turbine towers (per ton of steel)	\$82	57,232	\$4,693,024	13,064	\$1,071,248	44,168	\$3,621,776
Remove turbine foundations	\$52	8,264	\$429,707 28	1,132	\$58,864	7,132	\$370,864
Remove pad transformers and foundations	\$2,538	292	\$741,096	40	\$101,520	252	\$639,576
Restore turbine site	\$1,138	292	\$332,296	40	\$45,520	252	\$286,776
Meteorological Towers							
Dismantle and dispose	\$10,393	12	\$124,716	12	\$10,393 20,786	120	\$124,716 103,930
O&M Facilities							

Commented [A1]: Amended WREFI cost - 40 component x unit cost \$212 = \$8,480

Commented [A2]: Amended approved facility cost - \$52 unit cost x 8,264 number of components = \$429,728

Commented [A4]: 2x\$10,393=\$20,786
10x\$10,393=\$103,930

Commented [A3]: WREFI includes two met towers and WREFII ten met towers. Updated accordingly.

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility		WREFI		WREFII	
		No. of Components	Total Cost	No. of Components	Total Cost	No. of Components	Total Cost
Dismantle and dispose	\$62,886	2	\$125,772	0	0	2	\$125,772
<i>Substations</i>							
Dismantle and dispose	\$188,094	3	\$564,282	0.33	\$62,491 071	02.77 67	\$144,832 502,211
<i>Transmission Lines</i>							
Above-ground collector Lines (per mile)	\$6,459	10.83	\$69,951	0	0	10.83	\$69,951
Transmission Lines (per mile)	\$29,611	63	\$1,865,493			63	\$1,865,493
Junction Boxes (per unit)	\$51	60	\$3,060			60	\$3,060
<i>Access Roads</i>							
Road removal, grading and seeding (per mile)	\$23,555	37.17 73	\$875,539 1,719,515	12	\$282,660	61	\$1,436,855
<i>Restore Additional Areas Disturbed by Facility Removal</i>							
Grading and seeding around access roads, met towers, O&M facilities	\$8,706	128.4	\$1,204,802 1,117,850	43.32	\$377,122	128.4 35.08	\$1,204,802 740,706

Commented [A5]: Please see edits to account for the Wheatridge east substation

Commented [A6]: Updated to reflect miles of road for the approved facility.

Commented [A7]: $8,706 \times 128.4 = 1,117,850$

Commented [A8]: The 43.32 miles should be deducted from the total.

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility				WREFI		WREFII	
		No. of Components		Total Cost		No. of Components		Total Cost	
and turbine turnouts (per acre)									
Seeding around collector line structures, transmission lines, crane paths and temporary laydown areas (per acre)	\$3,398	144.19		\$489,958		0		0	
General Costs									
Permits, mobilization, engineering, overhead	\$465,536	--		\$465,536		--		\$151,398	
Wind Facility Components Subtotal									
Subtotal (Q3 2015) =				\$13,769,936		--		\$2,406,615	
Subtotal (Q2 2020) =				\$16,113,722		--		\$2,620,804	
Battery Storage Systems (Approved in 2018)									
		30MW	20MW	30MW	20MW	30MW		20/30MW	
Field Management (Per Day)	\$1,341	15	10	\$20,115	\$13,410	15	\$20,115	25	\$33,525

Commented [A9]: The \$151,398 for WREFI should be deducted from the total.

Commented [A10]: Totals not changed and no changes from here down.

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility				WREFI		WREFII	
		No. of Components		Total Cost		No. of Components	Total Cost	No. of Components	Total Cost
Battery Removal (Per Day)	\$1,482	13	9	\$19,275	\$13,338	13	\$19,275	22	\$32,613
Transport Batteries (Per Battery)	\$1,487	7	5	\$10,409	\$7,435	7	\$10,409	12	\$17,844
Battery Disposal Fees (Per Ton)	\$200	131	87	\$26,200	\$17,400	131	\$26,200	218	\$43,600
Structural Demolition (Per Ton)	\$110	130	87	\$14,257	\$9,570	130	\$14,257	217	\$23,827
Transport of Demolition Waste (Per Load)	\$1,375	7	5	\$9,625	\$6,875	7	\$9,625	12	\$16,500
Structural Demolition Waste Disposal Fees (Per Ton)	\$30	130	87	\$3,900	\$2,600	130	\$3,900	217	\$6,500
Concrete Breaking and Excavation (Per Cubic Yard)	\$46	260	173	\$11,960	\$7,958	260	\$11,960	433	\$19,918
Concrete Transport Offsite (Per Cubic Yard)	\$63	260	173	\$16,380	\$10,899	260	\$16,380	433	\$27,279

Table 1: Facility Decommissioning Cost Estimate (Approved Facility, WREFI and WREFII)

Facility Component	Unit Cost	Approved Facility				WREFI		WREFII	
		No. of Components		Total Cost		No. of Components	Total Cost	No. of Components	Total Cost
Underground Utility Removal (Per Day)	\$1,101	3	2	\$3,303	\$2,202	3	\$3,303	5	\$5,505
Restoration (Per Cubic Yard)	\$33	300	200	\$9,990	\$6,600	300	\$9,990	500	\$16,590
Battery Storage Systems Subtotal									
Subtotal (Q3 2018) =				\$145,414	\$98,287	--	\$145,414	--	\$243,701
15% Subcontractor Markup =				\$21,803	\$14,745	--	\$21,803	--	\$46,548
Subtotal with Markup (Q3 2018) =				\$167,226	\$113,030	--	\$167,226	--	\$280,256
Subtotal (Q2 2020) =				\$172,511	\$114,595	--	\$172,511	--	\$287,106
Wind Facility Components and Battery Storage Systems – Summary Total (Q2 2020 Dollars)									
Wind Facility Components (Q2 2020) =							\$2,620,804	--	\$13,492,918
Battery Storage Systems (Q2 2020) =							\$172,511	--	\$287,106
Wind Facility Components and Battery Storage Systems (Q2 2020) (without ODOE Contingencies) =							\$2,793,315	--	\$13,780,024
ODOE Applied Contingencies									
1% Performance Bond =							\$27,933	--	\$137,800
10% Project Management =							\$279,331	--	\$1,378,002
10% Future Development =							\$279,331	--	\$1,378,002
Wind Facility Components and Battery Storage Systems (Q2 2020) (with ODOE Contingencies)							\$3,379,911	--	\$16,673,829

Attachment C: Draft Amended Habitat Mitigation Plan

Wheatridge ~~Wind Energy~~ ~~Project~~Renewable Energy Facility I and Wheatridge Renewable Energy Facility II

Habitat Mitigation Plan

Prepared for
Wheatridge Wind Energy, LLC
and
Wheatridge Wind II, LLC
245 W. Main Street, Suite 200
Ione, Oregon 97843

Prepared by:



Northwest Wildlife Consultants, Inc.

~~815 NW 4th St.
Pendleton, Oregon 97801~~

And



Tetra Tech, Inc.
1750 SW Harbor Way, Suite 400
Portland, Oregon 97201

~~February~~ March April 2020

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Appendix D. Wheatridge Wind Energy Facility's Habitat Mitigation Area Annual Reporting Outline

1.0 Introduction

This Habitat Mitigation Plan (HMP) has been prepared for the Wheatridge Renewable Energy Facility I (WREFI), a 100-megawatt (MW) wind energy facility, and the Wheatridge Renewable Energy Facility II (WREFII) West, a 400-MW wind energy facility. Both WREFI and WREFII West are in Morrow County. The two facilities were originally permitted as part of a larger facility, the Wheatridge Wind Energy Facility (WRW). WRW was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a), consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation, but after construction had commenced, WRW was split into WREFI and WREFII. The site certificate for WREFI is held by Wheatridge Wind Energy, LLC and the site certificate for WREFII is held by Wheatridge Wind II, LLC (collectively, the certificate holders). WREFI is within the Wheatridge West portion of the WREF. WREFII is a 400-MW wind energy and 150-MW solar energy and battery storage facility within Wheatridge West and Wheatridge East. Of the 400 MW of wind energy in WREFII, 200 MW is located within Wheatridge West and is referred to as WREFII West in this HMP. This HMP reflects the HMP prepared and amended for Wheatridge West as part of pre-construction compliance in coordination with ODOE and Oregon Department of Fish and Wildlife (ODFW). This HMP fulfills the mitigation responsibility for WREFI; the certificate holder for WREFII will amend this HMP or prepare separate HMPs for the remaining portions of WREFII prior to construction of those facilities.

The Wheatridge Wind Energy Facility (Facility) is a 300-megawatt (MW) wind energy generation facility located in Morrow county that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction and operation on April 28, 2017 (EFSC 2017). The Certificate Holder subsequently received EFSC approval to amend the site certificate three times, prior to facility construction.

Facility components within Morrow County are referred to as "Wheatridge West" associated with WREFI and WREFII West and include the following related or supporting facilities:

- Electrical collection system;
- One collector substation;
- Permanent meteorological (met) towers;
- Communication and Supervisory Control and Data Acquisition (SCADA) System;
- One operations and maintenance (O&M) building;

¹ The site certificate for the WREF was amended five times, including the addition of solar energy generation and battery storage components and splitting the facility into WREFI and WREFII (EFSC 2017b, EFSC 2018a, EFSC 2018b, EFSC 2019).

- New or improved access roads; and
- Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas).

~~Wheatridge West is located entirely within Morrow County and is bisected by Oregon Highway 207. It is approximately 5 miles northeast of Lexington, and approximately 7 miles northwest of Heppner.~~

This HMP provides documentation that construction and operation of ~~Wheatridge West~~ WREFI and WREFII West ~~is~~ are in compliance with EFSC's Fish and Wildlife Habitat standard in Oregon Administrative Rule (OAR) 345-022-0060), which implements ~~Oregon Department of Fish and Wildlife's (ODFW)~~ Fish and Wildlife Habitat Mitigation Policy, ~~Oregon Administrative Rule (OAR)~~ 635-415-0000 through 0025. The ~~Certificate Holder's~~ certificate holders' goal is to reduce and eliminate the effects on wildlife and habitat from construction and operation ~~of Wheatridge West~~ by implementing this HMP along with their respective Revegetation Plans, noxious weed control plans, and Wildlife Monitoring and Mitigation Plans. ~~This HMP commits to preserving, enhancing, and maintaining in-kind habitat in the Columbia Basin Ecoregion to achieve the mitigation goals described in the ODFW Habitat Mitigation Policy.~~

2.0 Pre-Construction Compliance

This HMP for ~~the Wheatridge West portion of the Facility~~ WREFI and WREFII West will show compliance with the WREF Site Certificate condition PRE-FW-01 and PRE-FW-4, which read:

***PRE-FW-01** Prior to final site design and facility layout, the certificate holder shall conduct a field-based habitat survey to confirm the habitat categories of all areas that will be affected by facility components, as well as the locations of any sensitive resources such as active raptor and other bird nests. The survey shall be planned in consultation with the department and ODFW, and survey protocols shall be confirmed with the department and ODFW. Following completion of the field survey, and final layout design and engineering, the certificate holder shall provide the department and ODFW a report containing the results of the survey, showing expected final location of all facility components, the habitat categories of all areas that will be affected by facility components, and the locations of any sensitive resources.*

The report shall also include an updated version of Table FW-1 Potential Temporary and Permanent Impacts by Habitat Category and Type of the final order, showing the acres of expected temporary and permanent impacts to each habitat category, type, and sub-type. The preconstruction survey shall be used to complete final design, facility layout, and micro-siting of facility components. As part of the report, the certificate holder shall include its impact assessment methodology and calculations, including assumed temporary and permanent impact acreage for each transmission structure, wind turbine, access road, and all other facility components. If construction laydown yards are to be retained post construction, due to a landowner request or otherwise, the construction laydown yards must be calculated as permanent impacts, not temporary. In classifying the affected habitat into habitat categories,

the certificate holder shall consult with the department and ODFW. The certificate holder shall not begin construction of the facility until the habitat assessment, categorization, and impact assessment has been approved by the department, in consultation with ODFW. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

PRE-FW-04 *Before beginning construction the certificate holder shall prepare and receive approval from the department of a final Habitat Mitigation Plan. The final Habitat Mitigation Plan shall be based on the final facility design and shall be approved by the department in consultation with ODFW. The Council retains the authority to approve, reject or modify the final HMP.*

- a. The final Habitat Mitigation Plan and the department's approval must be received prior to beginning construction. The department shall consult with ODFW on the final plan. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.*
- b. The certificate holder shall calculate the size of the habitat mitigation area according to the final design configuration of the facility and the estimated areas of habitat affected in each habitat category, in consultation with the department, as per the pre-construction survey results and impact assessment calculations called for in Fish and Wildlife Condition 1.*
- c. The certificate holder shall acquire the legal right to create, enhance, maintain, and protect the habitat mitigation area, as long as the site certificate is in effect, by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the department prior to the start of construction. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the final Habitat Mitigation Plan.*
- d. The certificate holder shall provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map and available acres by habitat category and subtype in tabular format.*
- e. The final HMP shall include an implementation schedule for all mitigation actions, including securing the conservation easement, conducting the ecological uplift actions at the habitat mitigation area, revegetation and restoration of temporarily impacted areas, and monitoring. The mitigation actions shall be implemented according to the following schedule, as included in the HMP:*
 - i. Restoration and revegetation of temporary construction-related impact area shall be conducted as soon as possible following construction.*
 - ii. The certificate holder shall obtain legal authority to conduct the required mitigation work at the compensatory habitat mitigation site before commencing construction. The habitat enhancement actions at the*

compensatory habitat mitigation site shall be implemented concurrent with construction.

- f. The final HMP shall include a monitoring and reporting program for evaluating the effectiveness of all mitigation actions, including restoration of temporarily impacted areas and ecological uplift actions at the habitat mitigation area.*
- g. The final HMP shall include mitigation in compliance with the Council's Fish and Wildlife Habitat standard, including mitigation for temporary impacts to Category 4 habitat (shrub-steppe habitat); and, mitigation for all Category 2 habitat impacts that meet the mitigation goal of no net loss of habitat quality or quantity, plus a net benefit of habitat quality or quantity.*
- h. The final HMP 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.*

3.0 Habitat Categories and Habitat Types

In compliance with Condition PRE-FW-01, a pre-construction habitat survey was conducted in 2019 to verify habitat subtypes and habitat categories of all areas to be affected by ~~Wheatridge West~~WREFI and WREFII West facilities. This survey was planned in consultation with ODFW and a protocol was reviewed and approved by ODFW (Appendix A). Pre-construction surveys for Washington ground squirrels, rare plants, raptor nests, and special-status species were also conducted in 2019 in compliance with Condition PRE-FW-01 for identification of sensitive resources and other conditions specific to the implementation of Washington ground squirrel and rare plant surveys.

The ODFW Fish and Wildlife Habitat Mitigation Policy provides a framework to categorize habitats based on type, quality, availability, and usefulness/importance to wildlife, and establishes mitigation goals and implementation standards for each. Table 1 defines each of the six habitat category types as presented in the ODFW Habitat Mitigation Policy.

Table 1. Habitat Categorization Types

Category Type	Definition ¹	Mitigation Goal
1	Irreplaceable, essential habitat for a fish or wildlife species, population, or a unique assemblage of species and is limited on either a physiographic province or site-specific basis, depending on the individual species, population or unique assemblage.	The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality.
2	Essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.	The mitigation goal if impacts are unavoidable is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.
3	Essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.	The mitigation goal is no net loss of either habitat quantity or quality.
4	Important habitat for fish and wildlife species.	The mitigation goal is no net loss of either habitat quantity or quality.
5	Habitat for fish and wildlife having high potential to become either essential or important habitat.	The mitigation goal, if impacts are unavoidable, is to provide a net benefit in habitat quantity or quality.
6	Habitat that has low potential to become essential or important habitat for fish and wildlife.	The mitigation goal is to minimize impacts.
1. Source: OAR 635-415-0025.		

For ~~Wheatridge West~~WREFI and WREFII West, Category 1 habitat could include suitable habitat within 785 feet of documented Washington ground squirrel (*Urocitellus washingtoni*) colonies. Category 2 habitat could be associated with ODFW mule deer winter range (ODFW 2012), areas of potential Washington ground squirrel use, and high-quality native habitat. Areas of potential ground squirrel use are defined as being suitable habitat within 4,921 feet ~~(1.5 kilometers [km])~~ of Washington ground squirrel ~~Category 1 habitat~~colonies, but not occupied by any squirrels either for burrowing or foraging. Category 3, 4, and 6 habitats could include areas that do not function as mule deer winter range and do not contain Washington ground squirrel colonies or areas of potential use. Category 5 has not been identified ~~for Wheatridge West~~ and does not occur in ~~the site boundary~~WREFI and WREFII West. Habitat types include grassland, shrub-steppe, and developed. Each of these habitat types contain habitat subtypes that were used to map habitat in the ~~Wheatridge West~~WREFI and WREFII site boundaries. Table 2 is a habitat categorization matrix that defines the habitat subtypes and the corresponding habitat categories in which each habitat subtype may fall based on proximity to wildlife resources and/or vegetation composition.

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Table 2. ~~Wheatridge West~~WREFI and WREFII West Habitat Categorization Matrix

Habitat type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Grassland	Exotic Annual Grassland	Active Washington ground squirrel colony with a 785-foot buffer (area required for squirrel survival) in suitable habitat.	Additional 4,921 foot (1.5km) buffer (area of potential WAGS use) of WAGS Category 1 habitat except where there are habitat barriers to dispersal. OR Overlaps with ODFW mule deer winter range.	-	Non-native grasslands with a very high weed component and disturbed or less nutrient-rich soils. The forb component is composed primarily of non-native weeds, such as cheatgrass, bulbous bluegrass, cereal rye, tumbled mustard, and Russian thistle, with occasional patches of native bunchgrass, primarily Sandberg bluegrass. The high weed content is primarily due to past fires, which burned native shrubs and bunchgrasses and were followed by heavy grazing and/or wind erosion. Some of these sites support long-billed curlew. Category 4 Exotic Annual Grassland provides important habitat to common species like horned lark, but the dense weed cover and lack of native grasses limit the ability of most wildlife species to use these areas for forage or cover. In addition, the weed cover, often dominated by annuals such as cheatgrass, makes the slopes in this area more susceptible to erosion and soil damage from grazing, because of a lack of the robust root structure found in perennial species, such as the native bunchgrasses. With sufficient time and appropriate livestock grazing practices, however, these areas could become suitable habitat for some native wildlife species. This habitat is commonly found throughout the Columbia Basin.	-	-
	Native Grassland	Active Washington ground squirrel colony with a 785-foot buffer (area required for squirrel survival) in suitable habitat.	Additional 4,921 foot (1.5km) buffer (area of potential WAGS use) of WAGS Category 1 habitat except where there are habitat barriers to dispersal. OR Overlaps with ODFW mule deer winter range.	Dominated by native perennial grasses such as Sandberg bluegrass, bluebunch wheatgrass, Idaho fescue, western needlegrass, and needle-and-thread grass. Various native forbs and low shrubs such as gray rabbitbrush and, to a lesser extent, green rabbitbrush are present but are an inconspicuous component. Native vascular plants are diverse and a variety of invertebrates can be found utilizing the plants throughout the growing season. These habitats have been altered through land use or wildfires, and generally contain a significant component of non-native vegetation (broad-leaf weeds and annual grasses). Category 3 Native Perennial Grasslands generally occur on sites with shallow soils and harsh exposures, or in areas that have experienced livestock grazing or frequent fires. Provide essential foraging habitat to a variety of common resident and migratory birds and common mammals. State Sensitive species that occur in this habitat include white-tailed jackrabbit, long-billed curlew, burrowing owl, and grasshopper sparrow. Native grasses and forbs provide forage for mule deer.	Category 4 Native Perennial Grassland is ecologically similar to Category 3 Native Perennial Grassland but is classified as Category 4 because its small size and isolated nature limit its value to wildlife.	-	-

Habitat type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Shrub-steppe	Basin Big Sagebrush Shrub-steppe	Active Washington ground squirrel colony with a 785-foot buffer (area required for squirrel survival) in suitable habitat.	<p>Additional 4,921-foot (1.5km) buffer (area of potential WAGS use) of WAGS Category 1 habitat except where there are habitat barriers to dispersal.</p> <p>OR</p> <p>Overlaps with ODFW mule deer winter range.</p> <p>OR</p> <p>Shrub-steppe habitat with an overstory of mature (large structure) patches of basin big sagebrush. Understory plants consist of a mix of native bunchgrasses and exotic annual grasses depending largely on level of impact from disturbance. Common grasses are Sandberg bluegrass, bluebunch wheatgrass, cheatgrass, and bulbous bluegrass. Category 2 Basin Big Sagebrush Shrub-steppe has a higher shrub density and greater plant health than similar but lesser quality Category 3 Basin Big Sagebrush Shrub-steppe habitat. Category 2 Basin Big Sagebrush Shrub-steppe offers high quality breeding habitat for shrub obligate species including loggerhead shrike, and shrike and may support Washington ground squirrel and white-tailed jackrabbit. Sagebrush lizard may be found in areas where more sandy soils are present.</p>	<p>Patches of Category 3 Basin Big Sagebrush Shrub-steppe lack the density and plant health of Category 2 Basin Big Sagebrush Shrub-steppe or are in patches of limited size. The overstory sagebrush in this type is often decadent or lacks full foliage. Understory vegetation in Category 3 Basin Big Sagebrush Shrub-steppe often tends toward annual grasses and low weeds. These areas were historically higher quality habitats but are experiencing degradation due to land use practices or frequent fires. However, the mature shrub cover provides escape and resting cover for common wildlife and is limited in the immediate area and the region.</p>	-	-	-
	Rabbitbrush/ Snakeweed Shrub-steppe	Active Washington ground squirrel colony with a 785-foot buffer (area required for squirrel survival) in suitable habitat.	<p>Additional 4,921-foot (1.5km) buffer (area of potential WAGS use) of WAGS Category 1 habitat except where there are habitat barriers to dispersal.</p> <p>OR</p> <p>Overlaps with ODFW mule deer winter range.</p>	<p>Have been affected by recent fires and are in a relatively early seral stage. Native rabbitbrush and other low-stature plants such as broom snakeweed and various buckwheat species are common. The understory is native Sandberg bluegrass, non-native cheatgrass, bulbous bluegrass, and tumbled mustard. Patches of native perennial grasses, such as bluebunch wheatgrass and needle-and-thread grass, are present. Many of these sites contain small patches of sagebrush that are less than one acre (0.4 ha) in size. Category 3 Rabbitbrush/Snakeweed Shrub-steppe provides foraging, cover, and/or nesting habitat for white-tailed jackrabbit and grasshopper sparrow.</p>	<p>Has the same plant species, but species but differs in composition from Category 3 Rabbitbrush/Snakeweed Shrub-steppe in that it has a greater weed and annual grass component than Category 3 Rabbitbrush/Snakeweed Shrub-steppe. While aspect and soils may contribute somewhat to this, disturbances such as livestock grazing and fires likely have a far greater effect.</p>	-	-

Habitat type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Developed	Revegetated or Other Planted Grasslands	Active Washington ground squirrel colony with a 785-foot buffer (area required for squirrel survival) in suitable habitat.	Additional 4,921-foot (1.5km) buffer (area of potential WAGS use) of WAGS Category 1 habitat except where there are habitat barriers to dispersal. OR Overlaps with ODFW mule deer winter range.	Planted grasslands on previously farmed or other disturbed lands that may be enrolled in the Conservation Reserve Program. This habitat subtype is comprised mainly of native or native-like grasses. Native vegetation in Category 3 Revegetated or Other Planted Grasslands may be sparse and not well-developed, and <u>well-developed and</u> may have a significant component of annual grasses and weeds. This habitat supports state Sensitive species such as grasshopper sparrow and white-tailed jackrabbit.	-	-	-
	Dryland Wheat	-	-	-	-	-	Agricultural fields that are currently in small grain production or fallow.
	Other	-	-	-	-	-	Includes farming/ranching home and shop sites, corrals, structures, feedlots, active and inactive gravel quarries, non-irrigated pastures, graveled and paved roads, rights-of-way, and waste areas associated with on-going human activities.

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4.0 Micrositing

Sensitive resources were avoided during development of the site boundary based on baseline surveys performed in support of the Application for Site Certificate (ASC; Wheatridge Wind Energy 2015). Pre-construction surveys performed in 2019 have informed constraints mapping used by the Certificate Holder during micrositing within the approved site boundary.

Washington ground squirrel (*Urocitellus washingtoni*) colonies were identified during surveys performed between 2011 and 2013 in support of Exhibits P and Q of the ASC (Wheatridge Wind Energy 2015). The approved site boundary avoided these colonies and their associated Category 1 habitat. No Washington ground squirrels were detected during 2019 preconstruction surveys of the Facility (Tetra Tech 2019a).

Similar to Washington ground squirrel colonies, raptor nest locations (specifically ferruginous hawks and golden eagles) were avoided during initial siting of the Facility facilities for the ASC (Wheatridge Wind Energy 2015). The 2019 pre-construction raptor nest surveys identified 34 active nests within 2 miles of the site boundary (NWC 2019). Of those, nine nests of state sensitive raptors are within 0.25 miles of the site boundary. Condition CON-FW-02 stipulates that no ground-disturbing activity should occur within 0.25 miles of state sensitive raptor nests during seasonal restrictions. Table 3 provides information on the nest, the seasonal restriction, and the approach by the Certificate Holder to avoid impacts to the nest during construction (if nest were to be active in 2020). The nest locations of the nests are included in Figure 1 and Figure 2.

Table 3. 2019 State Sensitive Raptor Nests within 0.25 Miles of the Site Boundary

Nest ID	Species ¹	Nest Buffer Restriction	Mule Deer Winter Range Restriction	Resolution
3770	FEHA	March 15 – August 15	December 1 – March 31	While the nest buffer intersects the site boundary, there are no ground disturbing activities proposed within the nest buffer. All Facility components were removed from nest buffer during micrositing.
4688	SWHA	April 1 – August 15	NA	This nest is located in a tree at a residence near the intersection of HWY 207/Bombing Range Rd/Strawberry Ln, which will be used for delivery of Facility components. No ground disturbing activities will occur within the nest buffer.
4689	SWHA	April 1 – August 15	NA	While the nest buffer intersects the site boundary, there are no ground disturbing activities proposed within the nest buffer. All Facility components were removed from nest buffer during micrositing.
5001 & 5002	BUOW	April 1 – August 15	NA	The 0.25-mile buffer extends across Bombing Range Rd to the east of the burrows. Approximately 475 feet of an access road occurs within the nest buffer; however, the access road is on the opposite side of Bombing Range Rd from the burrows. The level of

Nest ID	Species ¹	Nest Buffer Restriction	Mule Deer Winter Range Restriction	Resolution
				activity associated with Bombing Range Rd effectively negates the need to extend seasonal restrictions across the road. Construction of the access road will be completed prior to April 1.
1727	SWHA	April 1 – August 15	NA	Ground disturbing activities within the nest buffer will occur outside of the nest buffer seasonal restriction <u>to the extent possible. If work must occur within the active nest buffer during the seasonal restriction, a plan will be prepared in coordination with ODFW to ensure compliance with condition CON-FW-02. If necessary, an exception request to condition CON-FW-02 will be submitted.</u> Some construction traffic may use the road within the nest buffer during the seasonal restriction.
4692	SWHA	April 1 – August 15	NA	Construction of the collector line will occur within the nest buffer but outside of the nest buffer seasonal restriction <u>to the extent possible. If work must occur within the active nest buffer during the seasonal restriction, a plan will be prepared in coordination with ODFW to ensure compliance with condition CON-FW-02. If necessary, an exception request to condition CON-FW-02 will be submitted.</u>
3789	SWHA	April 1 – August 15	December 1 – March 31	Turbine, collection, and roads are within the nest buffer. Construction will be completed prior to April 1. Work in this area will occur within the mule deer winter range restriction. The Certificate Holder has prepared a <u>An exception request to perform work in mule deer winter range during the winter range restriction has been approved.</u>
4685	SWHA	April 1 – August 15	December 1 – March 31	While the nest buffer intersects the site boundary, there are no ground disturbing activities proposed within the nest buffer. All Facility components were removed from nest buffer during micrositeing.
4696	FEHA	March 15 – August 15	December 1 – March 31	While the nest buffer intersects the site boundary, there are no ground disturbing activities proposed within the nest buffer. All Facility components were removed from nest buffer during micrositeing.
1. BUOW = Burrowing Owl; FEHA = Ferruginous Hawk; SWHA = Swainson's Hawk.				

Condition CON-FW-01 states that no construction shall occur in mule deer winter range during winter, defined as December 1 to March 31. In order to avoid ground disturbing activities within a raptor nest buffer (Nest ID 3789; Table 3) during the nesting period, ~~the Certificate Holder work must be performed near~~ work must be performed near Turbine 111 during the mule deer winter restriction period. This includes constructing approximately 1,500 feet of access road;

blasting, excavating, and pouring a concrete turbine foundation; erecting the turbine; and trenching collection lines. This would occur in revegetated grassland and dryland wheat habitat. ~~The Certificate Holder has prepared a~~An exception request to condition CON-FW-01 to perform this work, including a plan to avoid, minimize, and mitigate for impacts on mule deer winter range during the seasonal restriction was approved.

Condition PRE-TE-03 states that the ~~Certificate Holder~~certificate holders will avoid ground disturbance where Laurent's milkvetch (*Astragalus collinus* var. *laurentii*) occurs. Pre-construction surveys identified this plant within the site boundary (Tetra Tech 2019b). ~~The extent of the population is such that micro-siting within the site boundary cannot avoid impacts to the population. The Certificate Holder has prepared a~~An exception request to condition PRE-TE-03 was approved to perform ~~this work~~work in habitat occupied by Laurent's milkvetch. ~~The exception request including includes~~ a plan to avoid, minimize, and mitigate for impacts on the rare plant population.

5.0 Temporary and Permanent Impacts

The construction area for ~~Wheatridge West~~WREFI and WREFII West is confined to the regulatory site boundary/micrositing corridors included in the Site Certificate, as shown in Figure 1 and Figure 2. The ~~Wheatridge West~~WREFI and WREFII West components and their assumed temporary and permanent impact acreage are shown in Table 4, as required by condition PRE-FW-01. The SCADA system is incorporated into the components listed in Table 4. The temporary ~~disturbance impact~~ areas for each component often overlaps with the temporary ~~disturbance impact~~ areas for other components; therefore, the values presented in Table 4 should not be compared against the temporary ~~disturbances impacts~~ by habitat subtype presented in ~~this HMPT~~Table 5 for WREFI and Table 6 for WREFII West. For instance, the collection system is usually sited adjacent to access roads and turbine pads, and their temporary ~~disturbance impact~~ areas overlap. See Table 5 for the presentation of temporary and permanent impact acreages that considers this overlap.

Table 4. Assumed Temporary and Permanent Impact Acreage for ~~Wheatridge West~~WREFI and WREFII West Components

Component	Temporary Disturbance Impact per Component ¹	Permanent Disturbance Impact per Component	Number of Components	Project-Wide Temporary Disturbance Impact by Component ¹	Project-Wide Permanent Disturbance Impact by Component
Turbine ²	1.57 acres	0.05 acres	120	188.4 acres	6.0 acres
Collector Substation	N/A ³	1.69 acres ⁴	1	N/A	1.69 acres
O&M Building	N/A ³	0.86 acres ⁴	1	N/A	0.86 acres

Component	Temporary Disturbance Impact per Component ¹	Permanent Disturbance Impact per Component	Number of Components	Project-Wide Temporary Disturbance Impact by Component ¹	Project-Wide Permanent Disturbance Impact by Component
Collection System	4.8 acres per mile ⁵	N/A ⁶	134.9 miles	647.5 acres	N/A ⁶
Met Towers	0.04 acres	0.01 acres	4	0.16 acres	0.04 acres
Access Roads	4.2 acres per mile ⁷	1.9 acres per mile ⁸	42 miles	176.4	80.4
Temporary Construction Area 1	30.7	N/A ⁶	1	30.7	N/A ⁶
Temporary Construction Area 2	22.1	N/A ⁶	1	22.1	N/A ⁶
Project-Wide Grand Total				1,065.3⁸	89.0

Note: All ~~disturbances~~ ~~impacts~~ are estimates based on GIS measurements.

1. Temporary ~~disturbance~~ ~~does~~ ~~impacts~~ ~~do~~ not include the footprint of the permanent disturbance.
2. Turbine temporary ~~disturbance~~ ~~impacts~~ assumes a 150-foot radius work area around the center of turbine minus the permanent ~~disturbance~~ ~~impact~~ footprint. Turbine permanent ~~disturbance~~ ~~impacts~~ extends 20 feet around center of turbine and includes the driveway.
3. N/A = not applicable. There are no temporary ~~disturbances~~ ~~impacts~~ associated with this ~~Facility~~ component.
4. Includes driveway.
5. This assumes a 40-foot wide ground ~~disturbance~~ ~~impact~~ centered on the collection line.
6. N/A = not applicable. There ~~is~~ ~~are~~ no permanent ~~disturbance~~ ~~impacts~~ associated with this ~~Facility~~ component.
7. Access roads temporary ~~disturbance~~ ~~impacts~~ assume ~~s~~ a 50-foot wide temporary ground ~~disturbance~~ ~~impact~~ centered on the access road minus the permanent ~~disturbance~~ ~~impact~~ footprint. The access roads permanent ~~disturbance~~ ~~impacts~~ assume ~~s~~ a 16-foot wide permanent road surface.
8. This total includes 398 acres of overlap between the assumed temporary ~~disturbance~~ ~~impact~~ area of all ~~Facility~~ components. The actual temporary ~~disturbance~~ ~~impact~~ minus overlap is 667.3 acres (Table 5).

