

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

In the Matter of Request for Amendment 2 for the  
Shepherds Flat South Site Certificate

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)  
FINAL ORDER ON  
REQUEST FOR AMENDMENT 2 TO  
THE SITE CERTIFICATE

January 24, 2020

1	<b>Table of Contents</b>	
2	<b>I. INTRODUCTION</b> .....	<b>4</b>
3	<b>I.A. NAME AND ADDRESS OF CERTIFICATE HOLDER</b> .....	<b>4</b>
4	<b>I.B. DESCRIPTION OF THE APPROVED FACILITY AND FACILITY LOCATION</b> .....	<b>5</b>
5	<b>I.C. PROCEDURAL HISTORY</b> .....	<b>7</b>
6	<b>II. AMENDMENT PROCESS</b> .....	<b>7</b>
7	<b>II.A. REQUESTED AMENDMENT</b> .....	<b>7</b>
8	<b>II.B. RECOMMENDED AMENDED SITE CERTIFICATE FORMAT</b> .....	<b>8</b>
9	<b>II.C. AMENDMENT REVIEW PROCESS</b> .....	<b>8</b>
10	<b>II.D. COUNCIL REVIEW PROCESS</b> .....	<b>10</b>
11	<b>II.E. APPLICABLE DIVISION 27 RULE REQUIREMENTS</b> .....	<b>10</b>
12	<b>III. REVIEW OF THE REQUESTED AMENDMENT</b> .....	<b>11</b>
13	<b>III.A. STANDARDS POTENTIALLY IMPACTED BY REQUEST FOR AMENDMENT 2</b> .....	<b>11</b>
14	III.A.1 General Standard of Review: OAR 345-022-0000 .....	11
15	III.A.2 Organizational Expertise: OAR 345-022-0010 .....	15
16	III.A.3 Structural Standard: OAR 345-022-0020 .....	18
17	III.A.4 Soil Protection: OAR 345-022-0022 .....	21
18	III.A.5 Land Use: OAR 345-022-0030.....	23
19	III.A.6 Fish and Wildlife Habitat: OAR 345-022-0060.....	30
20	III.A.7 Public Services: OAR 345-022-0110.....	35
21	III.A.8 Waste Minimization: OAR 345-022-0120.....	39
22	III.A.9 Division 24 Standards .....	41
23	III.A.10 Other Applicable Regulatory Requirements Under Council Jurisdiction .....	47
24	<b>III.B. STANDARDS NOT LIKELY TO BE IMPACTED BY REQUEST FOR AMENDMENT 2</b> .....	<b>53</b>
25	III.B.1 Protected Areas: OAR 345-022-0040.....	55
26	III.B.2 Retirement and Financial Assurance: OAR 345-022-0050 .....	56
27	III.B.3 Threatened and Endangered Species: OAR 345-022-0070 .....	57
28	III.B.4 Scenic Resources: OAR 345-022-0080 .....	57
29	III.B.5 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090 .....	57
30	III.B.6 Recreation: OAR 345-022-0100 .....	58
31	III.B.7 Division 23 Standards .....	58
32	III.B.8 Siting Standards for Transmission Lines: OAR 345-024-0090 .....	58
33	III.B.9 Removal-Fill .....	59
34	III.B.10 Water Rights .....	59
35	<b>IV. FINAL CONCLUSIONS AND ORDER</b> .....	<b>60</b>
36		
37		
38		
39		

1	<b>Figures</b>	
2	Figure 1: Facility Regional Location .....	6
3		
4		
5	<b>Tables</b>	
6	Table 1: Gilliam County Applicable Substantive Criteria .....	26
7	Table 2: Morrow County Applicable Substantive Criteria .....	28
8	Table 3: Estimated Acreage of the Proposed RFA2 Facility Repower .....	31
9	Table 4: Statistical Noise Limits for Industrial and Commercial Noise Sources.....	50
10	Table 5: Summary of Council Standards Not Likely Impacted by RFA2.....	53
11		
12	<b>Attachments</b>	
13	Attachment A: Amended Site Certificate	
14	Attachment B: Reviewing Agency Comments on preliminary RFA2	
15	Attachment C: Draft Proposed Order Comments	
16	Attachment D: Revegetation Plan	
17	Attachment E: Wildlife Monitoring and Mitigation Plan	
18	Attachment F: Habitat Mitigation Plan	
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1 **I. INTRODUCTION**

2  
3 The Oregon Energy Facility Siting Council issues this final order, in accordance with Oregon  
4 Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-0365, based  
5 on its review of Request for Amendment 2 (RFA2) to the Shepherds Flat South site certificate.  
6 The certificate holder for the facility is Horseshoe Bend Wind, LLC, a wholly owned subsidiary of  
7 Caithness Shepherds Flat, LLC, a subsidiary of Caithness Energy, LLC.

8  
9 The certificate holder requests the Energy Facility Siting Council (EFSC or Council) to approve  
10 the following changes to the facility and site certificate:

- 11
- 12 • Upgrade (or repower) the existing facility wind turbines by replacing blades for longer  
13 and lighter blades and associated machinery on the existing turbine towers;
  - 14 • Construct temporary access road, temporary access road improvement and laydown  
15 areas; and,
  - 16 • Amend a site certificate condition (Existing Condition 26, related to above-ground blade  
17 tip clearance).<sup>1</sup>
- 18

19 Based upon the Council’s review of RFA2, and in conjunction with comments and  
20 recommendations received by state agencies and local government entities, the Council  
21 approves and grants an amendment to the Shepherds Flat South site certificate subject to the  
22 existing operational and new pre-construction and construction conditions set forth in this  
23 order. One public comment, and three reviewing agency comments were received during the  
24 draft proposed order comment period. Changes to findings of fact and recommended  
25 conclusions are presented in the applicable sections of this proposed order.

26  
27 **I.A. Name and Address of Certificate Holder**

28  
29 Horseshoe Bend Wind, LLC  
30 565 Fifth Avenue, 29th Floor  
31 New York, NY 10017

32  
33 ***Parent Company of the Certificate Holder***

34  
35 Caithness Energy, LLC  
36 565 Fifth Avenue, 29th Floor

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<sup>1</sup> The proposed upgrade or repower of the existing wind turbines would result in a change in wind turbine blade tip height from 135 to 150 meters. However, existing site certificate Condition 26 authorizes a maximum blade tip height of 150 meters, based on representations in the Application for Site Certificate (ASC); therefore, Council previously reviewed and authorized these impacts in the 2008 Final Order on ASC and therefore are not re-evaluated in this order.

1 New York, NY 10017

2

3 ***Certificate Holder Contact***

4

5 Vandana Gupta

6 Horseshoe Bend Wind, LLC

7 c/o Caithness Energy, LLC

8 565 Fifth Avenue, 29th Floor

9 New York, NY 10017

10

11 **I.B. Description of the Approved Facility and Facility Location**

12

13 Shepherds Flat South is a wind energy facility with approximately 116 wind turbines and a  
14 power generating capacity of 290 megawatts. The facility includes a 34.5 kV electrical collection  
15 system, a collector substation, a 230 kV interconnection transmission line, two meteorological  
16 towers, a field workshop, supervisory control and data acquisition system, and access roads.

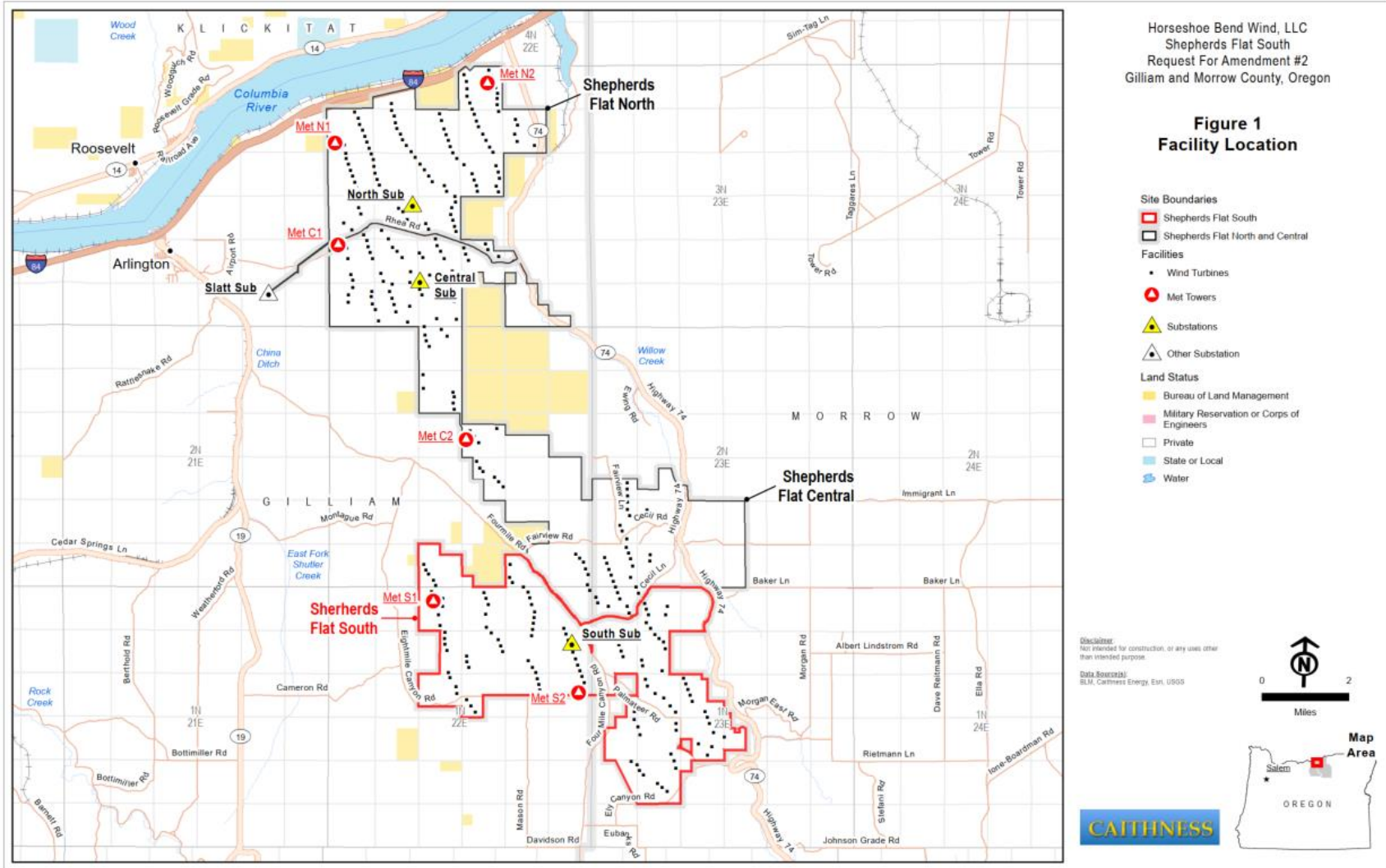
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18 As presented in Figure 1: *Facility Regional Location* below, the facility is located within a site  
19 boundary of approximately 15,928 acres, south of Interstate Highway 84, and east of Arlington.  
20 The facility is located in both Gilliam and Morrow Counties.

21

22

1 **Figure 1: Facility Regional Location**



2 Z:\936\0\Shepherds Flat\Reports\FID\_1\FID\_1 Facility Location\_30OUTH.mxd 9/23/2019

1 **I.C. Procedural History**  
2

3 The Council approved a site certificate for the Shepherds Flat Wind Facility on July 25, 2008,  
4 authorizing construction and operation of a 909 MW wind energy generation facility. The  
5 Council issued the First Amended Site Certificate on March 12, 2010, authorizing an expansion  
6 of the site boundary to accommodate an alternative route for the transmission line, and also  
7 divided and transferred the Shepherds Flat Wind Facility into three independent facilities -  
8 Shepherds Flat North, Shepherds Flat Central, and Shepherds Flat South.  
9

10 The procedural history of Request for Amendment 2 (RFA2 or amendment request) is described  
11 in Section II.C. *Amendment Review Process* of this order.  
12

13 **II. AMENDMENT PROCESS**  
14

15 **II.A. Requested Amendment**  
16

17 *Wind Turbine Repower*  
18

19 The certificate holder requests Council approval to upgrade (or repower) 116 existing wind  
20 turbines to current technology by replacing existing blades for longer turbine blades and  
21 associated wind turbine components on existing turbine towers. Wind turbine repowering  
22 would require trucks, small cranes or telehandlers, and a track mounted crane. The trucks  
23 would both deliver the new wind turbine components to the existing wind turbine pad sites,  
24 and transport the old components offsite for proper disposal or recycling at a licensed facility.  
25

26 Once the new wind turbines components are delivered via truck to each pad site, smaller  
27 cranes or telehandlers would unload and stage the components. A track mounted crane would  
28 then mobilize to the turbine pad area, setting up on the access road adjacent the turbine, and  
29 would lower the old rotor down to the pad site for disassembly, followed by the old gearbox.  
30 Once disassembled, the old components would be staged for truck removal. The track mounted  
31 crane would then lift the new gearbox and rotor into place. Once, complete, the track mounted  
32 crane would advance to the next wind turbine, and the process would repeat.  
33

34 The proposed RFA2 facility repower would not: increase the site boundary, result in permanent  
35 disturbance, or increase maximum blade tip height from the maximum authorized in the site  
36 certificate. The Department and Council note that the longer turbine blades would increase the  
37 blade-tip height and rotor diameter of the turbines within the parameters allowed by the site  
38 certificate.<sup>2</sup> The proposed RFA2 facility repower would allow each wind turbine to generate  
39 more electricity without increasing the permanent footprint of the facility, and the certificate  
40 holder states that the peak generating capacity of the facility would remain the same (290

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<sup>2</sup> Condition 26 authorizes a maximum blade tip height of 150 meters, based on representations in the Application for Site Certificate (ASC); therefore, Council previously reviewed and authorized these impacts in the 2008 Final Order on ASC and therefore are not further evaluated in this order.

1 MW). Replacing old turbine components with modern, more technologically advanced  
2 equipment would increase the capacity and efficiency of the facility by allowing the turbines to  
3 process low velocity winds that they currently cannot do as effectively.

4  
5 *Temporary Disturbance Impacts*

6  
7 The proposed RFA2 facility repower would include temporary laydown areas used to stage and  
8 store construction equipment, improvements to existing access roads and turbine pad areas,  
9 and temporary turnaround areas, resulting in approximately 125 acres of temporary  
10 disturbance.<sup>3</sup>

11  
12 *Amendment to a Site Certificate Condition*

13  
14 As a result of the proposed RFA2 facility repower, the certificate holder requests to amend  
15 Condition 26, to decrease the minimum blade tip clearance from 25 to 21.5 meters.

16  
17 **II.B. Recommended Amended Site Certificate Format**

18  
19 The existing site certificate, as amended in March 2010, contains two separate sections of  
20 conditions; the first section applying generally to the facility during design, construction,  
21 operation and retirement (Mandatory Conditions, Site Specific Conditions, and Construction  
22 and Operation Rules for Facilities), and the second section that applies specifically to the  
23 Shepherds Flat South facility. To minimize duplicity in the site certificate, the Council has  
24 deleted the OAR rule reference that prefaces each of the conditions in the first section of site  
25 certificate conditions as rule number references have changed over time and may change in the  
26 future.

27  
28 Based on the potential impacts from the proposed RFA2 facility repower, and for clarification  
29 during condition compliance, the Council has imposed specific conditions that would apply prior  
30 to and during construction of the proposed RFA2 facility modifications. Previously imposed  
31 operational and retirement conditions would continue to apply to the facility, with proposed  
32 changes, in their entirety. The new pre-construction and construction conditions are presented  
33 in Section V of the amended site certificate, provided as Attachment A to this order.

34  
35 **II.C. Amendment Review Process**

36  
37 Council rules describe the processes for transfers, Type A, Type B, and Type C review of a  
38 request for amendment at OAR 345-027-0351. The Type A review is the standard or “default”  
39 site certificate amendment process for changes that require an amendment. Type C review  
40 process is associated with construction-related changes. The key procedural difference  
41 between the Type A and Type B review is that the Type A review includes a public hearing on

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<sup>3</sup> SFSAMD2 Complete RFA 2019-12-26. The certificate holder represents that temporary disturbance would occur within areas previously disturbed during facility construction.



1 the draft proposed order and an opportunity for a contested case proceeding. The primary  
2 timing differences between Type A and Type B review are the maximum allowed timelines for  
3 the Department's determination of completeness of the preliminary request for amendment,  
4 as well as the issuance of the draft proposed order, and proposed order. It is important to note  
5 that Council rules authorize the Department to adjust the timelines for these specific  
6 procedural requirements, if necessary.

7  
8 A certificate holder may submit an amendment determination request to the Department for a  
9 written determination of whether a request for amendment justifies review under the Type B  
10 review process. The certificate holder has the burden of justifying the appropriateness of the  
11 Type B review process as described in OAR 345-027-0351(3). The Department may consider,  
12 but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether  
13 to process an amendment request under Type B review.

14  
15 On May 21, 2019, the certificate holder submitted a Type B Review amendment determination  
16 request (Type B Review ADR), requesting the Department's review and determination of  
17 whether, based on evaluation of the OAR 345-027-0357(8) factors, the amendment request  
18 could be reviewed under the Type B review process. On June 17, 2019 the Department  
19 responded to the certificate holder that there was insufficient supporting evidence or analysis  
20 to justify a Type B Review. On October 7, 2019, the certificate holder submitted its preliminary  
21 request for amendment 2 (pRFA2). On October 23, 2019, the Department determined that  
22 Request for Amendment 2 of the Shepherds Flat South Site Certificate justifies Type B review,  
23 based on the low level of complexity, the limited level of interest in the proposed changes  
24 anticipated by the Department, and the low likelihood of significant adverse impacts or  
25 additional mitigation from the proposed change.

26  
27 Pursuant to OAR 345-027-0363(2), on October 28, 2019, the Department determined pRFA2 to  
28 be incomplete and issued requests for additional information.<sup>4</sup> The certificate holder provided  
29 responses to the information request on November 8, 2019. After reviewing the responses to  
30 its information request, on December 26, 2019, the Department determined the RFA to be  
31 complete. Under OAR 345-027-0363(5), an RFA is complete when the Department finds that a  
32 certificate holder has submitted information adequate for the Council to make findings or  
33 impose conditions for all applicable laws and Council standards. The certificate holder  
34 submitted a complete RFA2 on December 26, 2019, which was then posted on December 27,  
35 2019 to the Department's project website with an announcement notifying the public that the  
36 complete RFA had been received and is available for viewing.

37  
38 *Reviewing Agency Comments on Preliminary Request for Amendment 2*

39  
40 As presented in Attachment B of this order, the Department received comments on pRFA2  
41 from:

- 42
- Oregon Department of Fish and Wildlife (ODFW)

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<sup>4</sup> SFSAMD2 Completeness Letter and RAI Table 2019-10-28.

- Oregon Department of Aviation (ODA)
- Gilliam County Planning Department

#### II.D. Council Review Process

On December 27, 2019, the Department issued the draft proposed order, and a notice of comment period on RFA2 and the draft proposed order (notice). The notice was distributed to all persons on the Council’s general mailing list, to the special mailing list established for the facility, to an updated list of property owners supplied by the certificate holder, and to a list of reviewing agencies as defined in OAR 345-001-0010(52). The comment period extended from December 27, 2019 through January 17, 2020.

The Department received four comments on the record of the draft proposed order; three comments from reviewing agencies (Oregon Department of Agriculture, Oregon Department of Environmental Quality, and Morrow County) and one public comment.<sup>5</sup> The one public comment, a letter from Mr. Vic Jansen, expressed support for the Shepherds Flat South RFA2 and the Draft Proposed Order on RFA2 as a neighboring land owner.

On January 21, 2020, the Department issued the proposed order. Concurrent with the issuance of this proposed order, the Department also issued a Public Notice of the proposed order.<sup>6</sup>

At its January 23-24, 2020 meeting in Hood River, Oregon, in accordance with OAR 345-027-0375, Council reviewed the proposed order and adopted the proposed order with modifications, as the final order and granted a second amended site certificate.

Judicial review of the Council’s final Order granting an amended site certificate shall be as provided in ORS 469.403.

#### II.E. 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 the proposed change would impair the certificate holder’s ability to comply with a site certificate condition, and would require new conditions or 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.