Table 5. Temporary and Permanent Impacts by Habitat Category and Habitat Subtype in Wheatridge West

Habitat Category and Habitat Subtype	Impacts (acres) ¹	
	Temporary	Permanent
Category 2		
Developed-Revegetated or Other Planted Grassland	87.4	16.3
Grassland-Exotic Annual	10.3	1.4
Grassland-Native Perennial	18.3	3.1
Subtotal Category 2	115.9	20.9
Category 3		
Developed-Revegetated or Other Planted Grassland	44.4	3.5

Habitat Category and Habitat Subtype		Impacts (acres) ¹	
		Temporary	Permanent
Grassland-Native Perennial		32.7	5.5
Shrub-steppe-Basin Big Sagebrush		1.5	0.4
Shrub-steppe-Rabbitbrush/Snakeweed		2.4	0.0
Subtotal Category 3		80.9	9.4
Category 4			
Grassland-Exotic Annual		17.5	1.4
Shrub-steppe-Rabbitbrush/Snakeweed		0.3	0.0
Subtotal Category 4		17.8	1.5
Category 6			
Developed-Dryland Wheat		451.7	57.2
Developed-Other		1.0	0.1
Subtotal Category 6		452.6	57.3
Total for Wheatridge West	756.3	667.3	89.0
1. Totals in this table may not be precise due to rounding.			

Impacts may be permanent or temporary. Permanent impacts are defined as those impacts that will exist for the life of ~~the Facility~~ WREFI and WREFII West. Temporary impacts are those impacts that will be limited to the construction period, although recovery of habitat will vary by type. For example, the recovery period for agricultural areas that are temporarily disturbed could be as short as 1 to 3 years, while grasslands generally recover within 3 to 7 years and shrublands may require 10 to 50 years to recover (with the longer recovery periods being associated with mature sagebrush habitats). The ~~Certificate Holder~~ certificate holders will restore temporary impacts consistent with their ~~ir respective Revegetation~~ respective revegetation Planplans.

Pre-construction Washington ground squirrel surveys did not identify any colonies within the survey area ~~associated with Wheatridge West~~ (Tetra Tech 2019a). Therefore, **there are no impacts to Category 1 habitat**. Also, these surveys did not identify any Washington ground squirrel colonies whose associated areas of potential Washington ground squirrel use extend into the Wheatridge West site boundary. Therefore, there are no impacts to Category 2 Washington ground squirrel habitat, and the only impacts to Category 2 habitat comes from overlap with ODFW mule deer winter range.

Table 5 ~~and Table 6~~ shows the acres of permanent and temporary impacts in each habitat category by habitat subtype for ~~Wheatridge West~~ WREFI and WREFII West, respectively. No wetlands, perennial streams or other aquatic habitats are addressed in this document because no components ~~of the Facility~~ are planned for these habitat types. Figure 1 shows the location of temporary and permanent impacts from WREFI and Figure 2 shows the location of temporary and permanent impacts from WREFII West.

Table 5. Temporary and Permanent Impacts by Habitat Category and Habitat Subtype in WREFI

Habitat Category and Habitat Subtype		Impacts (acres)¹	
		Temporary	Permanent
Category 3			
<u>Developed-Revegetated or Other Planted Grassland</u>		<u>3.3</u>	<u>0.2</u>
<u>Grassland-Native Perennial</u>		<u>6.5</u>	<u>0.7</u>
<u>Shrub-steppe-Basin Big Sagebrush</u>		<u>1.5</u>	<u>0.4</u>
<u>Shrub-steppe-Rabbitbrush/Snakeweed</u>		<u>2.4</u>	<u>0.0</u>
Subtotal Category 3		<u>13.7</u>	<u>1.3</u>
Category 4			
<u>Grassland-Exotic Annual</u>		<u>3.8</u>	<u>0.5</u>
Subtotal Category 4		<u>3.8</u>	<u>0.5</u>
Category 6			
<u>Developed-Dryland Wheat</u>		<u>195.6</u>	<u>24.6</u>
<u>Developed-Other</u>		<u>0.7</u>	<u>0.1</u>
Subtotal Category 6		<u>196.4</u>	<u>24.7</u>
Total for WREFI	<u>240.5</u>	<u>214.0</u>	<u>26.5</u>
1. Totals in this table may not be precise due to rounding.			

Table 6. Temporary and Permanent Impacts by Habitat Category and Habitat Subtype in WREFII West

Habitat Category and Habitat Subtype		Impacts (acres)¹	
		Temporary	Permanent
Category 2			
<u>Developed-Revegetated or Other Planted Grassland</u>		<u>87.4</u>	<u>16.3</u>
<u>Grassland-Exotic Annual</u>		<u>10.3</u>	<u>1.4</u>
<u>Grassland-Native Perennial</u>		<u>18.3</u>	<u>3.1</u>
Subtotal Category 2		<u>115.9</u>	<u>20.9</u>
Category 3			
<u>Developed-Revegetated or Other Planted Grassland</u>		<u>41.1</u>	<u>3.3</u>
<u>Grassland-Native Perennial</u>		<u>26.1</u>	<u>4.8</u>
Subtotal Category 3		<u>67.2</u>	<u>8.0</u>
Category 4			
<u>Grassland-Exotic Annual</u>		<u>13.6</u>	<u>0.9</u>
<u>Shrub-steppe-Rabbitbrush/Snakeweed</u>		<u>0.3</u>	<u>0.0</u>
Subtotal Category 4		<u>13.9</u>	<u>1.0</u>

<u>Habitat Category and Habitat Subtype</u>		<u>Impacts (acres)¹</u>	
		<u>Temporary</u>	<u>Permanent</u>
<u>Category 6</u>			
<u>Developed-Dryland Wheat</u>		<u>256.1</u>	<u>32.5</u>
<u>Developed-Other</u>		<u>0.2</u>	<u>0.0</u>
<u>Subtotal Category 6</u>		<u>256.3</u>	<u>32.5</u>
<u>Total for WREFII West</u>	<u>515.8</u>	<u>453.3</u>	<u>62.4</u>
1. Totals in this table may not be precise due to rounding.			

Figure 1 shows all areas of temporary and permanent disturbance by habitat category and habitat subtype.

6.0 Methods for Calculating Mitigation

The HMP included in the ASC had used either a 2:1 or >1:1 ratio for impacts on Category 2 habitat, depending on whether or not that habitat is within big game winter ranges. Condition PRE-FW-04(g) of the site certificate establishes that mitigation ratios for Category 2 habitat should all be the same, and that mitigation should be proposed for temporary impacts to Category 4 shrub-steppe habitat (EFSC 2017). In a conference call on November 8, 2019, ODFW provided further clarification to ODOE and the ~~Certificate Holder~~ certificate holders that temporary impacts to Category 2 grasslands (including native, annual, and revegetated grasslands) would not require mitigation and that revegetation of those temporary ~~disturbances~~ impacts should be adequate. The ratios have been modified to reflect all ODFW input. Table ~~6-7~~ shows the methods for calculating mitigation for permanent impacts and Table ~~7-8~~ shows the methods for calculating mitigation for temporary impacts. The ~~Certificate Holder~~ ~~is~~ ~~are~~ not proposing compensatory mitigation under the ODFW Fish and Wildlife Habitat Mitigation Policy for impacts to Category 6 habitat.

Table 67. Calculating Mitigation for Permanent Impacts

Habitat Category	Impact Acres	Mitigation Ratio ¹	Mitigation Description
Category 2	1	2	The mitigation goal for Category 2 habitat is “no net loss” and “net benefit.” Accordingly, mitigation for permanent impacts on Category 2 habitat needs to demonstrate a net benefit in quality or quantity.
Category 3 and Category 4	1	1	The mitigation goal for Category 3 and 4 habitats is “no net loss” in quantity or quality.
Category 6	1	0	The mitigation goal for impacts on Category 6 habitat is minimization; no compensatory mitigation proposed.
1. Mitigation ratios follow recommendations included in the August 27, 2019 comment letter from ODFW to ODOE regarding the Draft Proposed Order for RFA 4.			

Table 78. Calculating Mitigation for Temporary Impacts

Habitat Category	Habitat Subtype	Impact Acres	Mitigation Ratio ¹	Mitigation Description
Category 2	Grassland-Native Perennial, Grassland-Exotic Annual, Developed-Revegetated or Other Planted Grassland	1	0	The mitigation goal for Category 2 habitat is “no net loss” and “net benefit.” All areas of temporary disturbance <u>impacts</u> would be restored at the site of impact to meet the “no net loss” requirement. The proposed mitigation ratio for permanent impacts (Table 6) to grasslands would meet the “net benefit” requirement for all impacts to Category 2 grasslands.
Category 3	Shrub-steppe-Basin Big Sagebrush	1	1	The mitigation goal for Category 3 and 4 habitats is “no net loss” in quantity or quality. Depending on the habitat subtype temporarily disturbed, the proposed mitigation ratio would result in an equal or lesser amount of acreage of mitigation than what is impacted by the project. Combined with restoration of temporary impact disturbances , the proposed mitigation ratio is intended to account for the temporary loss of habitat functionality and meet the “no net loss” goal. Temporary disturbances <u>impacts</u> to Category 3 and Category 4 Grasslands are not mitigated beyond restoration.
	Shrub-steppe-Rabbitbrush/Snakeweed	1	0.5	
	Grassland-Native Perennial, Developed-Revegetated or Other Planted Grassland	1	0	
Category 4	Shrub-steppe-Rabbitbrush/Snakeweed	1	0.5	
	Grassland-Exotic Annual	1	0	
Category 6	Developed-Dryland Wheat, Developed-Other	1	0	The mitigation goal for Category 6 habitat is minimization; no compensatory mitigation is proposed.
1. Mitigation ratios follow recommendations included in the August 27, 2019 comment letter from ODFW to ODOE regarding the Draft Proposed Order for RFA4.				

7.0 Estimated Mitigation for ~~Wheatridge West Wind~~WREFI and WREFII West

Table ~~8-9~~ applies the acres of temporary and permanent impacts shown in Table 5 with the mitigation ratios shown in Table ~~6-7~~ and Table ~~7-8~~ to estimate mitigation requirements for WREFI. Table 10 applies the acres of temporary and permanent impacts shown in Table 6 with the mitigation ratios shown in Table 7 and Table 8 to estimate mitigation requirements WREFII West.

Table ~~89~~. Estimated Mitigation by Habitat Category and Habitat Subtype for WREFI

Habitat Category ¹	Habitat Subtype	Impact	Acres	Mitigation Ratio	Estimated Mitigation ²	Mitigation Subtotal by Habitat Category ²
3	Developed-Revegetated or Other Planted Grassland	Temp	44.4 <u>3.3</u>	0	0.0	<u>12.14.0</u>
		Perm	3.5 <u>0.2</u>	1	3.5 <u>0.2</u>	
	Grassland-Native Perennial	Temp	32.7 <u>6.5</u>	0	0	
		Perm	5.5 <u>0.7</u>	1	5.5 <u>0.7</u>	
	Shrub-steppe-Basin Big Sagebrush	Temp	1.5	1	1.5	
		Perm	0.4	1	0.4	
	Shrub-steppe-Rabbitbrush/ Snakeweed	Temp	2.4	0.5	1.2	
		Perm	0.0	1	0.0	
4	Grassland-Exotic Annual	Temp	17.5 <u>3.8</u>	0	0.0	<u>1.60.5</u>
		Perm	1.4 <u>0.5</u>	1	1.4 <u>0.5</u>	
TOTALS						<u>55.54.5</u>
1. No mitigation is accrued for impacts on Category 6 habitat.						
2. Totals in this table may not be precise due to rounding.						
3. All Category 2 habitat mitigation originates from impacts in mule deer winter range.						

Table 10. Estimated Mitigation by Habitat Category and Habitat Subtype for WREFII West

<u>Habitat Category¹</u>	<u>Habitat Subtype</u>	<u>Impact</u>	<u>Acres</u>	<u>Mitigation Ratio</u>	<u>Estimated Mitigation²</u>	<u>Mitigation Subtotal by Habitat Category²</u>
<u>2</u>	<u>Developed-Revegetated or Other Planted Grassland</u>	<u>Temp</u>	<u>87.4</u>	<u>0</u>	<u>0</u>	<u>41.8³</u>
		<u>Perm</u>	<u>16.3</u>	<u>2</u>	<u>32.7</u>	
		<u>Temp</u>	<u>10.3</u>	<u>0</u>	<u>0</u>	

<u>Habitat Category¹</u>	<u>Habitat Subtype</u>	<u>Impact</u>	<u>Acres</u>	<u>Mitigation Ratio</u>	<u>Estimated Mitigation²</u>	<u>Mitigation Subtotal by Habitat Category²</u>
	<u>Grassland-Exotic Annual</u>	<u>Perm</u>	<u>1.4</u>	<u>2</u>	<u>2.9</u>	
	<u>Grassland-Native Perennial</u>	<u>Temp</u>	<u>18.3</u>	<u>0</u>	<u>0</u>	
		<u>Perm</u>	<u>3.1</u>	<u>2</u>	<u>6.2</u>	
3	<u>Developed-Revegetated or Other Planted Grassland</u>	<u>Temp</u>	<u>41.1</u>	<u>0</u>	<u>0.0</u>	<u>8.1</u>
		<u>Perm</u>	<u>3.3</u>	<u>1</u>	<u>3.3</u>	
	<u>Grassland-Native Perennial</u>	<u>Temp</u>	<u>26.1</u>	<u>0</u>	<u>0</u>	
		<u>Perm</u>	<u>4.8</u>	<u>1</u>	<u>4.8</u>	
4	<u>Grassland-Exotic Annual</u>	<u>Temp</u>	<u>13.6</u>	<u>0</u>	<u>0.0</u>	<u>1.1</u>
		<u>Perm</u>	<u>0.9</u>	<u>1</u>	<u>0.9</u>	
	<u>Shrub-steppe-Rabbitbrush/Snakeweed</u>	<u>Temp</u>	<u>0.3</u>	<u>0.5</u>	<u>0.2</u>	
		<u>Perm</u>	<u>0.0</u>	<u>1</u>	<u>0.0</u>	
<u>TOTALS</u>						<u>51.0</u>
<u>1. No mitigation is accrued for impacts on Category 6 habitat.</u>						
<u>2. Totals in this table may not be precise due to rounding.</u>						
<u>3. All Category 2 habitat mitigation originates from impacts in mule deer winter range.</u>						

8.0 Habitat Mitigation Area

The Habitat Mitigation Area (HMA) is the area where the ~~Certificate Holder is~~ certificate holders are proposing to perform enhancement and preservation actions that are in addition to the revegetation of areas of temporary ~~disturbance impacts~~ associated with ~~the Facility~~ WREFI and WREFII West. The HMA must be large enough and have the characteristics to meet the standards set in OAR 635-415-0025.

According to ODFW standards, areas appropriate for mitigation of Category 2 and Category 3 habitat impacts must provide “in-kind” mitigation which creates similar structure and function to that being disturbed and also be “in-proximity” to the Project and have potential for habitat enhancement. The ~~Certificate Holder~~ certificate holders identified privately-owned land that contains native and revegetated uplands of interest and importance for conservation. The ~~Certificate Holder~~ certificate holders also looked for land that is within designated mule deer winter range. The ~~Certificate Holder has~~ certificate holders have secured an option agreement for up to 300 acres to be placed into a conservation easement where the HMA will be located. Once finalized, the executed conservation easement will be provided to ODOE.

8.1 Habitat Assessment and Mitigation Accounting

The ~~Certificate Holder has~~certificate holders have identified a 187.9-acre parcel of suitable in-kind and in-proximity habitat on 2,100 acres of private land along Rock Creek in Gilliam County within which they will establish a 55.5-acre HMA. Per Condition PRE-FW-04(d), a habitat assessment of the HMA has occurred, using methods approved by ODFW (Appendix A). Primary habitat subtypes were delineated on the property by qualified biologists (the private landowners of the HMA) using an intuitive meandering pedestrian survey. The 187.9-acre parcel that will contain the 55.5-acre HMA includes two primary habitat subtypes: 1 - Native Perennial Grassland and Shrub-steppe Mosaic; and 2 - Revegetated or Other Planted Grassland (Figure ~~23~~). A few rock escarpments also occur within the parcel. These habitats correspond with those being impacted by ~~Wheatridge West~~WREFI and WREFII West (Section 5.0). The Native Perennial Grassland and Shrub-steppe Mosaic includes native perennial grassland areas interspersed with sagebrush, rabbitbrush, and snakeweed. Representative photos of each habitat subtype are included in Appendix B. The primary habitat subtypes within the 187.9-acre parcel that will contain the 55.5-acre HMA correspond to Category 3 and Category 4 habitat subtype descriptions for ~~Wheatridge West~~for WREFI and WREFII West. However, the primary habitat subtypes in the 187.9-acre parcel that will contain the 55.5-acre HMA are in designated mule deer winter range (ODFW 2012) and are therefore modified to a Category 2 habitat.

Table ~~9-11~~ shows the acres of primary habitat subtypes that occur within the 187.9-acre parcel that will contain the 55.5-acre HMA that would provide a no net loss and/or a net benefit for areas disturbed by Wheatridge West. Table ~~10-12~~ shows the mitigation accounting for the combined mitigation requirements for WREFI and WREFII West and that results in~~shows and shows~~ a net benefit for impacts in Category 2 habitat and a no net loss for impacts in Category 3 and Category 4 habitat.

Table 116. Primary Habitat Subtypes that Occur on the HMA

Habitat Category	Primary Habitat Subtype	Acres	Description
2	Native Perennial Grassland and Shrub-steppe Mosaic	90	<p><i>Grassland</i></p> <p>Soil type and depth varies but is mostly deep loamy soils. Some shallow soils on plateaus and west or south facing slopes (stony loam). Small basalt escarpments on slopes. Canyons include small seeps and springs and basin wildrye, wild rose, clematis, larkspur and phacelia.</p> <p>Dominated by native perennial bunchgrass consisting of bluebunch wheatgrass, Sandberg's bluegrass, Idaho fescue and needle-and-thread grass. Scattered mature and young shrubs, not dense except in canyons. Sagebrush and rabbitbrush. Small areas of broom snakeweed scattered in disturbed areas. Numerous native forb species such as phlox, balsamroot, woolypod milkvetch, lupine, mariposa lily, shooting star and many others.</p> <p>Includes small patches of exotic annual grass and/or weeds (cheatgrass, bulbous bluegrass, cereal ryegrass, ventenata, tumblemustard, etc.). Open, low shrubs such as snakeweed and rabbitbrush in the annual grass sites.</p> <p><i>Shrub-steppe Mosaic</i></p> <p>Shrub-steppe patches in predominantly grassland habitat. Shrublands are dominated by cover of basin big sagebrush, some gray and green rabbitbrush and broom snakeweed. Open low shrubs such as buckwheats (<i>Erigonum</i> sp.) found in patches.</p>
	Revegetated or Other Planted Grassland	97.9	<p>Soils are mostly silt-loam. Perennial grassland revegetated after being previously farmed for dryland wheat, some historically enrolled in the Conservation Reserve Program or other previously farmed sites. Mature grasslands dominated by intermediate and tall wheatgrass and Sandberg or bulbous bluegrass, some fescue. Enhancements in the past ten years in some areas (seeding native perennials such as bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass and bottlebrush squirreltail) Residual (not previously plowed) native vegetation patches in a few locations and also on steeper slopes next to native perennial grassland. Scattered mature and young shrubs throughout (gray or green rabbitbrush, sagebrush), brome snakeweed in disturbed areas. Includes small patches of exotic annual grassland and/or weeds. Non-native forbs such as salsify, storksbill and field bindweed and native forbs such as lupine, shaggy fleabane and common yarrow.</p>

Table 1012. Mitigation Accounting

Impacted Habitat Subtype	Impacted Habitat Category	Mitigation Debit from Table 8-9 & 10 (Acres)	HMA Primary Habitat Subtypes Mitigation Credit – Category 2 (Acres)		Mitigation Debit Balance (Acres)
			Revegetated or Other Planted Grassland	Native Perennial Grassland and Shrub-steppe Mosaic	
Developed- Revegetated or Other Planted Grassland	2	-32.7	+32.7	-	0
Grassland- Exotic Annual		-2.9	-	+2.9	0
Grassland- Native Perennial		-6.2	-	+6.2	0
All Remaining Habitat	3 and 4	-13.7	-	+13.7	0
HMA Credit Subtotal by Habitat Subtype			32.7	22.8	
HMA Credit Grand Total			55.5		

Wildlife species usage of the approximately 2,100-acre property in which the HMA lies has been recorded for the past 11 years and is similar to what has been recorded during surveys of Wheatridge West. There are 152 bird species recorded from the property containing the HMA. This includes special status nesting bird species such as grasshopper sparrow. Several species of raptors, including golden eagle and ferruginous hawk, have been documented hunting on the property containing the HMA and some species nest onsite or in the general area. Mule deer and occasionally elk are observed wintering in the HMA and nearby. Appendix C includes a list of wildlife species observed at the property. Wind-blown ridges and south-facing slopes provide for early green-up big game forage. Other long-term conserved habitat (approximately 324 acres) consisting of Native Perennial Grassland and Shrub-steppe Mosaic, cliffs and escarpments along canyons is nearby (Figure 23). The property supports documented Washington ground squirrel use areas and habitat. With the addition of this HMA, a larger more contiguous tract of preserved habitat will be available for wildlife that provides important functionality and connectivity along Rock Creek in the Columbia Plateau.

8.2 Habitat Enhancement Actions

The HMA will be placed into a conservation easement that will not allow development of the HMA for the life of ~~the Facility~~ WREFI and WREFII West. Besides such legal protection to ensure no development, potential enhancement actions for the HMA include the following.

- Grazing practices compatible with conservation—wildlife habitat values will have priority and incompatible livestock grazing practices will not be allowed.

- The ~~Certificate Holder~~certificate holders will work with the landowner to monitor and control County-designated noxious weeds impacting wildlife habitat quality across the entire HMA.
- Seeding and planting sagebrush—sagebrush will be planted on 1.9 acres of the HMA (Figure ~~23~~) to account for the temporary (1.5 acres) and permanent disturbance impacts (0.4 acres) to 1.9 acres of Category 3 Shrub-steppe with Basin Big Sagebrush habitat subtype. Sagebrush planting will provide year-round thermal and hiding cover and browse for mule deer.
- A plan for fire response and control at the HMA will be coordinated with the landowner. This could be a stand-alone plan or the HMA could be included in the Facility's each of the Emergency Management Plans. It will include fire prevention measures, methods to detect fires, and a protocol for fire response and suppression. Some example measures that could be included are:
 - No vehicular travel will be permitted during periods of high fire potential.
 - When any spark producing equipment is being used onsite, the operator and assistants will have fire suppression items readily available and cell phones for calling responders if needed.
 - Fire response and suppression would be handled by the North Gilliam County Rural Fire Protection District, 1500 Railroad Ave, Arlington, OR 97812, (541) 454-2900.
 - Suppression efforts would be tailored to the habitat subtypes on the HMA, such as allowing grass fires while focusing suppression on sagebrush plantings.
- Modification of winter human activities— commitment to minimize human-caused disturbance impacts to mule deer during the winter period will enhance the HMA's ability to provide quality winter range. Some of the desirable winter range values described by ODFW are thermal cover, security from predation and harassment, adequate nutritional and escape from disturbance (ODFW 2013).
- Wildlife Projects:
 - Where old barbed wire fence on the HMA presents potential problems for big game and other wildlife, the ~~Certificate Holder~~certificate holders will work with the landowner to remove such fencing. An estimated 0.25-miles of old interior fencing is laid down or not functioning within the HMA boundary.
 - Upland gamebird/CRP-type guzzler as a watering source for wildlife. Example would be a full-ramp 500-gallon guzzler by Rainmaker Wildlife.
- Habitat protection will involve restricting any uses of the HMA that would be inconsistent with the goals of no net loss of habitats in Categories 2, 3, and 4 and a net benefit to Category 2 habitat quantity or quality.

8.3 HMA Monitoring

The ~~Certificate Holder~~certificate holders will ~~hire~~employ a qualified, ~~independent~~ investigator (wildlife biologist, botanist, or revegetation specialist) to conduct monitoring at the HMA and the success of its protection and (within applicable acres) enhancements. Monitoring duration is for the life of ~~the Facility~~WREFI and WREFII West, with annual monitoring occurring over the first 5 years. After Year 5, a long-term monitoring plan will be developed in consultation with ODOE and ODFW. At a minimum, annual monitoring for the first 5 years will include assessments of:

- Description of the amount and quality of vegetation at the HMA. Describe year-to-date climate data;
- Success of weed control measures;
- Degree of recovery of native grasses and forbs following disturbances such as habitat enhancement actions, fire, or erosion;
- Success of sagebrush plantings monitored in a 50- by 100-foot plot within each of the two planting areas (Figure ~~23~~). Three 50-foot transects will be established perpendicular to the long side of the plot. The transect monitoring will be of 6-foot wide belt transects with all shrubs occurring within the belt transect being recorded;
- Wildlife observed and notes on special status species (wildlife and plants) present;
- Observations of wintering mule deer will be recorded as observed from a distance (so disturbance is kept at a minimum); and
- Maintenance needs of guzzler.

Methods and results of all monitoring will be reported to ODOE and ODFW, along with a report of the mitigation/enhancement measures undertaken since the last monitoring report. An annual monitoring report outline is included as Appendix D. This outline is subject to change based on actual executed easement.

8.4 HMA Success Criteria

The goal of the habitat mitigation described herein is to protect and enhance a sufficient quantity of habitat to meet ODFW standards of no net loss of habitat Category 3 and Category 4 and a net gain in habitat quantity and quality of Category 2. Habitat protection alone—apart from enhancement—is not sufficient to meet the net-benefit criterion for Category 2 habitat. The entire HMA is within Category 2 mule deer winter range, so modifying the category through habitat enhancement actions is not possible. However, habitat enhancement actions will be implemented, and progress can be monitored against baseline conditions to determine success. It is also assumed that the Category 2 habitat in the HMA is currently functioning at a higher quality than the Category 2 habitat being ~~disturbed~~impacted at the Facility because the HMA contains a greater acreage of contiguous native grassland and shrub-steppe mosaic compared to what is being impacted ~~by the Facility~~ (122 acres at the HMA versus approximately 60 acres impacted by ~~the Facility~~WREFI and WREFII West). Table ~~11-13~~ shows the success criteria for the habitat enhancement actions proposed in Section 7.2.

Table 1113. HMA Success Criteria

Habitat Enhancement Action	Success Criteria
Grazing practices compatible with conservation	The Easement terms state that grazing, nature study, and other land uses are permitted provided that conservation and wildlife habitat values and wildlife use shall take precedence and priority where such uses are or may be deemed incompatible. Under the current ownership, no grazing is expected. If grazing is used in the future, monitoring of shrub recruitment and recruitment of other desirable shrub-steppe species can occur through photo point monitoring and qualitative observations.
County-designated noxious weed control	Control of County-designated noxious weeds at the HMA. Photo point monitoring will show that known sites of noxious weeds are not expanding or have been reduced or eliminated. Chemical control is the most likely method to be used; however, mechanical control methods may also be used depending on site-specific conditions.
Planting of sagebrush.	Successful establishment of sagebrush on 1.9 acres of the HMA in two areas (Figure 23). Photo point monitoring will show successful shrub establishment where planted. The average density or frequency of the shrub component should be at least 50 percent of the reference site established at the Facility for revegetation monitoring.
Fire response plan	Deliver a plan for the HMA to the North Gilliam County Rural Fire Protection District
Modification of winter human activities	Minimize human disturbance on the HMA from December 1 to March 31. Schedule routine ranch activities to be performed during other times of the year. There are no public roads or access points in or adjacent to the HMA. Ensure that signage where public roads intersect with access points to the property within which the HMA is located are clearly marked as private property with no trespassing.
Removal of old barbed wire fences	Removal and disposal of approximately 0.25-miles of old barbed wire fencing will be deemed successful through photographic documentation.
Installation of a wildlife guzzler	This action will be deemed successful after installation is complete. Monitoring reports will confirm continued operation and describe any maintenance activities performed to keep the guzzler in operation.

9.0 Implementation Schedule

As required by condition PRE-FW-04 (e), Table 12-14 includes a schedule for implementation of all mitigation actions, including those covered in other pre-construction compliance plans.

Table 1214. Mitigation Implementation Schedule

Mitigation Action	Schedule	Associated Plans
Restoration and revegetation of temporary construction-related impacts at the Facility.	As soon as possible following construction. Late fall seeding, just before the soil freezes, is typical when seeding grasses in the Columbia basin shrub-steppe ecoregion. Seeding can occur through early spring.	Wheatridge Wind Energy Project <u>WREF I Revegetation Plan</u> <u>WREF II Revegetation Plan</u>
Monitoring revegetation success at the Facility.	Annually for the first 5 years. Annual monitoring is anticipated to occur in the fall, with the annual monitoring report being provided the following spring. The Certificate Holder <u>certificate holders</u> will consult with ODOE and ODFW to design a long-term monitoring schedule.	<u>WREF I Revegetation Plan</u> <u>WREF II Revegetation Plan</u> Wheatridge Wind Energy Project Revegetation Plan
Monitoring weed control in the Facility revegetation areas.	Annually for the first five years. Early detection is paramount for successful weed control. Therefore, monitoring may occur earlier in the growing season and again during revegetation monitoring. Reporting on noxious weeds will be included in the revegetation annual monitoring report. The Certificate Holder <u>certificate holders</u> will consult with ODOE and ODFW to design a long-term monitoring schedule.	Wheatridge Wind Energy Project Noxious Weed Control Plan <u>WREF I Noxious Weed Control Plan</u> <u>WREF II Noxious Weed Control Plan</u>
Securing the conservation easement establishing the HMA.	Prior to commencing construction <u>operations.</u>	Wheatridge Wind Energy Project <u>WREF I and WREF II Habitat Mitigation Plan</u> <u>HMP</u>
Performing habitat enhancement actions at the HMA.	Concurrently with construction <u>Appropriate timeframe after construction.</u>	<u>WREF I and WREF II Habitat Mitigation Plan</u> <u>HMP</u> Wheatridge Wind Energy Project Habitat Mitigation Plan
Monitoring habitat enhancement actions at the HMA.	Annually for the first 5 years. Annual monitoring is anticipated to occur in the fall, with the annual monitoring report being provided the following spring. Then the Certificate Holder <u>certificate holders</u> will consult with ODOE and ODFW to design a long-term monitoring schedule.	<u>WREF I and WREF II Habitat Mitigation Plan</u> <u>HMP</u> Wheatridge Wind Energy Project Habitat Mitigation Plan

10.0 Amendment of the HMP

~~The final~~This HMP may be amended ~~from time to time~~ by agreement of the ~~Certificate Holder~~certificate holders and EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this plan. ODOE shall notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this plan agreed to by ODOE.

11.0 References

~~EFSC (Energy Facility Siting Council). 2017. Final Order: In the Matter of the Application for a Site Certificate for the Wheatridge Wind Energy Facility. April 2017.~~

~~EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.~~

~~EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.~~

~~EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 16, 2018.~~

~~EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.~~

~~EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.~~

ODFW (Oregon Department of Fish and Wildlife). 2012. Elk and Deer Winter Range for Eastern Oregon, East of the Crest of the Cascades. GIS data files (2). Available online at: <https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml>

ODFW. 2013. 2013 Oregon Big Game Winter Range Habitat Rationale. September 6, 2013.

Tetra Tech. 2019~~a~~. 2019 Washing Ground Squirrel Survey Report. Prepared for NextEra Energy. Portland, OR.

~~Tetra Tech. 2019b. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.~~

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Figures

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Appendix A. Email Approval from ODFW on Habitat Categorization Surveys

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Appendix B. Photolog

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**Appendix C. Wheatridge Habitat
Mitigation Area and Surrounding Area
Comprehensive List of All Vertebrate
Wildlife Observed 2008–2019**

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**Appendix D. ~~Wheatridge Wind Energy~~
~~Facility's~~ WREFI and WREFII Habitat
Mitigation Area Annual Reporting Outline**

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Attachment D: Draft Amended Revegetation Plans

Wheatridge ~~Wind Energy~~ Project Renewable Energy Facility I

Revegetation Plan

Prepared for:
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245 W. Main Street, Suite 200

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~~December 2019~~March~~April 2020~~

Effective Date: Wheatridge Renewable Energy Facility I Site Certificate Effective Date

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1.0 Introduction

This Revegetation Plan (Plan) has been prepared for the Wheatridge Renewable Energy Facility I (WREFI), a 100-megawatt (MW) wind energy facility in Morrow County. Wheatridge Wind Energy, LLC (Certificate Holder) holds the site certificate for WREFI. WREFI has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility II (WREFII).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WRW). WRW was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation but after construction had commenced, WRW was split into WREFI and WREF-II. This Plan has been prepared for WREFI but reflects the plan prepared for Wheatridge West as part of pre-construction compliance in coordination with and approved by the ODOE and Morrow County.

The Wheatridge Wind Energy Facility (Facility) is a 300-megawatt (MW) wind energy generation facility located in Morrow County, Oregon that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction and operation on April 28, 2017 (EFSC 2017). Wheatridge Wind Energy, LLC (the Certificate Holder) subsequently received EFSC approval to amend the site certificate three times prior to Facility construction.

Facility components within Morrow County include the following related or supporting facilities:

- An electrical collection system;
- One collector substation;
- Permanent meteorological towers;
- A communication and Supervisory Control and Data Acquisition System;
- One operations and maintenance building;
- New or improved access roads; and
- Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas).

¹ The site certificate for the WREFI was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

2.0 Pre-Construction Compliance

This plan addresses the following pre-construction conditions of the ~~Third-Fourth~~ Amended Site Certificate for the ~~Facility~~ WRW (EFSC ~~2018~~2019):

PRE-SP-02 *Prior to construction, the certificate holder shall ensure that the final Revegetation Plan includes a program to protect and restore agricultural soils temporarily disturbed during facility construction. As described in the final order, agriculture soils shall be properly excavated, stored, and replaced by soil horizon. Topsoil shall be preserved and replaced. The Revegetation Plan shall be finalized pursuant to Fish and Wildlife Habitat Condition 11 (PRE-FW-05).*

PRE-FW-05 *Before beginning construction, the certificate holder shall prepare and receive approval of a final Revegetation Plan, provided as Attachment C to this order, from the department, in consultation with Umatilla and Morrow counties and ODFW. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.*

The details of this plan were developed in consultation with personnel from the Oregon Department of Fish and Wildlife (ODFW), ODOE and Morrow County Weed Control Department. This plan describes the practices and standards for restoring those areas temporarily disturbed during construction of ~~the Facility~~ WREFI, including planting methods, monitoring requirements, success criteria, and adaptive management (in case success criteria are not met); it does not apply to areas permanently occupied by ~~the Facility~~ WREFI. Throughout construction and revegetation activities, the Certificate Holder will take appropriate actions to prevent the spread of noxious weeds ~~(as identified in the Morrow County 2019)~~ as identified in the May 2019 Morrow County Code Enforcement Ordinance Section 11. ~~per the Noxious Weed Control Plan (Tetra Tech 2020).~~ Where appropriate, and pursuant to consultation with the Morrow County Weed Control Supervisor, monitoring of noxious weeds and the effectiveness of weed control/eradication efforts will be performed concurrently with the revegetation monitoring described in this document. A stand-alone Noxious Weed Control Plan ~~has also been prepared for pre-construction compliance (Tetra Tech 2019a).~~ ~~I includes~~ information on Morrow County-listed noxious weeds, noxious weeds observed during ~~Facility~~ surveys at WREFI, and ~~the prevention~~ treatment, and monitoring of noxious ~~weed infestations~~ ~~weeds are included in the stand-alone Noxious Weed Control Plan (Tetra Tech 2020a)(Tetra Tech 2019a).~~

3.0 Site Description

~~The Facility~~ WREFI is located in Morrow County, Oregon. It lies within the Columbia Plateau Ecoregion at elevations from approximately 780 to ~~2,800~~1,300 feet. ~~The Facility~~ WREFI is sited entirely on private land and primarily in agricultural land used for growing dryland wheat. Native vegetation has been modified not only through agricultural conversion, but also through historical and current livestock grazing, by changes in fire regimes, and by the presence of exotic grasses and other vegetation.

Habitats within the ~~Facility~~ WREFI boundary include Developed (subtypes include Dryland Wheat and Other Developed), Grassland (Exotic Annual, Revegetated Grassland, and Native Perennial), and Shrub-steppe (Basin Big Sagebrush and Snakeweed/Rabbitbrush). The Habitat Mitigation Plan (HMP; ~~NWC and Tetra Tech 2019~~ Tetra Tech 2020b) details the acres of each habitat subtype that will be temporarily and permanently disturbed during construction and operation of ~~the~~ ~~Facility~~ WREFI. For purposes of this plan, disturbance to Developed-Dryland Wheat and Developed-Other habitat subtypes are grouped together. Developed-Other habitat subtypes include farm and ranch homes and related infrastructure, roads, quarries, livestock facilities, and other areas associated with human activity. Disturbance to all other habitat subtypes are collectively referred to as wildlife habitat.

3.1 Temporary Disturbance to Dryland Wheat and Other

Temporary disturbance to areas identified as Developed-Dryland Wheat and Developed-Other habitat subtypes are shown in Table 1. Figures depicting the location of these temporary disturbances are available in the HMP (~~NWC and Tetra Tech 2019~~ 2020b). Restoration of Developed-Other habitat subtypes will be determined on a case-by-case basis and is not covered further in this plan. Temporary disturbances to Developed-Dryland Wheat will be restored as described in Section 4.3.

Table 1. Summary of Temporary Disturbances to Cropland

Habitat Subtype (Category 6 Habitat)	Temporary Disturbance (Acres)
Dryland Wheat	451.7 195.6
Developed-Other	1.0 0.7
TOTAL	452.7 196.4

3.2 Temporary Impacts to Wildlife Habitat

Temporary disturbance to areas identified as wildlife habitat are shown in Table 2. Figures depicting the locations of these temporary disturbances are available in the HMP (~~Tetra NWC and Tetra Tech 2019~~ 2020b). These temporary disturbances will be restored as described in Section 4.4.

Table 2. Summary of Temporary Disturbances to Wildlife Habitat

Habitat Category	Habitat Subtype	Temporary Disturbance (Acres)
3	Revegetated or Other Planted Grassland	44.4 3.3
	Native Perennial Grassland	32.7 6.5
	Shrub-steppe with Rabbitbrush/Snakeweed	2.4 2.4
	-Shrub-steppe with Basin Big Sagebrush	1.5 1.5
4	Exotic Annual Grassland	17.5 3.8
	Shrub-steppe with Rabbitbrush/Snakeweed	0.3 0.0
TOTAL		214.8 17.6

4.0 Revegetation Methods

This plan addresses revegetation methods for both Dryland Wheat and wildlife habitat. Revegetation will begin as soon as feasible after construction completes. Seeding and planting will be done in a timely manner and in the appropriate season. Restoration of Dryland Wheat will be designed in consultation with the landowner.

4.1 Roles and Responsibilities

The Certificate Holder has identified a construction contractor to build ~~the Facility~~ WREFL. The construction contractor will be responsible for implementing the measures in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit, as well as the revegetation activities discussed herein during and immediately after construction. A qualified botanist or revegetation specialist will be responsible for monitoring and reporting on revegetation success. Remedial revegetation actions, if needed during the operation phase, will be performed by a qualified contractor. The Certificate Holder will be responsible for ensuring that all contractors perform work in accordance with permit requirements and all agreed upon methods for revegetation.

4.2 Site Preparation

In areas where soil is removed during construction, the topsoil will be stockpiled separately from the subsurface soils. The conserved soil will be put back in place as topsoil prior to revegetation activities. Prior to seeding and/or planting of revegetation areas, soils will be prepared to facilitate revegetation success. Soil preparation will involve standard, commonly used methods, and will take into account all relevant site-specific factors, including slope, size of area, and erosion potential. In general, the soil needs to be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag if necessary, can typically achieve this. If replaced soil is too soft, then seeds may be buried too deep to properly germinate; a roller or culti-packer should be used to pack down the soil.

In non-cropland areas, site complexity should be considered during soil preparation. For instance, it may be desirable to purposely create an uneven, patchy site that allows for depressions and other microsites that result in small variations in aspect and moisture holding to promote complexity.

The construction contractor will use mulching and other appropriate practices, as required by the NPDES 1200-C permit, to control erosion and sediment during construction and revegetation work.

4.3 Restoration of Cropland

Croplands will be reseeded with the appropriate crop or maintained as fallow in consultation with the landowner or farm operator. The construction contractor will also consult with the landowner or farm operator to determine seed mix, application methods, and rates for seed and fertilizer.

Success of cropland revegetation will have been achieved when production of the revegetated area is comparable to that of adjacent, non-disturbed croplands. Success determination will involve consultation with the landowner or farm operator, and the Certificate Holder will report to ODOE on the success of cropland restoration efforts. Noxious weed control is necessary for successful revegetation of croplands and will be implemented per the methods described in the Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020a).

Soil compaction is a concern for restoring agricultural soils to their pre-construction productivity. During construction of temporary facilities, the Certificate Holder would excavate and store soils by soil horizon, so that soils could be replaced and restored appropriately, including replacing topsoil. During post-construction restoration of temporary impacts to agricultural areas, the Certificate Holder would loosen agricultural soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth to reduce the potential effects of compaction. Soil amendment, by addition of organic matter (compost), may also be necessary to alleviate compaction.

4.4 Restoration of Wildlife Habitat

All wildlife habitat will be reseeded with ~~either 1) a mix of native or non-invasive, non-persistent non-native grasses; or 2) a mix of native or non-invasive, non-persistent non-native grasses, forbs, and shrubs.~~ The seed mixes and application rates described in Section 4.5 have been determined in consultation with ODFW, and included consideration of the soil types, erosion potential, and growing conditions found near ~~the Facility~~WREFI. The seed mixes ~~have~~has been approved by ODFW (July 31, 2019) and seeds will be obtained from a reputable supplier in compliance with the Oregon Seed Law (Oregon Administrative Rule 603-056).

The methods used and timing of planting will be appropriate to the seed mixes, weather conditions, and site conditions (including area size, slope, and erosion potential) based upon consultation with ODFW and the Morrow County Weed Control Supervisor. Preparation of disturbed ground may include replacing lost topsoil, or chemical or mechanical weed control per the Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020a). Following soil preparation (Section 4.2), seed mixes in non-cropland areas will be applied through broadcast or drill seeding.

During construction, the construction contractor will implement site stabilization measures, including seeding of temporarily disturbed areas according to the ~~Certificate Holder's~~ NPDES 1200-C permit. Approximately 6 months prior to commercial operation, the Certificate Holder and construction contractor will meet with ODFW, ODOE, and Morrow County Weed Control Authority personnel to review the actual extent and conditions of temporarily impacted areas, confirm the revegetation methods to be implemented, and to revisit reference areas as necessary.

4.4.1 Broadcast Seeding

In this method, the seed mix will be broadcast at a rate of 20-24 pounds per acre, per discussions with a seed supplier and ODFW. The rate may be adjusted depending on the recommendations of the actual seed supplier. Broadcasting should not be utilized when winds exceed 5 miles per hour. If feasible, half of the seed mix will be broadcast in one direction, with the other half broadcast

perpendicular to the first half. A tracking dye may be added to facilitate uniform application. Certified weed-free straw will be applied at a rate of approximately 2 tons per acre immediately after seeding. This straw will either be crimped into the ground or applied with a tackifier.

4.4.2 Drill Seeding

Drill seeding plants seeds using an agricultural or range seed drill at a rate of 12-14 pounds per acre, per discussions with a seed supplier and ODFW. The rate may be adjusted depending on the recommendations of the actual seed supplier.

4.5 Seed Mixes and Shrub Plantings

~~Two seed mixes are~~One grassland seed mix (Table 3) and one shrub mix (Table 4) are being proposed for revegetation efforts at WREFI. The Certificate Holder assumes that reasonable substitutions can be made to the seed mixes ~~included in Table 3 and Table 4~~, with approval from ODOE, based on seed availability at the time of procurement. Additionally, planting of shrubs is being proposed for revegetation of temporarily disturbed shrub-steppe habitats. Similarly, the Certificate Holder assumes that seeding of shrub species can occur if plant stock is unavailable or too costly.

Grassland Seed Mix #1 is intended for use in revegetation efforts throughout ~~the Facility~~ WREFI. It contains only grasses, as recommended by ODFW, in order to maximize flexibility for weed control.

Table 3. Grassland Seed Mix #1

Common Name	Scientific Name	Percent of Mix
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	50
Bottlebrush squirreltail	<i>Elymus elymoides</i>	15
Sandberg's bluegrass	<i>Poa secunda</i>	15
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	20
Note: This seed mix is available from BFI Native Seeds as their Columbia Plateau mix (BFI Native Seeds 2019).		

Grassland Seed Mix #2 is an optional mix intended for use in the southern portions of the Facility, above 2,000 feet in elevation. This generally includes Swaggert Buttes and areas to the south of Swaggert Buttes. This seed mix contains the same grass species as Grassland Seed Mix #1, but also includes forbs. Site-specific conditions, such as presence of noxious weed infestations, may preclude this mix from being used as germination, and establishment of forbs is generally not compatible with most noxious weed control methods.

Table 4. Grassland Seed Mix #2

Common Name	Scientific Name	Percent of Mix
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	45
Bottlebrush squirreltail	<i>Elymus elymoides</i>	15
Sandberg's bluegrass	<i>Poa secunda</i>	15
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	15
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	2
Shaggy fleabane	<i>Erigeron pumilis</i>	2
Desert parsley	<i>Lomatium dissectum</i>	2
Silky lupine	<i>Lupinus sericeus</i>	2
Lewis flax	<i>Linum lewisii</i>	2
Note: Adding in forbs will adjust the percentages for the entire mix. An example seeding rate for forbs could be: 0.25 pounds/acre for western yarrow and shaggy fleabane, 0.75 pounds/acre for desert parsley, 0.5 pounds/acre for silky lupine, and 1 pound/acre for Lewis flax.		

ODFW has discussed a preference for shrub plantings instead of including them in seed mixes. In the approximately 4.23.9 acres of temporarily disturbed Shrub-steppe habitat (Table 2), the Certificate Holder will prioritize plantings of basin big sagebrush and rabbitbrush. If plantings are not feasible due to availability of plant stock or cost, the Certificate Holder will notify ODOE, and shrub seeds would be added to either Seed Mix #1 or Seed Mix #2, as appropriate, at the seeding rates noted in Table 54.

Table 445. Shrub Seeding Rates to Supplement Grassland Seed Mix #1 ~~or Seed Mix #2~~

Common Name	Scientific Name	Minimum Pounds/Acre Pure Live Seeds
Basin big sagebrush	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	0.1 to 0.2
Gray rabbitbrush	<i>Ericameria nauseosa</i>	0.1
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	0.1

5.0 Monitoring

5.1 Revegetation Record

Records will be kept of revegetation efforts, both for croplands and for wildlife habitat. Records will include:

- Date construction was completed;
- Description of the affected area;
- Date revegetation was initiated; and
- Description of the revegetation effort.

The Certificate Holder will update these records periodically as revegetation work ~~occurs,~~
~~and occurs and~~ will provide ODOE with copies of these records along with submission of the monitoring report that is required by the site certificate.

5.2 Reference and Monitoring Sites

In order to determine if the revegetation efforts are meeting success criteria, paired monitoring and reference sites will be established. Monitoring and reference sites will be located in each of the following habitat subtypes that will be temporarily disturbed by construction of ~~the Facility~~ WREFI:

- Revegetated or Other Planted Grassland;
- Native Perennial Grassland;
- Exotic Annual Grassland;
- Shrub-steppe with Rabbitbrush/Snakeweed; and
- Shrub-steppe with Basin Big Sagebrush.

Reference sites are intended to represent target conditions for the revegetation effort. Vegetation within monitoring plots in revegetation areas will be compared with those in the associated reference sites to measure success of the required revegetation activities for ~~the Facility~~ WREFI.

5.2.1 Reference Sites

Prior to construction, reference sites—areas of habitat quality similar to those found prior to disturbance at the areas to be revegetated—will be identified in consultation with ODOE and ODFW. Reference sites will be chosen with consideration to land use patterns, soil types, terrain, and presence of noxious weeds. Alternate reference sites may be chosen in consultation with ODOE and ODFW if land use changes, wildfire, or other disturbance makes a chosen reference site no longer representative of target conditions.

~~Six~~ Five reference sites will be identified to represent the range of disturbed wildlife habitat areas for which revegetation is required. ~~Two reference sites will be located within native perennial grassland habitat, and o~~One reference site will be located within each of the ~~other four~~ five habitat subtypes noted above. ~~One of the native perennial grassland reference sites will be located in the northern portion of the Facility and one will be located in the southern portion of the Facility to capture sites as both lower and higher elevation.~~ Proposed reference sites will be chosen based on review of:

- Aerial imagery (Google Earth 2019);
- Information from previous vegetation surveys conducted for ~~the Facility~~ WREF (NWC 2014, Tetra Tech 2019~~b~~);
- Local knowledge of the site by biologists who have conducted surveys within the ~~Facility~~ WREFI boundaries; and
- Soil survey data (NRCS 2019).

Following selection of proposed reference sites, a site visit will be conducted at the appropriate time to evaluate baseline conditions within these reference sites. These site visits will document the following:

- Vascular plant species present;
- Native/non-native status of species present;
- Approximate percent cover of dominant species;
- Approximate percent cover of state and county-listed noxious weeds; and
- Evidence of ongoing, recent, or past disturbance.

In each of the reference sites, a permanent 50 by 100-foot sample plot will be established. Three 50-foot transects will be established within each of these permanent sample plots, perpendicular to the long side of the plot. For the grassland plots, the line-point intersect method will be used to document vegetation at 1-foot intervals along the transect line. For the shrub-steppe plots, 6-foot-wide belt transects will be established, 3 feet on each side of the transect line. All shrubs and herbaceous species occurring within these transects will be recorded and percent cover of the dominant species will be estimated.

5.2.2 Monitoring Sites

Per ODFW recommendations, a minimum of one monitoring plot will be located within habitats where temporary disturbances will be less than 5 acres in size. For habitats where the impacts will be greater than 5 acres, the number of monitoring plots will be chosen to represent five percent of the total temporary disturbance area by habitat subtype and category, or a maximum of 10 monitoring plots.

The number of monitoring plots for habitat subtypes where impacts will be greater than 5 acres was determined first by multiplying the impact acreage by five percent and then converting the acreages into square feet. This square footage was then divided by 5,000, which represents the number of square feet within a proposed sample plot (50 feet by 100 feet). Table 6-5 presents the number of monitoring plots that will be established within each habitat subtype and category of temporary disturbance. ~~The categories in Table 6 are different than the categories shown in Table 2, as the categories in Table 6 represent the habitat category attributed during habitat surveys, prior to overlaying mule deer winter range, which modified some Category 3 and Category 4 habitat to a Category 2 habitat for purposes of the HMP (NWC and Tetra Tech 2019). Using the categories from the habitat survey groups the habitat subtypes by vegetation condition (see the habitat categorization matrix in the HMP), which is more appropriate for revegetation monitoring.~~

Table 6-5. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype

Habitat Category ¹	Habitat Subtype	Temporary Disturbance (Acres)	Number of Monitoring Sites
3	Revegetated or Other Planted Grassland	131.83.3	101
	Native Perennial Grassland	50.96.5	1032
	Shrub-steppe with Rabbitbrush/Snakeweed	2.4	1
	Shrub-steppe with Basin Big Sagebrush	1.5	1
4	Exotic Annual Grassland	27.83.8	101
TOTAL		214.817.6	3376
1. Without mule deer winter range modification.			

Monitoring sites within each habitat subtype will be selected using a stratified randomization process utilizing existing habitat mapping. Mile points will be assigned to each habitat subtype within the construction corridor linearly from north to south in 0.1-mile increments (CH2M 2019). A random number generator will then be used to assign monitoring locations using the 0.1-mile increments. Additional monitoring locations will be chosen, through the stratified randomization process, as alternative locations in case one of the original monitoring locations is deemed unacceptable during the first revegetation monitoring effort. Data collected during the first year of monitoring will serve as pilot data to determine if the chosen number of monitoring sites will

provide results that are statistically robust. Additional monitoring sites will be added if statistical analysis of the first year's data indicates additional monitoring plots are needed.

The monitoring plot dimensions and transect spacing may need to be adjusted to account for the numerous linear features associated with ~~the Facility~~ WREFI whose disturbance footprint may be less than 50 feet wide. These detailed considerations for monitoring methods will be determined in consultation with ODOE and ODFW prior to implementation of monitoring.

5.3 Monitoring Procedures

Monitoring of the revegetation effort will be conducted by a qualified botanist or revegetation specialist; this monitoring will be done annually for 5 years, starting on the first growing season after seeding/planting.

During each assessment, revegetated areas will be compared to reference sites with regard to:

- Presence and density of noxious weeds;
- Degree of erosion;
- Vegetative density;
- Proportion of perennial native and desirable introduced plant species; and
- Species diversity and structural stage of perennial native and desirable introduced plant species.

Monitoring will not be required for areas that have been converted by the landowner to land uses that preclude meeting revegetation success criteria.

5.3.1 Noxious Weed Control

A qualified investigator will be employed to annually assess noxious weed presence during the first 5 years of revegetation work and to make recommendations on noxious weed control measures. Reports will be submitted to ODOE and to ODFW following each annual inspection. Details regarding known noxious weed occurrence at ~~the Facility~~ WREFI, proposed noxious weed prevention, monitoring, and control of noxious weeds are available in a separate Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020).

5.3.2 Wildlife Habitat Recovery

In the first growing season after planting in revegetation areas, a qualified botanist or revegetation specialist will inspect each wildlife habitat revegetation area to assess the success of revegetation measures. These assessments will be annually for the first 5 years. Monitoring reports will be submitted to the Certificate Holder, ODOE, and ODFW. Assessments will address whether, based on evaluation of monitoring and reference sites, each wildlife habitat revegetation area is trending toward meeting the success criteria described below.

Based on the fifth annual assessment, the Certificate Holder will consult with ODOE and ODFW to design an action plan for subsequent years. The Certificate Holder is obligated to revegetate and implement weed control measures in disturbed areas regardless of its ability to meet success criteria; nonetheless, the Certificate Holder may propose remedial actions and/or additional monitoring for areas that have been determined by ODOE, in consultation with ODFW, not to have met the success criteria. Revegetation efforts may in some cases be deemed to have failed, and additional mitigation may be proposed in such cases to compensate for loss of wildlife habitat, while revegetation and weed control would continue to apply, but without application of success criteria.

5.4 Success Criteria

Each monitoring report will involve assessing the progress of each area of wildlife habitat disturbed during construction toward meeting revegetation objectives. Habitat quality shall be evaluated based on the success criteria listed below. Final determination of whether the Certificate Holder has met the revegetation obligations will be made by ODOE, in consultation with ODFW.

- **Native Forbs:** The average density or frequency of desirable forbs (typically native, with some site-specific exceptions) should be a minimum of 75 percent of the reference site within 5 years. Diversity of forbs on a reclaimed site should at least equal the diversity measured on the reference site within 5 years.
- **Native Shrubs:** The average density or frequency of the shrub component should be at least 50 percent of the reference site within 5 years. At least 15 percent of the shrub density or frequency should be the dominant species found on the reference site. The diversity of shrub species within the revegetated areas should at least equal the shrub species diversity measured on the reference site.
- **Native Grasses:** Revegetated sites should maintain grass species diversity and density that is at least 85 percent similar to reference sites. Native bunchgrasses should be given preference. Native grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component at the reference site.
- **Non-Native Weeds:** Every attempt should be made to prevent and control all species listed on county, state, and federal noxious weed lists. Revegetation sites should not contain a higher percentage of non-native weed cover than the reference site. All state and federal laws pertaining to noxious weeds must be followed. Highly competitive invasive species such as cheatgrass and other weedy brome grasses are prohibited in seed mixtures and should be actively controlled if any are found in the reclaimed areas.

5.5 Remedial Action

Remedial action options will be identified in cases where success criteria are not met, whether due to wildfire subsequent to ~~Facility~~ construction of WREFI or because of lower than expected rates of germination or survival. Remedial actions may include reseeding or other measures. The investigator will make recommendations for remedial actions after each monitoring visit, and the Certificate Holder will take appropriate measures to meet the restoration objectives. The Certificate Holder will include the investigator's recommendations for remedial actions and the measures taken in that year's monitoring report. ODOE may require reseeding or other remedial actions in cases where revegetation objectives have not been met.

6.0 Plan Amendment

~~The final HMP~~This Plan may be amended ~~from time to time~~ by agreement of the Certificate Holder and EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this plan. ODOE shall notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this plan agreed to by ODOE.

7.0 References

BFI Native Seeds. 2019. www.bfinativeseeds.com. Accessed December 2019.

CH2M. 2019. Technical Memorandum; Revegetation Monitoring: Selection of Paired Monitoring and Reference Sites for Montague Wind Power Facility – Phase 1. Prepared for Montague Wind Power Facility, LLC. Portland, OR.

EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.

EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.

EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued, November 16, 2018.

EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.

EFSC (Energy Facility Siting Council). 2017. Final Order on the Application for Site Certificate for the Wheatridge Wind Energy Facility. Salem, OR.

EFSC. 2018. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

Google Earth. 2019. Google Earth Pro Aerial Imagery. Accessed December 2019.

Morrow County. 2019. Morrow County Code Enforcement Ordinance. May 2019.

https://www.co.morrow.or.us/sites/default/files/fileattachments/planning/page/11881/2019_code_enforcement_final_.pdf. Accessed July 2019.

NRCS (Natural Resources Conservation Service). 2019. Web Soil Survey. U.S. Department of Agriculture, Natural Resources Conservation Service.

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

~~NWC and Tetra Tech (Northwest Wildlife Consultants and Tetra Tech, Inc.). 2019. Wheatridge Wind Energy Facility Final Habitat Mitigation Plan. Prepared for NextEra Energy Resources, LLC. Portland, OR.~~

NWC (Northwest Wildlife Consultants, Inc.). 2014. Ecological Investigations Report for the Wheatridge Wind Energy Project. Morrow and Umatilla counties, Oregon. Prepared for Wheatridge Wind Energy, LLC.

Tetra Tech. 2019. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.

Tetra Tech. ~~2019a~~2020a. Noxious Weed Control Plan for the Wheatridge ~~Wind Energy Facility~~Renewable Energy Facility I. Prepared for ~~NextEra Energy Resources~~Wheatridge Wind Energy, LLC. Portland, OR.

~~NWC and Tetra Tech (Northwest Wildlife Consultants and Tetra Tech, Inc.). 2019~~2020b. Wheatridge Wind Energy Facility Final Habitat Mitigation Plan. Prepared for NextEra Energy Resources~~Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC. Portland, OR.~~

~~Tetra Tech. 2019b. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.~~

Wheatridge

Renewable Energy Facility II

Wind Energy Project

Revegetation Plan

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December 2019MarchApril 2020

Effective Date: Wheatridge Renewable Energy Facility II Site Certificate Effective Date

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1.0 Introduction

This Revegetation Plan (Plan) has been prepared for the Wheatridge Renewable Energy Facility II (WREFII) West, a 200-megawatt (MW) wind energy facility in Morrow County. Wheatridge Wind II, LLC (Certificate Holder) holds the site certificate for the WREFII. WREFII has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility I (WREFI; Wheatridge Wind Energy, LLC is the certificate holder).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WRW). WRW was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation, but after construction had commenced, WREF was split into WREFI and WREFII. WREFI is a 100-MW wind energy facility within the Wheatridge West portion of the WRW. WREF II is a 400-MW wind energy and 150-MW solar energy and battery storage facility within Wheatridge West and Wheatridge East. Of the 400 MW of wind energy in WREFII, 200 MW is located within Wheatridge West and is referred to as WREFII West This Plan has been prepared for WREFII West, but reflects the plan prepared for Wheatridge West as part of pre-construction compliance in coordination with, and approved by, ODOE and Morrow County. The Certificate Holder will amend this Plan or prepare separate revegetation plans for the remaining portions of WREFII prior to construction of those facilities.

(Plan) has been prepared for the Wheatridge Renewable Energy Facility II (WREFII) West, a 200-MW wind energy facility in Morrow County. Wheatridge Wind II, LLC holds the site certificate for WREFII. WREFII has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility I (WREFI; Wheatridge Wind, LLC is the certificate holder). The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WREF). WREF was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties². Wheatridge West began construction in January 2020. Prior to operation but after construction had commenced, WREF was split into WREFI (100-MW wind energy facility) and WREF II a 400-MW wind energy facility (in Morrow County (West) and Umatilla County (East) and 150 MW solar facility with battery storage. This Plan has been prepared for WREFII West and

¹ The site certificate for the WRW was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, EFSC 2018a, EFSC 2018b, EFSC 2019).

² The site certificate for the Wheatridge Wind Energy facility was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

~~reflects the Plan prepared for Wheatridge West as part of pre-construction compliance in coordination with and approved by the ODOE and Morrow County.~~

~~The Wheatridge Wind Energy Facility (Facility) is a 300-megawatt (MW) wind energy generation facility located in Morrow County, Oregon that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction and operation on April 28, 2017 (EFSC 2017). Wheatridge Wind Energy, LLC (the Certificate Holder) subsequently received EFSC approval to amend the site certificate three times prior to Facility construction.~~

~~Facility components within Morrow County include the following related or supporting facilities:~~

~~An electrical collection system;~~

~~One collector substation;~~

~~Permanent meteorological towers;~~

~~A communication and Supervisory Control and Data Acquisition System;~~

~~One operations and maintenance building;~~

~~New or improved access roads; and~~

~~Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas).~~

2.0 Pre-Construction Compliance

This plan addresses the following pre-construction conditions of the Fourth Amended Site Certificate for the WRW (EFSC 2019); ~~the Third Amended Site Certificate for the Facility (EFSC 2018)~~;

PRE-SP-02 Prior to construction, the certificate holder shall ensure that the final Revegetation Plan includes a program to protect and restore agricultural soils temporarily disturbed during facility construction. As described in the final order, agriculture soils shall be properly excavated, stored, and replaced by soil horizon. Topsoil shall be preserved and replaced. The Revegetation Plan shall be finalized pursuant to Fish and Wildlife Habitat Condition 11 (PRE-FW-05).

PRE-FW-05 Before beginning construction, the certificate holder shall prepare and receive approval of a final Revegetation Plan, provided as Attachment C to this order, from the department, in consultation with Umatilla and Morrow counties and ODFW. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.

The details of this plan were developed in consultation with personnel from the Oregon Department of Fish and Wildlife (ODFW), ODOE, and Morrow County Weed Control Department. This plan describes the practices and standards for restoring those areas temporarily disturbed during construction of the Facility WREFII, including planting methods, monitoring requirements,

success criteria, and adaptive management (in case success criteria are not met); it does not apply to areas permanently occupied by ~~the Facility~~ WREFII. Throughout construction and revegetation activities, the Certificate Holder will take appropriate actions to prevent the spread of noxious weeds (as identified in the Morrow Count 2019). Where appropriate, and pursuant to consultation with the Morrow County Weed Control Supervisor, monitoring of noxious weeds and the effectiveness of weed control/eradication efforts will be performed concurrently with the revegetation monitoring described in this document. A stand-alone Noxious Weed Control Plan has also been prepared for pre-construction compliance (Tetra Tech ~~2019a~~2020a). Information on Morrow County-listed noxious weeds, noxious weeds observed during Facility surveys, and treatment and monitoring of noxious weeds are included in the ~~stand-alone~~ Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020a).

3.0 Site Description

~~The Facility~~ WREFII is located in Morrow County, Oregon. It lies within the Columbia Plateau Ecoregion at elevations from approximately ~~780-800~~ to 2,800 feet. ~~The Facility~~ WREFII is sited entirely on private land and primarily in agricultural land used for growing dryland wheat. Native vegetation has been modified not only through agricultural conversion, but also through historical and current livestock grazing, by changes in fire regimes, and by the presence of exotic grasses and other vegetation.

Habitats within ~~the Facility~~ WREFII boundary include Developed (subtypes include Dryland Wheat and Other Developed), Grassland (Exotic Annual, Revegetated Grassland, and Native Perennial), and Shrub-steppe (Basin Big Sagebrush and Snakeweed/Rabbitbrush). The Habitat Mitigation Plan (HMP; ~~NWC and Tetra Tech 2019~~ Tetra Tech 2020b) details the acres of each habitat subtype that will be temporarily and permanently disturbed during construction and operation of the ~~Facility~~ WREFII. For purposes of this plan, disturbance to Developed-Dryland Wheat and Developed-Other habitat subtypes are grouped together. Developed-Other habitat subtypes include farm and ranch homes and related infrastructure, roads, quarries, livestock facilities, and other areas associated with human activity. Disturbance to all other habitat subtypes are collectively referred to as wildlife habitat.

3.1 Temporary Disturbance to Dryland Wheat and Other

Temporary disturbance to areas identified as Developed-Dryland Wheat and Developed-Other habitat subtypes are shown in Table 1. Figures depicting the location of these temporary disturbances are available in the HMP (~~NWC and Tetra Tech 2019~~2020b). Restoration of Developed-Other habitat subtypes will be determined on a case-by-case basis and is not covered further in this plan. Temporary disturbances to Developed-Dryland Wheat will be restored as described in Section 4.3.

Table 1. Summary of Temporary Disturbances to Cropland

Habitat Subtype (Category 6 Habitat)	Temporary Disturbance (Acres)
--------------------------------------	-------------------------------

Dryland Wheat	451.7
Developed-Other	1.0
TOTAL	452.7

3.2 Temporary Impacts to Wildlife Habitat

Temporary disturbance to areas identified as wildlife habitat are shown in Table 2. Figures depicting the locations of these temporary disturbances are available in the HMP (~~NWC and Tetra Tech 2019~~2020b). These temporary disturbances will be restored as described in Section 4.4.

Table 2. Summary of Temporary Disturbances to Wildlife Habitat

Habitat Category	Habitat Subtype	Temporary Disturbance (Acres)
2	Revegetated or Other Planted Grassland	87.4
	Native Perennial Grassland	18.3
	Exotic Annual Grassland	10.3
3	Revegetated or Other Planted Grassland	44.4 41.1
	Native Perennial Grassland	32.7 26.1
4	Exotic Annual Grassland	17.5 13.6
	Shrub-steppe with Rabbitbrush/Snakeweed	0.3
TOTAL		214.8 197.1

4.0 Revegetation Methods

This plan addresses revegetation methods for both Dryland Wheat and wildlife habitat. Revegetation will begin as soon as feasible after construction completes. Seeding and planting will be done in a timely manner and in the appropriate season. Restoration of Dryland Wheat will be designed in consultation with the landowner.

4.1 Roles and Responsibilities

The Certificate Holder has identified a construction contractor to build ~~the Facility~~WREFII. The construction contractor will be responsible for implementing the measures in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit, as well as the revegetation activities discussed herein during and immediately after construction. A qualified botanist or revegetation specialist will be responsible for monitoring and reporting on revegetation success. Remedial revegetation actions, if needed during the operation phase, will be performed by a qualified contractor. The Certificate Holder will be responsible for ensuring that all contractors perform work in accordance with permit requirements and all agreed upon methods for revegetation.