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<sup>5</sup> The ODA comment is discussed in Section II.A.6, *Fish and Wildlife Habitat*. The ODEQ comment is discussed in Sections III.A.4, *Soil Protection*, and III.A.7, *Public Services*. The Morrow County comment is discussed in Sections III.A.1, *General Standard of Review*, and III.A.8, *Waste Minimization*.

<sup>6</sup> See OAR 345-027-0371

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**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.” 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.

**III.A. Standards Potentially Impacted by Request for Amendment 2**

RFA2, as described throughout this order, solely requests authorization for a proposed upgrade (or repower) to the facility’s wind turbines, where blade replacement and nacelle modification would occur. In RFA2, the certificate holder describes the number of equipment and personnel that would be required for the proposed RFA2 facility repower, and potential impacts associated with the repowering activities. Based on the Council’s review of the RFA and of the previously evaluated impacts and imposed conditions, the following standards could be impacted by RFA2 and as such, are evaluated in this order.

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

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

1                   \* \* \*

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

8  
9                   **Findings of Fact**

10  
11                   OAR 345-022-0000 provides the Council’s General Standard of Review and requires the Council  
12                   to find that a preponderance of evidence on the record supports the conclusion that the  
13                   proposed facility modifications comply with the requirements of EFSC statutes and the siting  
14                   standards adopted by the Council and that the proposed facility modifications comply with all  
15                   other Oregon statutes and administrative rules applicable to the issuance of an amended site  
16                   certificate for the facility, with proposed changes. OAR 345-022-0000(2) and (3) apply to RFAs  
17                   where a certificate holder has shown that the proposed facility modifications cannot meet  
18                   Council standards or has shown that there is no reasonable way to meet the Council standards  
19                   through mitigation or avoidance of the damage to protected resources; and, for those  
20                   instances, establish criteria for the Council to evaluate in making a balancing determination. In  
21                   RFA2, the certificate holder has not represented that the proposed amendments cannot meet  
22                   an applicable Council standard. Therefore, OAR 345-022- 0000(2) and (3) would not apply to  
23                   this review.

24  
25                   The requirements of OAR 345-022-0000 are discussed in the sections that follow. The  
26                   Department consulted with other state agencies, Morrow County Planning Department on  
27                   Behalf of the Morrow County Board of Commissioners (Special Advisory Group), and the Gilliam  
28                   County Planning Department on behalf of the Gilliam County Board of Commissioners (Special  
29                   Advisory Group) during review of pRFA2 to aid in the evaluation of whether the proposed RFA2  
30                   facility repower would maintain compliance with statutes, rules and ordinances otherwise  
31                   administered by other agencies. Additionally, in many circumstances the Department and  
32                   Council rely upon these reviewing agencies’ special expertise in evaluating compliance with the  
33                   requirements of Council standards.

34  
35                   *Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-*  
36                   *025-0010]*

37  
38                   OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site  
39                   certificate. Council rulemaking moved the mandatory conditions from Division 27 to Division  
40                   25. Similarly, the site certificate conditions of OAR 345-025-0010 and -0015 were moved from  
41                   Division 27 to Division 25 as a result of a subsequent Council rule change. As such, the  
42                   Department recommends Council impose new mandatory conditions for the proposed RFA2  
43                   facility modifications, using the language and citations consistent with the current Division 25  
44                   rules, as presented in the draft amended site certificate and provided in Attachment A of this

1 order.<sup>7</sup> The Council also removes the rule reference from the beginning of each of the  
2 mandatory conditions to improve readability and avoid duplication. Additionally, the Council  
3 makes minor edits to the site certificate to remove unnecessary and inaccurate references (e.g.,  
4 references to “pipelines,” when the facility is not a pipeline).

5  
6 Council previously imposed Condition 26 to align with OAR 345-025-0006(3)(a), which requires  
7 that the certificate holder design, construct, operate, and retire the facility substantially as  
8 described in the ASC. In this condition, Council previously established wind turbine dimension  
9 specifications associated with an impact evaluated under a Council standard, such as maximum  
10 blade tip height, and minimum aboveground blade tip clearance. As described in Section II.A.  
11 *Requested Amendment*, the certificate holder requests Council’s approval to amend Condition  
12 26 to authorize a lower minimum aboveground blade tip clearance, from 25 to 21.5 meters.  
13 This is further evaluated below in Section III.A.10.1 *Public Health and Safety Standards for Wind*  
14 *Energy Facilities* of this order.

15  
16 *Certificate Expiration [OAR 345-027-0013]*

17  
18 A site certificate, or amended site certificate, becomes effective upon execution by the Council  
19 Chair and the certificate holder. A site certificate, or amended site certificate, expires if  
20 construction has not commenced on or before the construction commencement deadline, as  
21 established in the site certificate and statutorily required under ORS 469.401(2).

22  
23 The Department’s recommendation for the imposition of construction deadlines in the  
24 amended site certificate should reflect a balance between any concern regarding potential  
25 circumstantial changes (regulatory and environmental) and the individual circumstances of the  
26 amendment request. In addition, the Department acknowledges that there are a number of  
27 unforeseen factors that can delay a certificate holder’s commencement of construction and  
28 completion, including but not limited to financial, economic, or technological changes. The  
29 Department notes that while each amendment request is evaluated on its own facts, historic  
30 Council decisions on construction and commencement deadlines were reviewed to inform this  
31 analysis. In most instances of decisions on Application for Site Certificates (ASCs), Council has  
32 required construction commencement and completion of wind energy facilities within three  
33 and six years, respectively, after the effective date of the site certificate and in some instances  
34 the completion deadline is established based on date of construction commencement and not  
35 effective date of site certificate.

36  
37 On the record of the DPO, the Department received a comment from Morrow County, which  
38 requested minor changes be made to Conditions 104 and 105, to include coordination  
39 requirements with the Morrow County Planning Department for the notification of both the  
40 construction commencement and completion dates for the facility modifications, as approved

---

<sup>7</sup> Council adopted temporary rules on August 22, 2019, which include OAR 345, Division 25, as part of Order EFSC 9-2019.

1 in Request for Amendment 2.<sup>8</sup> In response to their request, the Department recommends that  
2 Conditions 104 and 105 be amended to require the certificate holder to include Morrow County  
3 when notifying the Department of both the construction commencement and completion dates  
4 for the facility modifications, as approved in Request for Amendment 2.

5  
6 In RFA2 Section 6.13 *Public Services*, the certificate holder explains that proposed RFA2 facility  
7 repower activities would be completed on a rolling schedule, and are assumed to be completed  
8 within a duration of 7 months. The Council grants a construction commencement and  
9 completion deadline based upon three years following the amended site certificate execution  
10 date and an additional three years following date of construction commencement. This  
11 timeframe would provide sufficient time for satisfying preconstruction condition requirements  
12 established in the amended site certificate, allow sufficient time to obtain required permits not  
13 governed by the site certificate, and would be consistent with past Council requirements.<sup>9</sup>

14  
15 In accordance with OAR 345-025-0006(4), Council imposes the following conditions:<sup>10</sup>

16  
17 **Condition 104:** The certificate holder shall begin construction of the Shepherds Flat South  
18 facility modifications, as approved in the Second Amended Site Certificate, within three  
19 years after the effective date of the amended site certificate [TBD]. The certificate holder  
20 shall notify the Department, the Morrow County Planning Department, and the Gilliam  
21 County Planning Department when construction of the facility modifications, as approved  
22 in Request for Amendment 2, commences. Under OAR 345-015-0085(8), the amended site  
23 certificate is effective upon execution by the Council Chair and the certificate holder.  
24 [Amendment 2]

25  
26 **Condition 105:** The certificate holder shall complete construction of the Shepherds Flat  
27 South facility modifications, as approved in the Second Amended Site Certificate, within  
28 three years following the date of construction commencement [TBD]. The certificate  
29 holder shall promptly notify the Department, the Morrow County Planning Department,  
30 and the Gilliam County Planning Department of the date of completion of construction of  
31 the facility modifications, as approved in Request for Amendment 2.  
32 [Amendment 2]

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<sup>8</sup> SFSAMD2 Public Comment (Morrow Co) 2020-01-17

<sup>9</sup> SFSAMD2 Complete RFA 2019-12-26, Section 4.1 *Required Permits* indicates that an updated Notice of Proposed Construction or Alteration has both been submitted to and received from the Federal Aviation Administration for the turbine specification changes. The certificate holder also explains that if determined to be necessary, a National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit 1200-C (per Condition 73) will be obtained, and that no other permits will be required.

<sup>10</sup> At its January 23-24, 2020 meeting, the Council reviewed the Department's proposed order and all comments received on the record of the draft proposed order. Council adopted the Proposed order, with modifications, as its Final Order. Council included the requirement for the certificate holder to also include Gilliam County in the notification of construction commencement and completion dates. The amended condition would then require the certificate holder to not only notify the Department of these dates, but also the two counties in which the facility is located.

1  
2 *Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]*

3  
4 The Council has adopted rules at OAR Chapter 345, Division 26 to ensure that construction,  
5 operation, and retirement of facilities are accomplished in a manner consistent with the  
6 protection of the public health, safety, and welfare and protection of the environment. These  
7 rules include requirements for compliance plans, inspections, reporting and notification of  
8 incidents. Pursuant to OAR 345-026-0080, a certificate holder is obligated to report to the  
9 Department on facility status and operational experience.

10  
11 **Conclusions of Law**

12  
13 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with  
14 the recommended conditions, the Council finds that the certificate holder would satisfy the  
15 requirements of OAR 345-022-0000.

16  
17 **III.A.2 Organizational Expertise: OAR 345-022-0010**

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

30  
31 *(2) The Council may base its findings under section (1) on a rebuttable presumption that an*  
32 *applicant has organizational, managerial and technical expertise, if the applicant has an*  
33 *ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate*  
34 *the facility according to that program.*

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

1 (4) *If the applicant relies on a permit or approval issued to a third party and the third party*  
2 *does not have the necessary permit or approval at the time the Council issues the site*  
3 *certificate, the Council may issue the site certificate subject to the condition that the*  
4 *applicant shall not commence construction or operation as appropriate until the third*  
5 *party has obtained the necessary permit or approval and the applicant has a contract or*  
6 *other arrangement for access to the resource or service secured by that permit or*  
7 *approval.*

8  
9 **Findings of Fact**

10  
11 Subsections (1) and (2) of the Council’s Organizational Expertise standard require that the  
12 applicant (certificate holder) demonstrate its ability to design, construct operate and retire the  
13 facility with proposed changes in compliance with Council standards and all site certificate  
14 conditions, and in a manner that protects public health and safety, as well as its ability to  
15 restore the facility site to a useful, non-hazardous condition. The Council may consider the  
16 certificate holder’s experience and past performance in constructing, operating and retiring  
17 other facilities in determining compliance with the Council’s Organizational Expertise standard.  
18 Subsections (3) and (4) address third party permits.

19  
20 *Compliance with Council Standards and Site Certificate Conditions*

21  
22 The Council may consider a certificate holder’s past performance, including but not limited to  
23 the quantity or severity of any regulatory citations in the construction or operation a facility,  
24 type of equipment, or process similar to the facility, in evaluating whether a proposed change  
25 may impact the certificate holder’s ability to design, construct and operate a facility, with  
26 proposed changes, in compliance with Council standards and site certificate conditions.<sup>11</sup>

27  
28 The certificate holder, Horseshoe Bend Wind, LLC, as a wholly owned subsidiary of Caithness  
29 Energy, LLC (Caithness), relies upon the organizational expertise and experience of its parent  
30 company, Caithness. In RFA2, the certificate holder explains that Caithness and its subsidiaries  
31 have not received any regulatory citations in the course of constructing and operating wind  
32 energy facilities. Furthermore, the certificate holder describes Caithness’ direct and relevant  
33 experience to perform upgrading/repowering tasks at the facility through its experience in wind  
34 farm site development, wind farm operation and maintenance (O&M) activities, and staff wind  
35 farm repower experience. Caithness has experience developing and selling wind assets which  
36 required much larger construction activities than repowering. Provided in RFA2, the certificate  
37 holder explains that the Shepherds Flat Management team has industry experience in full  
38 repower construction, including the replacement of all turbine components including towers  
39 with new components at other wind facilities. Additionally, because the facility is currently

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<sup>11</sup> OAR 345-021-0010(1)(d)(D)



1 operational, activities including turbine component replacement (including blades and nacelles)  
2 occur as part of routine operations and maintenance.

3  
4 Based on the compliance history of the certificate holder and its parent company, the Council  
5 finds that the proposed RFA2 facility repower would not impact the certificate holder's ability  
6 to design, construct, operate and retire the facility in compliance with Council standards and  
7 site certificate conditions.

8  
9 *Public Health and Safety*

10  
11 The proposed RFA2 facility repower could result in health and safety risks from blade failure,  
12 structural and reliability concerns, ice throw, risks to public and private providers of air  
13 transportation and agricultural services. The evaluation of these risks is presented in Section  
14 III.A.8, *Public Services* and Section III.A.10.1, *Public Health and Safety Standards for Wind*  
15 *Facilities* of this order. Based on the reasoning and analysis provided in the sections described,  
16 the Council finds that the proposed RFA2 facility repower, including the change to minimum  
17 aboveground blade tip clearance would not impact the certificate holder's ability to design,  
18 construct, and operate the facility in a manner that protects public health and safety.

19  
20 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

21  
22 As described in Table 4 of Section III.B, *Standards Not Likely to be Impacted by Request for*  
23 *Amendment 2*, the proposed RFA2 facility repower would not be expected to impact the  
24 certificate holder's ability to restore the facility site to a useful, non-hazardous condition.

25  
26 *ISO 900 or ISO 14000 Certified Program*

27  
28 OAR 345-022-0010(2) is not applicable because the certificate holder has not proposed to  
29 design, construct or operate the amended facility according to an ISO 9000 or ISO 14000  
30 certified program.

31  
32 *Third-Party Permits*

33  
34 OAR 345-022-0010(3) addresses the requirements for potential third party permits. In RFA2,  
35 the certificate holder describes that the proposed RFA2 facility repower would not require  
36 any additional third-party permits that would normally be governed by the site certificate.

37  
38 **Conclusions of Law**

39  
40 Based on the evidence in the record, the Council finds that the certificate holder would  
41 continue to satisfy the requirements of the Council's Organizational Expertise standard.

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

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

5  
6            *(a) The applicant, through appropriate site-specific study, has adequately*  
7            *characterized the seismic hazard risk of the site;*

8  
9            *(b) The applicant can design, engineer, and construct the facility to avoid dangers to*  
10           *human safety and the environment presented by seismic hazards affecting the*  
11           *site, as identified in subsection (1)(a);*

12  
13           *(c) The applicant, through appropriate site-specific study, has adequately*  
14           *characterized the potential geological and soils hazards of the site and its vicinity*  
15           *that could, in the absence of a seismic event, adversely affect, or be aggravated*  
16           *by, the construction and operation of the proposed facility; and*

17  
18           *(d) The applicant can design, engineer and construct the facility to avoid dangers to*  
19           *human safety and the environment presented by the hazards identified in*  
20           *subsection (c).*

21  
22        *(2) The Council may not impose the Structural Standard in section (1) to approve or deny*  
23           *an application for an energy facility that would produce power from wind, solar or*  
24           *geothermal energy. However, the Council may, to the extent it determines*  
25           *appropriate, apply the requirements of section (1) to impose conditions on a site*  
26           *certificate issued for such a facility.*

27  
28        *(3) The Council may not impose the Structural Standard in section (1) to deny an*  
29           *application for a special criteria facility under OAR 345-015-0310. However, the*  
30           *Council may, to the extent it determines appropriate, apply the requirements of*  
31           *section (1) to impose conditions on a site certificate issued for such a facility.*

32  
33        **Findings of Fact**

34  
35        As provided in section (1) above, the Structural Standard generally requires the Council to  
36        evaluate whether the applicant (certificate holder) has adequately characterized the potential  
37        seismic, geological and soil hazards of the site, and that the applicant (certificate holder) can  
38        design, engineer and construct the facility to avoid dangers to human safety from these  
39        hazards.<sup>12</sup> Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a wind  
40        energy facility without making findings regarding compliance with the Structural Standard;

---

<sup>12</sup> OAR 345-022-0020(3) does not apply to the facility, with proposed changes, because it is a not a special criteria facility under OAR 345-015-0310.

1 however, the Council may apply the requirements of the standard to impose site certificate  
2 conditions. The analysis area for the Structural Standard is the area within the site boundary.

3  
4 In accordance with the informational requirements established in OAR 345-021-0010(1)(g)(B),  
5 the certificate holder completed consultation with the Oregon Department of Geology and  
6 Mineral Industries (DOGAMI) on August 20, 2019 to discuss the scope of the repowering activity  
7 and appropriate level of seismic and non-seismic impact evaluation. During consultation,  
8 DOGAMI Resilience Engineer, Yumei Yang, P.E., requested information on how seismic ground  
9 motions that exceed the building code response spectrum would be addressed and requested  
10 disaster resilience and future climate change be addressed.<sup>13</sup>

11  
12 *Potential Seismic, Geological and Soil Hazards*

13  
14 In RFA2, in response to the DOGAMI consultation, the certificate holder explains that although  
15 highly unlikely given the lack of recent activity, potential sources of long-period ground motions  
16 could include a significant event at or near recent faults associated with the Arlington-Shulter  
17 Butte faults and Columbia Hills structure as identified in the 2007 Seismic Hazard Assessment.  
18 The Seismic Hazard Assessment was conducted as part of the original ASC (Shannon & Wilson,  
19 Inc. 2007). Given adequate seismic design, the potential impacts of long-period ground motions  
20 are not expected to impact the proposed RFA2 facility repower.

21  
22 *Design, Engineer and Construct Facility to Avoid Dangers to Human Safety from Seismic and*  
23 *Non-Seismic Hazards*

24  
25 The certificate holder has presented evidence in RFA2 that it can design, engineer, and  
26 construct the proposed RFA2 facility repower to avoid dangers to human safety and the  
27 environment in accordance with the Council's Structural Standard. The proposed repowering  
28 activity would include the removal and replacement of existing turbine blades with longer  
29 blades, and the replacement and modification to associated machinery including the rotor  
30 upgrade (replacing the hub casting), modification to existing nacelles roof, and an installation of  
31 a new gearbox and bedplate.

32  
33 The existing turbine foundation and tower would remain in place. To demonstrate that the  
34 proposed RFA2 facility repower would be designed, engineered and constructed to avoid  
35 dangers to human safety from seismic and non-seismic hazards, in Section 6.3 of RFA2, the  
36 certificate holder explains that a foundation uprate analysis will be conducted on turbines  
37 within the Facility, to review the original foundation calculations with the new loading  
38 documents to verify whether the existing turbine foundations can support the newly proposed  
39 loading. Moreover, the evaluation will be conducted by a licensed engineer using current code  
40 requirements and state-of-practice methods and will be provided to the Department and  
41 DOGAMI. The findings and analysis of the upgrade analysis will be reviewed by the Caithness

---

<sup>13</sup> In 2017 Council updated a number of its mandatory conditions related to seismic hazards and safety. The Department has incorporated these updates to existing site certificate conditions 12, 13, and 14.

1 engineering staff, from which any necessary mitigation and remediation measures, or  
2 operational timing recommendations may be identified. Based on potential mitigation and  
3 remediation measures, or timing recommendations as a result of the foundation uprate  
4 analysis, the Council imposes condition 106 as follows:

5  
6 **Recommended Condition 106:** Prior to Amendment #2 facility repower activities, the  
7 certificate holder shall provide the Department with the foundation uprate analysis on  
8 facility turbines. If the analysis results identify necessary mitigation and remediation  
9 measures, or operational timing recommendations, the certificate holder shall  
10 implement the identified measures and recommendations prior to beginning the  
11 repowering activities unless otherwise approved by the Department.  
12 [Amendment #2]

13  
14 Council previously imposed Condition 62, which requires the certificate holder to have an  
15 operational safety-monitoring program and shall inspect all turbine and turbine tower  
16 components on a regular basis. The certificate holder shall maintain or repair turbine and  
17 turbine tower components as necessary to protect public safety. In RFA2, the certificate holder  
18 proposes an amendment to Condition 62, to require an inspection of all turbine and turbine  
19 tower components within 6 months of being repowered, in an effort to focus the operational  
20 inspection process and procedures on the applicable proposed RFA2 facility repower  
21 components. As such, the Council amend Condition 62 as provided below:

22  
23 **Recommended Amended Condition 62:** The certificate holder shall have an operational  
24 safety-monitoring program and shall inspect all turbine and turbine tower components  
25 on a regular basis. All turbine and turbine tower components will be inspected within 6  
26 months of being repowered. Following the inspection, the certificate holder shall submit  
27 a written report to the Department describing the results of the turbine tower  
28 component inspection. The certificate holder shall maintain or repair turbine and  
29 turbine tower components as necessary to protect public safety. [Amendment #2]

30  
31 *Integration of Disaster Resilience Design*

32  
33 In RFA2, the certificate holder explains that although disaster resilience and climate change  
34 impacts were not addressed in the original ASC, the facility has been in operation for 8 years,  
35 and during that time, climate change has not impacted the facility. Disasters such as those  
36 relating to greater-intensity rainfall events, fluctuations in typical annual snowpack (above or  
37 below normal), and warmer average annual temperatures, are not anticipated to have a  
38 major impact on the geologic, geotechnical, and seismic conditions at the Facility.  
39 Furthermore, sea level rise will not affect the Facility due to its location.