4.2 Site Preparation

In areas where soil is removed during construction, the following measures will be taken where appropriate:

- †The topsoil will be stockpiled separately from the subsurface soils.
- The conserved soil will be put back in place as topsoil prior to revegetation activities.
- Prior to seeding and/or planting of revegetation areas, soils will be prepared to facilitate revegetation success.
- Soil preparation will involve standard, commonly used methods, and will take into account all relevant site-specific factors, including slope, size of area, and erosion potential.
- Topsoil and other soils from noxious weed infested areas will not be moved outside of the infested areas and will be returned to its previous location during reclamation activities;
- Soils from weed infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions;
- Movement of topsoil and other soils from non-infested areas will be limited to eliminate the transport of weed seeds, roots, or rhizomes.
- In general, the soil needs to be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag if necessary, can typically achieve this. If replaced soil is too soft, then seeds may be buried too deep to properly germinate; a roller or culti-packer should be used to pack down the soil.
- In non-cropland areas, site complexity should be considered during soil preparation. For instance, it may be desirable to purposely create an uneven, patchy site that allows for depressions and other microsites that result in small variations in aspect and moisture holding to promote complexity.
- The construction contractor will use mulching and other appropriate practices, as required by the NPDES 1200-C permit, to control erosion and sediment during construction and revegetation work.

4.3 Restoration of Cropland

Croplands will be reseeded with the appropriate crop or maintained as fallow in consultation with the landowner or farm operator. The construction contractor will also consult with the landowner or farm operator to determine seed mix, application methods, and rates for seed and fertilizer. Success of cropland revegetation will have been achieved when production of the revegetated area is comparable to that of adjacent, non-disturbed croplands of the same type. Success determination will involve consultation with the landowner or farm operator, and the Certificate Holder will report to ODOE on the success of cropland restoration efforts. Noxious weed control is necessary for successful revegetation of croplands and will be implemented per the methods described in the Noxious Weed Control Plan (Tetra Tech 2019a2020a).

Soil compaction is a concern for restoring agricultural soils to their pre-construction productivity. During construction of temporary facilities, the Certificate Holder would excavate and store soils by

soil horizon, so that soils could be replaced and restored appropriately, including replacing topsoil. During post-construction restoration of temporary impacts to agricultural areas, the Certificate Holder would loosen agricultural soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth to reduce the potential effects of compaction. Soil amendment, by addition of organic matter (compost), may also be necessary to alleviate compaction. The measures outlined in Section 4.2 will be performed in cropland where applicable.

4.4 Restoration of Wildlife Habitat

All wildlife habitat will be reseeded with either 1) a mix of native or non-invasive, non-persistent non-native grasses; or 2) a mix of native or non-invasive, non-persistent non-native grasses, forbs, and shrubs. The seed mixes and application rates described in Section 4.5 have been determined in consultation with ODFW, and included consideration of the soil types, erosion potential, and growing conditions found near ~~the Facility~~ WREFII. The seed mixes have been approved by ODFW (July 31, 2019) and seeds will be obtained from a reputable supplier in compliance with the Oregon Seed Law (Oregon Administrative Rule 603-056).

The methods used and timing of planting will be appropriate to the seed mixes, weather conditions, and site conditions (including area size, slope, and erosion potential) based upon consultation with ODFW and the Morrow County Weed Control Supervisor. Preparation of disturbed ground may include replacing lost topsoil, or chemical or mechanical weed control per the Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020a). Following soil preparation (Section 4.2), seed mixes in non-cropland areas will be applied through broadcast or drill seeding.

During construction, the construction contractor will implement site stabilization measures, including seeding of temporarily disturbed areas according to the Certificate Holder's NPDES 1200-C permit. Approximately 6 months prior to commercial operation, the Certificate Holder and construction contractor will meet with ODFW, ODOE, and Morrow County Weed Control Authority personnel to review the actual extent and conditions of temporarily impacted areas, confirm the revegetation methods to be implemented, and to revisit reference areas as necessary.

4.4.1 Broadcast Seeding

In this method, the seed mix will be broadcast at a rate of 20-24 pounds per acre, per discussions with a seed supplier and ODFW. The rate may be adjusted depending on the recommendations of the actual seed supplier. Broadcasting should not be utilized when winds exceed 5 miles per hour. If feasible, half of the seed mix will be broadcast in one direction, with the other half broadcast perpendicular to the first half. A tracking dye may be added to facilitate uniform application. Certified weed-free straw will be applied at a rate of approximately 2 tons per acre immediately after seeding. This straw will either be crimped into the ground or applied with a tackifier.

4.4.2 Drill Seeding

Drill seeding plants seeds using an agricultural or range seed drill at a rate of 12-14 pounds per acre, per discussions with a seed supplier and ODFW. The rate may be adjusted depending on the recommendations of the actual seed supplier.

4.5 Seed Mixes and Shrub Plantings

Two seed mixes are being proposed for revegetation efforts. The Certificate Holder assumes that reasonable substitutions can be made to the seed mixes included in Table 3 and Table 4, with approval from ODOE, based on seed availability at the time of procurement. Additionally, planting of shrubs is being proposed for revegetation of temporarily disturbed shrub-steppe habitats. Similarly, the Certificate Holder assumes that seeding of shrub species can occur if plant stock is unavailable or too costly.

Grassland Seed Mix #1 is intended for use in revegetation efforts throughout ~~the Facility~~ WREF II. It contains only grasses, as recommended by ODFW, in order to maximize flexibility for weed control.

Table 3. Grassland Seed Mix #1

Common Name	Scientific Name	Percent of Mix
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	50
Bottlebrush squirreltail	<i>Elymus elymoides</i>	15
Sandberg's bluegrass	<i>Poa secunda</i>	15
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	20
Note: This seed mix is available from BFI Native Seeds as their Columbia Plateau mix (BFI Native Seeds 2019).		

Grassland Seed Mix #2 is an optional mix intended for use in the southern portions of the Facility WREFII, above 2,000 feet in elevation. This generally includes Swaggert Buttes and areas to the south of Swaggert Buttes. This seed mix contains the same grass species as Grassland Seed Mix #1, but also includes forbs. Site-specific conditions, such as presence of noxious weed infestations, may preclude this mix from being used as germination, and establishment of forbs is generally not compatible with most noxious weed control methods.

Table 4. Grassland Seed Mix #2

Common Name	Scientific Name	Percent of Mix
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	45
Bottlebrush squirreltail	<i>Elymus elymoides</i>	15
Sandberg's bluegrass	<i>Poa secunda</i>	15
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	15
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	2
Shaggy fleabane	<i>Erigeron pumilis</i>	2
Desert parsley	<i>Lomatium dissectum</i>	2
Silky lupine	<i>Lupinus sericeus</i>	2
Lewis flax	<i>Linum lewisii</i>	2
Note: Adding in forbs will adjust the percentages for the entire mix. An example seeding rate for forbs could be: 0.25 pounds/acre for western yarrow and shaggy fleabane, 0.75 pounds/acre for desert parsley, 0.5 pounds/acre for silky lupine, and 1 pound/acre for Lewis flax.		

ODFW has discussed a preference for shrub plantings instead of including them in seed mixes. In the approximately 4,20.3 acres of temporarily disturbed Shrub-steppe habitat (Table 2), the Certificate Holder will prioritize plantings of basin big sagebrush and rabbitbrush. If plantings are not feasible due to availability of plant stock or cost, the Certificate Holder will notify ODOE, and shrub seeds would be added to either Seed Mix #1 or Seed Mix #2, as appropriate, at the seeding rates noted in Table 5.

Table 5. Shrub Seeding Rates to Supplement Grassland Seed Mix #1 or Seed Mix #2

Common Name	Scientific Name	Minimum Pounds/Acre Pure Live Seeds
Basin big sagebrush	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	0.1 to 0.2
Gray rabbitbrush	<i>Ericameria nauseosa</i>	0.1
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	0.1

5.0 Monitoring

5.1 Revegetation Record

Records will be kept of revegetation efforts, both for croplands and for wildlife habitat. Records will include:

- Date construction was completed;
- Description of the affected area;
- Date revegetation was initiated; and
- Description of the revegetation effort.

The Certificate Holder will update these records periodically as revegetation work occurs, and will provide ODOE with copies of these records along with submission of the monitoring report that is required by the site certificate.

5.2 Reference and Monitoring Sites

In order to determine if the revegetation efforts are meeting success criteria, paired monitoring and reference sites will be established. Monitoring and reference sites will be located in each of the following habitat subtypes that will be temporarily disturbed by construction of ~~the Facility~~ WREF II:

- Revegetated or Other Planted Grassland;
- Native Perennial Grassland;
- Exotic Annual Grassland; ~~and~~
- Shrub-steppe with Rabbitbrush/Snakeweed; ~~and~~
- ~~Shrub-steppe with Basin Big Sagebrush.~~

Reference sites are intended to represent target conditions for the revegetation effort. Vegetation within monitoring plots in revegetation areas will be compared with those in the associated reference sites to measure success of the required revegetation activities for ~~WREF II~~ the Facility.

5.2.1 Reference Sites

Prior to construction, reference sites—areas of habitat quality similar to those found prior to disturbance at the areas to be revegetated—will be identified in consultation with ODOE and ODFW. Reference sites will be chosen with consideration to land use patterns, soil types, terrain, and presence of noxious weeds. Alternate reference sites may be chosen in consultation with ODOE and ODFW if land use changes, wildfire, or other disturbance makes a chosen reference site no longer representative of target conditions.

~~Six~~ Five reference sites will be identified to represent the range of disturbed wildlife habitat areas for which revegetation is required. Two reference sites will be located within native perennial grassland habitat, and one reference site will be located within each of the other ~~four~~ three habitat subtypes noted above. One of the native perennial grassland reference sites will be located in the northern portion of ~~WREFII the Facility~~ and one will be located in the southern portion of ~~WREFII the Facility~~ to capture sites ~~as at~~ both lower and higher elevation. Proposed reference sites will be chosen based on review of:

- Aerial imagery (Google Earth 2019);
- Information from previous vegetation surveys conducted for ~~WREFII the Facility~~ (NWC 2014, Tetra Tech 2019~~b~~);
- Local knowledge of the site by biologists who have conducted surveys within ~~the Facility~~ WREFII boundaries; and
- Soil survey data (NRCS 2019).

~~Following selection of proposed reference sites~~ Final selection of proposed reference sites will include; a site visit will be conducted at the appropriate time to evaluate baseline conditions within these reference sites. These site visits will document the following:

- Vascular plant species present;
- Native/non-native status of species present;
- Approximate percent cover of dominant species;
- Approximate percent cover of state and county-listed noxious weeds; and
- Evidence of ongoing, recent, or past disturbance.

In each of the reference sites, a permanent 50 by 100-foot sample plot will be established. Three 50-foot transects will be established within each of these permanent sample plots, perpendicular to the long side of the plot. For the grassland plots, the line-point intersect method will be used to document vegetation at 1-foot intervals along the transect line. For the shrub-steppe plots, 6-foot-wide belt transects will be established, 3 feet on each side of the transect line. All shrubs and herbaceous species occurring within these transects will be recorded and percent cover of the dominant species will be estimated.

5.2.2 Monitoring Sites

Per ODFW recommendations, a minimum of one monitoring plot will be located within habitats where temporary disturbances will be less than 5 acres in size. For habitats where the impacts will be greater than 5 acres, the number of monitoring plots will be chosen to represent five percent of the total temporary disturbance area by habitat subtype and category, or a maximum of 10 monitoring plots.

The number of monitoring plots for habitat subtypes where impacts will be greater than 5 acres was determined first by multiplying the impact acreage by five percent and then converting the acreages into square feet. This square footage was then divided by 5,000, which represents the number of square feet within a proposed sample plot (50 feet by 100 feet). Table 6 presents the number of monitoring plots that will be established within each habitat subtype and category of temporary disturbance. The categories in Table 6 are different than the categories shown in Table 2, as the categories in Table 6 represent the habitat category attributed during habitat surveys, prior to overlaying mule deer winter range, which modified some Category 3 and Category 4 habitat to a Category 2 habitat for purposes of the HMP (~~NWC and Tetra Tech 2019~~2020b). Using the categories from the habitat survey groups the habitat subtypes by vegetation condition (see the habitat categorization matrix in the HMP), which is more appropriate for revegetation monitoring.

Table 6. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype

Habitat Category ¹	Habitat Subtype	Temporary Disturbance (Acres)	Number of Monitoring Sites
3	Revegetated or Other Planted Grassland	131.8 128.4	10
	Native Perennial Grassland	50.9 44.4	10
4	Exotic Annual Grassland	27.8 23.9	10
	Shrub-steppe with Rabbitbrush/Snakeweed	0.3	1
TOTAL		214.8 197.1	33 31
1. Without mule deer winter range modification.			

Monitoring sites within each habitat subtype will be selected using a stratified randomization process utilizing existing habitat mapping. Mile points will be assigned to each habitat subtype within the construction corridor linearly from north to south in 0.1-mile increments (CH2M 2019). A random number generator will then be used to assign monitoring locations using the 0.1-mile increments. Additional monitoring locations will be chosen, through the stratified randomization process, as alternative locations in case one of the original monitoring locations is deemed unacceptable during the first revegetation monitoring effort. Data collected during the first year of monitoring will serve as pilot data to determine if the chosen number of monitoring sites will provide results that are statistically robust. Additional monitoring sites will be added if statistical analysis of the first year's data indicates additional monitoring plots are needed.

The monitoring plot dimensions and transect spacing may need to be adjusted to account for the numerous linear features associated with ~~WREFII the Facility~~ whose disturbance footprint may be less than 50 feet wide. These detailed considerations for monitoring methods will be determined in consultation with ODOE and ODFW prior to implementation of monitoring.

5.3 Monitoring Procedures

Monitoring of the revegetation effort will be conducted by a qualified botanist or revegetation specialist; this monitoring will be done annually for 5 years, starting on the first growing season after seeding/planting.

During each assessment, revegetated areas will be compared to reference sites with regard to:

- Presence and density of noxious weeds;
- Degree of erosion;
- Vegetative density;
- Proportion of perennial native and desirable introduced plant species; and
- Species diversity and structural stage of perennial native and desirable introduced plant species.

Monitoring will not be required for areas that have been converted by the landowner to land uses that preclude meeting revegetation success criteria.

5.3.1 Noxious Weed Control

A qualified investigator will be employed to annually assess noxious weed presence during the first 5 years of revegetation work and to make recommendations on noxious weed control measures. Reports will be submitted to ODOE and to ODFW following each annual inspection. Details regarding known noxious weed occurrence at ~~WREFII the Facility~~, proposed noxious weed monitoring, and control of noxious weeds are available in a separate Noxious Weed Control Plan (Tetra Tech ~~2019a~~2020b).

5.3.2 Wildlife Habitat Recovery

In the first growing season after planting in revegetation areas, a qualified botanist or revegetation specialist will inspect each wildlife habitat revegetation area to assess the success of revegetation measures. These assessments will be annually for the first 5 years. Monitoring reports will be submitted to the Certificate Holder, ODOE, and ODFW. Assessments will address whether, based on evaluation of monitoring and reference sites, each wildlife habitat revegetation area is trending toward meeting the success criteria described below.

Based on the fifth annual assessment, the Certificate Holder will consult with ODOE and ODFW to design an action plan for subsequent years. The Certificate Holder is obligated to revegetate and implement weed control measures in disturbed areas regardless of its ability to meet success criteria; nonetheless, the Certificate Holder may propose remedial actions and/or additional

monitoring for areas that have been determined by ODOE, in consultation with ODFW, not to have met the success criteria. Revegetation efforts may in some cases be deemed to have failed, and additional mitigation may be proposed in such cases to compensate for loss of wildlife habitat, while revegetation and weed control would continue to apply, but without application of success criteria.

5.4 Success Criteria

Each monitoring report will involve assessing the progress of each area of wildlife habitat disturbed during construction toward meeting revegetation objectives. Habitat quality shall be evaluated based on the success criteria listed below. Final determination of whether the Certificate Holder has met the revegetation obligations will be made by ODOE, in consultation with ODFW.

- **Native Forbs:** The average density or frequency of desirable forbs (typically native, with some site-specific exceptions) should be a minimum of 75 percent of the reference site within 5 years. Diversity of forbs on a reclaimed site should at least equal the diversity measured on the reference site within 5 years.
- **Native Shrubs:** The average density or frequency of the shrub component should be at least 50 percent of the reference site within 5 years. At least 15 percent of the shrub density or frequency should be the dominant species found on the reference site. The diversity of shrub species within the revegetated areas should at least equal the shrub species diversity measured on the reference site.
- **Native Grasses:** Revegetated sites should maintain grass species diversity and density that is at least 85 percent similar to reference sites. Native bunchgrasses should be given preference. Native grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component at the reference site.
- **Non-Native Weeds:** Every attempt should be made to prevent and control all species listed on county, state, and federal noxious weed lists. Revegetation sites should not contain a higher percentage of non-native weed cover than the reference site. All state and federal laws pertaining to noxious weeds must be followed. Highly competitive invasive species such as cheatgrass and other weedy brome grasses are prohibited in seed mixtures and should be actively controlled if any are found in the reclaimed areas.

5.5 Remedial Action

Remedial action options will be identified in cases where success criteria are not met, whether due to wildfire subsequent to ~~Facility~~ construction or because of lower than expected rates of germination or survival. Remedial actions may include reseeding or other measures. The investigator will make recommendations for remedial actions after each monitoring visit, and the Certificate Holder will take appropriate measures to meet the restoration objectives. The Certificate Holder will include the investigator's recommendations for remedial actions and the measures taken in that year's monitoring report. ODOE may require reseeding or other remedial actions in cases where revegetation objectives have not been met.

6.0 Plan Amendment

~~The final HMP~~This Plan may be amended ~~from time to time~~ by agreement of the Certificate Holder and EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this plan. ODOE shall notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this plan agreed to by ODOE.

7.0 References

BFI Native Seeds. 2019. www.bfinativeseeds.com. Accessed December 2019.

CH2M. 2019. Technical Memorandum; Revegetation Monitoring: Selection of Paired Monitoring and Reference Sites for Montague Wind Power Facility – Phase 1. Prepared for Montague Wind Power Facility, LLC. Portland, OR.

EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.

EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.

EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued, November 16, 2018.

EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.

EFSC (Energy Facility Siting Council). 2017. Final Order on the Application for Site Certificate for the Wheatridge Wind Energy Facility. Salem, OR.

EFSC. 2018. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

Google Earth. 2019. Google Earth Pro Aerial Imagery. Accessed December 2019.

Morrow County. 2019. Morrow County Code Enforcement Ordinance. May 2019.

https://www.co.morrow.or.us/sites/default/files/fileattachments/planning/page/11881/2019_code_enforcement_final_.pdf. Accessed July 2019.

NRCS (Natural Resources Conservation Service). 2019. Web Soil Survey. U.S. Department of Agriculture, Natural Resources Conservation Service.

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

NWC (Northwest Wildlife Consultants, Inc.). 2014. Ecological Investigations Report for the Wheatridge Wind Energy Project. Morrow and Umatilla counties, Oregon. Prepared for Wheatridge Wind Energy, LLC.

NWC and Tetra Tech (Northwest Wildlife Consultants and Tetra Tech, Inc.). 2019. Wheatridge Wind Energy Facility Final Habitat Mitigation Plan. Prepared for NextEra Energy Resources, LLC. Portland, OR.

~~NWC (Northwest Wildlife Consultants, Inc.). 2014. Ecological Investigations Report for the Wheatridge Wind Energy Project. Morrow and Umatilla counties, Oregon. Prepared for Wheatridge Wind Energy, LLC.~~

Tetra Tech (Tetra Tech, Inc.). 2019. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.

Tetra Tech. ~~2019a~~2020a. Noxious Weed Control Plan for the Wheatridge ~~Wind~~ Renewable Energy Facility II. Prepared for ~~NextEra Energy Resources~~Wheatridge Wind II, LLC. Portland, OR.

Tetra Tech. 2020b. Habitat Mitigation Plan for the Wheatridge Wind Energy Facility. Prepared for Wheatridge Wind Energy, LLC and Wheatridge Wind II, LLC. Portland, OR.

~~Tetra Tech. 2019b. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.~~

Attachment E: Draft Amended Noxious Weed Control Plans

Noxious Weed Control Plan for the Wheatridge ~~Wind~~ Renewable Energy Facility I

Prepared for
Wheatridge Wind Energy, LLC

~~245 W. Main Street, Suite 200~~

~~Ione, Oregon 97843~~

Prepared by



~~Tetra Tech, Inc.~~

~~1750 SW Harbor Way, Suite 400~~

~~Portland, Oregon 97201~~

~~December 2019~~ March April 2020

Effective Date: Wheatridge Renewable Energy Facility I Site Certificate Effective Date

Effective Date: Wheatridge Renewable Energy Facility I Site Certificate
Effective Date

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Figure 1. Location of Noxious Weeds

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1.0 Introduction

This Noxious Weed Plan (Plan) has been prepared for the Wheatridge Renewable Energy Facility I (WREFI), a 100-MW wind energy facility in Morrow County. Wheatridge Wind Energy, LLC (Certificate Holder) holds the site certificate for WREFI. WREFI has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility II (WREFII).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WRW). WRW was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation but after construction had commenced, WRW was split into WREFI and WREF II. This Plan has been prepared for WREFI but reflects the Pplan prepared for Wheatridge West as part of pre-construction compliance in coordination with and approved by the ODOE and Morrow County.

The Wheatridge Wind Energy Facility (Facility) is a 300-megawatt (MW) wind energy generation facility located in Morrow County that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction and operation on April 28, 2017 (EFSC 2017). The certificate holder subsequently received EFSC approval to amend the site certificate three times, prior to facility construction.

Facility components within Morrow County are referred to as "Wheatridge West" and include the following related or supporting facilities:

- Electrical collection system
- One collector substation
- Permanent meteorological (met) towers
- Communication and Supervisory Control and Data Acquisition (SCADA) System
- One operations and maintenance (O&M) building
- New or improved access roads
- Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas)

Noxious weed species can adversely affect the structure, composition, and success of revegetation efforts associated with construction-related temporary disturbances. The intent of this ~~Noxious Weed Control~~ Plan is to provide clear methods to prevent the introduction and spread of designated noxious weeds from the construction and operation of ~~the Facility~~ WREFI, to control existing populations of noxious weeds within construction areas, and to monitor efforts to prevent

¹ The site certificate for the WRW was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

and control noxious weeds. The Certificate Holder and its contractors will be responsible for implementing the methods detailed in this ~~p~~Plan.

~~This Noxious Weed Control Plan addresses the subsection of the approved Facility known as Wheatridge West. Wheatridge West is located entirely within Morrow County and is bisected by Oregon Highway 207; this plan is being submitted to Morrow County and ODOE as required for pre-construction compliance. If the Certificate Holder decides to build the portion of the approved Facility in Umatilla County, this plan will be amended to include provisions specific to Umatilla County, if needed.~~

2.0 Pre-Construction Compliance

2.1 Site Certificate Conditions

The Noxious Weed Control Plan addresses the following pre-construction condition of the ~~Third~~ Fourth Amended Site Certificate for ~~the WRW Facility~~ (ODOE-~~EFSC~~ 2019):

***PRE-LU-03** Before beginning construction, the certificate holder shall prepare a Weed Control Plan that is consistent with Morrow and Umatilla County weed control requirements to be approved by the department. The department shall consult with Morrow and Umatilla counties and ODFW. The final plan must be submitted to the department no less than 30 days prior to the beginning of construction. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.*

2.2 Regulatory Framework

2.2.1 State of Oregon

In Oregon, noxious weeds are defined under Oregon Revised Statutes (ORS) 569.175 as “terrestrial, aquatic, or marine plants designated by the Oregon State Weed Board (OSWB) under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.” Noxious weeds have been declared by ORS 569.350 as a menace to public welfare, and control of these plants is the responsibility of private landowners and operators, as well as county, state, and federal governments.

The OSWB was established under ORS 561.650. It provides direction to control noxious weeds at the state level and develops and maintains the State Noxious Weed List. OSWB and the Oregon Department of Agriculture (ODA) classify noxious weeds in Oregon in accordance with the ODA Noxious Weed Classification System (ODA 2019). There are three designations under the State’s system:

- **Class A State Listed Noxious 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 in Oregon, but its presence in neighboring states makes future occurrence seem imminent.

- **Recommended Action:** Infestations are subject to eradication or intensive control when and where found.
- **Class B State Listed Noxious Weed:** A weed of economic importance that is regionally abundant but may have limited distribution in some counties.
 - **Recommended Action:** Limited to intensive control at the state, county, or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
- **Class T Designated State Noxious Weeds:** Priority noxious weed species selected and designated by the OSWB as the focus of prevention and control actions by the Noxious Weed Control Program. T-designated noxious weeds are selected annually from either the A or B list and the ODA is directed to develop and implement a statewide management plan for these species.

2.2.2 Morrow County

The Morrow County Code Enforcement Ordinance establishes procedures for enforcing Morrow County Code through the authority granted to general law counties by ORS Chapter 203. Section 11 of the county ordinance establishes Morrow County as a weed control district, defines what is considered a noxious weed or weed of economic importance, identifies the responsibility of private land owners to control weeds, and outlines the authority of the weed control district and Morrow County Weed Coordinator to enforce the ordinance.

Morrow County has its own weed classification system that differs from the state. Morrow County defines two classifications of weeds:

- **Morrow County A List:** Noxious weeds. Any plant that is determined by the County Weed Advisory Board, and so declared by the County Board of Commissioners to be injurious to public health, crops, livestock, land, or property under provisions of Oregon State Statute and thus mandated for control.
- **Morrow County B List:** Weeds of economic importance. Weeds of limited distribution in the county and subject to intensive control or eradication where feasible.

3.0 ODA and Morrow County Weeds Lists

The ODA lists 46 Class A species and 92 Class B species for the state (ODA 2019). Morrow County specifically recognizes 37 species of noxious weeds (Table 1; Morrow County 2019). Although, not all of the Morrow County listed noxious weeds noted in Table 1 occur within or near ~~the~~ the Facility WREFI, the Certificate Holder and its contractors should be aware of the entire list while

monitoring and controlling weeds. Noxious weeds known to occur within or near ~~the Facility~~ WREFI are discussed in Section 54.0.

Table 1. Morrow County Weed Department Weed Lists and Classifications

Scientific Name	Common Name	Morrow County Classification
<i>Butomus umbellatus</i>	flowering rush	A
<i>Cardaria (Lepidium) draba</i>	whitetop (hoary cress)	A
<i>Carduus acanthoides</i>	plumeless thistle	A
<i>Carduus nutans</i>	musk thistle	A
<i>Centaurea solstitialis</i>	yellow starthistle	A
<i>Centromadia (Hemizonia) pungens</i> subsp. <i>pungens</i>	spikeweed	A
<i>Chondrilla juncea</i>	rush skeletonweed	A
<i>Crupina vulgaris</i>	common crupina	A
<i>Cynoglossum officinale</i>	houndstongue	A
<i>Euphorbia esula</i>	leafy spurge	A
<i>Iris pseudacorus</i>	yellow flag iris	A
<i>Linaria dalmatica</i>	dalmatian toadflax	A
<i>Linaria vulgaris</i>	yellow toadflax	A
<i>Lythrum salicaria</i>	purple loosestrife	A
<i>Onopordum acanthium</i>	scotch thistle	A
<i>Salvia aethiopsis</i>	Mediterranean sage	A
<i>Senecio jacobaea</i>	tansy ragwort	A
<i>Acroptilon repens</i>	Russian knapweed	B
<i>Aegilops cylindrica</i>	jointed goatgrass	B
<i>Avena fatua</i>	wild oats	B
<i>Bassia (Kochia) scoparia</i>	kochia	B
<i>Centaurea diffusa</i>	diffuse knapweed	B
<i>Centaurea stoebe</i> subsp. <i>micranthos</i>	spotted knapweed	B
<i>Cicuta douglasii</i>	water hemlock	B
<i>Cirsium arvense</i>	Canada thistle	B
<i>Conium maculatum</i>	poison hemlock	B
<i>Convolvulus arvensis</i>	field bindweed	B
<i>Cuscuta</i> spp.	field dodder	B
<i>Euphorbia myrsinites</i>	myrtle spurge	B
<i>Hypericum perforatum</i>	St. Johnswort	B
<i>Lepidium latifolium</i>	perennial pepperweed	B
<i>Secale cereale</i>	cereal rye	B

Scientific Name	Common Name	Morrow County Classification
<i>Sonchus arvensis</i>	perennial sowthistle	B
<i>Sorghum halepense</i>	johnsongrass	B
<i>Taeniatherum caput-medusae</i>	medusahead rye	B
<i>Tribulus terrestris</i>	puncturevine	B
<i>Ventenata dubia</i>	ventenata	B

4.0 Noxious Weeds Identified at ~~WREF~~the Facility

Field surveys for the state-listed threatened plant species Laurent's milkvetch (*Astragalus collinus* var. *laurentii*) were conducted ~~for WREF~~ from June 29 – July 2 and July 17 – 18, 2019 (Tetra Tech 2019). Noxious weeds were also recorded during these surveys, as well as during other pre-construction biological surveys.

Table 2 identifies both state and county listed noxious weed species observed during pre-construction surveys, and their ~~estimated~~ frequency ~~of occurrence within and in the vicinity of the WREF portion of the surveyed areas~~. The location of these noxious weeds is shown in Figure 1.

Table 2. Noxious Weeds Identified ~~at the Facility within or in the Vicinity~~ During Surveys of ~~at WREF~~

Scientific Name	Common Name	State Status (ODA) ¹	Morrow County Status ²	Frequency
<i>Aegilops cylindrica</i>	jointed goatgrass	B	B	One observation in vicinity of WREF Abundant in southern portion of survey area
<i>Bassia (Kochia) scoparia</i>	kochia	B	B	Infrequently observed in vicinity of WREF; but where found typically occurs in dense populations
<i>Centaurea diffusa</i>	diffuse knapweed	B	B	Common; predominantly found in central and within and in vicinity - southern portions of survey area WREF
<i>Centaurea solstitialis</i>	yellow starthistle	B	A	Abundant in and adjacent to central-southern portion of survey area WREF
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	spotted knapweed	B/T	B	Infrequently observed in southern portion of survey area WREF
<i>Chondrilla juncea</i>	rush skeletonweed	B/T	A	Infrequently observed in the vicinity of WREF
<i>Girsium arvense</i>	Canada thistle	B	B	Not observed in vicinity of WREF; infrequently observed in survey area.

<i>Convolvulus arvensis</i>	field bindweed	B	B	Not observed in vicinity of WREFI; cCommon in southern portion of survey area
<i>Onopordium acanthium</i>	Scotch thistle	B	A	Infrequent One observation within vicinity of WREFI
<i>Secale cereale</i>	cereal rye	N/A	B	Infrequently observed within vicinity of WREFI; but where found typically occurs in dense populations
<i>Taeniatherum caput-medusae</i>	medusahead rye	B	B	Infrequent; but where found typically occurs in dense populations
<i>Ventenata dubia</i>	ventenata	B	B	Infrequent; but where found typically occurs in dense populations
<p>Sources: ODA 2019. Morrow County 2019.</p> <p>1. ODA: A = 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 = A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. T = priority targets for control.</p> <p>2. Morrow County: A = Noxious Weeds. B = Weeds of Economic Importance.</p>				

5.0 Weed Management

This section of the Plan describes the steps the Certificate Holder will take to prevent and control the establishment and spread of noxious weed species during both construction and operation of ~~the Facility~~ WREFI. Noxious weed control methods for WREFI ~~the Facility~~ described in this Plan have been developed utilizing information from the ODA Noxious Weed Control Program and the Morrow County Weed Control Program.

The management of noxious weeds will be considered throughout all stages of ~~the Facility~~ construction and operation of WREFI and will include:

- **Education and Personnel Requirements:** Educating all construction personnel regarding known locations of noxious weed infestations, identification of noxious weed species, and the importance of preventive measures and treatment methods.
- **Prevention:** Implementing measures to prevent the spread of noxious weeds during construction, operation, and maintenance activities.
- **Treatment:** Treating noxious weed infestations with appropriate control methods within the most effective timeframe.

The Certificate Holder's objective is to prevent the introduction of new weed populations and the spread of existing noxious weed populations. The methods described below will be implemented to minimize the spread of noxious weeds during construction activities. New noxious weeds detected during post-construction revegetation will be considered a result of construction activities and will be controlled accordingly.

5.1 Education and Personnel Requirements

Prior to construction, all construction personnel will be instructed on the importance of controlling noxious weeds. As part of start-up activities, and to help facilitate the avoidance of existing infestations and identification of new infestations, the Certificate Holder or their construction contractor will provide information and training to all construction personnel regarding noxious weed identification and management. Operations and maintenance personnel will be similarly informed. The importance of preventing the spread of noxious weeds in areas not currently infested and controlling the proliferation of noxious weeds already present within or near ~~the Facility~~ WREFI, will be emphasized.

5.2 Prevention

Implementation of the following best management practices are intended to prevent the spread of noxious weeds during construction activities, revegetation efforts, and operation and maintenance activities.

- Prior to construction, areas of noxious weed infestations will be flagged to alert construction personnel to their presence ~~and limit or prevent access to those areas;~~

- ~~Weed infestations will be treated prior to ground disturbance if timing of construction allows for successful treatment;~~
- Limiting vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of construction disturbances per the final design for WREFI~~the Facility~~;
- Limiting vehicle traffic in noxious weed-infested areas;
- Cleaning construction vehicles prior to entering WREFI for the first time and upon completion of construction of WREFI at a wash station located within the laydown yard off Baseline Rd. near turbine 62 of WREFII or at a public car wash in the vicinity of WREFI;
- Cleaning vehicles and equipment associated with ground disturbance and movement of topsoil immediately after performing work in noxious weed-infested areas and prior to performing work in non-infested areas utilizing a mobile wash station;
- Topsoil and other soils from noxious weed infested areas will not be moved outside of the infested areas and will be placed next to the infested area and identified as coming from an infested area and returned to its previous location during reclamation activities;
- Soils from infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions;
- Movement of topsoil and other soils from non-infested areas will be limited to eliminate the transport of weed seeds, roots, or rhizomes.
- Providing information regarding target noxious weed species at the O&M buildings;
- Treating noxious weeds via mechanical or chemical control (see Section 65.3);
- Preventing conditions favorable for noxious weed germination and spread by revegetating temporarily disturbed areas as soon as possible;
- Monitoring areas of disturbance for noxious weeds after construction (see Section 67.0), during the normal course of revegetation maintenance of temporary work spaces, and implementing control measures as appropriate;
- Revegetating the site with appropriate, local native seed or native plants; when these are not available, non-invasive and non-persistent non-native species may be used; and
- Inspecting and certifying that the seed and straw mulch used for site rehabilitation and revegetation are free of noxious weed seed and propagules.

5.3 Treatment

Control of noxious weeds will be implemented through mechanical or chemical control measures. The Certificate Holder will be responsible for hiring a qualified contractor to implement the

treatment of noxious weeds. The Certificate Holder will ensure that noxious weed management actions will be carried out by specialists with the following qualifications:

- Experience in native plant, non-native and invasive plants, and noxious weed identification;
- Experience in noxious weed mapping;
- If chemical control is used, specialists must possess a Commercial or Public Pesticide Applicator License from the ODA or possess an Immediately Supervised Pesticide Trainee License and be supervised by a licensed applicator;
- Training in noxious weed management or Integrated Pest Management with an emphasis in noxious weeds; and
- Experience in coordination with agency and private landowners.

Existing noxious weed populations should be prevented from expanding in size and density and should not be spread to new sites. Where possible, existing populations of noxious weeds should be eradicated. If it is determined that noxious weeds have invaded areas immediately adjacent to ~~WREF~~~~the Facility~~ (e.g., areas visible just beyond the outer limits of construction disturbances associated with ~~WREF~~~~the Facility~~ or along access roads) as a result of construction, the Certificate Holder will contact the landowner and seek approval to treat those noxious weed populations.

Long-term weed control methods will be described in a long-term monitoring plan as described in Section 7.6.0. The main factor in long-term weed control is successful revegetation with non-weedy species as described in the updates to the ~~Wheatridge Wind Energy Facility Final Revegetation Plan~~~~revegetation plan~~ (NWC and Tetra Tech 2019~~2020~~). As noted above, short-term noxious weed control will be done through mechanical or chemical treatment. However, it will be important to ensure that the short-term treatment does not affect the establishment of the native perennial cover that will help provide the long-term control. Additionally, early detection and control of small noxious weed populations before they can expand into larger populations is extremely important for successful weed control efforts.

Noxious weed control will continue until the disturbed areas meet the identified success criteria described in Section 7.6.0. Supplemental seeding of desirable species may be needed to achieve this goal. Fertilizer application will be limited in areas treated for noxious weeds, as fertilizer can stimulate the growth of noxious weeds, and the timing of revegetation activities will need to be coordinated with noxious weed treatments.

5.3.1 Mechanical Treatment

Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds ~~in areas of sensitive habitats (such as around known populations of Laurent's milkvetch; Figure 1.3 and Figure 1.4)~~. Some rhizomatous plants can spread by discing or tillage; therefore, implementation of discing will be

species specific. If such a method is used in areas to be reclaimed, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Discing or other mechanical treatments that disturb the soil surface within native habitats will be avoided in favor of herbicide application (see Section 56.3.2), which is an effective means of reducing the size of noxious weed populations as well as preventing the establishment of new infestations.

5.3.2 Chemical Treatments

Chemical control can effectively remove noxious weeds through use of selective herbicides. The recommended chemical treatment and timing of chemical application for noxious weeds that have been identified ~~at or in the vicinity of during surveys at WREFI the Facility~~ (Table 2) are presented in Table 3. The herbicides used and the timing of application will differ depending on whether the species are (1) perennial, broad-leaved, or dicot weeds (e.g., thistles and knapweeds, ~~field bindweed~~) or (2) annual grasses or monocots (e.g., ~~medusahead-rye jointed goatgrass~~), as appropriate herbicides differ substantially between dicots and monocots.

All herbicides included in Table 3 are currently approved for use by the U.S. Environmental Protection Agency (EPA) and ODA; ~~however, the status of herbicide approval should be checked annually.~~ Prior to construction and every fall season during facility operation, the Certificate Holder or its contractor shall consult with the Morrow County Weed Supervisor on timing, method and application rates for each identified weed species of concern, to allow for adaptive weed management given changes in weed control effectiveness from noxious weed species tolerance to herbicide treatment over time. Results of the consultation shall be reported in the Certificate Holder's annual weed monitoring report. Any alternative control methods can be proposed by the Certificate Holder or its contractors, after consulting with the Morrow County Weed Supervisor, and included in the Certificate Holder's annual weed monitoring report.

Table 3. Recommended Timing and Method of Control

Noxious Weed Species	Method and Timing of Control
<i>Aegilops cylindrica</i> (jointed goatgrass)	<p>Glyphosate – Apply to actively growing plants emerged before boot stage (i.e., stage of growth where growth is focused on seed development versus leaf development).</p> <ul style="list-style-type: none"> Rate: 0.38 to 0.75 lb ae/a¹ <p>Imazapic – Apply pre-emergence in fall. Due to the residual effect of this herbicide, it will not be used in areas to be revegetated.</p> <ul style="list-style-type: none"> Rate: 0.063 to 0.188 lb/a¹ <p>Sulfometuron – Apply in fall or in late winter before jointed goatgrass is 3 inches tall.</p> <ul style="list-style-type: none"> Rate: 1 to 1.5 oz ai/a (1.33 to 2 oz/a)¹
<i>Bassia (Kochia) scoparia</i> (Kochia)	<p>Aminocyclopyrachlor + chlorsulfuron – Apply either pre-emergence (late winter/early spring) or post-emergence. Postemergence is most effective on seedlings.</p> <ul style="list-style-type: none"> Rate: 4.75 to 8 oz/a¹

Noxious Weed Species	Method and Timing of Control
	<p>Chlorsulfuron – Apply pre-emergence (late winter/early spring), or post-emergence from seedling to bolting stage of growth.</p> <ul style="list-style-type: none"> Rate: 0.75 oz ai/a (1 oz/a)¹ <p>Dicamba – Apply in spring when seedlings are actively growing.</p> <ul style="list-style-type: none"> Rate: 0.25 to 1 lb ae/a (0.5 to 2 pints/a)¹ <p>Fluroxypyr – Apply in spring from seedling to bolting stage of growth.</p> <ul style="list-style-type: none"> Rate: 2.1 to 7.7 oz ae/a (6 to 22 o/a)¹ <p>Glyphosate – Apply in spring from seedling to flowering stage of growth.</p> <ul style="list-style-type: none"> Rate: 1.1 to 1.7 lb ae/a¹ <p>Hexazinone – Apply pre-emergence in the early spring.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1.5 lb ai/a (2 to 6 pints/a)¹ <p>Imazapyr – Apply pre-emergence (late winter/early spring) or post-emergence to actively growing kochia.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1.5 lb ae/a (2 to 4 pints/a)¹ <p>Metsulfuron – Apply in spring from seedling to flowering stage of growth.</p> <ul style="list-style-type: none"> Rate: 0.6 to 1.2 oz ai/a (1 to 2 oz/a)¹ <p>Rimsulfuron – Apply pre-emergence (late winter/early spring) or post-emergence to kochia seedlings.</p> <ul style="list-style-type: none"> Rate: 1 oz ai/a (4 oz/a)¹
<p><i>Centaurea diffusa</i> (diffuse knapweed)</p> <p><i>Centaurea stoebe</i> ssp. <i>micranthos</i> (spotted knapweed)</p>	<p>2,4-D – Apply at the early stage of flower stem elongation (late April to early May).</p> <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring.</p> <ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Aminopyralid – Consult label for optimum timing. Diffuse and spotted knapweed: apply to actively growing plants in fall or in spring from rosette to bolting growth stages.</p> <ul style="list-style-type: none"> Rate: 1 to 1.75 oz ae/a¹ <p>Clopyralid – Up to the bud stage of knapweeds.</p> <ul style="list-style-type: none"> Rate: 0.25 to 0.5 lb ae/a (0.66 to 1.33 pints/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) – Apply after most rosettes emerge but before flower stem elongates.</p> <ul style="list-style-type: none"> Rate: 2 to 4 quarts/a Curtail¹ <p>Diflufenzopyr + dicamba – Apply to rosettes.</p> <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a¹ <p>Glyphosate – Apply to actively growing knapweed when most plants are at bud stage.</p> <ul style="list-style-type: none"> Rate: 3 lb ae/a¹ <p>Picloram – Apply in late spring before or during flower stem elongation.</p> <ul style="list-style-type: none"> Rate: 0.25 to 0.5 lb ae/a¹ <p>Triclopyr + clopyralid – Apply from rosette to early bolt stage when weeds are actively growing.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2 pints/a¹

Noxious Weed Species	Method and Timing of Control
<i>Centaurea solstitialis</i> (yellow starthistle)	<p>2,4-D LV ester or 2,4-D amine – Apply before flowering.</p> <ul style="list-style-type: none"> Rate: 1 lb ae/a¹ in 50 gallons of water <p>Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants.</p> <ul style="list-style-type: none"> Rate: 1.2 to 1.8 oz/a¹ aminocyclopyrachlor + 0.5 to 0.7 oz/a chlorsulfuron (3 to 4.5 oz/a of product) <p>Aminopyralid (Milestone) – Apply to plants at the rosette through bolting stages.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1.25 oz ae/a (3 to 5 fluid oz/a Milestone)¹ <p>Chlorsulfuron – For best results apply to young, actively growing plants.</p> <ul style="list-style-type: none"> Rate: 1.125 oz ai/a (1.5 oz/a)¹ <p>Clopyralid – After most rosettes have emerged but before bud formation.</p> <ul style="list-style-type: none"> Rate: 0.09 to 0.375 lb ae/a (0.25 to 1 pint/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) – Apply after most rosettes have emerged but before bud formation.</p> <ul style="list-style-type: none"> Rate: 1 to 5 quarts/a Curtail¹ <p>Dicamba – Apply when plants are still in rosettes but before flower stems elongate.</p> <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a¹ <p>Diflufenzopyr + dicamba – Apply to seedlings or rosettes.</p> <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a (6 to 8 oz/a)¹ <p>Picloram – In spring, to plants still in rosette through bud formation.</p> <ul style="list-style-type: none"> Rate: 0.25 to 0.375 lb ae/a¹ <p>Triclopyr + clopyralid – Apply from rosette to early bolt stage when starthistle is actively growing.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2.5 pints/a¹
<i>Chondrilla juncea</i> (rush skeletonweed)	<p>2,4-D or MCPA – Apply to rosettes in the spring immediately before or during bolting.</p> <ul style="list-style-type: none"> Rate: 2 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring.</p> <p>Rate: 1.8 to 3.2 oz/a¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)</p> <p>Aminopyralid (Milestone) – Spring or fall when rosettes are present.</p> <ul style="list-style-type: none"> Rate: 1.75 oz ae/a (7 fluid oz/a Milestone)¹ <p>Clopyralid – Apply to rosettes in fall or up to early bolting in spring.</p> <ul style="list-style-type: none"> Rate: 0.25 to 0.375 lb ae/a (0.66 to 1 pint/a)¹ <p>Picloram – Apply from late fall to early spring. For best results, apply just before or during bolting.</p> <ul style="list-style-type: none"> Rate: 1 lb ae/a¹
<i>Cirsium arvense</i> (Canada thistle)	<p>Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring.</p> <p>• Rate: 1.8 to 3.2 oz/a¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)</p> <p>Aminopyralid (Milestone) – Apply in the spring to plants in the pre-bud stage of growth or in the fall to plant regrowth.</p> <p>• Rate: 1.25 to 1.75 oz ae/a (5 to 7 fluid oz/a Milestone)¹</p>

Noxious Weed Species	Method and Timing of Control
	<p>Chlorsulfuron – Apply post-emergence. For best results, apply to plants in the bud-bloom stage or to fall rosettes.</p> <ul style="list-style-type: none"> Rate: 1.125 oz ai/a (1.5 oz/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) or clopyralid (Stinger or Transline) – Apply to actively growing thistle after most basal leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> Rate: Consult labels. Rate depends on use site. <p>Dicamba – May be applied any time during the growing season.</p> <ul style="list-style-type: none"> Rate: 2 lb ae/a. Spot treatment: use mixtures of 2 to 4 lb ae dicamba per 100 gallons of water¹ <p>Diflufenzopyr + dicamba – Apply in spring to the rosettes.</p> <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a (6 to 8 oz/a)¹ <p>Glyphosate – Apply when plants are actively growing but past the bud growth stage. Fall applications must be before the first killing frost.</p> <ul style="list-style-type: none"> Rate: Broadcast: 1.5 to 2.25 lb ae/a¹; Wiper: 10 to 33% solution; Hand held and high volume equipment: 2% solution. Thistles that were mowed or tilled and have rosettes at least 6 inches wide in late summer or fall can be suppressed with 0.75 lbs. ae/a glyphosate plus 0.5 to 1% nonionic surfactant applied in 3 to 10 gal/a water. <p>Picloram – Control is best if applied to actively growing thistle after most leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> Rate: In broadcast or boom sprayers, apply 1 lb ae/a. Mixtures normally used for spot treatments include 1 lb ae per 100 gallons of water¹ <p>Triclopyr + clopyralid – Apply from rosette to bud stage to actively growing thistle.</p> <ul style="list-style-type: none"> Rate: 2.5 to 4 pints/a¹
<i>Convolvulus arvensis</i> (field bindweed)	<p>2,4-D (for suppression) amine – Apply at bud growth stage or at summer fallow in early August.</p> <ul style="list-style-type: none"> Rate: 2 to 3 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron – Apply to broadleaf weeds in spring.</p> <ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Dicamba or dicamba + 2,4-D (for suppression) – Apply during fallow, before planting and when plants are actively growing.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1 lb ae/a dicamba; or 0.5 to 1 lb ae/a dicamba + 1 to 2 lb ae/a 2,4-D¹ <p>Dicamba or dicamba + 2,4-D (for control) – Apply in late summer or fall before killing frost.</p> <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a dicamba; or 1 to 2 lb ae/a dicamba + 1 to 2 lb ae/a 2,4-D¹ <p>Glyphosate – Apply at full bloom to early seed stage of maturity. Application on fall regrowth may provide some control.</p> <ul style="list-style-type: none"> Rate: 3 to 3.75 lb ae/a¹ <p>Glyphosate + 2,4-D (Landmaster BW) – Apply to bindweed runners that are at least 10 inches long. Use 1% solution to spot treat with high-volume, spray-to-wet applications. Tilling after treatment may improve control.</p> <ul style="list-style-type: none"> Rate: 0.378 to 0.67 lb ae/a (54 oz/a Landmaster)¹

Noxious Weed Species	Method and Timing of Control
	<p>Glyphosate + dicamba – Apply mid- to late-bloom but before seed matures. Applying to fall regrowth may give some control.</p> <ul style="list-style-type: none"> • Rate: 1.5 lb ae/a glyphosate + 0.5 lb ae/a dicamba¹ <p>Imazapic – Apply after 25% bloom through fall to actively growing bindweed.</p> <ul style="list-style-type: none"> • Rate: 0.125 to 0.188 lb ai/a¹ <p>Metsulfuron – Apply to actively growing bindweed in bloom stage.</p> <ul style="list-style-type: none"> • Rate: 0.6 to 1.2 oz ai/a (1 to 2 oz/a)¹ <p>Picloram – Apply in the growing season on non-cropland when bindweed is visible. Timing is not critical, but results are most consistent if bindweed is in early bud to full bloom.</p> <ul style="list-style-type: none"> • Rate: 1 lb ae/a¹ <p>Quinclorac – Apply in fall before frost to actively growing bindweed with stems at least 4 inches long.</p> <ul style="list-style-type: none"> • Rate: 6 oz ai/a (8 oz/a)¹
<i>Onopordum acanthium</i> (Scotch thistle)	<p>2,4-D – spring or fall.</p> <ul style="list-style-type: none"> • Rate: 1.5 to 2 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron (Perspective) – Apply to actively growing plants in spring.</p> <ul style="list-style-type: none"> • Rate: 1.8 to 3.2 oz/a aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Aminopyralid (Milestone) – Apply in spring or early summer to rosettes or bolting plants or in fall to seedlings and rosettes.</p> <ul style="list-style-type: none"> • Rate: 0.75 to 1.25 oz ae/a (3 to 5 fl oz/a Milestone)¹ <p>Chlorsulfuron – Apply to young, actively growing plants.</p> <ul style="list-style-type: none"> • Rate: 0.75 oz ai/a (1 oz/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) – Apply to actively growing thistle after most basal leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> • Rate: 1 to 5 quarts/a Curtail¹ <p>Clopyralid – Apply up to the bud stage.</p> <ul style="list-style-type: none"> • Rate: 0.09 to 0.375 lb ae/a (0.25 to 1 pint/a)¹ <p>Dicamba – Apply before flower stalk lengthens on established plants and for seedling control. Spray fall applications to control rosettes.</p> <ul style="list-style-type: none"> • Rate: 0.5 to 1 lb ae/a¹ <p>Diflufenzopyr + dicamba – Apply to the rosettes.</p> <ul style="list-style-type: none"> • Rate: 0.175 to 0.35 lb ae/a (4 to 8 oz/a)¹ <p>Glyphosate + 2,4-D – Apply to plants in rosette stage of growth in spring or before freeze-up in fall.</p> <ul style="list-style-type: none"> • Rate: Broadcast: 16 to 32 fl oz/a¹. Spot treatment: 1 to 2% solution. <p>Metsulfuron (Escort and others) – Apply post-emergence to actively growing plants.</p> <ul style="list-style-type: none"> • Rate: Escort: 0.6 oz ai/a (1 oz/a)¹ <p>Picloram – Apply in the fall before plants bolt.</p> <ul style="list-style-type: none"> • Rate: 0.25 lb ae/a¹ <p>Triclopyr + clopyralid – Apply to actively growing plants from rosette to early bolt stage.</p>

Noxious Weed Species	Method and Timing of Control
	<ul style="list-style-type: none"> Rate: 1.5 to 2 pints/a¹
<i>Secale cereale</i> (cereal rye)	<p>Consult with Morrow County Weed Supervisor.</p> <p>Glyphosate can be applied post-emergence; does not provide residual weed control.</p>
<i>Taeniatherum caput-medusae</i> (medusahead rye)	<p>Consult with Morrow County Weed Supervisor.</p> <p>Glyphosate—For selective control in shrubland, apply post-emergence in spring after all seedlings are up and before heading; the tillering stage is ideal. For late season, non-selective control, apply to rapidly growing plants before seeds are produced.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1 pint product (41% glyphosate)/a (4.5 to 6 oz ae/a) for early season selective control in shrubland or other perennial systems; 1 to 2 quarts product/a (0.75 to 1.5 lb ae/a)¹ for late season, non-selective control. Imazapic—Fall or spring. In warm-winter areas, fall applications may be most effective. In colder climates, spring applications after snow melt is better. Rate: 4 to 12 fluid-oz product/a (1 to 3 oz ae/a)¹ <p>Rimsulfuron—Pre-emergence (fall) to early post-emergence (early spring)</p> <ul style="list-style-type: none"> Rate: 4 oz product/a (1 oz active ingredient (ai)/a)¹ <p>Sulfometuron—Pre-emergence to early post-emergence. Pre-emergence (fall) applications are generally more effective.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1.5 oz product/a (0.56 to 1.13 oz ai/a)¹ <p>Sulfometuron + chlorsulfuron—Pre-emergence in fall or after soil thaws in spring.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2.25 oz product/a¹
<i>Ventenata dubia</i> (ventenata)	<p>Imazapic (Plateau, Panoramic)—Apply in the fall after ventenata has emerged.</p> <ul style="list-style-type: none"> Rate: 5 oz /a Plateau or Panoramic¹ <p>Sulfosulfuron (Outrider)—Apply in the fall after ventenata has emerged (1 inch rain and soil temperature above 45°F).</p> <ul style="list-style-type: none"> Rate: 0.75 oz/a Outrider¹ <p>Flufenacet + metribuzin (Axiom DF)—Apply before plants emerge (late summer/early fall), or no later than the two-leaf stage.</p> <ul style="list-style-type: none"> Rate: 0.27 to 0.31 lb ai/a flufenacet + 0.068 to 0.084 lb ai/a metribuzin (8 to 10 oz/a Axiom)¹ <p>Indaziflam—Apply pre-emergence (late summer/early fall).</p> <ul style="list-style-type: none"> Rate: 3.5 to 7 oz/a¹ <p>Rimsulfuron—Apply before or soon after seedlings emerge (late summer to fall).</p> <ul style="list-style-type: none"> Rate: 2 to 4 oz/a¹
<p>Sources: DiTomaso et al. 2013; Kyser et al. 2014, Prather et al. 2019.</p> <p>¹ a = acre; ae = acid equivalent; ai = active ingredient; lb = pound; oz = ounces</p>	

The application of herbicides will be to identified, treatable, noxious weed infestations. The Certificate Holder or their contractors will coordinate with the Morrow County Weed Control Supervisor to determine which populations are ~~treatable, and~~ treatable and will notify landowners of proposed herbicide use on their lands prior to application. If a noxious weed population is deemed to be untreatable (e.g., too widespread and established in an area to successfully control), the Certificate Holder will implement the prevention measures discussed in Section ~~65.2~~, except for treatment with herbicides.

5.3.2.1 Herbicide Application and Handling

Herbicide application will adhere to EPA and ODA standards. Only those herbicides that are approved by the EPA and ODA will be used. In general, application of herbicides will not occur when the following conditions exists:

- Wind velocity exceeds 15 miles per hour for granular application, or exceeds 10 miles per hour for liquid applications;
- Snow or ice covers the foliage of target species; or
- Adverse weather conditions are forecasted within the next few days.

Hand application methods (e.g., backpack spraying) may be used in roadless areas or in rough terrain. Vehicle-mounted sprayers (e.g., handgun, boom and injector) will be used mainly in open areas that are readily accessible by vehicle. Calibration checks of equipment will be conducted prior to spraying activities, as well as periodically throughout use, to ensure that appropriate application rates are achieved.

Herbicides will be transported to ~~WREFI the Facility~~ daily with the following stipulations:

- Only the quantity needed for that day's work will be transported.
- Concentrate will be transported in approved containers only, and in a manner that will prevent spilling, stored separately from food, clothing, and safety equipment.
- Mixing will be done off site and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive species' habitat. No herbicides will be applied at these areas unless authorized by the appropriate regulatory agencies.
- All herbicide equipment and containers will be inspected daily for leaks.
- Herbicides use will be in accordance with all manufacture's label recommendations and warnings.

5.3.2.2 Herbicide Spills and Cleanups

All appropriate precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in an appropriate storage shed to allow for quick and effective response to spills. Items included in the spill kit will be:

- Protective clothing and gloves;

- Adsorptive clay, “kitty litter,” or other commercial adsorbent;
- Plastic bags and a bucket;
- A shovel;
- A fiber brush and screw-in handle;
- A dust pan;
- Caution tape;
- Highway flares (use on existing hard-top roads only); and
- Detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

- Stopping the leak;
- Containing the spilled material;
- Traffic control;
- Dressing the clean-up team in protective clothing;
- Cleaning up and removing the spilled herbicide, as well as the contaminated adsorptive material and soil; and
- Transporting the spilled herbicide and contaminated material to an authorized disposal site.

5.3.2.3 Herbicide Spill Reporting

All herbicide contractors will have readily available copies of the appropriate material safety data sheets for the herbicides used at their ~~disposal, and disposal and~~ will keep copies of the material safety data sheets in the application vehicle. All herbicide spills will be reported in accordance with applicable laws and requirements. If a spill occurs, the appropriate agency and spill coordinators will be notified promptly. In case of a spill into wetlands and waterbodies, the appropriate federal, state, and county agencies will be notified immediately.

5.3.2.4 Special Considerations

The Certificate Holder will provide special consideration to intermittent and ephemeral streams/draws during treatment activities. No herbicide will be sprayed where the drift can enter standing water or saturated soil. It will be the herbicide applicators’ responsibility to ensure that no herbicide or drift enters standing water, regardless of the season when the herbicide is applied. Similar considerations will be made when in proximity to agricultural fields, ~~and Laurent’s milkvetch populations (Figure 1.3 and Figure 1.4). The qualified herbicide applicators should refer to the Facility’s conservation plan (in progress) for Laurent’s milkvetch for specific considerations for herbicide use in and near those populations.~~

6.0 Monitoring

A qualified investigator will be employed to annually assess noxious weed growth during the first five years of revegetation work and to make recommendations on noxious weed control measures. Reports will be submitted to the Certificate Holder, to ODOE, Oregon Department of Fish and Wildlife (ODFW), and Morrow County following each annual inspection. Annual noxious weed inspections will occur across the entire ~~WREF Facility~~ through visual inspection of revegetated areas while driving and/or walking. These inspections will be used to inform ongoing noxious weed control efforts. Noxious weed monitoring sites to be included in the annual reports will correspond with the reference sites identified for revegetation monitoring success, described below. Note that revegetation monitoring and reporting frequency differs from the noxious weed monitoring and reporting discussed in this Plan.

As described in the ~~Wheatridge Wind Energy Facility Final Revegetation Plan~~ revegetation plan (NWC and Tetra Tech 2019~~2020~~), a qualified ~~independent~~ investigator (botanist or revegetation specialist) will inspect each revegetation area to assess the success of revegetation measures.

In consultation with ODFW, revegetation reference sites—~~areas of habitat and quality similar~~ habitat areas of similar quality to those found prior to disturbance at the areas to be revegetated—will be established to represent target conditions for revegetation areas. During each assessment, revegetated areas will be compared to reference sites with regard to:

- Presence and density of noxious weeds
- Degree of erosion
- Vegetative density
- Proportion of desirable vegetation
- Species diversity and structural stage of desirable vegetation

The goal is to control noxious weeds, such that the density is equal to or less than the density of noxious weeds in reference sites. Based on the success of noxious weed control efforts after the fifth year of annual monitoring, the Certificate Holder will consult with ODOE and ODFW to design a long-term weed control plan. The Certificate Holder may propose remedial actions and/or additional monitoring for noxious weed areas that have not met the success criteria.

The Certificate Holder will maintain ongoing communication with individual landowners, the Morrow County Weed Control Supervisor, and ODOE regarding noxious weeds within ~~WREF~~ the Facility. Landowners may also contact the Certificate Holder directly to report the presence of noxious weeds related to Project activity. The Certificate Holder will control the noxious weeds on a case-by-case basis and prepare a summary of measures taken for that landowner. During operations of ~~WREF~~ the Facility, the Certificate Holder will control noxious weeds as described in Section ~~6.5~~ 3 in all revegetation areas.

The following contact information for the Morrow County Weed Control Supervisor will be used and updated as needed:

Dave Pranger, Weed Control Supervisor

Morrow County Public Works

365 West Highway 74

Lexington, OR 97839

(541) 989.9500

mcweed@co.morrow.or.us

7.0 References

DiTomaso, J.M., G.B. Kyser, S. R. Oneto, R. G. Wilson, S.B. Orloff, L.W. Anderson, S.D. Wright, J.A. Roncoroni, T.L. Miller, T. S. Prather, C. Ransom, K.G. Beck, C. Duncan, K.A. Wilson, and J. J. Mann. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California. 544 pp.

~~EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.~~

~~EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.~~

~~EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued, November 16, 2018.~~

~~EFSC (Energy Facility Siting Council). 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.~~

~~EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.~~

~~Hitchcock, C. L., and A. Cronquist. 2018. Flora of the Pacific Northwest; an Illustrated Manual. Second Edition. Edited by D.E Giblin, B. S. Legler, P.F. Zika, and R.G. Olmstead. University of Washington Press. Seattle, WA.~~

~~Jaster, Thea, Stephen C. Meyers and Scott Sundberg, eds. 2017. Oregon Vascular Plant Checklist, Version 1.7. Available online at: <http://www.oregonflora.org/checklist.php>. Accessed July and August 2019.~~

Kyser, G.B., J.M. DiTomaso, K.W. Davies, J.S. Davy, and B.S. Smith. 2014. Medusahead Management Guide for the Western States. University of California, Davis, Weed Research and Information Center.

Morrow County. 2019. Morrow Country Code Enforcement Ordinance. May 2019. Available online at:

https://www.co.morrow.or.us/sites/default/files/fileattachments/planning/page/11881/2019_code_enforcement_final.pdf. Accessed July 2019.

~~NWC (Northwest Wildlife Consultants) and Tetra Tech (Tetra Tech, Inc.) 2019. Updates to Wheatridge Wind Energy Facility Final Revegetation Plan. Prepared for Wheatridge Wind Energy, LLC.~~

ODA (Oregon Department of Agriculture). 2019. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, OR. Available at:

<http://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf>. Accessed July 2019.

~~OFP (Oregon Flora Project). 2018. Oregon Flora Project Plant Atlas. Available online at: <http://www.oregonflora.org/atlas.php>.~~

Prather, T., T. Miller, A. Hulting, and E. Peachey. 2019. Control of Problem Weeds. In: Peachey, E. editor. Pacific Northwest Weed Management Handbook. Oregon State University. Corvallis, OR. P. Y-1 to Y-58.

Tetra Tech (~~Tetra Tech, Inc.~~). 2019. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.

~~Tetra Tech. 2020. Wheatridge Renewable Energy Facility I Revegetation Plan. Prepared for Wheatridge Wind Energy, LLC.~~

Figures

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Noxious Weed Control Plan for the Wheatridge ~~Wind~~ Renewable Energy Facility II

Prepared for
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~~December 2019~~ March April 2020

Effective Date: Wheatridge Renewable Energy Facility II Site Certificate Effective Date

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Figure 1. Location of Noxious Weeds

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1.0 Introduction

This Noxious Weed Plan (Plan) has been prepared for the Wheatridge Renewable Energy Facility II (WREFII) West, a 200-megawattMW wind energy facility in Morrow County. Wheatridge Wind EnergyII, LLC (Certificate Holder) holds the site certificate for the- WREFIIWheatridge Renewable Energy Facility (WREF). WREFII has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility I (WREFI; owned and operated by Portland General ElectricWheatridge Wind Energy, LLC is the certificate holder).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WRW). WREF was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation, but after construction had commenced, WRW was split into WREFI and WREFII. WREFI is a 100-MW wind energy facility within the Wheatridge West portion of the WRW. and WREF II is a 400-MW wind energy and 150-MW solar energy and battery storage facility within Wheatridge West and Wheatridge East. Of the 400 MW of wind energy in WREFII, 200 MW is located within Wheatridge West and is referred to as WREFII West- This Plan has been prepared for WREFII West, but reflects the Pplan prepared for Wheatridge West as part of pre-construction compliance in coordination with, and approved by, the ODOE and Morrow County. The Certificate Holder will amend this Plan or prepare separate noxious weed plans for the remaining portions of WREFII-prior to construction of those facilities.

The Wheatridge Wind Energy Facility (Facility) is a 300-megawatt (MW) wind energy generation facility located in Morrow County that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction and operation on April 28, 2017 (EFSC 2017). The certificate holder subsequently received EFSC approval to amend the site certificate three times, prior to facility construction.

Facility components within Morrow County are referred to as "Wheatridge West" and include the following related or supporting facilities:

- ~~Electrical collection system~~
- ~~One collector substation~~
- ~~Permanent meteorological (met) towers~~
- ~~Communication and Supervisory Control and Data Acquisition (SCADA) System~~
- ~~One operations and maintenance (O&M) building~~
- ~~New or improved access roads~~
- ~~Additional temporary construction areas (including staging areas and one or more temporary concrete batch plant areas)~~

¹ The site certificate for the ~~Wheatridge Wind Energy facility~~WREF was amended five times, including the addition of solar energy generation and battery storage components and splitting the Ffacility into WREFI and WREFII (EFSC 2017b, EFSC 2018a, EFSC 2018b, EFSC 2019).

Noxious weed species can adversely affect the structure, composition, and success of revegetation efforts associated with construction-related temporary disturbances. The intent of this ~~Noxious Weed Control~~ Plan is to provide clear methods to prevent the introduction and spread of designated noxious weeds from the construction and operation of ~~the Facility~~ WREFIL, to control existing populations of noxious weeds within construction areas, and to monitor efforts to prevent and control noxious weeds. The Certificate Holder and its contractors will be responsible for implementing the methods detailed in this ~~p~~Plan.

~~This Noxious Weed Control Plan addresses the subsection of the approved Facility known as Wheatridge West. Wheatridge West is located entirely within Morrow County and is bisected by Oregon Highway 207; this plan is being submitted to Morrow County and ODOE as required for pre-construction compliance. If the Certificate Holder decides to build the portion of the approved Facility in Umatilla County, this plan will be amended to include provisions specific to Umatilla County, if needed.~~

2.0 Pre-Construction Compliance

2.1 Site Certificate Conditions

The Noxious Weed Control Plan addresses the following pre-construction condition of the ~~Third~~ Fourth Amended Site Certificate for ~~the Facility~~ WRW (~~ODOE-EFSC~~ 2019):

***PRE-LU-03** Before beginning construction, the certificate holder shall prepare a Weed Control Plan that is consistent with Morrow and Umatilla County weed control requirements to be approved by the department. The department shall consult with Morrow and Umatilla counties and ODFW. The final plan must be submitted to the department no less than 30 days prior to the beginning of construction. The certificate holder shall implement the requirements of the approved plan during all phases of construction and operation of the facility.*

2.2 Regulatory Framework

2.2.1 State of Oregon

In Oregon, noxious weeds are defined under Oregon Revised Statutes (ORS) 569.175 as “terrestrial, aquatic, or marine plants designated by the Oregon State Weed Board (OSWB) under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.” Noxious weeds have been declared by ORS 569.350 as a menace to public welfare, and control of these plants is the responsibility of private landowners and operators, as well as county, state, and federal governments.