40  
41 Additionally, in RFA2, the certificate holder explains that GE Renewables, a contractor that  
42 performs O&M activities at the facility, maintains an Emergency Preparedness and Fire  
43 Prevention Plan that outlines the procedures to effectively respond to lightening and high  
44 winds, icing on blades or external equipment, cold weather work, and EMS coordination

1 including on-site safety requirements and communication protocols. This Plan, which is  
2 updated on an annual basis was included as Attachment 4 of RFA2.

3  
4 Based upon compliance with both existing and proposed site certificate conditions, and  
5 because the proposed amendment would not result in the placement of facility components  
6 within geologic areas that have not been previously evaluated, the Department recommends  
7 that Council find that the proposed amendment would not affect the certificate holder's  
8 characterization of the site or seismic and non-seismic hazards, or its ability to design, engineer,  
9 and construct the facility to avoid dangers to human safety presented by seismic, geologic or  
10 soils hazards.

11  
12 **Conclusions of Law**

13  
14 Based on the foregoing analysis, subject to compliance with existing and recommended  
15 conditions, and in compliance with OAR 345-022-0020(2), the Council finds that the certificate  
16 holder would satisfy the requirements of the Council's Structural Standard.

17  
18 **III.A.4 Soil Protection: OAR 345-022-0022**

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

25  
26 **Findings of Fact**

27  
28 The Soil Protection standard requires the Council to find that the design, construction, and  
29 operation of a proposed facility, or facility with proposed changes, is not likely to result in  
30 significant adverse impacts to soils.

31  
32 The analysis area for the Soil Protection standard, as defined in the project order, includes the  
33 area within the site boundary.

34  
35 *Potential Significant Adverse Impacts to Soil*

36  
37 Potential impacts to soils within the analysis area (site boundary) could occur during  
38 construction and operation of the proposed RFA2 facility repower from spills or releases of  
39 chemicals or other liquid materials. The certificate holder explains that the RFA2 facility  
40 repower would temporarily impact approximately 125 acres, and that approximately 15 of the  
41 total 125 acres would require grading. In RFA2 Section 6.4 *Soil Protection*, the certificate holder  
42 explains that temporary disturbance would be minimized by utilizing previously disturbed  
43 areas, including roadways and turbine pads. To protect existing plant cover during construction,  
44 the certificate holder would avoid scraping vegetation from areas of temporary disturbance

1 (per Condition 76). Additionally, existing best management practices (BMPs) would be  
2 implemented to control any dust that is generated by upgrading activities, such as applying  
3 water to roads and disturbed soil areas (Condition 75). In a comment on the record of the DPO,  
4 ODEQ commented on the primary air emissions from the project, and generated from  
5 construction activities to include fugitive dust and combustion emissions.<sup>14</sup> In response to this  
6 comment, the Department notes that existing condition 75 requires the certificate holder to  
7 implement best management practices to control any dust generated by construction activities.  
8 As such, and to ensure that the requirements of Condition 75 apply to the repowering activities  
9 of RFA2, the Department recommends Council amend the condition as follows:

10  
11 **Recommended Amended Condition 75:** During construction, including the repowering  
12 activities associated with RFA2, the certificate holder shall implement best management  
13 practices to control any dust generated by construction activities, such as applying  
14 water to roads and disturbed soil areas.

15 [Amendment 2]

16  
17 Once the crane is removed from the site, the temporary, superficial disturbance would be  
18 revegetated according to Condition 77 and 84, as is routinely done as part of O&M activities.  
19 The Revegetation Plan is included as Attachment D to this Order.

20  
21 Traffic impacts would be minimized and managed by restricting facility modification activities to  
22 areas previously approved for both temporary and permanent impacts, and utilizing a rolling  
23 construction schedule in coordination with the Morrow County Road Department, and  
24 implementation of an executed road use agreement with both Gilliam County and Morrow  
25 County (per amended Condition 67). The certificate holder states that the approximate 125  
26 acres of temporary impact is less than 40 percent of the maximum temporary impacts  
27 previously approved in the Amendment #1. Council previously imposed Condition 74, which  
28 would continue to apply to the proposed RFA2 facility repower and would ensure that truck  
29 traffic would be limited to designated existing and improved road surfaces to avoid soil  
30 compaction, to the extent practicable.

31  
32 As mentioned above in Section II.A. *Requested Amendment*, the certificate holder states that if  
33 determined to be necessary, a National Pollutant Discharge Elimination System (NPDES) Storm  
34 Water Discharge General Permit 1200-C would be obtained from the Oregon Department of  
35 Environmental Quality (DEQ). The NPDES Storm Water Discharge Permit #1200-C would include  
36 an approved Erosion Sediment Control Plan (ESCP). Council previously imposed Condition 73,  
37 which would continue to apply to the proposed repowering activities of RFA2, and would  
38 ensure that a DEQ-issued 1200-C NPDES permit is obtained prior to construction and that  
39 erosion control measures are implemented in accordance with the ESCP, if determined to be  
40 necessary. To ensure that the requirements of Condition 73 apply to the repowering activities  
41 associated with RFA2, the Council amends Condition 73 as follows:

---

<sup>14</sup> SFSAMD2 DPO ODEQ comments (Breuner) 2020-01-16

1  
2 **Recommended Amended Condition 73:** The certificate holder shall conduct all  
3 construction work, including the repowering activities associated with Amendment #2, in  
4 compliance with an Erosion and Sediment Control Plan (ESCP) satisfactory to the Oregon  
5 Department of Environmental Quality and as required under the National Pollutant  
6 Discharge Elimination System (NPDES) Storm Water Discharge General Permit #1200-C.  
7 The certificate holder shall include in the ESCP any procedures necessary to meet local  
8 erosion and sediment control requirements or storm water management requirements.  
9 [Amendment #2]

10  
11 Potential impacts to soils from spills could occur during the repowering activities, however,  
12 previously imposed Condition 50 will continue to apply to the proposed RFA2 facility  
13 repowering, and would ensure that hazardous materials present on site, are handled in a  
14 manner that protects public health, safety, and the environment, and that applicable  
15 environmental laws and regulations are complied with. Previously imposed Condition 51,  
16 addressing the preparation for, and the response to spills and accidental releases of hazardous  
17 materials will also continue to apply to the repowering activities of RFA2.

18  
19 Based upon compliance with the existing site certificate conditions, the Council finds that the  
20 design, construction and operation of the proposed RFA2 facility repowering would not result in  
21 a significant adverse impact to soils.

22  
23 **Conclusions of Law**

24  
25 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with  
26 existing site certificate conditions, the Council finds that the proposed RFA2 repowering  
27 activities would comply with the Council's Soil Protection standard.

28  
29 **III.A.5 Land Use: OAR 345-022-0030**

30  
31 *(1) To issue a site certificate, the Council must find that the proposed facility complies with*  
32 *the statewide planning goals adopted by the Land Conservation and Development*  
33 *Commission.*

34  
35 *(2) The Council shall find that a proposed facility complies with section (1) if:*

36  
37 *(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a) and*  
38 *the Council finds that the facility has received local land use approval under the*  
39 *acknowledged comprehensive plan and land use regulations of the affected local*  
40 *government; or*

41  
42 *(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and*  
43 *the Council determines that:*  
44

1           (A) *The proposed facility complies with applicable substantive criteria as described in*  
2           *section (3) and the facility complies with any Land Conservation and*  
3           *Development Commission administrative rules and goals and any land use*  
4           *statutes directly applicable to the facility under ORS 197.646(3);*  
5

6           (B) *For a proposed facility that does not comply with one or more of the applicable*  
7           *substantive criteria as described in section (3), the facility otherwise complies*  
8           *with the statewide planning goals or an exception to any applicable statewide*  
9           *planning goal is justified under section (4); or*  
10

11           (C) *For a proposed facility that the Council decides, under sections (3) or (6), to*  
12           *evaluate against the statewide planning goals, the proposed facility complies*  
13           *with the applicable statewide planning goals or that an exception to any*  
14           *applicable statewide planning goal is justified under section (4).*  
15

\*\*\*

### 16 **Findings of Fact**

17

18 The Land Use standard requires the Council to find that the proposed RFA2 facility repower  
19 would continue to comply with local applicable substantive criteria, as well as the statewide  
20 planning goals adopted by the Land Conservation and Development Commission (LCDC).<sup>15</sup>  
21 Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if  
22 the Council finds that the proposed RFA2 facility repower, “complies with applicable  
23 substantive criteria from the affected local government’s acknowledged comprehensive plan  
24 and land use regulations that are required by the statewide planning goals and in effect on the  
25 date the application is submitted.” RFA2 was received on October 7, 2019.  
26

27 The analysis area for potential land use impacts, as defined in the project order, is the area  
28 within and extending ½-mile from the site boundary. The facility, as approved and with  
29 proposed changes, is located within the land use jurisdictions of Gilliam County and Morrow  
30 County. On behalf of and as authorized by the SAG, Gilliam and Morrow County Planning  
31 Directors identified applicable substantive criteria to be considered during the ASC phase and  
32 through subsequent amendment requests has identified changes in local code to be considered  
33 applicable substantive criteria.<sup>16</sup>  
34

### 35 **Facility Modifications**

36

37 In RFA2, the certificate holder requests Council approval to replace existing wind turbine blades  
38 and nacelles, or repower, up to 116 existing wind turbines, which would increase the maximum  
39 blade tip height and lower the minimum aboveground blade tip clearance. The proposed RFA2

---

<sup>15</sup> The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504.

<sup>16</sup> Under ORS 469.480(1), the Council must designate as a Special Advisory Group the governing body of any local government within whose jurisdiction the facility is proposed or proposed changes of a facility would be located.



1 facility repower would also result in approximately 125 acres of temporary disturbance within  
2 the previously approved site boundary.

3

4 Local Applicable Substantive Criteria

5

6 Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria  
7 recommended by the SAG. On August 25, 2006, during the review of the ASC, the Council  
8 Appointed the Gilliam County Court and the Morrow County Court (now Morrow County Board  
9 of Commissioners) as special advisory groups for the Shepherds Flat Wind Facility application  
10 review.<sup>17</sup>

11

12 The applicable substantive criteria for which the certificate holder must comply are established  
13 in the Gilliam County Zoning and Land Development Ordinance (GCZO) and Gilliam County  
14 Comprehensive Plan (GCCP), as updated and amended in 2017, as well as in the Morrow County  
15 Zoning Ordinance (MCZO) and Morrow County Comprehensive Plan (MCCP). The application  
16 criteria from GCZO and goals and policies from GCCP are presented below in Table 1, *Gilliam  
17 County Applicable Substantive Criteria*, and the application criteria from MCZO and goals and  
18 policies from the MCCP are presented below in Table 2, *Gilliam County Applicable Substantive  
19 Criteria*.

20

21 III.A.5.1 Gilliam County

22

---

<sup>17</sup> Although Amendment 1 to the Shepherds Flat Wind Facility divided the facility into three separate wind  
Facilities (Shepherds Flat North, Central and South), both Gilliam County Court and Morrow County Board of  
Commissioners (formerly the Morrow County Court) remain Special Advisory Groups for the Shepherds Flat South  
facility.

**Table 1: Gilliam County Applicable Substantive Criteria**

<b>Gilliam County Zoning and Land Development Ordinance (GCZO)</b>	
<i>Article 4 – Use Zones</i>	
Section 4.020	Exclusive Farm Use
Section D	Conditional Uses Permitted
Section J	Property Development Standards
<i>Article 7 – Conditional Uses</i>	
Section 7.010	Authorization to Grant or Deny Conditional Uses
Section A	General Approval Criteria
Section 7.020	Standards Governing Conditional Uses
Section A	Conditional Uses, Generally
Section Q	Conditional Uses in Exclusive Farm Use Zones
Section T	Wind Power Generation Facility Siting Requirements
<b>Gilliam County Comprehensive Plan (GCCP)</b>	
(Goal 2) Land Use Planning – Policy 7	
(Goal 3) Agricultural Lands – Policy 3	
(Goal 5) Natural Resources – Policies 2 and 12	
(Goal 6) Air, Water, and Land Resources Quality – Policies 6 and 7	
(Goal 8) Recreation – Policy 3	
(Goal 12) Transportation – Policies 10 and 14	
(Goal 13) Energy Conservation – Policy 3	

1  
 2 The Gilliam County applicable substantive criteria that are required for a new wind facility are  
 3 presented in Table 1: *Gilliam County Applicable Substantive Criteria* above. The portion of the  
 4 project within Gilliam County is located entirely within the Exclusive Farm Use zone (EFU). GCZO  
 5 Article 4 establishes that wind facilities for the primary purpose of generating power for public  
 6 use by sale are allowed subject to conditional use review, in addition to other referenced  
 7 standards. GCZO Article 7 covers conditional uses, including wind energy facilities located on  
 8 EFU-zoned land, such as the SFS facility.

9  
 10 At the time of the original site certificate issuance and the first site certificate amendment, the  
 11 Council approved the facility’s conditional use permit, and Gilliam County subsequently issued a  
 12 conditional use permit. Article 7, Section 7.020(T)(7)(c)(2) of the GCZO defines when an  
 13 amendment to a conditional use permit for a wind energy facility is required. It is noted that  
 14 the 2017 GCZO update includes specific code provisions that apply to wind energy facilities,  
 15 including turbine setback requirements and other criteria that were not in effect at the time of  
 16 the original site certificate authorization or the previous site certificate amendment approval.

17  
 18 There are two areas of the GCZO Article 7 that could apply to potential amendments to existing  
 19 conditional use permits. The first is the preamble language in Section 7.010:

20  
 21 *A conditional use listed in this ordinance shall be permitted, altered or denied in*  
 22 *accordance with the standards and procedures of this ordinance and this article by*

1            *action of the Planning Commission or Planning Director. In the case of a use existing*  
2            *prior to the effective date of this ordinance, and classified in this ordinance as a*  
3            *Conditional Use, a change in use or in lot area or an alteration of a Conditional Use, a*  
4            *change in use or in lot area or an alteration of structure shall conform with the*  
5            *requirements for a Conditional Use.*

6  
7            The second area is GCZO Article 7, Section 7.020(T)(7)(c)(2) governing the decision as to when  
8            an existing conditional use permit is required to be amended:

9  
10           *An amendment to the conditional use permit shall be required if proposed facility*  
11           *changes would:*

- 12           a.        *Increase the land area taken out of agricultural production by an additional 20*  
13                  *acres or more;*  
14           b.        *Increase the land area taken out of agricultural production sufficiently to trigger*  
15                  *taking a Goal 3 exception;*  
16           c.        *Require an expansion of the established facility boundaries;*  
17           d.        *Increase the number of towers;*  
18           e.        *Increase generator output by more than 25 percent relative to the generation*  
19                  *capacity authorized by the initial permit due to the repowering or upgrading of*  
20                  *power generation capacity.*

21  
22           Because GCZO Article 7, Section 7.020(T)(7)(c)(2) is the more specific language, it should be  
23           considered controlling, and the Department must only evaluate the criteria in subsections (a) –  
24           (e) to determine whether or not an amendment to the Gilliam County conditional use permit is  
25           required.

26  
27           Based on the record of the request for amendment 2, that RFA2 activities would not:

- 28           •        Increase the land area taken out of agricultural production;  
29           •        Require an expansion of the facility site boundary;  
30           •        Increase the number of turbine towers; or  
31           •        Increase generator output by more than 25 percent.

32  
33           Based on the findings presented here, the Council finds that the RFA2 activities would not  
34           trigger any of the criteria listed in (a)-(e), and as such, the RFA2 activities (repowering) would  
35           not require an amended conditional use permit. Council previously imposed site certificate  
36           Condition 40, requiring specific setback distances of facility components from residential  
37           properties, public roads, and the lease area. This condition continues to apply to RFA2 activities.

38  
39           **III.A.5.2 Morrow County**

40  
41           Table 2, *Morrow County Applicable Substantive Criteria*, below, summarizes the applicable  
42           substantive criteria that the Council previously evaluated and determined the certificate holder  
43           satisfied as well as any differentiation in current applicable substantive criteria.

1

**Table 2: Morrow County Applicable Substantive Criteria**

<b>Morrow County Zoning and Land Development Ordinance (GCZO)</b>		
<b><i>Final Order (July 25, 2008)</i></b>		<b><i>Current evaluation (amended November 1, 2018)</i></b>
<i>Article 1 – Use Zones</i>		
Section 1.050	Zoning Permit	Section 1.050
<i>Article 3 – Use Zones</i>		
	Exclusive Farm Use, EFU Zone	Section 3.010
Section 3.010(D)(16)	Conditional Uses Permitted	Section 3.010(C)(23)
Section 3.010(D)	Limitations on Conditional Uses	N/A
Section 3.010(G)	Dimensional Standards	N/A
Section 3.010(I)	Transportation Impacts	Section 3.010(N)
N/A	Commercial Facilities for Generating Power: Wind Power Generation Facility	Section 3.010(K)
<i>Article 6 – Conditional Uses</i>		
N/A	Authorization to Grant or Deny Conditional Uses	Section 6.010
Section 6.020	General Criteria	Section 6.020
N/A	Resource Zone Standards For Approval: In the Exclusive Farm Use Zone	Section 6.025(A)
Section 6.030	General Conditions	Section 6.030
Section 6.040	Permit and Improvements Assurance	Section 6.040
N/A	Standards Governing Conditional Uses: Commercial Use or accessory use not wholly enclosed within a building or a retail establishment	Section 6.050 (J)
<b>Morrow County Comprehensive Plan (MCCP)</b>		
Agricultural Policy 1 and 4 Energy Policies 3, 9 and 10		

2

3 The Council reviewed the applicable substantive criteria as presented in Table 2: *Morrow*  
4 *County Applicable Substantive Criteria*. The portion of the project within Morrow County is  
5 located entirely within the Exclusive Farm Use zone (EFU). MCZO Article 3 establishes that wind  
6 facilities for the primary purpose of generating power for public use by sale are allowed subject  
7 to conditional use review, in addition to other referenced standards. MCZO Article 6 covers  
8 conditional uses, including wind energy facilities located on EFU-zoned land, such as the  
9 Shepherds Flat South facility. As required, Morrow County previously issued a conditional use  
10 permit for the facility, based on the findings and direction of the Council. MCZO Section 6.010  
11 states that “an alteration of a structure shall conform with the requirements for a conditional  
12 use.” The proposed RFA2 facility repower would result in alterations to existing wind turbines,  
13 including changes in maximum blade tip height, aboveground blade tip clearance and

1 temporary disturbance, which the Council considers alterations of structures under Section  
2 6.010.

3  
4 Based on the Councils review of the amendment request, because the site boundary was  
5 previously approved and would not change, and RFA2 construction activities would be  
6 conducted on current or previously disturbed areas, and the site certificate contains a number  
7 of conditions and this order contains recommended new conditions that would apply to the  
8 facility as amended, the proposed RFA2 facility repower would not be expected to impact the  
9 certificate holder’s ability to satisfy requirements of the applicable substantive criteria listed  
10 above and would comply with the requirements for a conditional use, as required by MCZO  
11 Section 6.010. MCZO does not contain wind-facility specific setback requirements, though the  
12 requirements of site certificate Condition 40 continue to apply to the facility, as amended, in  
13 both Morrow and Gilliam Counties. In RFA2, the certificate holder asserts that the proposed  
14 RFA2 facility repower would comply with Condition 40.<sup>18</sup>

15  
16 The SFS facility is not located on high-value farmland soils. RFA2 activities would not be  
17 expected to negatively impact farming operations as the facility is already existing, and  
18 repowering construction will utilize existing roads and other previously-disturbed areas. Areas  
19 of temporary impact would be restored in accordance with recommended site certificate  
20 Condition 109 and the Revegetation Plan included as Attachment D. Condition 108 would  
21 require a Weed Control plan to be developed and implemented in consultation with both  
22 Morrow and Gilliam County weed control departments. Amended Condition 73 would require  
23 RFA2 activities be conducted in accordance with an Erosion and Sediment Control Plan as  
24 required by Oregon Department of Environmental Quality under the NPDES 1200-C permit.  
25 Finally, existing site certificate Conditions 36 and 37 continue to apply to the facility, as  
26 amended, and include requirements to consult with area landowners and lessees and  
27 implement measures to reduce or avoid adverse impacts to farm practices on surrounding  
28 lands, to avoid increases in farming costs, and to use the minimum land area necessary for safe  
29 facility construction and operation.

30  
31 Based on the findings presented here, and subject to compliance with existing and  
32 recommended new conditions, the Council finds that RFA2 facility repowering would comply  
33 with applicable substantive criteria from Morrow and Gilliam Counties, and as such, the facility  
34 would comply with the Council’s Land Use standard.

35  
36 **Conclusions of Law**

37  
38 Based on the foregoing findings and the evidence in the record, and subject to compliance with  
39 recommended new and existing site certificate conditions, the Council finds that the proposed  
40 RFA2 facility repower would continue to comply with the Land Use standard.

41

---

<sup>18</sup> In RFA2, the certificate holder affirms that based on a setback analysis for the repowered turbines, if repowered, one wind turbine will not be able to meet the setbacks and therefore will not be repowered.

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        The analysis area for the Fish and Wildlife Habitat standard includes the area within and  
23        extending ½-mile from the site boundary.

24  
25        *Habitat Types and Categories in the Analysis Area*

26  
27        To identify potential habitat category and types within the temporary work areas of the  
28        proposed RFA2 facility repower, the certificate holder relied upon a combination of 2010  
29        preconstruction habitat categorization data and aerial imagery. As further discussed below,  
30        habitat types and categories that may be impacted by RFA2 activities include: Category 3  
31        Grassland, Previously Cultivated, Curlew and Shrub-steppe (Sagebrush and Rabbitbrush);  
32        Category 4 Grassland, Previously Cultivated, and Rock and Sand; Category 5 Previously  
33        Cultivated,; and Category 6 Dryland Wheat and Roads, and parking.

34  
35        *Potential Habitat Impacts*

36  
37        As described above in Section II.A. *Requested Amendment* of this order, the proposed RFA2  
38        facility repower would include temporary laydown areas used to stage and store construction  
39        equipment, improvements to existing access roads and turbine pad areas, and temporary  
40        turnaround areas, resulting in approximately 125.2 acres of temporary disturbance. Based on  
41        the habitat categories (3, 4 and 5) and types (Grassland, Shrub-steppe, Rock and Sand)  
42        described above, potential habitat impacts would include temporary and temporal habitat loss.  
43        Impacts to Category 6 habitat do not require compensatory mitigation under the Council’s Fish  
44        and Wildlife Habitat standard.

1  
 2 In Section 6.8.1 of RFA2, the certificate holder explains that temporary disturbance to  
 3 vegetation would be limited to areas previously disturbed during facility construction.<sup>19</sup>  
 4 Furthermore, the certificate holder indicates that the temporary disturbance resulting from the  
 5 proposed RFA2 facility repower would be smaller (less) in area than the areas previously  
 6 disturbed during construction.

7  
 8 As presented in Table 2, *Estimated Acreage of the Proposed RFA2 Facility Repower (by Category*  
 9 *and Subtype)* below, the repowering activities would temporarily disturb approximately 17.2,  
 10 5.2, 5.5, and 97.4 acres of Category 3, 4 , 5, and 6 respectively, resulting in temporary and  
 11 temporal habitat impacts.<sup>20</sup>  
 12

**Table 3: Estimated Acreage of the Proposed RFA2 Facility Repower  
 (by Category and Subtype)**

Habitat Category and Subtype		Temporary Impacts	Impact totals by Category
<b>Habitat Category 3</b>			
<b>PC</b>	Previously Cultivated	8.8	17.2
<b>GL</b>	Grasslands	.6	
<b>SS-R</b>	Shrub Steppe - rabbitbrush	2.7	
<b>SS-S</b>	Shrub Steppe – sage steppe	5.1	
<b>Habitat Category 4</b>			
<b>GL</b>	Grasslands	.1	5.2
<b>PC</b>	Previously Cultivated	5	
<b>RS</b>	Rock and Sand	.1	
<b>Habitat Category 5</b>			
<b>PC</b>	Previously Cultivated	5.5	5.5
<b>Habitat Category 6</b>			
<b>DW</b>	Dryland Wheat	96.5	97.4
<b>RP</b>	Roads and Parking	.9	

13

---

<sup>19</sup> In a comment made on the record of the DPO, Jordan Brown, the Program Lead and Conservation Biologist at the Oregon Department of Agriculture expressed concern with the lack of surveying for Laurent’s Milkvetch (a species listed as Threatened by the State of Oregon). In RFA2, the certificate holder indicates that no state-threatened, endangered, or candidate species were found to occur at the facility (see Table 9 of RFA2), and that Revegetated areas do not contain any Laurence’s milk-vetch suitable habitat. Additionally, considering Council’s previously findings that the design, construction, and operation of the Facility were not likely to cause a significant reduction in the likelihood of survival or recovery of Laurence’s milk-vetch, and because the temporary disturbance would be limited to areas previously disturbed during facility construction, the Department does not recommend any additional changes be made to this order as a result of this comment.

SFSAMD2 DPO ODA comments (Brown) 2020-01-16

<sup>20</sup> The Department notes that the proposed RFA2 facility repower would not permanently impact any habitat during construction or operation of the repowered turbines.

1 Temporal loss refers to loss of habitat function and values from the time an impact occurs to  
2 the time when the restored habitat provides a pre-impact level of habitat function. Habitat  
3 types identified within the site boundary with a sagebrush steppe component are reasonably  
4 expected to require a longer restoration timeframe (5+ years) and therefore, the temporary  
5 impacts to approximately 5.1 acres to shrub steppe – sage steppe would be expected to result  
6 in temporal loss.

7  
8 If not appropriately controlled, invasive weeds can become established. Council previously  
9 imposed Condition 38, requiring the certificate holder implement a weed control plan during  
10 facility construction and operation. However, based on a consultation with Gilliam County  
11 Weedmaster Don Ferrar, the approximate 7-month schedule the certificate holder anticipates  
12 the facility repower to take, and the understanding that there are specific methods that provide  
13 a higher rate of successful weed control following disturbance impacts near roadways, which  
14 are the predominant expected disturbance impacts from RFA2, the Department recommends  
15 Council impose a new condition requiring a specific Weed Control Plan be developed, in  
16 consultation with the Department and both the Gilliam County Weed Control Department and  
17 the Morrow County Weed Control Department, that addresses agency consultation, weed  
18 identification, application methods, appropriate control methods monitoring and reporting. The  
19 Council imposes the following condition:

20  
21 **Recommended Condition 107:** Prior to Amendment #2 facility repower activities, the  
22 certificate holder shall coordinate with the Gilliam County Weed Department and the  
23 Morrow County Weed Control Department, and submit to the Department, a Roadway  
24 Weed Control Plan. The Department shall review and approve the plan, in consultation  
25 with the Gilliam County Weed Department and the Morrow County Weed Control  
26 Department. The Roadway Weed Control Plan shall include, as pertinent, but not be  
27 limited to, identification of county-listed weeds of economic concern, methods for  
28 evaluating weeds within impact area, results of weed assessment, control methods  
29 specific to roadway weed control and timing, agency consultation protocol, and process  
30 for evaluating success of weed control.  
31 [Amendment #2]

32  
33 *Proposed Habitat Mitigation (Temporary and Temporal Loss)*

34  
35 The certificate holder proposes to mitigate temporary habitat impacts through revegetation  
36 and noxious weed control. Council previously imposed Condition 38 and 84 requiring that the  
37 certificate holder implement plans to control the introduction and spread of noxious weeds and  
38 revegetate temporarily disturbed areas. However, because this temporary disturbance would  
39 be at different stages than weed control and revegetation activities implemented under the  
40 existing plans, the Council imposes new conditions to allow the certificate holder and  
41 Department the ability to implement and track measures that apply specifically to the proposed  
42 RFA2 facility repower disturbance areas. The Council imposes Condition 107, requiring that,  
43 prior to RFA2 facility repower activities, the certificate holder submit a Roadway Weed Control  
44 Plan, for review by the Department, in consultation with the Gilliam County and Morrow



1 County Weed Control Departments. The Council imposes the following condition related to  
2 revegetation :<sup>21</sup>

3  
4 **Recommended Condition 108: The certificate holder shall:**

5 (a) Prior to RFA2 facility repower activities:

- 6 i. Provide an updated habitat assessment of areas of disturbance, based on a  
7 protocol approved by the Department in consultation with ODFW.  
8 ii. Identify monitoring and reference sites, including sites within each habitat  
9 category and subtype impacted, and the methodology utilized for selecting the  
10 number of monitoring and reference sites should be included.  
11 iii. Consult with the Department, ODFW and Gilliam County Weed Control  
12 Department and Morrow County Weed Control Department on timing and  
13 methods for revegetation and weed control.

14 (b) Following completion of RFA2 facility repower activities:

- 15 i. Restore areas temporarily disturbed by RFA2 facility repower activities  
16 according to the methods and monitoring procedures described in the  
17 Revegetation Plan that is incorporated in the Final Order on Amendment 2 for  
18 Shepherds Flat South as Attachment D and as amended from time to time.  
19 ii. Consult annually with the Department, ODFW, Gilliam and Morrow County  
20 Weed Control Departments on timing and methods for revegetation and weed  
21 control. If mutually agreed upon by the Department, ODFW, Gilliam and  
22 Morrow County Weed Control Departments, the annual consultation may be  
23 discontinued after 5 years. This provision does not relieve the certificate holder  
24 from complying with its weed control obligations as described in Condition 107  
25 and 38, and any other provisions of applicable state or local requirements for  
26 weed control.

27 [Amendment #2]  
28

29 Based on compliance with the recommended new conditions, the Council finds that the  
30 certificate holder would meet the habitat mitigation goals for temporary habitat impacts.

31  
32 The certificate holder's existing Habitat Mitigation Plan (HMP) addresses temporal habitat  
33 impacts (i.e. loss of habitat function and values from the time an impact occurs to the time  
34 when the restored habitat provides a pre-impact level of habitat function) in the form of a  
35 permanent conservation easement on a habitat mitigation area (HMA). Specifically, for  
36 temporal habitat impacts, the certificate holder has included in its HMA 0.5 acre for every 1  
37 acre of Category 3 Shrub-steppe sage habitat temporarily disturbed (a 0.5:1 ratio). Because the

---

<sup>21</sup> At its January 23-24, 2020 meeting, the Council reviewed the Department's proposed order and all comments received on the record of the draft proposed order. Council adopted the Proposed order, with modifications, as its Final Order. Based on deliberations occurring at the January EFSC meeting, Council included timing provisions that would relieve the certificate holder with its annual consultation obligations after 5 years, should the Department, ODFW, Gilliam and Morrow County Weed Control Departments agree that the revegetation and weed control obligations have been met.

1 areas of temporary disturbance are within previously disturbed areas, the temporal habitat  
2 impacts that would occur as a result of the proposed RFA2 facility repower have been  
3 accounted for in the HMA and are addressed in the existing HMP. Based on compliance with  
4 the existing HMP, the Council finds that the certificate holder would meet the habitat  
5 mitigation goals for temporal habitat impacts.

6  
7 *Potential Impact to State-Sensitive Species*

8  
9 The certificate holder conducted a desktop review to identify State Sensitive species with the  
10 potential to occur within the analysis area based on species range and existing habitat. The  
11 desktop review evaluated ODFW's 2016 Sensitive Species List. Based on this desktop review,  
12 the certificate holder identified suitable habitat within the analysis area for: 18 State-sensitive  
13 species (including 1 reptile, 10 birds, and 5 bat species). Of these State-sensitive species,  
14 presence was confirmed for the following: 10 birds and 2 bats.

15  
16 The certificate holder identifies that increased activity during the proposed RFA2 facility  
17 repower could result in potential impacts to state-sensitive species during nesting season,  
18 including ferruginous hawk and Swainson's hawk. To minimize potential disturbance impacts to  
19 state-sensitive species, the Council imposes the following condition:

20  
21 **Recommended Condition 109:** The certificate holder shall:

- 22 (a) Prior to RFA2 facility repower activities, the certificate holder shall conduct a pre-  
23 construction raptor nest survey, using a protocol approved by the Oregon Department  
24 of Fish and Wildlife (ODFW) to determine whether there are any active nests of state  
25 sensitive species within 0.5 miles of any areas that would be disturbed.  
26 (b) During RFA2 repower activities, if active raptor nests were identified within 0.5-mile of  
27 RFA2 repower activities per (a) of this condition or become active during the sensitive  
28 season, per (c) below, the certificate holder shall avoid construction activities within  
29 0.25 mile buffer in areas around active nests of the following species during the  
30 sensitive period, as provided in this condition:

31

<u>Species</u>	<u>Sensitive Period</u>	<u>Early Release Date</u>
<u>Swainson's hawk</u>	<u>April 1 to August 15</u>	<u>May 31</u>
<u>Ferruginous hawk</u>	<u>March 15 to August 15</u>	<u>May 31</u>
<u>Burrowing owl</u>	<u>April 1 to August 15</u>	<u>July 15</u>

- 32  
33 (c) During RFA2 repower activities, if a nest becomes occupied by any of these species  
34 after the beginning of the sensitive period, the certificate holder will flag the  
35 boundaries of a 0.25-mile buffer area around the nest and shall instruct construction  
36 personnel to avoid disturbance of the area.  
37 (d) During RFA2 repower activities, if active nest sites are observed per (b) or (c) of this  
38 condition, the certificate holder shall hire a qualified independent professional  
39 biologist to observe the active nest sites during the sensitive period for signs of  
40 disturbance and to notify the Department of any non-compliance with this condition. If

1            the biologist observes nest site abandonment or other adverse impact to nesting  
2            activity, the certificate holder shall implement appropriate mitigation, in consultation  
3            with ODFW and subject to the approval of the Department, unless the adverse impact  
4            is clearly shown to have a cause other than construction activity. The certificate holder  
5            may begin or resume construction activities within a buffer area before the ending day  
6            of the sensitive period if any known nest site is not occupied by the early release date.  
7            If a nest site is occupied, then the certificate holder may begin or resume construction  
8            before the ending day of the sensitive period with the approval of ODFW, after the  
9            young are fledged. The certificate holder shall use a protocol approved by ODFW to  
10           determine when the young are fledged (the young are independent of the core nest  
11           site).

12           [Amendment 2]

13  
14        For each repowered wind turbine, permanent changes, not previously evaluated, would include  
15        a lower minimum aboveground blade tip clearance from 25 to 21.5 meters, and increasing the  
16        overall rotor diameter and rotor swept area from 100 to 127 meters. The maximum blade tip  
17        height of 150 meters, as approved by Council in the *Final Order*, would not change as a result of  
18        the proposed RFA2 facility repower. In RFA2, the certificate holder describes that potential  
19        impacts from these dimension changes could be an increase in bird and bat fatality from  
20        collision risk, however they assert that the primary impact from the repowering activities would  
21        be direct fatality from collision with, or crushing by heavy equipment. The certificate holder  
22        indicates that based on studies conducted in 2007 through 2016, the effect of turbine size on  
23        bird and bat collision risk remains unclear. Based on review of the studies referenced in RFA2,  
24        the Department and Council agree that a change in minimum aboveground blade tip clearance  
25        and rotor diameter does not represent a direct correlation in bird and bat fatality risk.  
26        Nonetheless, in response to ODFW recommendations that a bird and bat fatality monitoring  
27        study be conducted for two years, following completion of the facility repowering activities, the  
28        Council imposes Condition 110 as follows:

29  
30           **Recommended Condition 110:** Following completion of RFA2 facility repower activities,  
31           the certificate holder shall conduct two years of avian and bat fatality monitoring, as  
32           described in the *Wildlife Monitoring and Mitigation Plan*, or based on protocol otherwise  
33           approved by the Department in consultation with ODFW, provided as Attachment E of the  
34           Final Order on Amendment 2.

35           [Amendment #2]

### 36 37        **Conclusions of Law**

38  
39        Based on the foregoing findings of fact and conclusions, and subject to compliance with existing  
40        site certificate conditions, the Council finds that the proposed RFA2 facility repower would  
41        comply with the Council's Fish and Wildlife Habitat standard.

### 42 43        III.A.7 Public Services: OAR 345-022-0110

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

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  
14          **Finding of Fact**

15  
16          The Council’s Public Services standard requires the Council to find that the facility is not likely to  
17          result in significant adverse impacts on the ability of public and private service providers to  
18          supply sewer and sewage treatment, water, stormwater drainage, solid waste management,  
19          housing, traffic safety, police and fire protection, health care, and schools. Pursuant to OAR  
20          345-022-0110(2), the Council may issue a site certificate for a facility that would produce power  
21          from wind or solar energy without making findings regarding the Public Services standard;  
22          however, the Council may impose site certificate conditions based upon the requirements of  
23          the standard.

24  
25          The analysis area for potential impacts to public services is the area within and extending 10-  
26          miles from the site boundary. The evaluation of impacts to public services, provided below, is  
27          an evaluation of only construction related impacts resulting from the proposed RFA2 facility  
28          repower. Operational impacts will be the same as the original review and are not reiterated in  
29          this order.

30  
31          As described in RFA2, the proposed facility repowering will be completed on a rolling schedule,  
32          where wind turbines will be upgraded over an approximately 6-month time frame with typically  
33          8-12 turbines off-line being upgraded at a time. It will take approximately 2 weeks to upgrade  
34          each turbine. There will be four crane crews including crane operation and tower work crews.  
35          There will also be other upgrade support crews. It is estimated that there will be approximately  
36          60 workers on-site at one time. The equipment used for upgrading will generally consist of  
37          cranes, semi-trucks and regular sized pick-up/operational trucks.

38  
39          *Sewer and Sewage Treatment; Stormwater Drainage*

40  
41          During construction of the proposed repowered turbines, on-site work crew will use existing  
42          sanitary facilities as well as portable toilet facilities, as needed. The disposal of these facilities  
43          will be managed similar to previously evaluated methods and addressed within existing site  
44          certificate conditions. Construction and operation of the proposed RFA2 facility repowering will

1 not require use of public sewers or sewage treatment, nor require use of public or private  
2 stormwater drainage facilities. Therefore, construction and operation would not impact public  
3 and private providers of sewer, sewage treatment or stormwater drainage.<sup>22</sup>

4  
5 *Water*

6  
7 Construction activities associated with the RFA2 repowering would require water for dust  
8 control. The certificate holder indicates in Section 6.19 of RFA2 that the repowering activities  
9 would not alter the certificate holder's ability to obtain water from the City of Arlington, nor  
10 would the repowering affect the ability to comply with existing Condition 78, limiting water use  
11 from the facility's onsite well to 5,000 gallon per day. Provided as Attachment 5 in RFA2, email  
12 correspondence between the City Recorder from the City of Arlington and the certificate  
13 holder, confirms the City of Arlington's continued ability to provide water to the facility,  
14 including the proposed repowering. Based on the minimal increase in construction-related  
15 water use, the Council finds that construction of the proposed facility repowering of RFA2  
16 would continue to not likely result in significant adverse impacts on the ability of public or  
17 private providers of water to deliver services.

18  
19 The proposed repowering activities of RFA2 would not result in changes to operational water  
20 use, which is limited to facility-specific wells that do not result in impacts on the ability of public  
21 or private providers of water to deliver services.

22  
23 *Solid Waste Management*

24  
25 Construction activities associated with the RFA2 facility repowering will generate solid waste,  
26 including non-hazardous packaging associated with equipment, removed wind turbine blades,  
27 and erosion control materials (i.e. straw bales and silt fencing) which will be removed and  
28 recycled or taken to landfill in compliance with federal, state and local regulations. In RFA2, the  
29 Certificate Holder states that currently turbine blades and other materials used for Facility  
30 maintenance are taken to the Columbia Ridge Landfill. Additionally, the certificate holder  
31 explains that the Columbia Ridge Landfill has adequate capacity to accommodate construction-  
32 related debris and is not expected to reach full capacity for more than 100 years.