The OSWB was established under ORS 561.650. It provides direction to control noxious weeds at the state level and develops and maintains the State Noxious Weed List. OSWB and the Oregon Department of Agriculture (ODA) classify noxious weeds in Oregon in accordance with the ODA

Noxious Weed Classification System (ODA 2019). There are three designations under the State's system:

- **Class A State Listed Noxious 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 in Oregon, but its presence in neighboring states makes future occurrence seem imminent.
 - **Recommended Action:** Infestations are subject to eradication or intensive control when and where found.
- **Class B State Listed Noxious Weed:** A weed of economic importance that is regionally abundant but may have limited distribution in some counties.
 - **Recommended Action:** Limited to intensive control at the state, county, or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
- **Class T Designated State Noxious Weeds:** Priority noxious weed species selected and designated by the OSWB as the focus of prevention and control actions by the Noxious Weed Control Program. T-designated noxious weeds are selected annually from either the A or B list and the ODA is directed to develop and implement a statewide management plan for these species.

2.2.2 Morrow County

The Morrow County Code Enforcement Ordinance establishes procedures for enforcing Morrow County Code through the authority granted to general law counties by ORS Chapter 203. Section 11 of the county ordinance establishes Morrow County as a weed control district, defines what is considered a noxious weed or weed of economic importance, identifies the responsibility of private land owners to control weeds, and outlines the authority of the weed control district and Morrow County Weed Coordinator to enforce the ordinance.

Morrow County has its own weed classification system that differs from the state. Morrow County defines two classifications of weeds:

- **Morrow County A List:** Noxious weeds. Any plant that is determined by the County Weed Advisory Board, and so declared by the County Board of Commissioners to be injurious to public health, crops, livestock, land, or property under provisions of Oregon State Statute and thus mandated for control.
- **Morrow County B List:** Weeds of economic importance. Weeds of limited distribution in the county and subject to intensive control or eradication where feasible.

3.0 ODA and Morrow County Weeds Lists

The ODA lists 46 Class A species and 92 Class B species for the state (ODA 2019). Morrow County specifically recognizes 37 species of noxious weeds (Table 1; Morrow County 2019). Although, not all of the Morrow County listed noxious weeds noted in Table 1 occur within or near WREF II the Facility, the Certificate Holder and its contractors should be aware of the entire list while monitoring and controlling weeds. Noxious weeds known to occur within or near WREF II the Facility are discussed in Section 5.4.0.

Table 1. Morrow County Weed Department Weed Lists and Classifications

Scientific Name	Common Name	Morrow County Classification
<i>Butomus umbellatus</i>	flowering rush	A
<i>Cardaria (Lepidium) draba</i>	whitetop (hoary cress)	A
<i>Carduus acanthoides</i>	plumeless thistle	A
<i>Carduus nutans</i>	musk thistle	A
<i>Centaurea solstitialis</i>	yellow starthistle	A
<i>Centromadia (Hemizonia) pungens</i> subsp. <i>pungens</i>	spikeweed	A
<i>Chondrilla juncea</i>	rush skeletonweed	A
<i>Crupina vulgaris</i>	common crupina	A
<i>Cynoglossum officinale</i>	houndstongue	A
<i>Euphorbia esula</i>	leafy spurge	A
<i>Iris pseudacorus</i>	yellow flag iris	A
<i>Linaria dalmatica</i>	dalmatian toadflax	A
<i>Linaria vulgaris</i>	yellow toadflax	A
<i>Lythrum salicaria</i>	purple loosestrife	A
<i>Onopordum acanthium</i>	scotch thistle	A
<i>Salvia aethiopis</i>	Mediterranean sage	A
<i>Senecio jacobaea</i>	tansy ragwort	A
<i>Acroptilon repens</i>	Russian knapweed	B
<i>Aegilops cylindrica</i>	jointed goatgrass	B
<i>Avena fatua</i>	wild oats	B
<i>Bassia (Kochia) scoparia</i>	kochia	B
<i>Centaurea diffusa</i>	diffuse knapweed	B
<i>Centaurea stoebe</i> subsp. <i>micranthos</i>	spotted knapweed	B
<i>Cicuta douglasii</i>	water hemlock	B
<i>Cirsium arvense</i>	Canada thistle	B
<i>Conium maculatum</i>	poison hemlock	B

Scientific Name	Common Name	Morrow County Classification
<i>Convolvulus arvensis</i>	field bindweed	B
<i>Cuscuta</i> spp.	field dodder	B
<i>Euphorbia myrsinites</i>	myrtle spurge	B
<i>Hypericum perforatum</i>	St. Johnswort	B
<i>Lepidium latifolium</i>	perennial pepperweed	B
<i>Secale cereale</i>	cereal rye	B
<i>Sonchus arvensis</i>	perennial sowthistle	B
<i>Sorghum halepense</i>	johnsongrass	B
<i>Taeniatherum caput-medusae</i>	medusahead rye	B
<i>Tribulus terrestris</i>	puncturevine	B
<i>Ventenata dubia</i>	ventenata	B

4.0 Noxious Weeds Identified at ~~the Facility~~ WREFII

Field surveys for the state-listed threatened plant species Laurent's milkvetch (*Astragalus collinus* var. *laurentii*) were conducted for the WRW from June 29 – July 2 and July 17 – 18, 2019 (Tetra Tech 2019). Noxious weeds were also recorded during these surveys, as well as during other pre-construction biological surveys.

Table 2 identifies both state and county listed noxious weed species observed during pre-construction surveys, and their estimated frequency ~~within and adjacent to the WREFII portion of the surveyed areas of occurrence~~. The location of these noxious weeds is shown in Figure 1.

Table 2. Noxious Weeds Identified at ~~the Facility~~ WREFII

Scientific Name	Common Name	State Status (ODA) ¹	Morrow County Status ²	Frequency
<i>Aegilops cylindrica</i>	jointed goatgrass	B	B	Abundant in southern portion of survey area <u>WREFII</u>
<i>Bassia (Kochia) scoparia</i>	kochia	B	B	Infrequent; but where found typically occurs in dense populations
<i>Centaurea diffusa</i>	diffuse knapweed	B	B	Common; predominantly found in central and southern portions of survey area
<i>Centaurea solstitialis</i>	yellow starthistle	B	A	Abundant in central <u>northern</u> portion of survey area <u>WREFII</u>
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	spotted knapweed	B/T	B	Infrequently observed in southern central and northern portion of survey area <u>WREFII</u>
<i>Chondrilla juncea</i>	rush skeletonweed	B/T	A	Infrequent
<i>Cirsium arvense</i>	Canada thistle	B	B	Infrequent; <u>one observation in southern portion of WREFII</u>
<i>Convolvulus arvensis</i>	field bindweed	B	B	Common in <u>central and</u> southern portion of survey area <u>WREFII</u>
<i>Onopordium acanthium</i>	Scotch thistle	B	A	Infrequent; <u>one observation in northern portion of WREFII</u>
<i>Secale cereale</i>	cereal rye	N/A	B	Infrequent <u>ly observed in northern</u> <u>portion of WREFII</u> ; but where found typically occurs in dense populations
<i>Taeniatherum caput-medusae</i>	medusahead rye	B	B	Infrequent <u>ly observed in southern</u> <u>portion of WREFII</u> ; but where found typically occurs in dense populations
<i>Ventenata dubia</i>	ventenata	B	B	Infrequent <u>ly found in southern portion of WREFII</u> ; but where found typically occurs in dense populations

Sources: ODA 2019. Morrow County 2019.

1. ODA: A = 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 = A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. T = priority targets for control.

2. Morrow County: A = Noxious Weeds. B = Weeds of Economic Importance.

5.0 Weed Management

This section of the Plan describes the steps the Certificate Holder will take to prevent and control the establishment and spread of noxious weed species during both construction and operation of ~~the Facility~~ WREFII. Noxious weed control methods for ~~the Facility~~ WREFII described in this Plan have been developed utilizing information from the ODA Noxious Weed Control Program and the Morrow County Weed Control Program.

The management of noxious weeds will be considered throughout all stages of construction and operation of WREFII ~~the Facility~~ and will include:

- **Education and Personnel Requirements:** Educating all construction personnel regarding known locations of noxious weed infestations, identification of noxious weed species, and the importance of preventive measures and treatment methods.
- **Prevention:** Implementing measures to prevent the spread of noxious weeds during construction, operation, and maintenance activities.
- **Treatment:** Treating noxious weed infestations with appropriate control methods within the most effective timeframe.

The Certificate Holder's objective is to prevent the introduction of new weed populations and the spread of existing noxious weed populations. The methods described below will be implemented to minimize the spread of noxious weeds during construction activities. New noxious weeds detected during post-construction revegetation will be considered a result of construction activities and will be controlled accordingly.

5.1 Education and Personnel Requirements

Prior to construction, all construction personnel will be instructed on the importance of controlling noxious weeds. As part of start-up activities, and to help facilitate the avoidance of existing infestations and identification of new infestations, the Certificate Holder or their construction contractor will provide information and training to all construction personnel regarding noxious weed identification and management. Operations and maintenance personnel will be similarly informed. The importance of preventing the spread of noxious weeds in areas not currently infested and controlling the proliferation of noxious weeds already present within or near the Facility, will be emphasized.

5.2 Prevention

Implementation of the following best management practices are intended to prevent the spread of noxious weeds during construction activities, revegetation efforts, and operation and maintenance activities.

- Prior to construction, areas of noxious weed infestations will be flagged to alert construction personnel to their presence ~~and limit or prevent access to those areas;~~

- Weed infestations will be treated prior to ground disturbance if timing of construction allows for successful treatment;
- Limiting vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of construction disturbances per the final design for the Facility;
- Limiting vehicle traffic in noxious weed-infested areas;
- Cleaning construction vehicles prior to entering WREFI for the first time and upon completion of construction of WREFI at a wash station located within the laydown yard off Baseline Rd. near turbine 62 of WREFII or at a public car wash in the vicinity of WREFI;
- Cleaning vehicles and equipment associated with ground disturbance and movement of topsoil utilizing a mobile wash station immediately after performing work in noxious weed-infested areas and prior to performing work in non-infested areas utilizing a mobile wash station;
- Topsoil and other soils from noxious weed infested areas will not be moved outside of ~~be placed next to~~ the infested areas ~~and identified as coming from an infested area and will be~~ returned to its previous location during reclamation activities;
- Soils from infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions;
- Movement of topsoil and other soils from non-infested areas will be limited to eliminate the transport of weed seeds, roots, or rhizomes.
- Providing information regarding target noxious weed species at the O&M buildings;
- Treating noxious weeds via mechanical or chemical control (see Section 56.3);
- Preventing conditions favorable for noxious weed germination and spread by revegetating temporarily disturbed areas as soon as possible;
- Monitoring areas of disturbance for noxious weeds after construction (see Section 67.0), during the normal course of revegetation maintenance of temporary work spaces, and implementing control measures as appropriate;
- Revegetating the site with appropriate, local native seed or native plants; when these are not available, non-invasive and non-persistent non-native species may be used; and
- Inspecting and certifying that the seed and straw mulch used for site rehabilitation and revegetation are free of noxious weed seed and propagules.
- A mobile wash station will be placed in proximity to the main access points to occupied Laurent's milkvetch habitat in order to minimize the introduction of noxious weeds or other invasive plant species by construction vehicles. Vehicles will be washed prior to entering these areas.

5.3 Treatment

Control of noxious weeds will be implemented through mechanical or chemical control measures. The Certificate Holder will be responsible for hiring a qualified contractor to implement the treatment of noxious weeds. The Certificate Holder will ensure that noxious weed management actions will be carried out by specialists with the following qualifications:

- Experience in native plant, non-native and invasive plants, and noxious weed identification;
- Experience in noxious weed mapping;
- If chemical control is used, specialists must possess a Commercial or Public Pesticide Applicator License from the ODA or possess an Immediately Supervised Pesticide Trainee License and be supervised by a licensed applicator;
- Training in noxious weed management or Integrated Pest Management with an emphasis in noxious weeds; and
- Experience in coordination with agency and private landowners.

Existing noxious weed populations should be prevented from expanding in size and density and should not be spread to new sites. Where possible, existing populations of noxious weeds should be eradicated. If it is determined that noxious weeds have invaded areas immediately adjacent to ~~the Facility~~WREFII (e.g., areas visible just beyond the outer limits of construction disturbances associated with ~~the Facility~~WREFII or along access roads) as a result of construction, the Certificate Holder will contact the landowner and seek approval to treat those noxious weed populations.

Long-term weed control methods will be described in a long-term monitoring plan as described in Section ~~7.6.0~~6.0. The main factor in long-term weed control is successful revegetation with non-weedy species as described in the updates to the ~~revegetation plan (Tetra Tech 2020). Wheatridge Wind Energy Facility Final Revegetation Plan (NWC and Tetra Tech 2019).~~ As noted above, short-term noxious weed control will be done through mechanical or chemical treatment. However, it will be important to ensure that the short-term treatment does not affect the establishment of the native perennial cover that will help provide the long-term control. Additionally, early detection and control of small noxious weed populations before they can expand into larger populations is extremely important for successful weed control efforts.

Noxious weed control will continue until the disturbed areas meet the identified success criteria described in Section ~~6.7.0~~6.0. Supplemental seeding of desirable species may be needed to achieve this goal. Fertilizer application will be limited in areas treated for noxious weeds, as fertilizer can stimulate the growth of noxious weeds, and the timing of revegetation activities will need to be coordinated with noxious weed treatments.

5.3.1 Mechanical Treatment

Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed

populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds in areas of sensitive habitats (such as around known populations of Laurent's milkvetch; Figure 1.3 and Figure 1.4). Some rhizomatous plants can spread by discing or tillage; therefore, implementation of discing will be species specific. If such a method is used in areas to be reclaimed, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Discing or other mechanical treatments that disturb the soil surface within native habitats will be avoided in favor of herbicide application (see Section 65.3.2), which is an effective means of reducing the size of noxious weed populations as well as preventing the establishment of new infestations.

5.3.2 Chemical Treatments

Chemical control can effectively remove noxious weeds through use of selective herbicides. The recommended chemical treatment and timing of chemical application for noxious weeds that have been identified at ~~the Facility~~ WREFII (Table 2) are presented in Table 3. The herbicides used and the timing of application will differ depending on whether the species are (1) perennial, broad-leaved, or dicot weeds (e.g., thistles and knapweeds, field bindweed) or (2) annual grasses or monocots (e.g., medusahead rye), as appropriate herbicides differ substantially between dicots and monocots.

All herbicides included in Table 3 are currently approved for use by the U.S. Environmental Protection Agency (EPA) and ODA; however, the status of herbicide approval should be checked annually. Prior to construction and every fall season during facility operation, the Certificate Holder or its contractor shall consult with the Morrow County Weed Supervisor on timing, method and application rates for each identified weed species of concern, to allow for adaptive weed management given changes in weed control effectiveness from noxious weed species tolerance to herbicide treatment over time. Results of the consultation shall be reported in the Certificate Holder's annual weed monitoring report. Any alternative control methods can be proposed by the Certificate Holder or its contractors after consulting with the Morrow County Weed Supervisor, and included in the Certificate Holder's annual weed monitoring report.:

Table 3. Recommended Timing and Method of Control

Noxious Weed Species	Method and Timing of Control
<i>Aegilops cylindrica</i> (jointed goatgrass)	<p>Glyphosate – Apply to actively growing plants emerged before boot stage (i.e., stage of growth where growth is focused on seed development versus leaf development).</p> <ul style="list-style-type: none"> Rate: 0.38 to 0.75 lb ae/a¹ <p>Imazapic – Apply pre-emergence in fall. Due to the residual effect of this herbicide, it will not be used in areas to be revegetated.</p> <ul style="list-style-type: none"> Rate: 0.063 to 0.188 lb/a¹ <p>Sulfometuron – Apply in fall or in late winter before jointed goatgrass is 3 inches tall.</p> <ul style="list-style-type: none"> Rate: 1 to 1.5 oz ai/a (1.33 to 2 oz/a)¹

Noxious Weed Species	Method and Timing of Control
<i>Bassia (Kochia) scoparia</i> (Kochia)	<p>Aminocyclopyrachlor + chlorsulfuron – Apply either pre-emergence (late winter/early spring) or post-emergence. Postemergence is most effective on seedlings.</p> <ul style="list-style-type: none"> Rate: 4.75 to 8 oz/a¹ <p>Chlorsulfuron – Apply pre-emergence (late winter/early spring), or post-emergence from seedling to bolting stage of growth.</p> <ul style="list-style-type: none"> Rate: 0.75 oz ai/a (1 oz/a)¹ <p>Dicamba – Apply in spring when seedlings are actively growing.</p> <ul style="list-style-type: none"> Rate: 0.25 to 1 lb ae/a (0.5 to 2 pints/a)¹ <p>Fluroxypyr – Apply in spring from seedling to bolting stage of growth.</p> <ul style="list-style-type: none"> Rate: 2.1 to 7.7 oz ae/a (6 to 22 o/a)¹ <p>Glyphosate – Apply in spring from seedling to flowering stage of growth.</p> <ul style="list-style-type: none"> Rate: 1.1 to 1.7 lb ae/a¹ <p>Hexazinone – Apply pre-emergence in the early spring.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1.5 lb ai/a (2 to 6 pints/a)¹ <p>Imazapyr – Apply pre-emergence (late winter/early spring) or post-emergence to actively growing kochia.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1.5 lb ae/a (2 to 4 pints/a)¹ <p>Metsulfuron – Apply in spring from seedling to flowering stage of growth.</p> <ul style="list-style-type: none"> Rate: 0.6 to 1.2 oz ai/a (1 to 2 oz/a)¹ <p>Rimsulfuron – Apply pre-emergence (late winter/early spring) or post-emergence to kochia seedlings.</p> <ul style="list-style-type: none"> Rate: 1 oz ai/a (4 oz/a)¹
<i>Centaurea diffusa</i> (diffuse knapweed) <i>Centaurea stoebe</i> ssp. <i>micranthos</i> (spotted knapweed)	<p>2,4-D – Apply at the early stage of flower stem elongation (late April to early May).</p> <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring.</p> <ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Aminopyralid – Consult label for optimum timing. Diffuse and spotted knapweed: apply to actively growing plants in fall or in spring from rosette to bolting growth stages.</p> <ul style="list-style-type: none"> Rate: 1 to 1.75 oz ae/a¹ <p>Clopyralid – Up to the bud stage of knapweeds.</p> <ul style="list-style-type: none"> Rate: 0.25 to 0.5 lb ae/a (0.66 to 1.33 pints/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) – Apply after most rosettes emerge but before flower stem elongates.</p> <ul style="list-style-type: none"> Rate: 2 to 4 quarts/a Curtail¹ <p>Diffenozopyr + dicamba – Apply to rosettes.</p> <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a¹ <p>Glyphosate – Apply to actively growing knapweed when most plants are at bud stage.</p> <ul style="list-style-type: none"> Rate: 3 lb ae/a¹ <p>Picloram – Apply in late spring before or during flower stem elongation.</p>

Noxious Weed Species	Method and Timing of Control
	<ul style="list-style-type: none"> Rate: 0.25 to 0.5 lb ae/a¹ Triclopyr + clopyralid – Apply from rosette to early bolt stage when weeds are actively growing. <ul style="list-style-type: none"> Rate: 1.5 to 2 pints/a¹
<i>Centaurea solstitialis</i> (yellow starthistle)	2,4-D LV ester or 2,4-D amine – Apply before flowering. <ul style="list-style-type: none"> Rate: 1 lb ae/a¹ in 50 gallons of water Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants. <ul style="list-style-type: none"> Rate: 1.2 to 1.8 oz/a¹ aminocyclopyrachlor + 0.5 to 0.7 oz/a chlorsulfuron (3 to 4.5 oz/a of product) Aminopyralid (Milestone) – Apply to plants at the rosette through bolting stages. <ul style="list-style-type: none"> Rate: 0.75 to 1.25 oz ae/a (3 to 5 fluid oz/a Milestone)¹ Chlorsulfuron – For best results apply to young, actively growing plants. <ul style="list-style-type: none"> Rate: 1.125 oz ai/a (1.5 oz/a)¹ Clopyralid – After most rosettes have emerged but before bud formation. <ul style="list-style-type: none"> Rate: 0.09 to 0.375 lb ae/a (0.25 to 1 pint/a)¹ Clopyralid + 2,4-D amine (Curtail) – Apply after most rosettes have emerged but before bud formation. <ul style="list-style-type: none"> Rate: 1 to 5 quarts/a Curtail¹ Dicamba – Apply when plants are still in rosettes but before flower stems elongate. <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a¹ Diflufenzopyr + dicamba – Apply to seedlings or rosettes. <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a (6 to 8 oz/a)¹ Picloram – In spring, to plants still in rosette through bud formation. <ul style="list-style-type: none"> Rate: 0.25 to 0.375 lb ae/a¹ Triclopyr + clopyralid – Apply from rosette to early bolt stage when starthistle is actively growing. <ul style="list-style-type: none"> Rate: 1.5 to 2.5 pints/a¹
<i>Chondrilla juncea</i> (rush skeletonweed)	2,4-D or MCPA – Apply to rosettes in the spring immediately before or during bolting. <ul style="list-style-type: none"> Rate: 2 lb ae/a¹ Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring. Rate: 1.8 to 3.2 oz/a ¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product) Aminopyralid (Milestone) – Spring or fall when rosettes are present. <ul style="list-style-type: none"> Rate: 1.75 oz ae/a (7 fluid oz/a Milestone)¹ Clopyralid – Apply to rosettes in fall or up to early bolting in spring. <ul style="list-style-type: none"> Rate: 0.25 to 0.375 lb ae/a (0.66 to 1 pint/a)¹ Picloram – Apply from late fall to early spring. For best results, apply just before or during bolting. <ul style="list-style-type: none"> Rate: 1 lb ae/a¹
<i>Cirsium arvense</i> (Canada thistle)	Aminocyclopyrachlor + chlorsulfuron – Apply to actively growing plants in spring. <ul style="list-style-type: none"> Rate: 1 lb ae/a¹

Noxious Weed Species	Method and Timing of Control
	<ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product) <p>Aminopyralid (Milestone) – Apply in the spring to plants in the pre-bud stage of growth or in the fall to plant regrowth.</p> <ul style="list-style-type: none"> Rate: 1.25 to 1.75 oz ae/a (5 to 7 fluid oz/a Milestone)¹ <p>Chlorsulfuron – Apply post-emergence. For best results, apply to plants in the bud-bloom stage or to fall rosettes.</p> <ul style="list-style-type: none"> Rate: 1.125 oz ai/a (1.5 oz/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) or clopyralid (Stinger or Transline) – Apply to actively growing thistle after most basal leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> Rate: Consult labels. Rate depends on use site. <p>Dicamba – May be applied any time during the growing season.</p> <ul style="list-style-type: none"> Rate: 2 lb ae/a. Spot treatment: use mixtures of 2 to 4 lb ae dicamba per 100 gallons of water¹ <p>Diflufenzopyr + dicamba – Apply in spring to the rosettes.</p> <ul style="list-style-type: none"> Rate: 0.26 to 0.35 lb ae/a (6 to 8 oz/a)¹ <p>Glyphosate – Apply when plants are actively growing but past the bud growth stage. Fall applications must be before the first killing frost.</p> <ul style="list-style-type: none"> Rate: Broadcast: 1.5 to 2.25 lb ae/a¹; Wiper: 10 to 33% solution; Hand-held and high-volume equipment: 2% solution. Thistles that were mowed or tilled and have rosettes at least 6 inches wide in late summer or fall can be suppressed with 0.75 lbs. ae/a glyphosate plus 0.5 to 1% nonionic surfactant applied in 3 to 10 gal/a water. <p>Picloram – Control is best if applied to actively growing thistle after most leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> Rate: In broadcast or boom sprayers, apply 1 lb ae/a. Mixtures normally used for spot treatments include 1 lb ae per 100 gallons of water¹ <p>Triclopyr + clopyralid – Apply from rosette to bud stage to actively growing thistle.</p> <ul style="list-style-type: none"> Rate: 2.5 to 4 pints/a¹
<i>Convolvulus arvensis</i> (field bindweed)	<p>2,4-D (for suppression) amine – Apply at bud growth stage or at summer fallow in early August.</p> <ul style="list-style-type: none"> Rate: 2 to 3 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron – Apply to broadleaf weeds in spring.</p> <ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a¹ aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Dicamba or dicamba + 2,4-D (for suppression) – Apply during fallow, before planting and when plants are actively growing.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1 lb ae/a dicamba; or 0.5 to 1 lb ae/a dicamba + 1 to 2 lb ae/a 2,4-D¹ <p>Dicamba or dicamba + 2,4-D (for control) – Apply in late summer or fall before killing frost.</p> <ul style="list-style-type: none"> Rate: 1 to 2 lb ae/a dicamba; or 1 to 2 lb ae/a dicamba + 1 to 2 lb ae/a 2,4-D¹ <p>Glyphosate – Apply at full bloom to early seed stage of maturity. Application on fall regrowth may provide some control.</p>

Noxious Weed Species	Method and Timing of Control
	<ul style="list-style-type: none"> Rate: 3 to 3.75 lb ae/a¹ <p>Glyphosate + 2,4-D (Landmaster BW)– Apply to bindweed runners that are at least 10 inches long. Use 1% solution to spot treat with high-volume, spray-to-wet applications. Tilling after treatment may improve control.</p> <ul style="list-style-type: none"> Rate: 0.378 to 0.67 lb ae/a (54 oz/a Landmaster)¹ <p>Glyphosate + dicamba – Apply mid- to late-bloom but before seed matures. Applying to fall regrowth may give some control.</p> <ul style="list-style-type: none"> Rate: 1.5 lb ae/a glyphosate + 0.5 lb ae/a dicamba¹ <p>Imazapic – Apply after 25% bloom through fall to actively growing bindweed.</p> <ul style="list-style-type: none"> Rate: 0.125 to 0.188 lb ai/a¹ <p>Metsulfuron – Apply to actively growing bindweed in bloom stage.</p> <ul style="list-style-type: none"> Rate: 0.6 to 1.2 oz ai/a (1 to 2 oz/a)¹ <p>Picloram – Apply in the growing season on non-cropland when bindweed is visible. Timing is not critical, but results are most consistent if bindweed is in early bud to full bloom.</p> <ul style="list-style-type: none"> Rate: 1 lb ae/a¹ <p>Quinclorac – Apply in fall before frost to actively growing bindweed with stems at least 4 inches long.</p> <ul style="list-style-type: none"> Rate: 6 oz ai/a (8 oz/a)¹
<i>Onopordum acanthium</i> (Scotch thistle)	<p>2,4-D – spring or fall.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2 lb ae/a¹ <p>Aminocyclopyrachlor + chlorsulfuron (Perspective) – Apply to actively growing plants in spring.</p> <ul style="list-style-type: none"> Rate: 1.8 to 3.2 oz/a aminocyclopyrachlor + 0.7 to 1.3 oz/a chlorsulfuron (4.5 to 8 oz/a of product)¹ <p>Aminopyralid (Milestone) – Apply in spring or early summer to rosettes or bolting plants or in fall to seedlings and rosettes.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1.25 oz ae/a (3 to 5 fl oz/a Milestone)¹ <p>Chlorsulfuron – Apply to young, actively growing plants.</p> <ul style="list-style-type: none"> Rate: 0.75 oz ai/a (1 oz/a)¹ <p>Clopyralid + 2,4-D amine (Curtail) – Apply to actively growing thistle after most basal leaves emerge but before bud stage.</p> <ul style="list-style-type: none"> Rate: 1 to 5 quarts/a Curtail¹ <p>Clopyralid – Apply up to the bud stage.</p> <ul style="list-style-type: none"> Rate: 0.09 to 0.375 lb ae/a (0.25 to 1 pint/a)¹ <p>Dicamba – Apply before flower stalk lengthens on established plants and for seedling control. Spray fall applications to control rosettes.</p> <ul style="list-style-type: none"> Rate: 0.5 to 1 lb ae/a¹ <p>Diflufenzopyr + dicamba – Apply to the rosettes.</p> <ul style="list-style-type: none"> Rate: 0.175 to 0.35 lb ae/a (4 to 8 oz/a)¹ <p>Glyphosate + 2,4-D – Apply to plants in rosette stage of growth in spring or before freeze-up in fall.</p> <ul style="list-style-type: none"> Rate: Broadcast: 16 to 32 fl oz/a¹. Spot treatment: 1 to 2% solution.

Noxious Weed Species	Method and Timing of Control
	<p>Metsulfuron (Escort and others) – Apply post-emergence to actively growing plants.</p> <ul style="list-style-type: none"> Rate: Escort: 0.6 oz ai/a (1 oz/a)¹ <p>Picloram – Apply in the fall before plants bolt.</p> <ul style="list-style-type: none"> Rate: 0.25 lb ae/a¹ <p>Triclopyr + clopyralid – Apply to actively growing plants from rosette to early bolt stage.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2 pints/a¹
<i>Secale cereale</i> (cereal rye)	<p>Consult with Morrow County Weed Supervisor.</p> <p>Glyphosate can be applied post-emergence; does not provide residual weed control.</p>
<i>Taeniatherum caput-medusae</i> (medusahead rye)	<p>Consult with Morrow County Weed Supervisor.</p> <p>Glyphosate – For selective control in shrubland, apply post-emergence in spring after all seedlings are up and before heading; the tillering stage is ideal. For late-season, non-selective control, apply to rapidly growing plants before seeds are produced.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1 pint product (41% glyphosate)/a (4.5 to 6 oz ae/a) for early-season selective control in shrubland or other perennial systems; 1 to 2 quarts product/a (0.75 to 1.5 lb ae/a)¹ for late-season, non-selective control. Imazapic – Fall or spring. In warm-winter areas, fall applications may be most effective. In colder climates, spring applications after snow melt is better. Rate: 4 to 12 fluid oz product/a (1 to 3 oz ae/a)¹ <p>Rimsulfuron – Pre-emergence (fall) to early post-emergence (early spring)</p> <ul style="list-style-type: none"> Rate: 4 oz product/a (1 oz active ingredient (ai)/a)¹ <p>Sulfometuron – Pre-emergence to early post-emergence. Pre-emergence (fall) applications are generally more effective.</p> <ul style="list-style-type: none"> Rate: 0.75 to 1.5 oz product/a (0.56 to 1.13 oz ai/a)¹ <p>Sulfometuron + chlorsulfuron – Pre-emergence in fall or after soil thaws in spring.</p> <ul style="list-style-type: none"> Rate: 1.5 to 2.25 oz product/a¹
<i>Ventenata dubia</i> (ventenata)	<p>Imazapic (Plateau, Panoramic) – Apply in the fall after ventenata has emerged.</p> <ul style="list-style-type: none"> Rate: 5 oz /a Plateau or Panoramic¹ <p>Sulfosulfuron (Outrider) – Apply in the fall after ventenata has emerged (1 inch rain and soil temperature above 45°F).</p> <ul style="list-style-type: none"> Rate: 0.75 oz/a Outrider¹ <p>Flufenacet + metribuzin (Axiom DF) – Apply before plants emerge (late summer/early fall), or no later than the two-leaf stage.</p> <ul style="list-style-type: none"> Rate: 0.27 to 0.31 lb ai/a flufenacet + 0.068 to 0.084 lb ai/a metribuzin (8 to 10 oz/a Axiom)¹ <p>Indaziflam – Apply pre-emergence (late summer/early fall).</p> <ul style="list-style-type: none"> Rate: 3.5 to 7 oz/a¹ <p>Rimsulfuron – Apply before or soon after seedlings emerge (late summer to fall).</p> <ul style="list-style-type: none"> Rate: 2 to 4 oz/a¹
<p>Sources: DiTomaso et al. 2013; Kyser et al. 2014, Prather et al. 2019.</p> <p>¹ a = acre; ae = acid equivalent; ai = active ingredient; lb= pound; oz = ounces</p>	

The application of herbicides will be to identified, treatable, noxious weed infestations. The Certificate Holder or their contractors will coordinate with the Morrow County Weed Control Supervisor to determine which populations are treatable, and will notify landowners of proposed herbicide use on their lands prior to application. If a noxious weed population is deemed to be untreatable (e.g., too widespread and established in an area to successfully control), the Certificate Holder will implement the prevention measures discussed in Section 65.2, except for treatment with herbicides.

5.3.2.1 Herbicide Application and Handling

Herbicide application will adhere to EPA and ODA standards. Only those herbicides that are approved by the EPA and ODA will be used. In general, application of herbicides will not occur when the following conditions exist:

- Wind velocity exceeds 15 miles per hour for granular application, or exceeds 10 miles per hour for liquid applications;
- Snow or ice covers the foliage of target species; or
- Adverse weather conditions are forecasted within the next few days.

Hand application methods (e.g., backpack spraying) may be used in roadless areas or in rough terrain. Vehicle-mounted sprayers (e.g., handgun, boom and injector) will be used mainly in open areas that are readily accessible by vehicle. Calibration checks of equipment will be conducted prior to spraying activities, as well as periodically throughout use, to ensure that appropriate application rates are achieved.

Herbicides will be transported to ~~the Facility~~ WREFII daily with the following stipulations:

- Only the quantity needed for that day's work will be transported.
- Concentrate will be transported in approved containers only, and in a manner that will prevent spilling, stored separately from food, clothing, and safety equipment.
- Mixing will be done off site and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive species' habitat. No herbicides will be applied at these areas unless authorized by the appropriate regulatory agencies.
- All herbicide equipment and containers will be inspected daily for leaks.
- Herbicides use will be in accordance with all manufacture's label recommendations and warnings.

5.3.2.2 Herbicide Spills and Cleanups

All appropriate precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in an appropriate storage shed to allow for quick and effective response to spills. Items included in the spill kit will be:

- Protective clothing and gloves;
- Adsorptive clay, “kitty litter,” or other commercial adsorbent;
- Plastic bags and a bucket;
- A shovel;
- A fiber brush and screw-in handle;
- A dust pan;
- Caution tape;
- Highway flares (use on existing hard-top roads only); and
- Detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

- Stopping the leak;
- Containing the spilled material;
- Traffic control;
- Dressing the clean-up team in protective clothing;
- Cleaning up and removing the spilled herbicide, as well as the contaminated adsorptive material and soil; and
- Transporting the spilled herbicide and contaminated material to an authorized disposal site.