33  
34 The Council previously imposed several conditions addressing solid waste management,  
35 including conditions that require the certificate holder to develop and implement a solid waste  
36 management plan for the construction and operation of the facility (Condition 101 and 102).  
37 Existing Conditions 50, 51, and 100 provide guidance for the disposal of hazardous materials,

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<sup>22</sup> In a comment made on the record of the DPO, ODEQ commented that if short term housing is proposed on location, then on-site septic needs would require ODEQ approval. Because the certificate holder indicates that the on-site work crew would use existing sanitary facilities as well as portable toilet facilities, the Department recommends that Council find that the comment does not provide a basis to change or modify the proposed order; and does not raise a significant issue of fact or law that may affect the Council's determination that the facility, as amended, meets an applicable standard.

SFSAMD2 DPO ODEQ comments (Breuner) 2020-01-16

1 spill response and accidental releases of hazardous materials, and the discharge of sanitary  
2 wastewater, and will continue to apply to the facility repowering activities of RFA2. In a  
3 comment received on the record of the DPO, Nancy Breuner (ODEQ) recommended that the  
4 certificate holder “have a plan in place to address any spills or oil or other hazardous materials,  
5 in line with best practices for secondary containment and water protection.” As explained  
6 above, existing conditions 50, 51, and 100 will continue to apply to the facility repowering  
7 activities of RFA2. As such, the Department does not recommend any changes to existing  
8 conditions as a result of ODEQ’s comment.<sup>23</sup> In addition, as described in Section III.A.9, *Waste*  
9 *Minimization*, the Council includes a new site certificate condition to encourage recycling of the  
10 removed wind turbine blades and other components to the extent practicable. Based on the  
11 findings presented here, the the Council finds that the construction and operation of the  
12 proposed RFA2 facility repowering would not be likely to result in a significant adverse impact  
13 on the ability of public and private providers of solid waste management to deliver services.

14

### 15 *Traffic Safety*

16

17 Construction of the proposed RFA2 facility repower would result in increased trip generation  
18 on local and state roads (I-84, OR 74 and OR 19) for approximately 6-months. In RFA2, the  
19 certificate holder estimates that proposed RFA2 facility repower activities would require  
20 approximately 60 temporary workers, 20 trucks, and 28 semi-trucks per day, which the  
21 Department estimates equates to a maximum trip rate increase of 216 trips per day on local  
22 and state roads.<sup>24</sup>

23

24 During construction, trucks used to transport wind turbine blades and other heavy  
25 construction equipment (i.e. cranes) would likely require oversize load/overweight permits  
26 from Oregon Department of Transportation (ODOT) and Morrow and Gilliam County Road  
27 Departments. In addition to haul and heavy load permits, the certificate holder commits to  
28 consultation with Morrow and Gilliam County Road Department prior to transport of new  
29 wind turbine blades and gearboxes to establish roads to be used, traffic control measures, and  
30 roadway improvement necessary before and after completion of the proposed activity.<sup>25</sup>  
31 Existing site certificate Condition 67 requires that the certificate holder coordinate with the  
32 Morrow and Gilliam County road departments in order to document and repair any damage  
33 to county roads based on facility construction. The Department recommends that Council  
34 reaffirm that Condition 67 applies to RFA2 activities, and also that Council make minor edits to  
35 the condition to account for the Department’s role in site certificate condition compliance.

36

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<sup>23</sup> SFSAMD2 DPO ODEQ comments (Breuner) 2020-01-16

<sup>24</sup> Department trip rate calculation = 60 worker trips x 2 times per day + 20 trucks x 2 times per day + 28 semi-trucks x 2 times per day.

<sup>25</sup> SFSAMD2 pRFA2 Reviewing Agency Comments Gilliam County. 2019-11-18. During review of pRFA2, Gilliam County Planning Director (Michelle Colby) expressed concern regarding potential traffic related impacts from RFA2 on local roads and requested that impacts be mitigated through a road use agreement with the Gilliam County Road Department.

1           **Recommended Amended Condition 67:** The certificate holder shall cooperate with the  
2 Gilliam County Road Department and the Morrow County Public Works Department to  
3 ensure that any unusual damage or wear to county roads that is caused by construction  
4 of the facility is repaired by the certificate holder. Submittal to the Department of an  
5 executed Road Use Agreement with Gilliam County and Morrow County shall constitute  
6 evidence of compliance with this condition. Upon completion of construction, the  
7 certificate holder shall restore county roads to pre-construction condition or better, to  
8 the satisfaction of the applicable county departments. If required by Morrow County or  
9 Gilliam County, the certificate holder shall post bonds to ensure funds are available to  
10 repair and maintain roads affected by the proposed facility.

11           [Amendment #2]

12  
13           *Housing, Police, Fire, Schools, and Healthcare*

14  
15           In Section 6.13 of the RFA, the certificate holder explains that although the Shepherds Flat  
16 South facility is already constructed and operational, the proposed repowering would result in a  
17 short-term and temporary influx of workers. The certificate holder estimates that the  
18 repowering activities would have a duration of seven months and require a maximum of 60  
19 workers on-site at one time. Additionally, the certificate holder provided a conservative  
20 estimate that 30 percent of the workers necessary for the repowering would be local. The  
21 remaining 70 percent may be temporary new residents. In any case, the workforce required for  
22 the repowering activities would be less than the 175 transient workers evaluated in the Final  
23 Order on the Site Certificate.<sup>26</sup> Council previously concluded that the impact to the ability of  
24 communities to provide housing, police and fire protection, healthcare and schools was not  
25 likely to be significant. Operation of the proposed repowered facility would not result in  
26 permanent population increases.

27  
28           Conclusions of Law

29  
30           Based on the foregoing analysis, and in compliance with OAR 345-022-0110(2), the Council  
31 relies on the existing and recommended amended conditions to address the Public Services  
32 standard.

33  
34           III.A.8 Waste Minimization: OAR 345-022-0120

35  
36           *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
37 *Council must find that, to the extent reasonably practicable:*

38  
39                   *(a) The applicant’s solid waste and wastewater plans are likely to minimize*  
40                   *generation of solid waste and wastewater in the construction and operation of the*

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<sup>26</sup> SFWAPPDoc240 SFW - Final Order - 2008-07-25. In the context of this order, “transient workers” refers to workers that might come from outside of the analysis area, i.e. temporary new residents.

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  
14           **Finding of Fact**

15  
16           The Waste Minimization standard requires the Council to find that the certificate holder will  
17           minimize the generation of solid waste and wastewater, and that the waste generated would  
18           be managed to minimally impact surrounding and adjacent areas. Pursuant to OAR 345-022-  
19           0020(2), the Council may issue a site certificate for a wind facility without making findings  
20           regarding the Waste Minimization standard; however, the Council may impose site certificate  
21           conditions based upon the requirements of the standard.

22  
23           *Solid Waste and Wastewater*

24  
25           As mentioned above in Section III.A.8. *Public Services* of this order, construction activities  
26           associated with the proposed RFA2 facility repower would generate solid waste, including non-  
27           hazardous packaging associated with equipment, removed wind turbine blades, and erosion  
28           control materials (i.e. straw bales and silt fencing) which will be removed and recycled or taken  
29           to landfill in compliance with federal, state and local regulations. The construction activities are  
30           not expected to generate wastewater. In RFA2, the certificate holder states that currently,  
31           turbine blades and other materials used for Facility maintenance are taken to the Columbia  
32           Ridge Landfill, and that operational Conditions 50, 51, 100, 101, and 102, which address the  
33           waste minimization standard, would continue to apply to the proposed RFA2 facility repower.  
34           Existing Condition 101 requires the certificate holder to implement a waste management plan  
35           during facility construction. Furthermore, it includes measures to be followed, including but not  
36           limited to the recycling of: steel and other metal scrap, wood waste, and packaging waste such  
37           as paper and cardboard. Although the certificate holder explains that the Columbia Ridge  
38           Landfill has adequate capacity to accommodate construction-related debris and is not expected  
39           to reach full capacity for more than 100 years, the Council imposes Condition 111 to ensure the  
40           certificate holder minimizes waste generation consistent with Council's standard. On the record  
41           of the DPO, the Department received a comment from Morrow County, requesting minor  
42           changes be made to Condition 111. The requested change would require the certificate holder,  
43           or its third-party contractors to reuse or recycle wind turbine blades, hubs, and other removed  
44           wind turbine components to the extent practicable, in accordance the Morrow County Solid



1 Waste Management Plan.<sup>27</sup> In response to Morrow County’s request, the Department  
2 recommends that Condition 111 be amended as follows:

3  
4 **Recommended Condition 111:** During Amendment #2 facility repower activities, the  
5 certificate holder shall, or ensure its third-party contractors, reuse or recycle wind turbine  
6 blades, hubs and other removed wind turbine components to the extent practicable and in  
7 accordance with the Morrow County Solid Waste Management Plan. The certificate holder  
8 shall report in its semi-annual report to the Department the quantities of removed wind  
9 turbine components recycled, reused, sold for scrap, and disposed of in a landfill, to the  
10 extent practicable.

11 [Amendment #2]

12  
13 Solid waste from operations of the proposed RFA2 facility repower would not exceed the  
14 existing amount of solid waste generated from the facility. Council previously imposed  
15 Condition 102, to require the certificate holder to, during operation, implement a waste  
16 management plan. The Council finds that compliance with previously imposed conditions would  
17 minimize potential operational solid waste, and potential impacts from solid waste on  
18 surrounding lands.

19  
20 **Conclusions of Law**

21  
22 Based on the foregoing analysis, and subject to existing and recommended conditions, the  
23 Council finds that the proposed RFA2 facility repower would continue to comply with the  
24 Council’s Waste Minimization standard.

25  
26 **III.A.9 Division 24 Standards**

27  
28 The Council’s Division 24 standards include specific standards for the siting of wind project,  
29 which is further evaluated below.

30  
31 **III.A.9.1 Public Health and Safety Standards for Wind Energy Facilities: OAR 345-024-0010**

32  
33 *To issue a site certificate for a proposed wind energy facility, the Council must find that the*  
34 *applicant:*

35  
36 *(1) Can design, construct and operate the facility to exclude members of the public from*  
37 *close proximity to the turbine blades and electrical equipment.*

38  
39 *(2) Can design, construct and operate the facility to preclude structural failure of the tower*  
40 *or blades that could endanger the public safety and to have adequate safety devices and*  
41 *testing procedures designed to warn of impending failure and to minimize the consequences*  
42 *of such failure.*

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<sup>27</sup> SFSAMD2 Public Comment (Morrow Co) 2020-01-17

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**Findings of Fact**

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

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

The Council must evaluate if the certificate holder has demonstrated that it has the ability to preclude a structural failure in the first place through design, construction and operation of the turbines. OAR 345-024-0010(2) does not require that a certificate holder demonstrate an *elimination* of all public health and safety risk [Emphasis added]. Instead, it requires that the certificate holder design, construct and operate the facility to avoid structural failure, to have adequate mechanisms in place to warn of an impending failure, and to minimize the consequences of such failure.

The proposed repowering activity, resulting in a lower minimum aboveground blade tip clearance (25 to 21.5 meters) compared to the Council’s previous evaluation could potentially result in increased public health and safety risks. The Council evaluates the sufficiency of previously imposed conditions related to safety devices and testing procedures to warn of impending failure and minimize potential increases in risk.

The site certificate includes a number of existing conditions that were imposed to address sub(2) of the standard and which would continue to ensure that the certificate holder reduces the risk of potential impacts from structural failure of the wind turbine tower or blades.

- Condition 71 requires that the certificate holder notify the Department and the Gilliam County Planning Director within 72 hours of any accidents or mechanical failures associated with operation of the facility that may result in public health and safety concerns.
- Condition 40 establishes required setback distances of facility components to residential properties, public roads, and lease areas.

As mentioned above in Section III.A.1 *General Standard of Review*, Council imposed Condition 26 in The *Final Order on the ASC* to establish limits on the turbines selected, depending on the turbine type selected. Condition 26(d) establishes a minimum blade tip clearance of 25 meters above the ground at the closest point of rotation. The proposed lowering of the minimum aboveground blade tip clearance could result in potential public health and safety impacts from increased proximity to turbine blades. However, the certificate holder describes that the

1 turbines would remain located entirely on private property, in a rural area, and that public  
2 access is limited. The Council finds that the facility design, including restricted public access,  
3 and compliance to the setback requirements of Condition 40, to be sufficient to minimize  
4 potential increases in public health and safety risks from proximity to the proposed RFA2  
5 repowered turbines, with lower minimum aboveground blade tip clearance.  
6

7 Based upon the proposed RFA2 repowering activities for Shepherds Flat South, the Council  
8 amends Condition 26 to specify the minimum blade tip clearance from 25 meters to 21.5  
9 meters. Additionally, the Council removes from the condition a limitation on the megawatt  
10 output of the facility. The Council's standards are not concerned with the electrical power  
11 output of the facility. The amended condition would read as follows:  
12

13 **Recommended Amended Condition 26:** The certificate holder shall construct a facility  
14 substantially as described in the site certificate and may select turbines of any type, subject  
15 to the following restrictions and compliance with all other site certificate conditions. Before  
16 beginning construction, the certificate holder shall provide to the Department a description  
17 of the turbine types selected for the facility demonstrating compliance with this condition.

18 (a) The total number of turbines at the facility must not exceed 116 turbines.

19 ~~(b) The combined peak generating capacity of the facility must not exceed 290~~  
20 ~~megawatts.~~

21 (b) The turbine hub height must not exceed 105 meters and the maximum blade tip  
22 height must not exceed 150 meters.

23 (c) The minimum blade tip clearance must be 25 meters above ground. Repowered  
24 turbines that comply with the setback requirements of Condition 40 must have a  
25 minimum blade tip clearance of 21.5 meters above ground.

26 (d) The maximum volume of concrete above three feet below grade in the turbine  
27 foundations must not exceed 66 cubic yards.

28 (e) The maximum combined weight of metals in the tower (including ladders and  
29 platforms) and nacelle must not exceed 393 U.S. tons per turbine.

30 (f) The certificate holder shall request an amendment of the site certificate to ~~increase~~  
31 ~~the combined peak generating capacity of the facility beyond 318 megawatts, to~~  
32 increase the number of wind turbines to more than 116 wind turbines or to install  
33 wind turbines with a hub height greater than 105 meters, a blade tip height greater  
34 than 150 meters or a blade tip clearance less than ~~21.5~~ 25 meters above ground.

35 [Amendment #1 (SFWF); Amendment #1, Amendment #2]  
36

37 As mentioned above, the proposed RFA2 facility repowering would not only lower the minimum  
38 blade tip clearance, but would also increase maximum height and the rotor diameter of the two  
39 specified turbines. The new maximum height of the repowered turbines would be 150 meters,  
40 consistent with the maximum blade tip height limited in Condition 26. Council previously  
41 evaluated and approved turbines with a maximum blade tip height of 150 meters in the Final  
42 Order on the ASC, and found that the certificate holder could design, construct, and operate the  
43 facility in compliance with the Public Health and Safety Standard for Wind Energy Facilities.  
44

1 Existing Condition 57 requires the certificate holder to submit a Notice of Proposed Construction  
2 or Alteration (Form 7460) to the Federal Aviation Administration (FAA) and the Oregon  
3 Department of Aviation (ODA).<sup>28</sup> Because the existing turbine specifications feature a maximum  
4 blade tip height of 135 meters, and the proposed demonstration activities would increase the  
5 maximum height to 150 meters, the Council imposes Condition 112 to require the certificate  
6 holder to submit a Notice of Proposed Construction and Alteration to the FAA and ODA.  
7 Condition 112 reads as follows:

8  
9 **Recommended Condition 112:** Prior to Amendment #2 facility repower activities, the  
10 certificate holder shall submit a Notice of Proposed Construction or Alteration to the  
11 Federal Aviation Administration (FAA) and the Oregon Department of Aviation identifying  
12 the new maximum blade tip height of 150 meters. The certificate holder shall promptly  
13 notify the Department of the responses from the FAA and the Oregon Department of  
14 Aviation.  
15 [Amendment #2]

16  
17 The Council finds that compliance with the existing and recommended new and amended  
18 conditions would continue to satisfy the requirements of the standard and ensure that the  
19 proposed RFA2 facility repowering are designed, constructed, and operated to preclude  
20 structural failure of the tower or blades that could endanger public safety, and that the  
21 proposed RFA2 facility repowering would have adequate safety devices and testing procedures  
22 to warn of impending failure and minimize consequences of such failure, should it occur.

### 23 24 **Conclusions of Law**

25  
26 Based on the foregoing analysis, and subject to compliance with existing and recommended  
27 conditions, the Council finds that the proposed RFA2 facility repower activity would comply  
28 with the Council’s Public Health and Safety Standards for Wind Energy Facilities.

### 29 30 **III.A.9.2 Cumulative Effects Standard for Wind Energy Facilities OAR 345-024-0015**

31  
32 *To issue a site certificate for a proposed wind energy facility, the Council must find that the*  
33 *applicant can design and construct the facility to reduce cumulative adverse environmental*  
34 *effects in the vicinity by practicable measures including, but not limited to, the following:*

- 35  
36 (1) *Using existing roads to provide access to the facility site, or if new roads are needed,*  
37 *minimizing the amount of land used for new roads and locating them to reduce adverse*  
38 *environmental impacts.*  
39 (2) *Using underground transmission lines and combining transmission routes.*  
40 (3) *Connecting the facility to existing substations, or if new substations are needed,*  
41 *minimizing the number of new substations.*

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<sup>28</sup> SFSAMD2 Public Comment (Morrow Co) 2020-01-17

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

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

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

7  
8 **Findings of Fact**

9  
10 This standard requires the use of practicable measures to reduce the cumulative adverse  
11 environmental effects by practicable measures.

12  
13 *Access Roads*

14  
15 OAR 345-024-0015(1) is related to the use of existing roads for facility site access, minimizing  
16 the amount of land used for new roads, and locating new roads in such a manner that reduces  
17 adverse environmental impacts. The certificate holder proposes to utilize existing access roads,  
18 to be temporarily widened to support the proposed RFA2 facility repowering. No new  
19 permanent roads would be constructed as part of RFA2.

20  
21 Because the proposed RFA2 facility repowering would not result in new permanent access  
22 roads, the Council continues to find that the certificate holder demonstrates that it would use  
23 existing roads where practicable to provide access to the site and through the temporary  
24 expansion of existing roads, would reduce adverse environmental impacts and constructed in a  
25 manner that minimizes the amount of land used.

26  
27 *Transmission Lines and Substations*

28  
29 RFA2 does not propose new transmission lines or substations, or changes to the previously  
30 approved site boundary. Therefore, the Council finds that RFA2 would not result in a significant  
31 adverse impact under OAR 345-024-0015(2) and (3) that was not addressed in a previous  
32 Council orders.

33  
34 *Wildlife Protection*

35  
36 OAR 345-024-0015(4) is related to facility design that reduces the risk of injury to raptors or  
37 other vulnerable wildlife in areas near wind turbines or electrical equipment.

38  
39 The proposed RFA2 facility repowering would increase the rotor-swept diameter from 100  
40 meters to 127 meters, and decrease the aboveground blade tip clearance by 3.5 meters. The  
41 proposed changes in wind turbine dimension could result in increased bird and bat fatality risk  
42 from wind turbine collision. However, the certificate holder explains that the effect of turbine  
43 size on bird and bat collision rates remains unclear, particularly with respect to blade length.  
44 However, in response to ODFW recommendations, the certificate holder agrees that two years

1 of fatality monitoring, to look at mortality effects from turbine repowering, following  
2 construction completion of the proposed RFA2 facility repower.

3  
4 As discussed in Section III.A.6, *Fish and Wildlife Habitat*, the certificate holder proposes to  
5 conduct 2-years of post-construction fatality monitoring to determine whether the changes in  
6 wind turbine dimensions result in increased fatality risk and then whether additional mitigation  
7 is necessary. The post construction fatality monitoring would be implemented in accordance  
8 with the Wildlife Monitoring and Mitigation Plan (WMMP), provided as Attachment E to this  
9 order.

10  
11 Based on compliance with other existing and recommended new site certificate conditions, the  
12 certificate holder would implement the following measures to further reduce and avoid wildlife  
13 impacts:

- 14 • Pre- and post-construction raptor nest monitoring, seasonal timing restrictions and  
15 avoidance requirements
- 16 • Habitat mitigation, revegetation and monitoring
- 17 • Weed control and monitoring

18  
19  
20 Subject to compliance with existing and recommended new site certificate conditions, the  
21 Council finds that the certificate holder continues to demonstrate that it can reduce cumulative  
22 adverse environmental effects in the vicinity by designing the proposed RFA2 facility repower  
23 to reduce the risk of injury to raptors or other vulnerable wildlife in areas near wind turbines or  
24 electrical equipment.

### 25 *Visual Features*

26  
27 The visual features of the proposed demonstration wind turbines would be similar to those  
28 previously evaluated by Council. Additionally, based on compliance with existing site certificate  
29 conditions, the certificate holder would implement the following measures to reduce potential  
30 visual impacts from the proposed repowered wind turbines:

- 31 • Uniformly paint turbine towers, nacelles, and rotors in a neutral color to blend with the  
32 surrounding landscape
- 33 • Exterior nighttime lighting would be kept to a minimum

34  
35  
36 Based on the evidence in the record and subject to compliance with existing site certificate  
37 conditions, the Council finds that the certificate holder continues to demonstrate that it can  
38 reduce cumulative adverse environmental effects in the vicinity by designing the components  
39 of the facility, with proposed changes, to minimize the adverse impacts of lighting.

1 *Lighting*

2

3 Existing Condition 95 requires wind turbines to be equipped with the minimum turbine tower  
4 lighting required by FAA. Based on compliance with this condition, the Council finds that the  
5 certificate holder continues to demonstrate that it can reduce cumulative adverse  
6 environmental effects in the vicinity by designing the components of the facility, with proposed  
7 changes, to minimize the adverse impacts of lighting.

8

9 **Conclusions of Law**

10

11 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing  
12 conditions, the Council finds that the proposed RFA2 facility repower would comply with the  
13 Council’s Cumulative Effects Standards for Wind Energy Facilities.

14

15 **III.A.10 Other Applicable Regulatory Requirements Under Council Jurisdiction**

16

17 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-  
18 0000), the Council must determine whether the proposed facility complies with “all other  
19 Oregon statutes and administrative rules...as applicable to the issuance of a site certificate for  
20 the proposed facility.” This section addresses the applicable Oregon statutes and administrative  
21 rules that are not otherwise addressed in Council standards, including the Oregon Department  
22 of Environmental Quality’s noise control regulations.

23

24 **III.A.10.1 Noise Control Regulations: OAR 340-035-0035**

25

26 *(1) Standards and Regulations:*

27

\*\*\*

28

*(b) New Noise Sources:*

29

30

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

31

32

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

40

*(ii) The ambient statistical noise level of a new industrial or commercial noise  
41 source on a previously unused industrial or commercial site shall include all  
42 noises generated or indirectly caused by or attributable to that source  
43 including all of its related activities. Sources exempted from the requirements*

1 of section (1) of this rule, which are identified in subsections (5)(b) - (f), (j),  
2 and (k) of this rule, shall not be excluded from this ambient measurement.

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

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

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

17 (iii) The noise levels from a wind energy facility may increase the ambient  
18 statistical noise levels L10 and L50 by more than 10 dBA (but not  
19 above the limits specified in Table 8), if the person who owns the noise  
20 sensitive property executes a legally effective easement or real  
21 covenant that benefits the property on which the wind energy facility  
22 is located. The easement or covenant must authorize the wind energy  
23 facility to increase the ambient statistical noise levels, L10 or L50 on  
24 the sensitive property by more than 10 dBA at the appropriate  
25 measurement point.

26 (iv) For purposes of determining whether a proposed wind energy facility  
27 would satisfy the ambient noise standard where a landowner has not  
28 waived the standard, noise levels at the appropriate measurement  
29 point are predicted assuming that all of the proposed wind facility's  
30 turbines are operating between cut-in speed and the wind speed  
31 corresponding to the maximum sound power level established by IEC  
32 61400-11 (version 2002-12). These predictions must be compared to  
33 the highest of either the assumed ambient noise level of 26 dBA or to  
34 the actual ambient background L10 and L50 noise level, if measured.  
35 The facility complies with the noise ambient background standard if  
36 this comparison shows that the increase in noise is not more than 10  
37 dBA over this entire range of wind speeds.

38 (v) For purposes of determining whether an operating wind energy  
39 facility complies with the ambient noise standard where a landowner  
40 has not waived the standard, noise levels at the appropriate  
41 measurement point are measured when the facility's nearest wind  
42 turbine is operating over the entire range of wind speeds between cut-  
43 in speed and the windspeed corresponding to the maximum sound  
44 power level and no turbine that could contribute to the noise level is



1                    *disabled. The facility complies with the noise ambient background*  
2                    *standard if the increase in noise over either the assumed ambient*  
3                    *noise level of 26 dBA or to the actual ambient background L10 and*  
4                    *L50 noise level, if measured, is not more than 10 dBA over this entire*  
5                    *range of wind speeds.*

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

12                   *(vii) For purposes of determining whether an operating wind energy*  
13                   *facility satisfies the Table 8 standards, noise generated by the energy*  
14                   *facility is measured at the appropriate measurement point when the*  
15                   *facility's nearest wind turbine is operating at the windspeed*  
16                   *corresponding to the maximum sound power level and no turbine that*  
17                   *could contribute to the noise level is disabled.*

18                   \*\*\*

19  
20 **Findings of Fact**

21  
22 The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035  
23 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy  
24 facilities. The analysis area for the Noise Control Regulation is the area within and extending 1-  
25 mile from the site boundary.

26  
27 OAR 340-035-0035(5) outlines sources of noise that are exempt from the DEQ noise rules,  
28 including sounds that originate from construction sites as well as maintenance of capital  
29 equipment.

30  
31 Noise generated by a wind energy facility located on a previously unused site must comply with  
32 two tests: the “ambient noise degradation test” and the “maximum allowable noise test.”  
33 Under the ambient noise degradation test, facility-generated noise must not increase the  
34 ambient hourly L10 or L50 noise levels at any noise sensitive property (NSP) by more than 10  
35 dBA when turbines are operating “between cut-in speed and the wind speed corresponding to  
36 the maximum sound power level.” To show that a facility complies with this test, the certificate  
37 holder may use an assumed ambient hourly L50 noise level of 26 dBA or measure the actual  
38 ambient hourly noise levels at the receiver in accordance with the procedures specified in the  
39 regulation. In this case, the certificate holder elected to use an assumed ambient hourly L50  
40 noise level of 26 dBA.

41  
42 To demonstrate compliance with the ambient noise degradation test, the noise generated  
43 during facility operation must not cause the hourly L<sub>50</sub> noise level at any noise-sensitive  
44 property to exceed 36 dBA. However, OAR 340-035-0035(1)(b)(B)(iii)(III) relieves the certificate

1 holder from having to show compliance with the ambient noise degradation test “if the person  
 2 who owns the noise sensitive property executes a legally effective easement or real covenant  
 3 that benefits the property on which the wind energy facility is located” (a “noise waiver”).  
 4

5 Under the maximum allowable noise test at OAR 340-035-0035(1)(b)(B)(i) a wind energy facility  
 6 may not exceed the noise levels specified in Table 8 of the noise rules, as represented in Table  
 7 3, *Statistical Noise Limits for Industrial and Commercial Noise Sources* below. Pursuant to OAR  
 8 340-035-0035(1)(b)(B)(iii)(III), it is not possible for a property owner to waive an exceedance  
 9 under the maximum allowable noise test.  
 10

**Table 4: Statistical Noise Limits for Industrial and Commercial Noise Sources**

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

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

11  
 12 *Potential Noise Impacts*

13  
 14 *Construction*

15  
 16 As discussed in RFA2 and in Section III.A.8, *Public Services*, of this order, proposed RFA2 facility  
 17 repower would result in worker and haul truck trips, and construction equipment operation,  
 18 which would generate temporary, short-term construction noise. In RFA2, the certificate holder  
 19 estimates that proposed RFA2 facility repowering activities would take approximately 7 months  
 20 and would require approximately 60 temporary workers, 20 trucks, and 28 semi-trucks per day,  
 21 which the Council estimates equates to a maximum trip rate increase of 216 trips per day on  
 22 local and state roads. Noise related to the construction of the turbine repowering, however,  
 23 exempt from the noise standards pursuant to OAR 340-035-0035(5)(g) and (h). The evaluation  
 24 of construction-related noise, including methodology and assumptions, is an informational  
 25 requirement per OAR Chapter 345 Division 21 and can be utilized to inform the evaluation of  
 26 construction-related noise impacts under the Council’s Recreation standard of this order.  
 27

28 *Operation*

29  
 30 In RFA2, the certificate holder states that the sound power properties of the repowered  
 31 turbines is expected to be similar to the existing wind turbines, with a sound power level of 105

1 dBA per turbine. The certificate holder indicates that the original noise study<sup>29</sup> demonstrated  
2 compliance with the DEQ noise requirements. Due to advances in blade airfoil shape and  
3 manufacturing, significantly reducing noise from wind turbine blades, in all likelihood, the  
4 repowered turbines of the proposed RFA2 facility repower will produce lower sound levels than  
5 the existing turbines. Council previously imposed Condition 97, which requires the certificate  
6 holder to provide sound power level and octave band data, based on manufacturer warranties  
7 or as otherwise confirmed acceptable by the Department, and demonstrate through a final  
8 noise modeling assessment compliance with the DEQ noise requirements.

9  
10 In RFA2, the certificate holder explains that Council concluded in both the *Final Order* and  
11 *Amendment 1*, that the facility, subject to site certificate conditions, would comply with the  
12 applicable Council noise regulations. A noise survey conducted in support of RFA1, indicated  
13 the facility's compliance with the maximum noise level limits at all NSPs. However, the noise  
14 survey results of that study also indicated that a number of NSPs (approximately 20) would  
15 potentially exceed the anti-ambient degradation noise level limits of 10 dBA above the assumed  
16 ambient of 26 dBA. To comply with the Council's noise regulations, the certificate holder either  
17 had to modify the facility design to reduce the sound levels at the NSPs to below 36 dBA, or  
18 obtain noise waivers from the owners of the NSPs. In the RFA2, the certificate holder indicates  
19 that because of the similar sound power levels when compared to the existing wind turbines,  
20 the noise impacts of the repowered turbines at the NSPs are expected to be the same or less  
21 than those reported in the RFA1 noise survey. To verify ongoing compliance with the applicable  
22 requirements, the Department recommends Council impose Condition 113 which would  
23 require the certificate holder to provide to the Department the manufacturer's warranties or  
24 specifications for the repowered wind turbines, to verify that the repowered turbines would  
25 produce no more sound than the currently installed turbines. If the manufacturer's  
26 specifications demonstrate that the repowered turbines would produce a greater maximum  
27 sound power level than the currently installed turbines, additional noise modeling would be  
28 required to demonstrate compliance with the standard. Additionally, resubmittal of noise-  
29 easements would be required if the repowered turbines are demonstrated to produce a greater  
30 maximum sound power level than the currently installed turbines and also if the current noise-  
31 easements do not already authorize anticipated statistical noise levels at or above the level  
32 expected to occur from the repowered facility at the appropriate measurement point:

33  
34 **Recommended Condition 113:** Prior to Amendment #2 facility repower activities, the  
35 certificate holder shall provide to the Department:

- 36 (a) The maximum sound power level and octave band for the modified wind  
37 turbines based on manufacturer's warranties or confirmed by other means  
38 acceptable to the Department.  
39 (b) If the information provided to the Department in (a) shows that the modified  
40 (repowered) wind turbines would produce a higher maximum sound power level  
41 and octave band than the currently installed wind turbines, the certificate holder

---

<sup>29</sup> SFWF Exhibit X.

1 must conduct a noise analysis of the modified (repowered) turbines. If required,  
2 the certificate holder must provide to the Department results of the noise  
3 analysis for the Amendment #2 facility repower, performed in a manner  
4 consistent with the requirements of OAR 340-035-0035(1)(b)(B)(iii)(IV) and (VI)  
5 demonstrating to the satisfaction of the Department that the total noise  
6 generated (including the noise from repowered wind turbines and existing  
7 substation transformers) would meet the ambient degradation test and  
8 maximum allowable test at the appropriate measurement point for all  
9 potentially-affected noise sensitive properties.

10 (c) If the information provided to the Department in (a) shows that the modified  
11 (repowered) wind turbines would produce a higher maximum sound power level  
12 and octave band than the currently installed wind turbines, the certificate holder  
13 must provide to the Department, for each noise-sensitive property where the  
14 certificate holder relies on a noise waiver to demonstrate compliance in  
15 accordance with OAR 340-035-0035 (1)(b)(B)(iii)(III) related to site certificate  
16 Amendment #2 activities, a copy of the a legally effective easement or real  
17 covenant pursuant to which the owner of the property authorizes the certificate  
18 holder’s operation of the facility to increase ambient statistical noise levels L10  
19 and L50 by more than 10 dBA at the appropriate measurement point. The  
20 easement must only be provided to the Department if the modified wind  
21 turbines would produce a higher maximum sound power level and octave band  
22 than the currently installed wind turbines and the current noise-easements do  
23 not allow ambient statistical noise levels L10 and L50 by more than the statistical  
24 noise levels anticipated to occur from the repowered turbines at the appropriate  
25 measurement point. The legally-effective easement or real covenant must:  
26 include a legal description of the burdened property (the noise sensitive  
27 property); be recorded in the real property records of the county; expressly  
28 benefit the certificate holder; expressly run with the land and bind all future  
29 owners, lessees or holders of any interest in the burdened property; and not be  
30 subject to revocation without the certificate holder’s written approval.

31 [Amendment #2]

32  
33 In addition, Council previously imposed Condition 98, which requires the certificate holder to  
34 maintain a complaint response system to address noise complaints during operation. Condition  
35 98 also allows Council to require the certificate holder to monitor and record the statistical  
36 noise levels to verify compliance with the noise control regulations. This condition would  
37 continue to apply to the proposed RFA2 facility repower.

38  
39 **Conclusions of Law**

40  
41 Based on the foregoing findings, the Council finds that the proposed RFA2 facility repower  
42 would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).  
43

**III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

RFA2, as described throughout this order, solely requests authorization for a proposed upgrade (or repower) to the facility’s wind turbines, where blade replacement and nacelle modification would occur. Changes in wind turbine dimensions would lower wind turbine minimum aboveground blade tip clearance from 25 to 21.5 meters, increase blade tip height from 135 to 150 meters, and increase rotor diameter from 100 to 127 meters, with the change in minimum aboveground blade tip clearance representing the only change necessitating a site certificate condition amendment as maximum blade tip height of 150 meters was previously evaluated and approved (Condition 26) and rotor diameter was not previously correlated with an impact protected by a Council standard nor limited by the site certificate.

In RFA2, the certificate holder describes the number of equipment and personnel that would be required for the proposed RFA2 facility repower, and potential impacts associated with the repowering activities. Based on the Council’s review of the RFA and of the previously evaluated impacts and imposed conditions, the following standards would not be impacted by RFA2 and do not require re-evaluation in this order.

**Table 5: Summary of Council Standards Not Likely Impacted by RFA2**

<b>Rule Citation</b>	<b>Standard</b>	<b>Department’s Evaluation</b>
345-022-0022	Soil Protection	Potential impacts to soils would be the same (erosion, risk of lubricant oil spill). Amendment would not impact certificate holder’s ability to satisfy requirements. Conditions 51 (hazardous material handling), 55 (72-hr spill notification) and 77 (operational erosion control, maintenance and inspection) apply. Additional conditions not necessary to satisfy standard.
345-022-0040	Protected Areas	RFA2 includes an evaluation of potential impacts to Cottonwood Canyon State Park, even though the State Park was not designated as a protected area until 2015. Potential impacts to this park were not previously evaluated by Council, as the standard applies to protected areas with designations that predate May 12, 2007. Potential impact from change in minimum aboveground blade tip clearance would not result in new traffic, noise, visual, water or wastewater impacts to any protected area. Additional conditions not necessary to satisfy standard.
345-022-0050	Retirement and Financial Assurance	Amendment would not result in change to the facilities Retirement and Financial Assurance. Conditions 7 (Prevent development on site that would preclude restoration), 8 (maintaining a Bond or Letter of Credit), and 30 (Adjusting the bond or letter of credit) apply. Additional conditions not necessary to satisfy standard.

**Table 5: Summary of Council Standards Not Likely Impacted by RFA2**

Rule Citation	Standard	Department’s Evaluation
345-022-0070	Threatened and Endangered Species	Potential Impact from change in minimum aboveground blade tip clearance would not result in new impacts to Threatened and Endangered Species. Conditions 83 (Wildlife Monitoring and Mitigation Plan), and 92 (Speed Limits on facility roads) apply. Additional conditions not necessary to satisfy standard.
345-022-0080	Scenic Resources	Potential impact from change in minimum aboveground blade tip clearance would not result in new visual impacts or ground disturbing impacts in areas not previously evaluated or would occur in areas where existing requirements (revegetation and weed control) would continue to apply. Conditions 93 (Visual impact minimization), 95 (Exterior nighttime lighting), 43 (Final Design map), 45 (inadvertent discovery), and 46 (Oregon Trail Buffers) apply. Additional conditions not necessary to satisfy standard.
345-022-0090	Historic, Cultural, and Archaeological Resources	
345-022-0100	Recreation	Potential impact from change in minimum aboveground blade tip clearance would not result in new indirect/direct, traffic, noise, or visual impacts to any important recreational opportunity. Additional conditions not necessary to satisfy standard.
	Divisions 23 Standards	Apply to nongenerating facilities and therefore do not apply to this facility or proposed RFA2 facility repowering.
345-024-0090	Siting Standards for Transmission Lines	Amendment would not result in changes to facility transmission lines; standard would not be impacted by amendment request. Conditions 58 (Maintenance of turbine pads), 86 (Disturbance avoidance areas), 93 (Visual impact minimization), and 95 (Exterior nighttime lighting) apply.
	Removal-Fill Law	Amendment would not result in impacts to new area or result in stream crossings, nor request a removal fill permit. Regulatory requirements would not be impacted by amendment request.
	Water Rights	Amendment would not result in new or changes in water use. Regulatory requirements would not be impacted by amendment request. Condition 78 (operational water usage) applies.

1  
 2 For the above-described reasons, the Department recommends Council find that the standards  
 3 listed in Table 5, *Summary of Council Standards Not Likely Impacted by Amendment 2* are not  
 4 likely to be impacted by RFA2.

5  
 6 Sections III.B.1 through III.B.10 present the language of the identified standards not likely to be  
 7 impacted by RFA2 from OAR 345 Chapter 22, for reference purposes only.

8

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

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

10  
11        *(a) National parks, including but not limited to Crater Lake National Park and Fort*  
12        *Clatsop National Memorial;*

13  
14        *(b) National monuments, including but not limited to John Day Fossil Bed National*  
15        *Monument, Newberry National Volcanic Monument and Oregon Caves National*  
16        *Monument;*

17  
18        *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et*  
19        *seq. and areas recommended for designation as wilderness areas pursuant to 43*  
20        *U.S.C. 1782;*

21  
22        *(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon*  
23        *Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart*  
24        *Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,*  
25        *Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper*  
26        *Klamath, and William L. Finley;*

27  
28        *(e) National coordination areas, including but not limited to Government Island,*  
29        *Ochoco and Summer Lake;*

30  
31        *(f) National and state fish hatcheries, including but not limited to Eagle Creek and*  
32        *Warm Springs;*

33  
34        *(g) National recreation and scenic areas, including but not limited to Oregon Dunes*  
35        *National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon*  
36        *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

37  
38        *(h) State parks and waysides as listed by the Oregon Department of Parks and*  
39        *Recreation and the Willamette River Greenway;*

40  
41        *(i) State natural heritage areas listed in the Oregon Register of Natural Heritage*  
42        *Areas pursuant to ORS 273.581;*

43

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

3  
4           (k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers  
5           designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed  
6           as potentials for designation;

7  
8           (l) Experimental areas established by the Rangeland Resources Program, College of  
9           Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site,  
10          the Starkey site and the Union site;

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

25  
26          (n) Research forests established by the College of Forestry, Oregon State University,  
27          including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett  
28          Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the  
29          Marchel Tract;

30  
31          (o) Bureau of Land Management areas of critical environmental concern,  
32          outstanding natural areas and research natural areas;

33  
34          (p) State wildlife areas and management areas identified in OAR chapter 635,  
35          Division 8.