5.3.2.3 Herbicide Spill Reporting

All herbicide contractors will have readily available copies of the appropriate material safety data sheets for the herbicides used at their disposal, and will keep copies of the material safety data sheets in the application vehicle. All herbicide spills will be reported in accordance with applicable laws and requirements. If a spill occurs, the appropriate agency and spill coordinators will be notified promptly. In case of a spill into wetlands and waterbodies, the appropriate federal, state, and county agencies will be notified immediately.

5.3.2.4 Special Considerations

The Certificate Holder will provide special consideration to intermittent and ephemeral streams/draws during treatment activities. No herbicide will be sprayed where the drift can enter standing water or saturated soil. It will be the herbicide applicators’ responsibility to ensure that no herbicide or drift enters standing water, regardless of the season when the herbicide is applied. Similar considerations will be made when in proximity to agricultural fields and Laurent’s milkvetch populations (Figure 1.3 and Figure 1.4). The qualified herbicide applicators should refer

to the Facility's conservation plan (in progress) for Laurent's milkvetch for specific considerations for herbicide use in and near those populations.

6.0 Monitoring

A qualified investigator will be employed to annually assess noxious weed growth during the first five years of revegetation work and to make recommendations on noxious weed control measures. Reports will be submitted to the Certificate Holder, to ODOE, Oregon Department of Fish and Wildlife (ODFW), and Morrow County following each annual inspection. Annual noxious weed inspections will occur across the entire ~~Facility WREFII~~ through visual inspection of revegetated areas while driving and/or walking. These inspections will be used to inform ongoing noxious weed control efforts. Noxious weed monitoring sites to be included in the annual reports will correspond with the reference sites identified for revegetation monitoring success, described below. Note that revegetation monitoring and reporting frequency differs from the noxious weed monitoring and reporting discussed in this Plan.

As described in the ~~revegetation plan (Tetra Tech 2020), Wheatridge Wind Energy Facility Final Revegetation Plan (NWC and Tetra Tech 2019),~~ a qualified independent investigator (botanist or revegetation specialist) will inspect each revegetation area to assess the success of revegetation measures

In consultation with ODFW, revegetation reference sites—areas of habitat and quality similar to those found prior to disturbance at the areas to be revegetated—will be established to represent target conditions for revegetation areas. During each assessment, revegetated areas will be compared to reference sites with regard to:

- Presence and density of noxious weeds
- Degree of erosion
- Vegetative density
- Proportion of desirable vegetation
- Species diversity and structural stage of desirable vegetation

The goal is to control noxious weeds, ~~such so~~ that the density is equal to or less than the density of noxious weeds in ~~the~~ reference sites. Based on the success of ~~noxious weed~~ control efforts after the fifth year of annual monitoring, the Certificate Holder will consult with ODOE and ODFW to design a long-term weed control plan. The Certificate Holder may propose remedial actions ~~and/or~~ additional monitoring for noxious weed areas that have not met the success criteria.

The Certificate Holder will maintain ongoing communication with individual landowners, the Morrow County Weed Control Supervisor, and ODOE regarding noxious weeds within ~~the Facility WREFII~~. Landowners may also contact the Certificate Holder directly to report the presence of noxious weeds related to Project activity. The Certificate Holder will control the noxious weeds

on a case-by-case basis and prepare a summary of measures taken for that landowner. During operations of ~~the Facility~~ WREFIL, the Certificate Holder will control noxious weeds as described in Section ~~65.3~~ in all revegetation areas.

The following contact information for the Morrow County Weed Control Supervisor will be used and updated as needed:

Dave Pranger, Weed Control Supervisor

Morrow County Public Works

365 West Highway 74

Lexington, OR 97839

(541) 989.9500

mcweed@co.morrow.or.us

7.0 References

DiTomaso, J.M., G.B. Kyser, S. R. Oneto, R. G. Wilson, S.B. Orloff, L.W. Anderson, S.D. Wright, J.A. Roncoroni, T.L. Miller, T. S. Prather, C. Ransom, K.G. Beck, C. Duncan, K.A. Wilson, and J. J. Mann. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California. 544 pp.

EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.

EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.

EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 16, 2018.

EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.

EFSC (Energy Facility Siting Council). 2018. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

Hitchcock, C. L., and A. Cronquist. 2018. Flora of the Pacific Northwest; an Illustrated Manual. Second Edition. Edited by D.E. Giblin, B. S. Legler, P.F. Zika, and R.G. Olmstead. University of Washington Press. Seattle, WA.

~~Jaster, Thea, Stephen C. Meyers and Scott Sundberg, eds. 2017. Oregon Vascular Plant Checklist, Version 1.7. Available online at: <http://www.oregonflora.org/checklist.php>. Accessed July and August 2019.~~

Kyser, G.B., J.M. DiTomaso, K.W. Davies, J.S. Davy, and B.S. Smith. 2014. Medusahead Management Guide for the Western States. University of California, Davis, Weed Research and Information Center.

Morrow County. 2019. Morrow Country Code Enforcement Ordinance. May 2019. Available online at:
https://www.co.morrow.or.us/sites/default/files/fileattachments/planning/page/11881/2019_code_enforcement_final.pdf. Accessed July 2019.

~~NWC (Northwest Wildlife Consultants) and Tetra Tech (Tetra Tech, Inc.) 2019. Updates to Wheatridge Wind Energy Facility Final Revegetation Plan. Prepared for Wheatridge Wind Energy, LLC.~~

ODA (Oregon Department of Agriculture). 2019. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, OR. Available at:
<http://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf>. Accessed July 2019.

~~OFP (Oregon Flora Project). 2018. Oregon Flora Project Plant Atlas. Available online at: <http://www.oregonflora.org/atlas.php>.~~

Prather, T., T. Miller, A. Hulting, and E. Peachey. 2019. Control of Problem Weeds. In: Peachey, E. editor. Pacific Northwest Weed Management Handbook. Oregon State University. Corvallis, OR. P. Y-1 to Y-58.

Tetra Tech (~~Tetra Tech, Inc.~~). 2019. Wheatridge Wind Energy Facility 2019 Rare Plant Survey Report. September. Prepared for Wheatridge Wind Energy, LLC.

~~Tetra Tech. 2020. Wheatridge Renewable Energy Facility II Revegetation Plan. Prepared for Wheatridge Wind Energy, LLC.~~

Figures

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Attachment F: Draft Amended Wildlife Monitoring and Mitigation Plans

Wheatridge Renewable Energy Facility I Wheatridge Wind Energy Project

Wildlife Monitoring and Mitigation Plan

Prepared for:
Wheatridge Wind Energy, LLC
~~245 W. Main Street, Suite 200~~
~~Ione, Oregon 97843~~

Prepared by:



Northwest Wildlife Consultants, Inc.
~~815 NW 4th St.~~
~~Pendleton, Oregon 97801~~

Prepared by:and

Tetra Tech, Inc.
~~1750 SW Harbor Way, Suite 400~~
~~Portland, Oregon 97201~~



December 2019FebruaryMarchApril 2020

Effective Date: Wheatridge Renewable Energy Facility I Site Certificate Effective Date

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1.0 Introduction

This Wildlife Monitoring and Mitigation Plan (WMMP) has been prepared for the Wheatridge Renewable Energy Facility I (WREFI), a 100-MW wind energy facility in Morrow County. Wheatridge Wind Energy, LLC (Certificate Holder) holds the site certificate for WREFI. WREFI has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility II (WREFII).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WRW). WRW was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation but after construction had commenced, WRW was split into WREFI and WREF II. This WMMP has been prepared for WREFI but reflects the plan prepared for Wheatridge West as part of pre-construction compliance in coordination with and approved by the ODOE and Morrow County. is for Wheatridge Renewable Energy Facility I (WREFI), a 100-MW wind energy facility in Morrow County. Wheatridge Wind Energy, LLC (Certificate Holder) holds the site certificate for WREFI. WREFI has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility II (WREFII). The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WWEF). WWEF was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties². Wheatridge West began construction in January 2020. Prior to operation but after construction had commenced, WWEF was split into WREFI and WREF II.

The Wheatridge Wind Energy Facility (Facility) is a 300 megawatt (MW) wind energy generation facility located in Morrow county that was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) for construction on April 28, 2017 (EFSC 2017). The certificate holder subsequently received EFSC approval to amend the site certificate three times, prior to facility construction.

This Wildlife Monitoring and Mitigation Plan (WMMP) has been prepared for WREFI but reflects the WMMP prepared for Wheatridge West as part of pre-construction compliance in coordination with and as approved by ODOE and the Oregon Department of Fish and Wildlife (ODFW). the portion of the Facility located in Morrow County and is being submitted to ODOE as required for

¹ The site certificate for the WRW was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

² The site certificate for the Wheatridge Wined Energy facility was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

~~pre-construction compliance. If the Certificate Holder decides to build the portion of the approved Facility in Umatilla County, this WMMP will be amended to include provisions specific to Umatilla County, if needed.~~

This WMMP describes wildlife monitoring that the Certificate Holder shall conduct during operation of ~~Wheatridge West wind facilities WREFI. This Final WMMP for the Wheatridge West Facility has the and includes the~~ following components:

1. Fatality monitoring program, including:
 - a. Removal trials;
 - b. Searcher efficiency trials;
 - c. Fatality search protocol; and
 - d. Statistical analysis.
2. Raptor nesting surveys;
3. Wildlife Reporting and Handling System (WRHS);
4. Washington ground squirrel monitoring; and
5. Data reporting.

Based on the results of the monitoring program, 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 ODOE determines that mitigation is needed, the Certificate Holder shall propose appropriate mitigation actions to ODOE and shall carry out mitigation actions approved by ODOE, subject to review by the EFSC.

2.0 Pre-Construction Compliance

The WMMP addresses the following pre-construction conditions of the ~~Third~~ Fourth Amended Site Certificate for the Facility (EFSC ~~2018~~ 2019):

PRE-FW-02 Prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW.

a. The final WMMP must be submitted and ODOE's concurrence received prior to the beginning of construction. ODOE shall consult with ODFW on the final WMMP. The certificate holder shall implement the requirements of the approved WMMP during all phases of construction and operation of the facility.

b. The WMMP 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 the WMMP agreed to by the Department.

PRE-TE-02 *In accordance with Fish and Wildlife Habitat Condition 4, prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW. The final WMMP shall include a program to monitor potential impacts from facility operation on Washington ground squirrel. Monitoring shall be of any known colonies and shall be completed on the same schedule as the raptor nest monitoring for the facility. The monitoring surveys shall include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the historic location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, shall be documented and the extent of those colonies should be delineated as well. These newly discovered colonies shall also be included in any future WGS monitoring activities.*

3.0 Fatality Monitoring – Wind Facility

Fatality monitoring objectives are to determine whether the Facility causes significant fatalities of birds and bats, which would indicate a loss in habitat quality. The Certificate Holder shall hire independent third-party investigators to perform fatality monitoring.

3.1 Methods

The following methods may be modified to reflect updated industry standards for performing post-construction fatality monitoring. Any updates to the fatality monitoring study design or data analysis methodology will be approved by ODOE prior to implementation.

3.1.1 Search Plots

The investigators shall conduct fatality monitoring within search plots. The Certificate Holder, in consultation with the Oregon Department of Fish and Wildlife (ODFW), shall select search plots based on a systematic sampling design that ensures that the selected search plots are representative of the habitat conditions in different parts of the site. Each search plot will contain one turbine. Search plots will be square or circular. Circular search plots will be centered on the turbine location; radius will be determined with regard to maximum blade tip height and species of concern. Square search plots will be of sufficient size to contain a circular search plot as described above. The Certificate Holder shall provide maps of the search plots to ODOE before beginning fatality monitoring at the facility. The Certificate Holder shall use the same search plots for each search conducted during a monitoring year.

3.1.2 Scheduling

Fatality monitoring will begin one month after commencement of commercial operation of the facility. Subsequent monitoring years will follow the same schedule (beginning in the same calendar month in the subsequent monitoring year). Over the course of one monitoring year, the investigators will conduct 16 searches. The frequency of searches by season is shown in Table 1.

Table 1. Frequency of Fatality Monitoring Searches by Season

Season	Dates	Frequency
Spring Migration	March 16 to May 15	2 searches per month (4 searches)
Summer/Breeding	May 16 to August 15	1 search per month (3 searches)
Fall Migration	August 16 to October 31	2 searches per month (5 searches)
Winter	November 1 to March 15	1 search per month (4 searches)

3.1.3 Sample Size

The sample size for fatality monitoring is the number of turbines searched per monitoring year. The investigators shall conduct fatality monitoring during each monitoring year in search plots at one-third of the turbines that are built or 50 turbines, whichever is greater. If fewer than 50 turbines are built, the Certificate Holder shall search all turbines.

3.1.4 Duration of Fatality Monitoring

The investigators shall perform one complete monitoring cycle during the first full year of facility operation (Year 1). At the end of the first year of monitoring, the Certificate Holder will report the results for joint evaluation by ODOE, the Certificate Holder, and ODFW. In the evaluation, the Certificate Holder shall compare the results for the Facility with the thresholds of concern described in Section 3.7 of this plan and with comparable data from other wind power facilities in the Columbia Basin, as available. The investigators will perform an additional year of monitoring in the fifth year of operations (Year 5) regardless of the results of the Year 1 study.

If fatality rates for the first year of monitoring at the Facility materially exceed any of the thresholds of concern or the range of fatality rates found at other wind power facilities in the region, the Certificate Holder shall propose additional mitigation for ODOE and ODFW review within 6 months after reporting the fatality rates to the ODOE. Alternatively, the Certificate Holder may opt to conduct a second year of fatality monitoring immediately if the certificate holder believes that the results of Year 1 monitoring were anomalous. If the Certificate Holder takes this option, the investigators still must perform the monitoring in Year 5 of operations as described above.

3.2 Removal Trials

The objective of the removal trials is to estimate the length of time avian and bat carcasses remain in the search area. Estimates of carcass removal rates will be used to adjust carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from the search area due to predation, scavenging, or other means, such as farming activity.

The investigators shall conduct carcass removal trials within each of the seasons defined ~~above~~in Table 1 during the first year of fatality monitoring. For each trial, the investigators shall use 10 to 15 carcasses of small- and large-bodied species. Trial carcasses shall be distributed within habitat categories and subtypes in proportion to their amounts within search plots.

After the first year of fatality monitoring, the investigators may reduce the number of removal trials and the number of removal trial carcasses during any subsequent year of fatality monitoring, subject to the approval of ODOE. The investigators must show that the reduction is justified based on a comparison of the first-year removal data with published removal data from nearby wind energy facilities.

The investigators shall use game birds or other legal sources of avian species as test carcasses for the removal trials, ~~and the investigators may use carcasses found in fatality monitoring searches.~~ The investigators shall select species with the same coloration and size attributes as species found within the site boundary. If suitable trial carcasses are available, trials during the fall season will include several small brown birds and/or dark colored mice to simulate bat carcasses. Legally obtained bat carcasses will be used if available.

Trial carcasses will be marked discreetly for recognition by searchers and other personnel. Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be:

1. Placed in an exposed posture (e.g., thrown over the shoulder);
2. Hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass); or
3. Partially hidden.

The trial carcasses will be placed randomly within the carcass removal trial plots. Trial carcasses will be left in place until the end of the carcass removal trial.

An approximate schedule for assessing removal status is once daily for the first 4 days, and on days 7, 10, 14, 21, 28 and 35. This schedule may be adjusted depending on actual carcass removal rates, weather conditions and coordination with the other survey work. The condition of scavenged carcasses will be documented during each assessment, and at the end of the trial all traces of the carcasses will be removed from the site. Scavenger or other activity could result in complete removal of all traces of a carcass in a location or distribution of feathers and carcass parts to several locations. This distribution will not constitute removal if evidence of the carcass remains within an area similar in size to a search plot and if the evidence would be discernable to a searcher during a normal survey.

Before beginning removal trials for any subsequent year of fatality monitoring, the Certificate Holder shall report the results of the first year of removal trials to ODOE and ODFW. In the report, the Certificate Holder shall analyze whether four removal trials per year, as described above, provide sufficient data to accurately estimate adjustment factors for carcass removal. The number of removal trials may be adjusted up or down, subject to the approval of ODOE.

3.3 Searcher Efficiency Trials

The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. The investigators shall conduct searcher efficiency trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated agriculture habitat types. A pooled estimate of searcher efficiency may be used—if sample sizes are too small for some habitat types—to adjust carcass counts for detection bias.

The investigators shall conduct searcher efficiency trials within each of the seasons defined ~~above~~ in Table 1 during the years in which the fatality monitoring occurs. Each trial will involve approximately 4 to 15 carcasses. The searchers will not be notified of carcass placement or test dates. The investigators shall vary the number of trials per season and the number of carcasses per trial so that the searchers will not know the total number of trial carcasses being used in any trial. In total, approximately 80 carcasses will be used per year, or approximately 15 to 25 per season.

For each trial, the investigators shall use small- and large-bodied species. The investigators shall use game birds or other legal sources of avian species as test carcasses for the efficiency trials, and the investigators may use carcasses found in fatality monitoring searches. The investigators shall select species with the same coloration and size attributes as species found within the site boundary. If suitable test carcasses are available, trials during the fall season will include several small brown birds and/or dark mice to simulate bat carcasses.

Legally obtained bat carcasses will be used if available. The investigators shall mark the test carcasses to differentiate them from other carcasses that might be found within the search plot and shall use methods similar to those used to mark removal test carcasses as long as the procedure is sufficiently discreet and does not increase carcass visibility.

The Certificate Holder shall distribute trial carcasses in varied habitat in rough proportion to the habitat types within the facility site. On the day of a standardized fatality monitoring search (described below) but before the beginning of the search, investigators will place efficiency trial carcasses randomly within search plots (one to three trial carcasses per search plot) within areas to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn.

~~Efficiency Search efficiency~~ trials will be spread over the entire season to incorporate effects of varying weather and vegetation growth. ~~Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be:~~

~~Placed in an exposed posture (e.g., thrown over the shoulder);~~

~~Hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass); or~~

~~Partially hidden.~~

The number and location of the efficiency trial carcasses found during the carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses. Following plot searches, all traces of test carcasses will be removed from the site. If new searchers are brought into the search team, additional searcher efficiency trials will be conducted to ensure that detection rates incorporate searcher differences. The Certificate Holder shall include a discussion of any changes in search personnel and any additional detection trials in the reporting required under Section ~~4.17.0~~ of this plan.

Before beginning searcher efficiency trials for any subsequent year of fatality monitoring, the Certificate Holder shall report the results of the first-year efficiency trials to ODOE and ODFW. In the report, the Certificate Holder shall analyze whether the efficiency trials as described above provide sufficient data to accurately estimate adjustment factors for searcher efficiency. The number of searcher efficiency trials for any subsequent year of fatality monitoring may be adjusted up or down, subject to the approval of ODOE.

3.4 Fatality Monitoring Search Protocol

The objective of fatality monitoring is to estimate the number of bird and bat fatalities that are attributable to facility operation as an indicator of the impact of the facility on habitat quality. The goal of bird and bat fatality monitoring is to estimate fatality rates and associated variances. The investigators shall perform fatality monitoring using standardized carcass searches according to the schedule described above.

Personnel trained in proper search techniques (“the searchers”) will conduct the carcass searches by walking concentric or parallel transects (with transect width determined by the species of concern) within search plots. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial.

Searchers shall flag all avian or bat carcasses discovered. Carcasses are defined as a complete carcass or body part, 10 or more feathers or three or more primary feathers in one location. When parts of carcasses and feathers from the same species are found within a search plot, searchers shall make note of the relative positions and assess whether or not these are from the same fatality.

All carcasses (avian and bat) found during the standardized carcass searches will be photographed, recorded and labeled with a unique number. Searchers shall make note of the nearest ~~two or three structures (turbine, power pole, fence, building or overhead line)~~turbine and the approximate distance from the carcass to ~~these structures~~the turbine. The species and age of the carcass will be determined when possible. Searchers shall note the extent to which the carcass is intact and estimate time since death. Searchers shall describe all evidence that might assist in determination of cause of death, such as evidence of electrocution, vehicular strike, wire strike, predation or disease. Searchers will photograph each carcass as found and will map the find on a detailed map of the search area showing the location of the wind turbines and associated facilities.

If the necessary permits have been acquired through appropriate state and federal wildlife agencies, each carcass will be bagged and frozen for future reference or (if the carcass is fresh and whole) for use in trials. A copy of the data sheet for each carcass will be kept with the carcass at all times. When assessment of the carcass is complete, all traces of it will be removed from the site. If permits are not acquired by the Certificate Holder, the carcass will be left as found.

The investigators shall calculate fatality rates using the statistical methods described in Section 3.6. If the Certificate Holder or their investigators determines that a different statistical method is more appropriate, those methods shall be reviewed and approved by ODOE. In making these calculations, the investigators may exclude carcass data from the first search (clearance survey) of each turbine plot {to eliminate possible counting of carcasses that were present before the turbine was operating}.

The investigators shall estimate the number of avian and bat fatalities attributable to operation of the facility based on the number of avian and bat fatalities found at the facility site. All carcasses located within areas surveyed, regardless of species, will be recorded and, if possible, a cause of death determined. If a different cause of death is not apparent, the fatality will be attributed to facility operation. The total number of avian and bat fatalities will be estimated by adjusting for removal and searcher efficiency bias.

On an annual basis, the Certificate Holder shall report an estimate of fatalities in nine categories, provided a sufficient number of detections are available to accurately determine estimates for each. The Certificate Holder shall report annual fatality rates on both a per-MW and per-turbine basis. The nine categories are:

1. All birds;
2. Small birds;
3. Large birds;
4. Raptors;
5. Raptor species of special concern;
6. Grassland species;
7. Nocturnal migrants;
8. State and federally listed threatened and endangered species and State Sensitive Species listed under OAR 635-100-0040; and
9. Bats.

3.5 Incidental Finds and Injured Birds

The searchers might discover carcasses incidental to formal carcass searches (incidental finds), such as when driving through the project area. For each incidental find, the searcher shall identify, photograph, record data and collect the carcass (or leave as-is) as would be done for carcasses within the formal search sample during scheduled searches. If the incidental find is located in a

formal search plot within a reasonable timeframe from when that plot was officially searched (e.g., same day), the fatality data will be included in the calculation of fatality rates. If the incidental find is found outside a formal search plot, the data will be reported separately.

The Certificate Holder shall contact a qualified rehabilitation specialist approved by ODOE³ to respond to injured wildlife. The Certificate Holder shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

3.6 Statistical Methods for Fatality Estimates (Shoenfeld Estimator)

The estimate of the total number of wind facility-related fatalities is based on:

1. The observed number of carcasses found during standardized searches during the two monitoring years for which the cause of death is attributed to the facility.⁴
2. Searcher efficiency expressed as the proportion of planted carcasses found by searchers.
3. Removal rates expressed as the estimated average probability a carcass is expected to remain in the study area and be available for detection by the searchers during the entire survey period.

3.6.1 Definition of Variables

The following variables are used in the equations below:

- c_i the number of carcasses detected at plot i for the study period of interest (e.g., one year) for which the cause of death is either unknown or is attributed to the facility
- n the number of search plots
- k the number of turbines searched (includes the turbines centered within each search plot and a proportion of the number of turbines adjacent to search plots to account for the effect of adjacent turbines on the search plot buffer area)
- \bar{c} the average number of carcasses observed per turbine per year
- s the number of carcasses used in removal trials
- s_c the number of carcasses in removal trials that remain in the study area after 35 days
- se standard error (square of the sample variance of the mean)
- t_i the time (days) a carcass remains in the study area before it is removed
- \bar{t} the average time (days) a carcass remains in the study area before it is removed

³ Approved specialists include of Blue Mountain Wildlife, a wildlife rehabilitation center in Pendleton, and the Audubon Bird Care Center in Portland. The Certificate Holder must obtain ODOE approval before using other specialists.

⁴ If a different cause of death is not apparent, the fatality will be attributed to facility operation.

- d the total number of carcasses placed in searcher efficiency trials
- p the estimated proportion of detectable carcasses found by searchers
- I the average interval between searches in days
- $\hat{\pi}$ the estimated probability that a carcass is both available to be found during a search and is found
- m_t the estimated annual average number of fatalities per turbine per year, adjusted for removal and observer detection bias
- C nameplate energy output of turbine in megawatts (MW)

3.6.2 Observed Number of Carcasses

The estimated average number of carcasses (\bar{c}) observed per turbine per year is:

$$\bar{c} = \frac{\sum_{i=1}^n c_i}{k}$$

3.6.3 Estimation of Carcass Removal

Estimates of carcass removal are used to adjust carcass counts for removal bias. Mean carcass removal time (\bar{t}) is the average length of time a carcass remains at the site before it is removed:

$$\bar{t} = \frac{\sum_{i=1}^n t_i}{s - s_c}$$

This estimator is the maximum likelihood estimator assuming the removal times follow an exponential distribution and there is right-censoring of data. Any trial carcasses still remaining at 35 days are collected, yielding censored observations at 35 days. If all trial carcasses are removed before the end of the trial, then s_c is 0, and \bar{t} is just the arithmetic average of the removal times. Removal rates will be estimated by carcass size (small and large), habitat type and season.

3.6.4 Estimation of Observer Detection Rates

Observer detection rates (i.e., searcher efficiency rates) are expressed as p , the proportion of trial carcasses that are detected by searchers. Observer detection rates will be estimated by carcass size, habitat type and season.

3.6.5 Estimation of Facility-Related Fatality Rates

The estimated per turbine annual fatality rate (m_t) is calculated by:

$$m_t = \frac{\bar{c}}{\hat{\pi}}$$

Where $\hat{\pi}$ includes adjustments for both carcass removal (from scavenging and other means) and observer detection bias assuming that the carcass removal times t_i follow an exponential distribution. Under these assumptions, this detection probability is estimated by:

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

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

$$m = \frac{m_t}{C}$$

The final reported estimates of m associated standard errors and 90% confidence intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for calculating point estimates, variances and confidence intervals for complicated test statistics. For each iteration of the bootstrap, the plots will be sampled with replacement, trial carcasses will be sampled with replacement, and \bar{c} , \bar{t} , p , $\hat{\pi}$ and m will be calculated. A total of 5,000 bootstrap iterations will be used. The reported estimates will be the means of the 5,000 bootstrap estimates. The standard deviation of the bootstrap estimates is the estimated standard error. The lower 5th and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the lower limit and upper limit of 90% confidence intervals.

~~3.6.6 Nocturnal Migrant and Bat Fatalities~~

~~Differences in observed nocturnal migrant and bat fatality rates for lit turbines, unlit turbines that are adjacent to lit turbines and unlit turbines that are not adjacent to lit turbines will be compared graphically and statistically, provided that a sufficient number of detections are available to accurately determine estimates for these groups.~~

3.7 Mitigation

The Certificate Holder shall use best available science to resolve any uncertainty in the fatality monitoring results and to determine whether the data indicate that additional mitigation should be considered. ODOE may require additional, targeted monitoring if the data indicate the potential for significant impacts that cannot be addressed by worst-case analysis and appropriate mitigation.

Mitigation may be appropriate if fatality rates exceed a “threshold of concern.”⁵ For the purpose of determining whether a threshold has been exceeded, the Certificate Holder shall calculate the

⁵ ~~The Council~~EFSC 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.”

average annual fatality rates for species groups after each year of monitoring, provided a sufficient number of detections are available to accurately determine estimates for these groups. Based on current knowledge of the species that are likely to use the habitat in the area of the facility, the thresholds shown in Table 2 apply to the Facility.

Table 2. Fatality Thresholds of Concern by Species Group

Species Group	Threshold of Concern (Fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson's hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl.)	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

If the data show that a threshold of concern for an avian species group has been exceeded, the Certificate Holder shall implement mitigation if ODOE determines that mitigation is appropriate based on analysis of the data, consultation with ODFW, and consideration of any other significant information available at the time. In addition, ODOE may determine that mitigation is appropriate if fatality rates for individual avian or bat species (especially State Sensitive Species) are higher than expected and at a level of biological concern. If ODOE determines that mitigation is appropriate, the Certificate Holder, in consultation with ODOE and ODFW, shall propose mitigation measures designed to benefit the affected species. Acceptable mitigation may include, but is not limited to, contributions to wildlife rehabilitators, funding of research by third parties on local raptor populations, or habitat mitigation. This may take into consideration whether the mitigation required or provided in conjunction with raptor nest monitoring, habitat mitigation, or other components of the Wildlife Monitoring and Mitigation Plan or Habitat Mitigation Plan, would also benefit the affected species.

The Certificate Holder shall implement mitigation as approved by ODOE, subject to review by ~~the Council~~EFSC. ODOE may recommend additional, targeted data collection if the need for mitigation is unclear based on the information available at the time. The Certificate Holder shall implement such data collection as approved by ~~the Council~~EFSC.

The Certificate Holder shall design mitigation to benefit the affected species group. Mitigation may include, but is not limited to, protection of nesting habitat for the affected group of native species through a conservation easement or similar agreement. Tracts of land that are intact and functional for wildlife are preferable to degraded habitat areas. Preference should be given to protection of land that would otherwise be subject to development or use that would diminish the wildlife value of the land. In addition, mitigation measures might include: enhancement of the protected tract by weed removal and control; increasing the diversity of native grasses and forbs; planting sagebrush or other shrubs; constructing and maintaining artificial nest structures for raptors; improving wildfire response; and conducting or making a contribution to research that will aid in understanding more about the affected species and its conservation needs in the region.

If the data show that the threshold of concern for bat species as a group has been exceeded, the Certificate Holder shall implement mitigation if ODOE determines that mitigation is appropriate based on analysis of the data, consultation with ODFW, and consideration of any other significant information available at the time. For example, if the threshold for bat species as a group is exceeded, the Certificate Holder may contribute to Bat Conservation International or to a Pacific Northwest bat conservation group to fund new or ongoing research in the Pacific Northwest to better understand wind facility impacts to bat species and to develop possible ways to reduce impacts to the affected species.

4.0 Raptor Nest Surveys

The objectives of raptor nest surveys are: (1) count raptor nests on the ground or aboveground in trees or other aboveground nest locations in the vicinity of the facility; and (2) to determine whether there are noticeable changes in nesting activity or nesting success in the local populations of the following raptor species: Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk (*Buteo regalis*).

The Certificate Holder shall conduct short-term and long-term monitoring. The investigators will use aerial and ground surveys to evaluate nest success by gathering data on active nests, on nests with young, and on young fledged. The Certificate Holder shall ~~hire independent third-party~~employ qualified investigators to perform raptor nest surveys.

4.1 Short-Term Monitoring

Short-term monitoring will be done in two monitoring seasons. The first monitoring season will be in the first raptor nesting season after completion of construction of the facility. The second monitoring season will be in the fourth year after construction is completed. The Certificate Holder shall provide a summary of the first-year results in the monitoring report described in Section 6.0. After the second monitoring season, the investigators will analyze two years of data compared to the baseline data.

During each monitoring season, the investigators will conduct a minimum of one aerial and one ground survey for raptor nests in late May or early June and additional surveys as described in this

section. The survey area is the area within the facility site and a 2-mile buffer zone around the site. For the ground surveys while checking for nesting success (conducted within the facility site and up to a maximum of ½ mile from the facility site), nests outside the leased project boundary will be checked from an appropriate distance where feasible, depending on permission from the landowner for access.

All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. Global positioning system (GPS) coordinates will be recorded for each nest. Locations of inactive nests will be recorded because they could become occupied during future years.

Determining nest occupancy may require one or two visits to each nest. Aerial surveys for nest occupancy will be conducted within the facility site and a 2-mile buffer. For occupied nests, the Certificate Holder will determine nesting success by a minimum of one ground visit to determine the species, number of young and young fledged within the facility site and up to 0.5 miles from the facility site. “Nesting success” means that the young have successfully fledged (the young are independent of the core nest site).

4.2 Long-Term Monitoring

In addition to the two years of post-construction short-term raptor nest surveys described in Section 4.1, the investigators shall conduct long-term raptor nest surveys at 5-year intervals for the life of the facility.⁶ Investigators will conduct the first long-term raptor nest survey in the raptor nesting season of the ninth year after construction is completed and will repeat the survey at 5-year intervals thereafter. In conducting long-term surveys, the investigators will follow the same survey protocols as described in Section 4.1 unless the investigators propose alternative protocols that are approved by ODOE. In developing an alternative protocol, the investigators will consult with ODFW and will take into consideration other raptor nest monitoring conducted in adjacent areas. The investigators will analyze the data—as a way of determining trends in the number of raptor breeding attempts the facility supports and the success of those attempts—and will submit a report after each year of long-term raptor nest surveys.

5.0 Wildlife Reporting and Handling System

The [Wildlife Reporting and Handling System \(WRHS\)](#) is a voluntary monitoring program to search for and handle avian and bat casualties found by maintenance personnel during operation of the facility. Objectives of the WRHS are to meet the standards specified in any other requirement (federal, state, county) for understanding and documenting species found over time. Maintenance personnel will be trained in the methods needed to carry out this program. This monitoring program includes the initial response, handling and reporting of bird and bat carcasses discovered

⁶ 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.

incidental to maintenance operations. This is a voluntary program and may be discounted by the Certificate Holder at any time.

All avian and bat carcasses discovered by maintenance personnel will be photographed and data will be recorded as would be done for carcasses within the formal search sample during scheduled searches. If maintenance personnel discover incidental finds, the maintenance personnel will notify a project biologist. If the necessary permits have been acquired through appropriate state and federal wildlife agencies, the project biologist will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass.

During the years in which fatality monitoring occurs, if maintenance personnel discover incidental finds outside the search plots for the fatality monitoring searches, the data will be reported separately from fatality monitoring data. If maintenance personnel discover carcasses within search plots, the data will be included in the calculation of fatality rates. Maintenance personnel will notify a project biologist for any incidental finds.