36          \*\*\*

37          III.B.2 Retirement and Financial Assurance: OAR 345-022-0050

38  
39          To issue a site certificate, the Council must find that:

40  
41                 (1) The site, taking into account mitigation, can be restored adequately to a useful, non-  
42                 hazardous condition following permanent cessation of construction or operation of the  
43                 facility.



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

4  
5       III.B.3 Threatened and Endangered Species: OAR 345-022-0070

6  
7       *To issue a site certificate, the Council, after consultation with appropriate state agencies,*  
8       *must find that:*

9  
10       (1) *For plant species that the Oregon Department of Agriculture has listed as*  
11       *threatened or endangered under ORS 564.105(2), the design, construction and*  
12       *operation of the proposed facility, taking into account mitigation:*

13  
14       (a) *Are consistent with the protection and conservation program, if any, that the*  
15       *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

16  
17       (b) *If the Oregon Department of Agriculture has not adopted a protection and*  
18       *conservation program, are not likely to cause a significant reduction in the*  
19       *likelihood of survival or recovery of the species; and*

20  
21       (2) *For wildlife species that the Oregon Fish and Wildlife Commission has listed as*  
22       *threatened or endangered under ORS 496.172(2), the design, construction and*  
23       *operation of the proposed facility, taking into account mitigation, are not likely to*  
24       *cause a significant reduction in the likelihood of survival or recovery of the species.*  
25

26       III.B.4 Scenic Resources: OAR 345-022-0080

27  
28       (1) *Except for facilities described in section (2), to issue a site certificate, the Council*  
29       *must find that the design, construction and operation of the facility, taking into*  
30       *account mitigation, are not likely to result in significant adverse impact to scenic*  
31       *resources and values identified as significant or important in local land use plans,*  
32       *tribal land management plans and federal land management plans for any lands*  
33       *located within the analysis area described in the project order.*  
34

35       III.B.5 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

36  
37       (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
38       *Council must find that the construction and operation of the facility, taking into account*  
39       *mitigation, are not likely to result in significant adverse impacts to:*

40  
41       (a) *Historic, cultural or archaeological resources that have been listed on, or would*  
42       *likely be listed on the National Register of Historic Places;*  
43

1                   (b) For a facility on private land, archaeological objects, as defined in ORS  
2                   358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and

3  
4                   (c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).

5  
6                   (2) The Council may issue a site certificate for a facility that would produce power from  
7                   wind, solar or geothermal energy without making the findings described in section (1).  
8                   However, the Council may apply the requirements of section (1) to impose conditions on  
9                   a site certificate issued for such a facility.

10                  \*\*\*

11  
12                  III.B.6 Recreation: OAR 345-022-0100

13  
14                  (1) Except for facilities described in section (2), to issue a site certificate, the Council must  
15                  find that the design, construction and operation of a facility, taking into account  
16                  mitigation, are not likely to result in a significant adverse impact to important  
17                  recreational opportunities in the analysis area as described in the project order. The  
18                  Council shall consider the following factors in judging the importance of a recreational  
19                  opportunity:

20  
21                  (a) Any special designation or management of the location;

22                  (b) The degree of demand;

23                  (c) Outstanding or unusual qualities;

24                  (d) Availability or rareness;

25                  (e) Irreplaceability or irretrievability of the opportunity.

26                  \*\*\*

27  
28                  III.B.7 Division 23 Standards

29  
30                  The Division 23 standards apply only to “nongenerating facilities” as defined in ORS  
31                  469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The  
32                  facility, with proposed changes, would not be a nongenerating facility as defined in statute and  
33                  therefore Division 23 is inapplicable to the facility, with proposed changes..

34  
35                  III.B.8 Siting Standards for Transmission Lines: OAR 345-024-0090

36  
37                  To issue a site certificate for a facility that includes any transmission line under Council  
38                  jurisdiction, the Council must find that the applicant:

39  
40                  (1) Can design, construct and operate the proposed transmission line so that alternating  
41                  current electric fields do not exceed 9 kV per meter at one meter above the ground  
42                  surface in areas accessible to the public;

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

4  
5           III.B.9 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.”<sup>30</sup>  
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. A removal-fill permit is not required  
12          for RFA2 activities.

13  
14          III.B.10 Water Rights

15  
16          Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources  
17          Department (OWRD) administers water rights for appropriation and use of the water resources  
18          of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility  
19          would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires  
20          that if a facility needs a groundwater permit, surface water permit, or water right transfer, that  
21          a decision on authorizing such a permit rests with the Council. No such water permit is required  
22          for RFA2 activities.

23  

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<sup>30</sup> ORS 196.800(15) defines “Waters of this state.” The term includes wetlands and certain other waterbodies.

1 **IV. FINAL CONCLUSIONS AND ORDER**

2  
3 Based on the recommended findings and conclusions included in this order, the Council makes  
4 the following findings:

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

19 Accordingly, the Council finds that the Request for Amendment 2 of the Shepherds Flat South  
20 site certificate complies with the General Standard of Review (OAR 345-022-0000). The Council  
21 finds, based on a preponderance of the evidence on the record, that the site certificate may be  
22 amended as requested.  
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1 **Final Order**

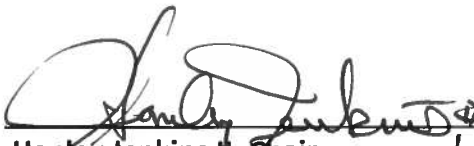
2

3 The Council approves Amendment 2 of the Shepherds Flat South site certificate.

4

**Issued this 24<sup>th</sup> day of January 2020**

**The OREGON ENERGY FACILITY SITING COUNCIL**

By:   
Hanley Jenkins II, Chair  
Oregon Energy Facility Siting Council

5

6

7 Attachment A: Amended Site Certificate

8 Attachment B: Reviewing Agency Comments on preliminary RFA2

9 Attachment C: Draft Proposed Order Comments

10 Attachment D: Revegetation Plan

11 Attachment E: Wildlife Monitoring and Mitigation Plan

12 Attachment F: Habitat Mitigation Plan

**Attachment A: Amended Site Certificate**

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

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**Second Amended Site Certificate  
for  
Shepherds Flat South**

ISSUANCE DATES

Site Certificate	July 25, 2008
First Amended Site Certificate	March 12, 2010
Second Amended Site Certificate	January 24, 2020

**The Oregon Energy Facility Siting Council**

**SECOND AMENDED SITE CERTIFICATE FOR SHEPHERDS FLAT SOUTH**

**I. INTRODUCTION**

1 The Oregon Energy Facility Siting Council (Council) issues this amended site certificate  
2 for the Shepherds Flat South (the facility) in the manner authorized under ORS Chapter 469.  
3 This amended site certificate is a binding agreement between the State of Oregon (State),  
4 acting through the Council, and Horseshoe Bend Wind, LLC (certificate holder) authorizing the  
5 certificate holder to construct and operate the facility in Gilliam County and Morrow County,  
6 Oregon. [Amendment #1 for the Shepherds Flat Wind Farm (SFWF); Amendment #2]

7 The findings of fact, reasoning and conclusions of law underlying the terms and  
8 conditions of this site certificate are set forth in the following documents, incorporated herein  
9 by this reference: (a) the Council's *Final Order on the Application for the Shepherds Flat Wind*  
10 *Farm* issued on July 25, 2008, (b) the *Final Order on Amendment #1 for the Shepherds Flat Wind*  
11 *Farm*, (c) the *Final Order on Amendment #1 for Shepherds Flat South*, and (d) the *Final Order on*  
12 *Amendment #2 for Shepherds Flat South*. In interpreting this amended site certificate, any  
13 ambiguity will be clarified by reference to the following, in order of priority: (1) this Second  
14 Amended Site Certificate, (2) the *Final Order on Amendment #2* (3) the *Final Order on*  
15 *Amendment #1*, (4) the *Final Order on Amendment #1 for the Shepherds Flat Wind Farm*, (5) the  
16 *Final Order on the Application for the Shepherds Flat Wind Farm* and (6) the record of the  
17 proceedings that led to the Final Orders on the Application and Amendment #1 and #2 for the  
18 Shepherds Flat and Shepherds Flat South Wind Farm. [Amendment #1 (SFWF); Amendment #1;  
19 Amendment #2]

20 [Text added by Amendment #1 (SFWF) was removed by Amendment #1].

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

**II. SITE CERTIFICATION**

- 23 1. To the extent authorized by state law and subject to the conditions set forth herein, the  
24 State authorizes the certificate holder to construct, operate and retire a wind energy  
25 facility, together with certain related or supporting facilities, at the site in Gilliam County  
26 and Morrow County, Oregon, as described in Section III of this site certificate. ORS  
27 469.401(1).
- 28 2. This site certificate is effective until it is terminated under OAR 345-027-0110 or the rules in  
29 effect on the date that termination is sought or until the site certificate is revoked under  
30 ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that  
31 revocation is ordered. ORS 469.401(1).
- 32 3. This site certificate does not address, and is not binding with respect to, matters that were  
33 not addressed in the Council's Final Orders on the Application and Amendment #1 and  
34 Amendment #2 for the Shepherds Flat and Shepherds Flat South Wind Farm and in the *Final*  
35 *Order on Amendment #1, and Final Order on Amendment #2*. Such matters include, but are



- 1 not limited to: building code compliance, wage, hour and other labor regulations, local  
2 government fees and charges and other design or operational issues that do not relate to  
3 siting the facility (ORS 469.401(4)) and permits issued under statutes and rules for which the  
4 decision on compliance has been delegated by the federal government to a state agency  
5 other than the Council. 469.503(3). [Amendment #1 (SFWF); Amendment #1; Amendment #2]
- 6 4. Both the State and the certificate holder shall abide by local ordinances, state law and the  
7 rules of the Council in effect on the date this site certificate is executed. ORS 469.401(2). In  
8 addition, upon a clear showing of a significant threat to public health, safety or the  
9 environment that requires application of later-adopted laws or rules, the Council may  
10 require compliance with such later-adopted laws or rules. ORS 469.401(2).
- 11 5. For a permit, license or other approval addressed in and governed by this site certificate,  
12 the certificate holder shall comply with applicable state and federal laws adopted in the  
13 future to the extent that such compliance is required under the respective state agency  
14 statutes and rules. ORS 469.401(2).
- 15 6. Subject to the conditions herein, this site certificate binds the State and all counties, cities  
16 and political subdivisions in Oregon as to the approval of the site and the construction,  
17 operation and retirement of the facility as to matters that are addressed in and governed by  
18 this site certificate. ORS 469.401(3).
- 19 7. Each affected state agency, county, city and political subdivision in Oregon with authority to  
20 issue a permit, license or other approval addressed in or governed by this site certificate  
21 shall, upon submission of the proper application and payment of the proper fees, but  
22 without hearings or other proceedings, issue such permit, license or other approval subject  
23 only to conditions set forth in this site certificate. ORS 469.401(3).
- 24 8. After issuance of this site certificate, each state agency or local government agency that  
25 issues a permit, license or other approval for the facility shall continue to exercise  
26 enforcement authority over such permit, license or other approval. ORS 469.401(3).
- 27 9. After issuance of this site certificate, the Council shall have continuing authority over the  
28 site and may inspect, or direct the Oregon Department of Energy (Department) to inspect,  
29 or request another state agency or local government to inspect, the site at any time in order  
30 to ensure that the facility is being operated consistently with the terms and conditions of  
31 this site certificate. ORS 469.430.

### III. DESCRIPTION

#### 1. The Facility

##### (a) The Energy Facility

32 The energy facility is an electric power generating facility that produces power from  
33 wind energy. The facility consists of not more than 116 wind turbines. The energy facility is  
34 described further in the *Final Order on Amendment #1 for the Shepherds Flat Wind Farm*, in the  
35 *Final Order on Amendment #1 for Shepherds Flat South* and in the *Final Order on Amendment*  
36 *#2 for Shepherds Flat South*. [Amendment #1 (SFWF); Amendment #1; Amendment #2]

1 **Wind Turbine Repower**

2 Wind turbine repowering includes removal and replacement of wind turbine blades and  
3 associated wind turbine components on existing turbine towers. Wind turbine repowering  
4 requires trucks, small cranes or telehandlers, and a track mounted crane. Trucks deliver new  
5 wind turbine components to wind turbine pad sites, and transport the old components offsite  
6 for proper disposal or recycling at a licensed facility. Once the new wind turbines components  
7 are delivered via truck to each pad site, smaller cranes or telehandlers unload and stage the  
8 components. A track mounted crane then mobilizes to the turbine pad area, setting up on the  
9 access road adjacent the turbine, and lowers the old rotor down to the pad site for  
10 disassembly, followed by the old gearbox. Once disassembled, the old components are staged  
11 for truck removal. The track mounted crane then lifts the new gearbox and rotor into place.  
12 Once, complete, the track mounted crane advances to the next wind turbine, and the process is  
13 repeated.

14  
15 The facility repower activity results in approximately 125.2 acres of temporary disturbance from  
16 temporary access roads, road improvements and laydown areas.  
17

18 [Amendment #2]

**(b) Related or Supporting Facilities**

19 The facility includes the following related or supporting facilities described below and in  
20 greater detail in the *Final Order on Amendment #1 for the Shepherds Flat Wind Farm* and in the  
21 *Final Order on Amendment #1*:

- 22 • Power Collection System
- 23 • Collector Substation
- 24 • Meteorological towers
- 25 • Field workshop
- 26 • Control system
- 27 • Access roads
- 28 • Additional construction areas

29 [Amendment #1 (SFWF); Amendment #1]

30 **Power Collection System**

31 A power collection system operating at 34.5 kilovolts (kV) transports power from each  
32 turbine to a collector substation. To the extent practicable, the collection system is installed  
33 underground at a depth of at least three feet. Segments of the collector system are  
34 aboveground. Aboveground segments are installed on single-pole, cross-arm structures.

35 [Amendment #1]

36 **Collector Substations and Interconnection**

37 The facility includes a collector substation. The facility includes a 230-kV transmission  
38 line between the substation and the interconnection site. The interconnection site is located at  
39 the Bonneville Power Administration Slatt Switching Station. [Amendment #1 (SFWF)]

1        **Meteorological Towers**

2            The facility includes two permanent meteorological (met) towers. [Amendment #1 (SFWF)]

3        **Field Workshop**

4            The facility includes a field workshop. Including fenced areas, the field workshop  
5 occupies about 1.4 acres. [Amendment #1 (SFWF)]

6        **Control System**

7            A fiber optic communications network links the control panels within each wind turbine  
8 to a host computer located in the field workshop. Supervisory, Control and Data Acquisition  
9 (SCADA) systems at the field workshop collect operating and performance data from the  
10 turbines and the facility’s met towers. [Amendment #1 (SFWF)]

11        **Access Roads**

12            The facility includes up to 27.5 miles of new roads that provide access to the turbine  
13 strings. The access roads connect to graveled turbine turnouts at the base of each turbine.  
14 [Amendment #1 (SFWF); Amendment #1]

15        **Temporary Construction Areas**

16            During construction, the facility includes temporary laydown areas used to stage  
17 construction and store supplies and equipment. The facility includes construction crane paths  
18 to move construction cranes between turbine strings.

**2. Location of the Facility**

19            The facility is located in Morrow County and Gilliam County south of Interstate Highway  
20 84 and east of Arlington, Oregon, between State Highways 19 and 74. The facility is located  
21 entirely on private land subject to long-term wind energy leases. [Amendment #1 (SFWF)]

**IV. CONDITIONS REQUIRED BY COUNCIL RULES**

22            This section lists conditions required by OAR 345-025-0006 (Mandatory Conditions in  
23 Site Certificates), OAR 345-025-0010 (Site Specific Conditions), OAR 345-025-0016 (Monitoring  
24 and Mitigation Conditions) and OAR Chapter 345, Division 26 (Construction and Operation  
25 Rules for Facilities). These conditions should be read together with the specific facility  
26 conditions listed in Section V to ensure compliance with the siting standards of OAR Chapter  
27 345, Divisions 22 and 24, and to protect the public health and safety. In these conditions, the  
28 definitions in OAR 345-001-0010 apply.

29            The obligation of the certificate holder to report information to the Department or the  
30 Council under the conditions listed in this section and in Section V is subject to the provisions of  
31 ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the  
32 Council will not publicly disclose information that may be exempt from public disclosure if the  
33 certificate holder has clearly labeled such information and stated the basis for the exemption at  
34 the time of submitting the information to the Department or the Council. If the Council or the  
35 Department receives a request for the disclosure of the information, the Council or the  
36 Department, as appropriate, will make a reasonable attempt to notify the certificate holder and

1 will refer the matter to the Attorney General for a determination of whether the exemption is  
2 applicable, pursuant to ORS 192.450.

3 In addition to these conditions, the site certificate holder is subject to all conditions and  
4 requirements contained in the rules of the Council and in local ordinances and state law in  
5 effect on the date the certificate is executed. Under ORS 469.401(2), upon a clear showing of a  
6 significant threat to the public health, safety or the environment that requires application of  
7 later-adopted laws or rules, the Council may require compliance with such later-adopted laws  
8 or rules.

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

13 1 The Council shall not change the conditions of the site certificate except as provided for in  
14 OAR Chapter 345, Division 27.

15 2 The certificate holder shall submit a legal description of the site to the Department of  
16 Energy within 90 days after beginning operation of the facility. The legal description  
17 required by this rule means a description of metes and bounds or a description of the site  
18 by reference to a map and geographic data that clearly and specifically identifies the outer  
19 boundaries that contain all parts of the facility.

20 3 The certificate holder shall design, construct, operate and retire the facility:

21 (a) Substantially as described in the site certificate;

22 (b) In compliance with the requirements of ORS Chapter 469, applicable Council rules,  
23 and applicable state and local laws, rules and ordinances in effect at the time the site  
24 certificate is issued; and

25 (c) In compliance with all applicable permit requirements of other state agencies.