6.0 Washington Ground Squirrel Monitoring

In compliance with the pre-construction condition PRE-TE-02, Washington ground squirrel (*Urocitellus washingtoni*) pre-construction surveys were performed to determine operations monitoring requirements. No Washington ground squirrel colonies were identified during pre-construction surveys; therefore, no monitoring is planned at this time. However, if new colonies are located during other monitoring activities or incidentally during operations, the Certificate Holder shall document and delineate the colonies, and shall amend the WMMP with a Washington ground squirrel monitoring program in consultation with ODOE.

7.0 Data Reporting

The Certificate Holder will report wildlife monitoring data and analysis to ODOE for each calendar year in which wildlife monitoring occurs. Monitoring data include fatality monitoring program data, raptor nest survey data, and WRHS data. The Certificate Holder may include the reporting of wildlife monitoring data and analysis in the annual report required under OAR 345-026-0080 or submit this information as a separate document at the same time the annual report is submitted. In addition, the Certificate Holder shall provide to ODOE any data or record generated in carrying out this monitoring plan upon request by ODOE.

The Certificate Holder shall notify USFWS and ODFW if any federal or state endangered or threatened species are killed or injured on the facility site within ~~48-24~~ hours of species identification.

8.0 Amendment of the Plan

This WMMP may be amended from time to time by agreement of the Certificate Holder and ~~the Council~~EFSC. Such amendments may be made without amendment of the site certificate. ~~The Council~~EFSC authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this plan. ODOE shall notify ~~the Council~~EFSC of all amendments and mitigation actions, and ~~the Council~~EFSC retains the authority to approve, reject or modify any amendment of this plan or mitigation action agreed to by ODOE.

9.0 References

EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.

EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.

EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued, November 16, 2018.

EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.

Wheatridge Renewable Energy Facility I -Wildlife Monitoring and Mitigation Plan

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~~February~~ March ~~April~~ 2020

Effective Date: Wheatridge Renewable Energy Facility II Site Certificate Effective Date

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1.0 Introduction

This Wildlife Monitoring and Mitigation Plan (WMMP) has been prepared for the Wheatridge Renewable Energy Facility II (WREFII) West, a 200-megawatt (MW) wind energy facility in Morrow County. Wheatridge Wind II, LLC (Certificate Holder) holds the site certificate for the WREFII. WREFII has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility I (WREFI; Wheatridge Wind Energy, LLC is the certificate holder).

The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WWEF). WWEF was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a), consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties¹. Wheatridge West began construction in January 2020.

Prior to operation, but after construction had commenced, WWEF was split into WREFI and WREFII. WREFI is a 100-MW wind energy facility within the Wheatridge West portion of the WWEF. WREF II is a 400-MW wind energy and 150-MW solar energy and battery storage facility within Wheatridge West and Wheatridge East. Of the 400 MW of wind energy in WREFII, 200 MW is are located within Wheatridge West and isare referred to as WREFII West. This PlanWMMP has been prepared for WREFII West, but reflects the plan prepared for Wheatridge West as part of pre-construction compliance in coordination with, and approved by, ODOE and Morrow County. The Certificate Holder will amend this WMMP or prepare separate WMMPs for the remaining portions of WREFII prior to construction of those facilities.

is for Wheatridge Renewable Energy Facility II (WREFII), a 100200-MW wind energy facility in Morrow County. Wheatridge Wind Energy, LLC holds the site certificate for the Wheatridge Renewable Energy Facility (WREF). Wheatridge Wind Energy, LLC holds the site certificate for WREFI. WREFII has areas of overlapping Site Boundary and shared related and supporting facilities with Wheatridge Renewable Energy Facility II (WREFI; owned and operated by Portland General Electric). The two facilities were originally permitted as one facility, the Wheatridge Wind Energy Facility (WWEF). WWEF was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 28, 2017 (EFSC 2017a) consisting of facilities in north Morrow (Wheatridge West) and Umatilla (Wheatridge East) counties². Wheatridge West began construction in January 2020. Prior to operation but after construction had commenced, WWEF was split into WREFI and WREF II.

¹ The site certificate for the WWEF was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, EFSC 2018a, EFSC 2018b, EFSC 2019).

² The site certificate for the Wheatridge Wine Wind Energy facility was amended five times, including the addition of solar energy generation and battery storage components and splitting the Facility into WREFI and WREFII (EFSC 2017b, 2018a, 2018b, 2019).

This WMMP has been prepared for WREFI but reflects the WMMP prepared for Wheatridge West as part of pre-construction compliance in coordination with and as approved by ODOE and the Oregon Department of Fish and Wildlife (ODFW). This WMMP describes wildlife monitoring that the Certificate Holder shall conduct during operation of WREFI and includes the following components:

1. Fatality monitoring program, including:
 - a. Removal trials;
 - b. Searcher efficiency trials;
 - c. Fatality search protocol; and
 - d. Statistical analysis.
2. Raptor nesting surveys;
3. Wildlife Reporting and Handling System (WRHS);
4. Washington ground squirrel monitoring; and
5. Data reporting.

Based on the results of the monitoring program, 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 ODOE determines that mitigation is needed, the Certificate Holder shall propose appropriate mitigation actions to ODOE and shall carry out mitigation actions approved by ODOE, subject to review by the EFSC.

2.0 Pre-Construction Compliance

The WMMP addresses the following pre-construction conditions of the ~~Third~~ Fourth Amended Site Certificate for the Facility (EFSC ~~2018~~ 2019):

PRE-FW-02 Prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW.

a. The final WMMP must be submitted and ODOE's concurrence received prior to the beginning of construction. ODOE shall consult with ODFW on the final WMMP. The certificate holder shall implement the requirements of the approved WMMP during all phases of construction and operation of the facility.

b. The WMMP 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 the WMMP agreed to by the Department.

PRE-TE-02 *In accordance with Fish and Wildlife Habitat Condition 4, prior to construction, the certificate holder shall finalize and implement the Wildlife Monitoring and Mitigation Plan (WMMP) provided in Attachment F of this order, based on the final facility design, as approved by the department in consultation with ODFW. The final WMMP shall include a program to monitor potential impacts from facility operation on Washington ground squirrel. Monitoring shall be of any known colonies and shall be completed on the same schedule as the raptor nest monitoring for the facility. The monitoring surveys shall include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the historic location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, shall be documented and the extent of those colonies should be delineated as well. These newly discovered colonies shall also be included in any future WGS monitoring activities.*

3.0 Fatality Monitoring – Wind Facility

Fatality monitoring objectives are to determine whether the Facility causes significant fatalities of birds and bats, which would indicate a loss in habitat quality. The Certificate Holder shall hire independent third-party investigators to perform fatality monitoring.

3.1 Methods

The following methods may be modified to reflect updated industry standards for performing post-construction fatality monitoring. Any updates to the fatality monitoring study design or data analysis methodology will be approved by ODOE prior to implementation.

3.1.1 Search Plots

The investigators shall conduct fatality monitoring within search plots. The Certificate Holder, in consultation with ~~the Oregon Department of Fish and Wildlife (ODFW)~~, shall select search plots based on a systematic sampling design that ensures that the selected search plots are representative of the habitat conditions in different parts of the site. Each search plot will contain one turbine. Search plots will be square or circular. Circular search plots will be centered on the turbine location; radius will be determined with regard to maximum blade tip height and species of concern. Square search plots will be of sufficient size to contain a circular search plot as described above. The Certificate Holder shall provide maps of the search plots to ODOE before beginning fatality monitoring at the facility. The Certificate Holder shall use the same search plots for each search conducted during a monitoring year.

3.1.2 Scheduling

Fatality monitoring will begin one month after commencement of commercial operation of the facility. Subsequent monitoring years will follow the same schedule (beginning in the same calendar month in the subsequent monitoring year). Over the course of one monitoring year, the investigators will conduct 16 searches. The frequency of searches by season is shown in Table 1.

Table 1 ~~Table 1.~~ **Frequency of Fatality Monitoring Searches by Season**

Season	Dates	Frequency
Spring Migration	March 16 to May 15	2 searches per month (4 searches)
Summer/Breeding	May 16 to August 15	1 search per month (3 searches)
Fall Migration	August 16 to October 31	2 searches per month (5 searches)
Winter	November 1 to March 15	1 search per month (4 searches)

3.1.3 Sample Size

The sample size for fatality monitoring is the number of turbines searched per monitoring year. The investigators shall conduct fatality monitoring during each monitoring year in search plots at one-third of the turbines that are built or 50 turbines, whichever is greater. If fewer than 50 turbines are built, the Certificate Holder shall search all turbines.

3.1.4 Duration of Fatality Monitoring

The investigators shall perform one complete monitoring cycle during the first full year of facility operation (Year 1). At the end of the first year of monitoring, the Certificate Holder will report the results for joint evaluation by ODOE, the Certificate Holder, and ODFW. In the evaluation, the Certificate Holder shall compare the results for the Facility with the thresholds of concern described in Section 3.7 of this plan and with comparable data from other wind power facilities in the Columbia Basin, as available. The investigators will perform an additional year of monitoring in the fifth year of operations (Year 5) regardless of the results of the Year 1 study.

If fatality rates for the first year of monitoring at the Facility materially exceed any of the thresholds of concern or the range of fatality rates found at other wind power facilities in the region, the Certificate Holder shall propose additional mitigation for ODOE and ODFW review within 6 months after reporting the fatality rates to the ODOE. Alternatively, the Certificate Holder may opt to conduct a second year of fatality monitoring immediately if the certificate holder believes that the results of Year 1 monitoring were anomalous. If the Certificate Holder takes this option, the investigators still must perform the monitoring in Year 5 of operations as described above.

3.2 Removal Trials

The objective of the removal trials is to estimate the length of time avian and bat carcasses remain in the search area. Estimates of carcass removal rates will be used to adjust carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from the search area due to predation, scavenging, or other means, such as farming activity.

The investigators shall conduct carcass removal trials within each of the seasons defined ~~above in~~ Table 1 during the first year of fatality monitoring. For each trial, the investigators shall use 10 to 15 carcasses of small- and large-bodied species. Trial carcasses shall be distributed within habitat categories and subtypes in proportion to their amounts within search plots.

After the first year of fatality monitoring, the investigators may reduce the number of removal trials and the number of removal trial carcasses during any subsequent year of fatality monitoring, subject to the approval of ODOE. The investigators must show that the reduction is justified based on a comparison of the first-year removal data with published removal data from nearby wind energy facilities.

The investigators shall use game birds or other legal sources of avian species as test carcasses for the removal trials, ~~and the investigators may use carcasses found in fatality monitoring searches.~~ The investigators shall select species with the same coloration and size attributes as species found within the site boundary. If suitable trial carcasses are available, trials during the fall season will include several small brown birds ~~and/or dark colored mice~~ to simulate bat carcasses. Legally obtained bat carcasses will be used if available.

Trial carcasses will be marked discreetly for recognition by searchers and other personnel. Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be:

1. Placed in an exposed posture (e.g., thrown over the shoulder);
2. Hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass); or
3. Partially hidden.

The trial carcasses will be placed randomly within the fatality monitoring search plots. Trial carcasses will be left in place until the end of the carcass persistence trial.

An approximate schedule for assessing persistence status is once daily for the first 4 days, and on days 7, 10, 14, 21, 28 and 35. This schedule may be adjusted depending on actual carcass persistence rates, weather conditions and coordination with the other survey work. The condition of scavenged carcasses will be documented during each assessment, and at the end of the trial all traces of the carcasses will be removed from the site. Scavenger or other activity could result in complete removal of all traces of a carcass in a location or distribution of feathers and carcass parts to several locations. This distribution will not constitute carcass removal if evidence of the carcass remains within an area similar in size to a search plot and if the evidence would be discernable to a searcher during a normal survey.

Before beginning carcass persistence trials for any subsequent year of fatality monitoring, the Certificate Holder shall report the results of the first year of carcass persistence trials to ODOE and ODFW. In the report, the Certificate Holder shall analyze whether four carcass persistence trials per year, as described above, provide sufficient data to accurately estimate adjustment factors for carcass removal. The number of carcass persistence trials may be adjusted up or down, subject to the approval of ODOE.

~~The trial carcasses will be placed randomly within the carcass removal trial plots. Trial carcasses will be left in place until the end of the carcass removal trial.~~

~~An approximate schedule for assessing removal status is once daily for the first 4 days, and on days 7, 10, 14, 21, 28 and 35. This schedule may be adjusted depending on actual carcass removal rates, weather conditions and coordination with the other survey work. The condition of scavenged carcasses will be documented during each assessment, and at the end of the trial all traces of the carcasses will be removed from the site. Scavenger or other activity could result in complete removal of all traces of a carcass in a location or distribution of feathers and carcass parts to several locations. This distribution will not constitute removal if evidence of the carcass remains within an area similar in size to a search plot and if the evidence would be discernable to a searcher during a normal survey.~~

~~Before beginning removal trials for any subsequent year of fatality monitoring, the Certificate Holder shall report the results of the first year of removal trials to ODOE and ODFW. In the report, the Certificate Holder shall analyze whether four removal trials per year, as described above, provide sufficient data to accurately estimate adjustment factors for carcass removal. The number of removal trials may be adjusted up or down, subject to the approval of ODOE.~~

3.3 Searcher Efficiency Trials

The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. The investigators shall conduct searcher efficiency trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated agriculture habitat types. A pooled estimate of searcher efficiency may be used—if sample sizes are too small for some habitat types—to adjust carcass counts for detection bias.

The investigators shall conduct searcher efficiency trials within each of the seasons defined above in Table 1 during the years in which the fatality monitoring occurs. Each trial will involve approximately 4 to 15 carcasses. The searchers will not be notified of carcass placement or test dates. The investigators shall vary the number of trials per season and the number of carcasses per trial so that the searchers will not know the total number of trial carcasses being used in any trial. In total, approximately 80 carcasses will be used per year, or approximately 15 to 25 per season.

For each trial, the investigators shall use small- and large-bodied species. The investigators shall use game birds or other legal sources of avian species as test carcasses for the efficiency trials, and the investigators may use carcasses found in fatality monitoring searches. The investigators shall select species with the same coloration and size attributes as species found within the site

boundary. If suitable test carcasses are available, trials during the fall season will include several small brown birds ~~and/or dark mice~~ to simulate bat carcasses.

Legally obtained bat carcasses will be used if available. The investigators shall mark the test carcasses to differentiate them from other carcasses that might be found within the search plot and shall use methods similar to those used to mark removal test carcasses as long as the procedure is sufficiently discreet and does not increase carcass visibility.

The Certificate Holder shall distribute trial carcasses in varied habitat in rough proportion to the habitat types within the facility site. On the day of a standardized fatality monitoring search (described below) but before the beginning of the search, investigators will place efficiency trial carcasses randomly within search plots (one to three trial carcasses per search plot) within areas to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn.

~~Searcher e~~Efficiency trials will be spread over the entire season to incorporate effects of varying weather and vegetation growth. ~~Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be:~~

~~Placed in an exposed posture (e.g., thrown over the shoulder);~~

~~Hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass); or~~

~~Partially hidden.~~

The number and location of the efficiency trial carcasses found during the carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses. Following plot searches, all traces of test carcasses will be removed from the site. If new searchers are brought into the search team, additional searcher efficiency trials will be conducted to ensure that detection rates incorporate searcher differences. The Certificate Holder shall include a discussion of any changes in search personnel and any additional detection trials in the reporting required under Section ~~4.17.0~~ of this plan.

Before beginning searcher efficiency trials for any subsequent year of fatality monitoring, the Certificate Holder shall report the results of the first-year ~~searcher~~ efficiency trials to ODOE and ODFW. In the report, the Certificate Holder shall analyze whether the ~~searcher~~ efficiency trials as described above provide sufficient data to accurately estimate adjustment factors for searcher efficiency. The number of searcher efficiency trials for any subsequent year of fatality monitoring may be adjusted up or down, subject to the approval of ODOE.

3.4 Fatality Monitoring Search Protocol

The objective of fatality monitoring is to estimate the number of bird and bat fatalities that are attributable to facility operation as an indicator of the impact of the facility on habitat quality. The goal of bird and bat fatality monitoring is to estimate fatality rates and associated variances. The

investigators shall perform fatality monitoring using standardized carcass searches according to the schedule described above.

Personnel trained in proper search techniques (“the searchers”) will conduct the carcass searches by walking concentric or parallel transects (with transect width determined by the species of concern) within search plots. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial.

Searchers shall flag all avian or bat carcasses discovered. Carcasses are defined as a complete carcass or body part, 10 or more feathers or three or more primary feathers in one location. When parts of carcasses and feathers from the same species are found within a search plot, searchers shall make note of the relative positions and assess whether or not these are from the same fatality.

All carcasses (avian and bat) found during the standardized carcass searches will be photographed, recorded and labeled with a unique number. Searchers shall make note of the nearest ~~two or three structures (turbine, power pole, fence, building or overhead line)~~ turbine and the approximate distance from the carcass to ~~these structures~~ the turbine. The species and age of the carcass will be determined when possible. Searchers shall note the extent to which the carcass is intact and estimate time since death. Searchers shall describe all evidence that might assist in determination of cause of death, such as evidence of electrocution, vehicular strike, wire strike, predation or disease. Searchers will photograph each carcass as found and will map the find on a detailed map of the search area showing the location of the wind turbines and associated facilities.

If the necessary permits have been acquired through appropriate state and federal wildlife agencies, each carcass will be bagged and frozen for future reference or (if the carcass is fresh and whole) for use in trials. A copy of the data sheet for each carcass will be kept with the carcass at all times. When assessment of the carcass is complete, all traces of it will be removed from the site. If permits are not acquired by the Certificate Holder, the carcass will be left as found.

The investigators shall calculate fatality rates using the statistical methods described in Section 3.6. If the Certificate Holder or their investigators determines that a different statistical method is more appropriate, those methods shall be reviewed and approved by ODOE. In making these calculations, the investigators may exclude carcass data from the first search (clearance survey) of each turbine plot ~~{to eliminate possible counting of carcasses that were present before the turbine was operating}~~.

The investigators shall estimate the number of avian and bat fatalities attributable to operation of the facility based on the number of avian and bat fatalities found at the facility site. All carcasses located within areas surveyed, regardless of species, will be recorded and, if possible, a cause of death determined. If a different cause of death is not apparent, the fatality will be attributed to facility operation. The total number of avian and bat fatalities will be estimated by adjusting for removal and searcher efficiency bias.

On an annual basis, the Certificate Holder shall report an estimate of fatalities in nine categories, provided a sufficient number of detections are available to accurately determine estimates for each.

The Certificate Holder shall report annual fatality rates on both a per-MW and per-turbine basis. The nine categories are:

1. All birds;
2. Small birds;
3. Large birds;
4. Raptors;
5. Raptor species of special concern;
6. Grassland species;
7. Nocturnal migrants;
8. State and federally listed threatened and endangered species and State Sensitive Species listed under OAR 635-100-0040; and
9. Bats.

3.5 Incidental Finds and Injured Birds

The searchers might discover carcasses incidental to formal carcass searches (incidental finds), such as when driving through the project area. For each incidental find, the searcher shall identify, photograph, record data and collect the carcass (or leave as-is) as would be done for carcasses within the formal search sample during scheduled searches. If the incidental find is located in a formal search plot within a reasonable timeframe from when that plot was officially searched (e.g., same day), the fatality data will be included in the calculation of fatality rates. If the incidental find is found outside a formal search plot, the data will be reported separately.

The Certificate Holder shall contact a qualified rehabilitation specialist approved by ODOE³ to respond to injured wildlife. The Certificate Holder shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

3.6 Statistical Methods for Fatality Estimates (Shoenfeld Estimator)

The estimate of the total number of wind facility-related fatalities is based on:

1. The observed number of carcasses found during standardized searches during the two monitoring years for which the cause of death is attributed to the facility.⁴
2. Searcher efficiency expressed as the proportion of planted carcasses found by searchers.

³ Approved specialists include of Blue Mountain Wildlife, a wildlife rehabilitation center in Pendleton, and the Audubon Bird Care Center in Portland. The Certificate Holder must obtain ODOE approval before using other specialists.

⁴ If a different cause of death is not apparent, the fatality will be attributed to facility operation.

3. Removal rates expressed as the estimated average probability a carcass is expected to remain in the study area and be available for detection by the searchers during the entire survey period.

3.6.1 Definition of Variables

The following variables are used in the equations below:

- c_i the number of carcasses detected at plot i for the study period of interest (e.g., one year) for which the cause of death is either unknown or is attributed to the facility
- n the number of search plots
- k the number of turbines searched (includes the turbines centered within each search plot and a proportion of the number of turbines adjacent to search plots to account for the effect of adjacent turbines on the search plot buffer area)
- \bar{c} the average number of carcasses observed per turbine per year
- s the number of carcasses used in removal trials
- s_c the number of carcasses in removal trials that remain in the study area after 35 days
- se standard error (square of the sample variance of the mean)
- t_i the time (days) a carcass remains in the study area before it is removed
- \bar{t} the average time (days) a carcass remains in the study area before it is removed
- d the total number of carcasses placed in searcher efficiency trials
- p the estimated proportion of detectable carcasses found by searchers
- I the average interval between searches in days
- $\hat{\pi}$ the estimated probability that a carcass is both available to be found during a search and is found
- m_t the estimated annual average number of fatalities per turbine per year, adjusted for removal and observer detection bias
- C nameplate energy output of turbine in megawatts (MW)

3.6.2 Observed Number of Carcasses

The estimated average number of carcasses (\bar{c}) observed per turbine per year is:

$$\bar{c} = \frac{\sum_{i=1}^n c_i}{k}$$

3.6.3 Estimation of Carcass Removal

Estimates of carcass removal are used to adjust carcass counts for removal bias. Mean carcass removal time (\bar{t}) is the average length of time a carcass remains at the site before it is removed:

$$\bar{t} = \frac{\sum_{i=1}^n t_i}{s - s_c}$$

This estimator is the maximum likelihood estimator assuming the removal times follow an exponential distribution and there is right-censoring of data. Any trial carcasses still remaining at 35 days are collected, yielding censored observations at 35 days. If all trial carcasses are removed before the end of the trial, then s_c is 0, and \bar{t} is just the arithmetic average of the removal times. Removal rates will be estimated by carcass size (small and large), habitat type and season.

3.6.4 Estimation of Observer Detection Rates

Observer detection rates (i.e., searcher efficiency rates) are expressed as p , the proportion of trial carcasses that are detected by searchers. Observer detection rates will be estimated by carcass size, habitat type and season.

3.6.5 Estimation of Facility-Related Fatality Rates

The estimated per turbine annual fatality rate (m_t) is calculated by:

$$m_t = \frac{\bar{c}}{\hat{\pi}}$$

Where $\hat{\pi}$ includes adjustments for both carcass removal (from scavenging and other means) and observer detection bias assuming that the carcass removal times t_i follow an exponential distribution. Under these assumptions, this detection probability is estimated by:

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

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

$$m = \frac{m_t}{C}$$

The final reported estimates of m associated standard errors and 90% confidence intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for calculating point estimates, variances and confidence intervals for complicated test statistics. For each iteration of the bootstrap, the plots will be sampled with replacement, trial carcasses will be sampled with replacement, and \bar{c} , \bar{t} , p , $\hat{\pi}$ and m will be calculated. A total of 5,000 bootstrap iterations will be used. The reported estimates will be the means of the 5,000 bootstrap estimates. The standard deviation of the bootstrap estimates is the estimated standard error. The lower 5th and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the lower limit and upper limit of 90% confidence intervals.

~~3.6.6 Nocturnal Migrant and Bat Fatalities~~

~~Differences in observed nocturnal migrant and bat fatality rates for lit turbines, unlit turbines that are adjacent to lit turbines and unlit turbines that are not adjacent to lit turbines will be compared graphically and statistically, provided that a sufficient number of detections are available to accurately determine estimates for these groups.~~

3.7 Mitigation

The Certificate Holder shall use best available science to resolve any uncertainty in the fatality monitoring results and to determine whether the data indicate that additional mitigation should be considered. ODOE may require additional, targeted monitoring if the data indicate the potential for significant impacts that cannot be addressed by worst-case analysis and appropriate mitigation.

Mitigation may be appropriate if fatality rates exceed a “threshold of concern.”⁵ For the purpose of determining whether a threshold has been exceeded, the Certificate Holder shall calculate the average annual fatality rates for species groups after each year of monitoring, provided a sufficient number of detections are available to accurately determine estimates for these groups. Based on current knowledge of the species that are likely to use the habitat in the area of the facility, the thresholds shown in Table 2 apply to the Facility.

~~Table 2~~**Table 2. Fatality Thresholds of Concern by Species Group**

Species Group	Threshold of Concern (Fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson’s hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl.)	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

⁵ 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.”

Species Group	Threshold of Concern (Fatalities per MW)
Bat species as a group	2.5

If the data show that a threshold of concern for an avian species group has been exceeded, the Certificate Holder shall implement mitigation if ODOE determines that mitigation is appropriate based on analysis of the data, consultation with ODFW, and consideration of any other significant information available at the time. In addition, ODOE may determine that mitigation is appropriate if fatality rates for individual avian or bat species (especially State Sensitive Species) are higher than expected and at a level of biological concern. If ODOE determines that mitigation is appropriate, the Certificate Holder, in consultation with ODOE and ODFW, shall propose mitigation measures designed to benefit the affected species. Acceptable mitigation may include, but is not limited to, contributions to wildlife rehabilitators, funding of research by third parties on local raptor populations, or habitat mitigation. This may take into consideration whether the mitigation required or provided in conjunction with raptor nest monitoring, habitat mitigation, or other components of the Wildlife Monitoring and Mitigation Plan or Habitat Mitigation Plan, would also benefit the affected species.

The Certificate Holder shall implement mitigation as approved by ODOE, subject to review by ~~the Council~~EFSC. ODOE may recommend additional, targeted data collection if the need for mitigation is unclear based on the information available at the time. The Certificate Holder shall implement such data collection as approved by ~~the Council~~EFSC.

The Certificate Holder shall design mitigation to benefit the affected species group. Mitigation may include, but is not limited to, protection of nesting habitat for the affected group of native species through a conservation easement or similar agreement. Tracts of land that are intact and functional for wildlife are preferable to degraded habitat areas. Preference should be given to protection of land that would otherwise be subject to development or use that would diminish the wildlife value of the land. In addition, mitigation measures might include: enhancement of the protected tract by weed removal and control; increasing the diversity of native grasses and forbs; planting sagebrush or other shrubs; constructing and maintaining artificial nest structures for raptors; improving wildfire response; and conducting or making a contribution to research that will aid in understanding more about the affected species and its conservation needs in the region.

If the data show that the threshold of concern for bat species as a group has been exceeded, the Certificate Holder shall implement mitigation if ODOE determines that mitigation is appropriate based on analysis of the data, consultation with ODFW, and consideration of any other significant information available at the time. For example, if the threshold for bat species as a group is exceeded, the Certificate Holder may contribute to Bat Conservation International or to a Pacific Northwest bat conservation group to fund new or ongoing research in the Pacific Northwest to better understand wind facility impacts to bat species and to develop possible ways to reduce impacts to the affected species.

4.0 Raptor Nest Surveys

The objectives of raptor nest surveys are: (1) count raptor nests on the ground or aboveground in trees or other aboveground nest locations in the vicinity of the facility; and (2) to determine whether there are noticeable changes in nesting activity or nesting success in the local populations of the following raptor species: Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk (*Buteo regalis*).

The Certificate Holder shall conduct short-term and long-term monitoring. The investigators will use aerial and ground surveys to evaluate nest success by gathering data on active nests, on nests with young, and on young fledged. The Certificate Holder shall hire independent third-party investigators to perform raptor nest surveys.

4.1 Short-Term Monitoring

Short-term monitoring will be done in two monitoring seasons. The first monitoring season will be in the first raptor nesting season after completion of construction of the facility. The second monitoring season will be in the fourth year after construction is completed. The Certificate Holder shall provide a summary of the first-year results in the monitoring report described in Section 6.0. After the second monitoring season, the investigators will analyze two years of data compared to the baseline data.

During each monitoring season, the investigators will conduct a minimum of one aerial and one ground survey for raptor nests in late May or early June and additional surveys as described in this section. The survey area is the area within the facility site and a 2-mile buffer zone around the site. For the ground surveys while checking for nesting success (conducted within the facility site and up to a maximum of ½ mile from the facility site), nests outside the leased project boundary will be checked from an appropriate distance where feasible, depending on permission from the landowner for access.

All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. Global positioning system (GPS) coordinates will be recorded for each nest. Locations of inactive nests will be recorded because they could become occupied during future years.

Determining nest occupancy may require one or two visits to each nest. Aerial surveys for nest occupancy will be conducted within the facility site and a 2-mile buffer. For occupied nests, the Certificate Holder will determine nesting success by a minimum of one ground visit to determine the species, number of young and young fledged within the facility site and up to 0.5 miles from the facility site. "Nesting success" means that the young have successfully fledged (the young are independent of the core nest site).

4.2 Long-Term Monitoring

In addition to the two years of post-construction short-term raptor nest surveys described in Section 4.1, the investigators shall conduct long-term raptor nest surveys at 5-year intervals for the life of the facility.⁶ Investigators will conduct the first long-term raptor nest survey in the raptor nesting season of the ninth year after construction is completed and will repeat the survey at 5-year intervals thereafter. In conducting long-term surveys, the investigators will follow the same survey protocols as described in Section 4.1 unless the investigators propose alternative protocols that are approved by ODOE. In developing an alternative protocol, the investigators will consult with ODFW and will take into consideration other raptor nest monitoring conducted in adjacent areas. The investigators will analyze the data—as a way of determining trends in the number of raptor breeding attempts the facility supports and the success of those attempts—and will submit a report after each year of long-term raptor nest surveys.

5.0 Wildlife ~~Reporting and Handling System~~ Response and Reporting System

The Certificate Holder has voluntarily developed a Wildlife ~~Reporting and Handling System~~ Response and Reporting System (WRRHS). The WRRHS as a proactive method of monitoring and recording birds and bats that are impacted by turbines at its facilities. This system has a specific set of processes, procedures, and training for monitoring, responding to, and reporting bird and bat injuries and fatalities at wind turbines that are tailored to each facility. The Certificate Holder has developed a WRRS Manual, which gives details of the program, and will be the manual by which operations personnel the WRRS program. The manual's purpose is to standardize the actions in response to any wildlife fatalities and/or injuries found within the Certificate Holder's facilities, regardless of their cause. The main points of the system are as follows:

- Any livestock or wildlife injury or fatality discovered within the facility boundaries will be reported immediately to the on-duty Site Supervisor.
- The lead or supervisor shall complete an incident report and take photographs.
- Wind Fleet Wildlife Program Manager shall be notified, and further actions will be determined at that time based on the species and circumstances surrounding the incident.
- If an endangered or threatened species is found dead or injured at the site, the Certificate Holder will immediately notify the USFWS-Region 1 Field Office of the discovery.

⁶ 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.

~~6.0— is a voluntary monitoring program to search for and handle avian and bat casualties found by maintenance personnel during operation of the facility. Objectives of the WRHS are to meet the standards specified in any other requirement (federal, state, county) for understanding and documenting species found over time. Maintenance personnel will be trained in the methods needed to carry out this program. This monitoring program includes the initial response, handling and reporting of bird and bat carcasses discovered incidental to maintenance operations. This is a voluntary program and may be discounted by the Certificate Holder at any time.~~

~~7.0— All avian and bat carcasses discovered by maintenance personnel will be photographed and data will be recorded as would be done for carcasses within the formal search sample during scheduled searches. If maintenance personnel discover incidental finds, the maintenance personnel will notify a project biologist. If the necessary permits have been acquired through appropriate state and federal wildlife agencies, the project biologist will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass.~~

~~8.0— During the years in which fatality monitoring occurs, if maintenance personnel discover incidental finds outside the search plots for the fatality monitoring searches, the data will be reported separately from fatality monitoring data. If maintenance personnel discover carcasses within search plots, the data will be included in the calculation of fatality rates. Maintenance personnel will notify a project biologist for any incidental finds.~~

9.06.0 Washington Ground Squirrel Monitoring

In compliance with the pre-construction condition PRE-TE-02, Washington ground squirrel (*Urocitellus washingtoni*) pre-construction surveys were performed to determine operations monitoring requirements. No Washington ground squirrel colonies were identified during pre-construction surveys; therefore, no monitoring is planned at this time. However, if new colonies are located during other monitoring activities or incidentally during operations, the Certificate Holder shall document and delineate the colonies, and shall amend the WMMP with a Washington ground squirrel monitoring program in consultation with ODOE.

10.07.0 Data Reporting

The Certificate Holder will report wildlife monitoring data and analysis to ODOE for each calendar year in which wildlife monitoring occurs. Monitoring data include fatality monitoring program data, raptor nest survey data, and WRHS data. The Certificate Holder may include the reporting of wildlife monitoring data and analysis in the annual report required under OAR 345-026-0080 or submit this information as a separate document at the same time the annual report is submitted. In addition, the Certificate Holder shall provide to ODOE any data or record generated in carrying out this monitoring plan upon request by ODOE.

The Certificate Holder shall notify USFWS and ODFW if any federal or state endangered or threatened species are killed or injured on the facility site within 48-24 hours of species identification.

11.08.0 Amendment of the Plan

This WMMP may be amended from time to time by agreement of the Certificate Holder and ~~the Council~~EFSC. Such amendments may be made without amendment of the site certificate. ~~The Council~~EFSC authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this plan. ODOE shall notify ~~the Council~~EFSC of all amendments and mitigation actions, and ~~the Council~~EFSC retains the authority to approve, reject or modify any amendment of this plan or mitigation action agreed to by ODOE.

9.0 References

EFSC (Energy Facility Siting Council). 2017a. Site Certificate for the Wheatridge Wind Energy Facility. Issued April 28, 2017.

EFSC. 2017b. First Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued July 27, 2017.

EFSC. 2018a. Second Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued, November 16, 2018.

EFSC. 2018b. Third Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued December 14, 2018.

EFSC. 2019. Fourth Amended Site Certificate for the Wheatridge Wind Energy Facility. Issued November 22, 2019.