26 4 The certificate holder shall begin and complete construction of the facility by the dates  
27 specified in the site certificate. *(See Conditions 24 and 25.)*

28 5 Except as necessary for the initial survey or as otherwise allowed for wind energy facilities  
29 or transmission lines under this section, the certificate holder shall not begin construction,  
30 as defined in OAR 345-001-0010, or create a clearing on any part of the site until the  
31 certificate holder has construction rights on all parts of the site. For the purpose of this  
32 rule, "construction rights" means the legal right to engage in construction activities. For  
33 wind energy facilities and transmission lines, if the certificate holder does not have  
34 construction rights on all parts of the site, the certificate holder may nevertheless begin  
35 construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if  
36 the certificate holder has construction rights on that part of the site and:

37 (a) The certificate holder would construct and operate part of the facility on that part of  
38 the site even if a change in the planned route of the transmission line occurs during the  
39 certificate holder's negotiations to acquire construction rights on another part of the site;  
40 or

- 1 (b) The certificate holder would construct and operate part of a wind energy facility on  
2 that part of the site even if other parts of the facility were modified by amendment of the  
3 site certificate or were not built. [Amendment #2]
- 4 6 If the Council requires mitigation based on an affirmative finding under any standards of  
5 Division 22 or Division 24 of this chapter, the certificate holder shall consult with affected  
6 state agencies and local governments designated by the Council and shall develop specific  
7 mitigation plans consistent with Council findings under the relevant standards. The  
8 certificate holder must submit the mitigation plans to the Office and receive Office  
9 approval before beginning construction or, as appropriate, operation of the facility.
- 10 7 The certificate holder shall prevent the development of any conditions on the site that  
11 would preclude restoration of the site to a useful, non-hazardous condition to the extent  
12 that prevention of such site conditions is within the control of the certificate holder.
- 13 8 Before beginning construction of the facility, the certificate holder shall submit to the  
14 State of Oregon, through the Council, a bond or letter of credit, in a form and amount  
15 satisfactory to the Council to restore the site to a useful, non-hazardous condition. The  
16 certificate holder shall maintain a bond or letter of credit in effect at all times until the  
17 facility has been retired. The Council may specify different amounts for the bond or letter  
18 of credit during construction and during operation of the facility. *(See Condition 30.)*
- 19 9 The certificate holder shall retire the facility if the certificate holder permanently ceases  
20 construction or operation of the facility. The certificate holder shall retire the facility  
21 according to a final retirement plan approved by the Council, as described in OAR 345-027-  
22 0110. The certificate holder shall pay the actual cost to restore the site to a useful, non-  
23 hazardous condition at the time of retirement, notwithstanding the Council's approval in  
24 the site certificate of an estimated amount required to restore the site.
- 25 10 The Council shall include as conditions in the site certificate all representations in the site  
26 certificate application and supporting record the Council deems to be binding  
27 commitments made by the applicant.
- 28 11 Upon completion of construction, the certificate holder shall restore vegetation to the  
29 extent practicable and shall landscape all areas disturbed by construction in a manner  
30 compatible with the surroundings and proposed use. Upon completion of construction,  
31 the certificate holder shall remove all temporary structures not required for facility  
32 operation and dispose of all timber, brush, refuse and flammable or combustible material  
33 resulting from clearing of land and construction of the facility.
- 34 12 The certificate holder shall design, engineer and construct the facility to avoid dangers to  
35 human safety and the environment presented by seismic hazards affecting the site that  
36 are expected to result from all maximum probable seismic events. As used in this rule  
37 "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction triggering  
38 and consequences (including flow failure, settlement buoyancy, and lateral spreading),  
39 cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure  
40 interaction. [Amendment #2]

- 1 13 The certificate holder shall notify the Department, the State Building Codes Division and  
2 the Department of Geology and Mineral Industries promptly if site investigations or  
3 trenching reveal that conditions in the foundation rocks differ significantly from those  
4 described in the application for a site certificate. After the Department receives the notice,  
5 the Council may require the certificate holder to consult with the Department of Geology  
6 and Mineral Industries and the Building Codes Division to propose and implement  
7 corrective or mitigation actions. [Amendment #2]
- 8 14 The certificate holder shall notify the Department, the State Building Codes Division and  
9 the Department of Geology and Mineral Industries promptly if shear zones, artesian  
10 aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the  
11 Department receives notice, the Council may require the certificate holder to consult with  
12 the Department of Geology and Mineral Industries and the Building Codes Division to  
13 propose and implement corrective or mitigation actions. [Amendment #2]
- 14 15 Before any transfer of ownership of the facility or ownership of the site certificate holder,  
15 the certificate holder shall inform the Department of the proposed new owners. The  
16 requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a  
17 transfer of the site certificate.
- 18 16 If the Council finds that the certificate holder has permanently ceased construction or  
19 operation of the facility without retiring the facility according to a final retirement plan  
20 approved by the Council, as described in OAR 345-027-0110, the Council shall notify the  
21 certificate holder and request that the certificate holder submit a proposed final  
22 retirement plan to the Office within a reasonable time not to exceed 90 days. If the  
23 certificate holder does not submit a proposed final retirement plan by the specified date,  
24 the Council may direct the Department to prepare a proposed final retirement plan for the  
25 Council's approval. Upon the Council's approval of the final retirement plan, the Council  
26 may draw on the bond or letter of credit described in OAR 345-027-0020(8) to restore the  
27 site to a useful, non-hazardous condition according to the final retirement plan, in addition  
28 to any penalties the Council may impose under OAR Chapter 345, Division 29. If the  
29 amount of the bond or letter of credit is insufficient to pay the actual cost of retirement,  
30 the certificate holder shall pay any additional cost necessary to restore the site to a useful,  
31 non-hazardous condition. After completion of site restoration, the Council shall issue an  
32 order to terminate the site certificate if the Council finds that the facility has been retired  
33 according to the approved final retirement plan.
- 34 17 If the facility includes any transmission line under Council jurisdiction:  
35 (a) The certificate holder shall design, construct and operate the transmission line in  
36 accordance with the requirements of the National Electrical Safety Code (American  
37 National Standards Institute, Section C2, 1997 Edition); and  
38 (b) The certificate holder shall develop and implement a program that provides  
39 reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or  
40 structures of a permanent nature that could become inadvertently charged with electricity  
41 are grounded or bonded throughout the life of the line.

1 18 If the proposed energy facility has, as a related or supporting facility, a transmission line,  
2 the Council shall specify an approved corridor in the site certificate and shall allow the  
3 certificate holder to construct the transmission line anywhere within the corridor, subject  
4 to the conditions of the site certificate. If the applicant has analyzed more than one  
5 corridor in its application for a site certificate, the Council may, subject to the Council's  
6 standards, approve more than one corridor.

7 19 The following general monitoring conditions apply:

8 (a) The certificate holder shall consult with affected state agencies, local governments  
9 and tribes and shall develop specific monitoring programs for impacts to resources  
10 protected by the standards of divisions 22 and 24 of OAR Chapter 345 and resources  
11 addressed by applicable statutes, administrative rules and local ordinances. The certificate  
12 holder must submit the monitoring programs to the Department of Energy and receive  
13 Department approval before beginning construction or, as appropriate, operation of the  
14 facility.

15 (b) The certificate holder shall implement the approved monitoring programs described  
16 in OAR 345-027-0028(1) and monitoring programs required by permitting agencies and  
17 local governments.

18 (c) For each monitoring program described in OAR 345-027-0028(1) and (2), the  
19 certificate holder shall have quality assurance measures approved by the Department  
20 before beginning construction or, as appropriate, before beginning commercial operation.

21 (d) If the certificate holder becomes aware of a significant environmental change or  
22 impact attributable to the facility, the certificate holder shall, as soon as possible, submit a  
23 written report to the Department describing the impact on the facility and any affected  
24 site certificate conditions.

25 20 Following receipt of the site certificate or an amended site certificate, the certificate  
26 holder shall implement a plan that verifies compliance with all site certificate terms and  
27 conditions and applicable statutes and rules. As a part of the compliance plan, to verify  
28 compliance with the requirement to begin construction by the date specified in the site  
29 certificate, the certificate holder shall report promptly to the Department of Energy when  
30 construction begins. Construction is defined in OAR 345-001-0010. In reporting the  
31 beginning of construction, the certificate holder shall describe all work on the site  
32 performed before beginning construction, including work performed before the Council  
33 issued the site certificate, and shall state the cost of that work. For the purpose of this  
34 exhibit, "work on the site" means any work within a site or corridor, other than surveying,  
35 exploration or other activities to define or characterize the site or corridor. The certificate  
36 holder shall document the compliance plan and maintain it for inspection by the  
37 Department or the Council.

38 21 The certificate holder shall report according to the following requirements:

39 (a) General reporting obligation for energy facilities under construction or operating:

40 (i) Within six months after beginning construction, and every six months thereafter  
41 during construction of the energy facility and related or supporting facilities, the  
42 certificate holder shall submit a semiannual construction progress report to the  
43 Department of Energy. In each construction progress report, the certificate holder shall

1 describe any significant changes to major milestones for construction. The certificate  
2 holder shall include such information related to construction as specified in the site  
3 certificate. When the reporting date coincides, the certificate holder may include the  
4 construction progress report within the annual report described in OAR 345-026-0080.

5 (ii) By April 30 of each year after beginning construction, the certificate holder shall  
6 submit an annual report to the Department addressing the subjects listed in OAR 345-026-  
7 0080. The Council Secretary and the certificate holder may, by mutual agreement, change  
8 the reporting date.

9 (iii) To the extent that information required by OAR 345-026-0080 is contained in  
10 reports the certificate holder submits to other state, federal or local agencies, the  
11 certificate holder may submit excerpts from such other reports to satisfy this rule. The  
12 Council reserves the right to request full copies of such excerpted reports.

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

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

20 (ii) Reliability and Efficiency of Power Production: For electric power plants, the  
21 plant availability and capacity factors for the reporting year. The certificate holder shall  
22 describe any equipment failures or plant breakdowns that had a significant impact on  
23 those factors and shall describe any actions taken to prevent the recurrence of such  
24 problems.

25 (A)

26 (iii) Status of Surety Information: Documentation demonstrating that bonds or  
27 letters of credit as described in the site certificate are in full force and effect and will  
28 remain in full force and effect for the term of the next reporting period.

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

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

38 (vi) Facility Modification Report: A summary of changes to the facility that the  
39 certificate holder has determined do not require a site certificate amendment in  
40 accordance with OAR 345-027-0350.

41 (vii) [Amendment #2]

42 22 The certificate holder and the Department of Energy shall exchange copies of all  
43 correspondence or summaries of correspondence related to compliance with statutes,



1 rules and local ordinances on which the Council determined compliance, except for  
2 material withheld from public disclosure under state or federal law or under Council rules.  
3 The certificate holder may submit abstracts of reports in place of full reports; however,  
4 the certificate holder shall provide full copies of abstracted reports and any summarized  
5 correspondence at the request of the Department.

- 6 **23** The certificate holder shall notify the Department of Energy within 72 hours of any  
7 occurrence involving the facility if:
- 8 (a) There is an attempt by anyone to interfere with its safe operation;
  - 9 (b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-  
10 caused event such as a fire or explosion affects or threatens to affect the public health and  
11 safety or the environment; or
  - 12 (c) There is any fatal injury at the facility.

## V. SPECIFIC FACILITY CONDITIONS

13 The conditions listed in this section include conditions based on representations in the  
14 site certificate application and supporting record. These conditions are required under OAR  
15 345-025-0006(10). The certificate holder must comply with these conditions in addition to the  
16 conditions listed in Section VI. This section includes other specific facility conditions the Council  
17 finds necessary to ensure compliance with the siting standards of OAR Chapter 345, Divisions  
18 22 and 24, and to protect the public health and safety. For conditions that require subsequent  
19 review and approval of a future action, ORS 469.402 authorizes the Council to delegate the  
20 future review and approval to the Department if, in the Council's discretion, the delegation is  
21 warranted under the circumstances of the case.

### 1. Certificate Administration Conditions

- 22 **24** The certificate holder shall begin construction of the facility by July 25, 2011. The Council  
23 may grant an extension of the deadline to begin construction in accordance with OAR 345-  
24 027-0030 or any successor rule in effect at the time the request for extension is  
25 submitted. [Amendment #1 (SFWF)]
- 26 **25** The certificate holder shall complete construction of the facility by July 25, 2014.  
27 Construction is complete when: 1) the facility is substantially complete as defined by the  
28 certificate holder's construction contract documents, 2) acceptance testing has been  
29 satisfactorily completed and 3) the energy facility is ready to begin continuous operation  
30 consistent with the site certificate. The certificate holder shall promptly notify the  
31 Department of the date of completion of construction. The Council may grant an  
32 extension of the deadline for completing construction in accordance with OAR 345-027-  
33 0030 or any successor rule in effect at the time the request for extension is submitted.  
34 [Amendment #1 (SFWF)]
- 35 **26** The certificate holder shall construct a facility substantially as described in the site  
36 certificate and may select turbines of any type, subject to the following restrictions and  
37 compliance with all other site certificate conditions. Before beginning construction, the

1 certificate holder shall provide to the Department a description of the turbine types  
2 selected for the facility demonstrating compliance with this condition.

3 (a) The total number of turbines at the facility must not exceed 116 turbines.  
4

5 (b) The turbine hub height must not exceed 105 meters and the maximum blade tip  
6 height must not exceed 150 meters.

7 (c) The minimum blade tip clearance must be 25 meters above ground. Repowered  
8 turbines that comply with the setback requirements of Condition 40 must have a  
9 minimum blade tip clearance of 21.5 meters above ground.

10 (d) The maximum volume of concrete above three feet below grade in the turbine  
11 foundations must not exceed 66 cubic yards.

12 (e) The maximum combined weight of metals in the tower (including ladders and  
13 platforms) and nacelle must not exceed 393 U.S. tons per turbine.

14 (f) The certificate holder shall request an amendment of the site certificate to increase  
15 the number of wind turbines to more than 116 wind turbines or to install wind turbines  
16 with a hub height greater than 105 meters, a blade tip height greater than 150 meters or a  
17 blade tip clearance less than 21.5 meters above ground.

18 [Amendment #1 (SFWF); Amendment #1; Amendment #2]

19 27 The certificate holder shall obtain all necessary federal, state and local permits or  
20 approvals required for construction, operation and retirement of the facility or ensure that  
21 its contractors obtain the necessary federal, state and local permits or approvals.

22 28 Before beginning construction, the certificate holder shall notify the Department in  
23 advance of any work on the site that does not meet the definition of “construction” in ORS  
24 469.300, excluding surveying, exploration or other activities to define or characterize the  
25 site, and shall provide to the Department a description of the work and evidence that its  
26 value is less than \$250,000.

27 29 Before beginning construction and after considering all micrositing factors, the certificate  
28 holder shall provide to the Department, to the Oregon Department of Fish and Wildlife  
29 (ODFW) and to the Planning Directors of Morrow County and Gilliam County detailed  
30 maps of the facility site, showing the final locations where the certificate holder proposes  
31 to build facility components, and a table showing the acres of temporary and permanent  
32 habitat impact by habitat category and subtype, similar to Table 11 in the Final Order on  
33 Amendment #1 for the Shepherds Flat Wind Farm. The detailed maps of the facility site  
34 shall indicate the habitat categories of all areas that would be affected during construction  
35 (similar to the maps labeled “ODFW-2” in the site certificate application for the Shepherds  
36 Flat Wind Farm). In classifying the affected habitat into habitat categories, the certificate  
37 holder shall consult with the ODFW. The certificate holder shall not begin ground  
38 disturbance in an affected area until the habitat assessment has been approved by the  
39 Department. The Department may employ a qualified contractor to confirm the habitat  
40 assessment by on-site inspection. [Amendment #1 (SFWF)]

41 30 Before beginning construction, the certificate holder shall submit to the State of Oregon  
42 through the Council a bond or letter of credit in the amount described herein naming the

1 State of Oregon, acting by and through the Council, as beneficiary or payee. The initial  
2 bond or letter of credit amount is either \$9.108 million (1<sup>st</sup> Quarter 2010 dollars), to be  
3 adjusted to the date of issuance as described in (b), or the amount determined as  
4 described in (a). The certificate holder shall adjust the amount of the bond or letter of  
5 credit on an annual basis thereafter as described in (b).

6 (a) The certificate holder may adjust the amount of the bond or letter of credit based on  
7 the final design configuration of the facility and turbine types selected by applying the unit  
8 costs and general costs illustrated in Table 3 in the Final Order on Amendment #1 for the  
9 Shepherds Flat Wind Farm and calculating the financial assurance amount as described in  
10 that order, adjusted to the date of issuance as described in (b) and subject to approval by  
11 the Department.

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

14 (i) Adjust the Subtotal component of the bond or letter of credit amount (expressed  
15 in 3<sup>rd</sup> Quarter 2009 dollars) to present value, using the U.S. Gross Domestic Product  
16 Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of  
17 Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor  
18 agency (the "Index") and using the index value for 3<sup>rd</sup> Quarter 2009 dollars and the  
19 quarterly index value for the date of issuance of the new bond or letter of credit. If at any  
20 time the Index is no longer published, the Council shall select a comparable calculation to  
21 adjust 3<sup>rd</sup> Quarter 2009 dollars to present value.

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

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

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

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

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

34 (e) The certificate holder shall describe the status of the bond or letter of credit in the  
35 annual report submitted to the Council under Condition 21.

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

38 [Amendment #1 (SFWF); Amendment #1]

39 **31** If the certificate holder elects to use a bond to meet the requirements of Condition 30, the  
40 certificate holder shall ensure that the surety is obligated to comply with the requirements  
41 of applicable statutes, Council rules and this site certificate when the surety exercises any  
42 legal or contractual right it may have to assume construction, operation or retirement of  
43 the energy facility. The certificate holder shall also ensure that the surety is obligated to

1 notify the Council that it is exercising such rights and to obtain any Council approvals  
2 required by applicable statutes, Council rules and this site certificate before the surety  
3 commences any activity to complete construction, operate or retire the energy facility.

4 32 Before beginning construction, the certificate holder shall notify the Department of the  
5 identity and qualifications of the major design, engineering and construction contractor(s)  
6 for the facility. The certificate holder shall select contractors that have substantial  
7 experience in the design, engineering and construction of similar facilities. The certificate  
8 holder shall report to the Department any change of major contractors.

9 33 The certificate holder shall contractually require all construction contractors and  
10 subcontractors involved in the construction of the facility to comply with all applicable  
11 laws and regulations and with the terms and conditions of the site certificate. Such  
12 contractual provisions shall not operate to relieve the certificate holder of responsibility  
13 under the site certificate.

14 34 During construction, the certificate holder shall have a full-time, on-site assistant  
15 construction manager who is qualified in environmental compliance to ensure compliance  
16 with all site certificate conditions. The certificate holder shall notify the Department of the  
17 name, telephone number and e-mail address of this person.

18 35 Within 72 hours after discovery of conditions or circumstances that may violate the terms  
19 or conditions of the site certificate, the certificate holder shall report the conditions or  
20 circumstances to the Department.

## 2. Land Use Conditions

21 36 The certificate holder shall consult with area landowners and lessees during construction  
22 and operation of the facility and shall implement measures to reduce or avoid any adverse  
23 impacts to farm practices on surrounding lands and to avoid any increase in farming costs.

24 37 The certificate holder shall design and construct the facility using the minimum land area  
25 necessary for safe construction and operation. The certificate holder shall locate access  
26 roads and temporary construction laydown and staging areas to minimize disturbance  
27 with farming practices and, wherever feasible, shall place turbines and transmission  
28 interconnection lines along the margins of cultivated areas to reduce the potential for  
29 conflict with farm operations.

30 38 During construction and operation of the facility, the certificate holder shall implement a  
31 plan to control the introduction and spread of noxious weeds. The certificate shall develop  
32 the weed control plan consistent with the Gilliam County and Morrow County Weed  
33 Control Programs.

34 39 Before beginning construction of the facility, the certificate holder shall record in the real  
35 property records of Gilliam County a Covenant Not to Sue with regard to generally  
36 accepted farming practices on adjacent farmland consistent with Gilliam County Zoning  
37 Ordinance 7.020(T)(4)(a)(5).

1 **40** The certificate holder shall construct all facility components in compliance with the  
2 following setback requirements:

3 (a) All facility components must be at least 3,520 feet from the property line of  
4 properties zoned residential use or designated in the Gilliam County Comprehensive Plan  
5 as residential.

6 (b) Where (a) does not apply, the certificate holder shall maintain a minimum distance  
7 of 110-percent of maximum blade tip height, measured from the centerline of the turbine  
8 tower to the nearest edge of any public road right-of-way. The certificate holder shall  
9 assume a minimum right-of-way width of 60 feet.

10 (c) Where (a) does not apply, the certificate holder shall maintain a minimum distance  
11 of 1,320 feet, measured from the centerline of the turbine tower to the center of the  
12 nearest residence existing at the time of tower construction.

13 (d) Where (a) does not apply, the certificate holder shall maintain a minimum distance  
14 of 110-percent of maximum blade tip height, measured from the centerline of the turbine  
15 tower to the nearest boundary of the certificate holder's lease area.

16 **41** Within 90 days after beginning operation, the certificate holder shall provide to the  
17 Department and to the Planning Directors of Gilliam County and Morrow County the  
18 actual latitude and longitude location or Stateplane NAD 83(91) coordinates of each  
19 turbine tower, connecting lines and transmission lines. In addition, the certificate holder  
20 shall provide to the Department and to the Planning Directors of Gilliam County and  
21 Morrow County, a summary of as-built changes in the facility compared to the original  
22 plan, if any.

23 **42** The certificate holder shall install gates on all private facility access roads in Gilliam  
24 County, in accordance with Gilliam County Zoning Ordinance Section 7.020(T)(4)(d)(6).

### **3. Cultural Resource Conditions**

25 **43** Before beginning construction, the certificate holder shall provide to the Department a  
26 map showing the final design locations of all components of the facility and areas that  
27 would be temporarily disturbed during construction. In addition, the certificate holder  
28 shall comply with the following requirements:

29 (a) The certificate holder shall avoid disturbance within a 30-meter buffer around the  
30 historic-period archaeological sites within the facility boundary identified by AINW as  
31 "possibly eligible" for listing in the National Register of Historic Places (NRHP) as described  
32 in the Final Order on the Application for the Shepherds Flat Wind Farm.

33 (b) The certificate holder shall avoid disturbance of the stacked rock features within the  
34 facility boundary identified by AINW as "possibly eligible" for listing in the NRHP as  
35 described in the Final Order on the Application for the Shepherds Flat Wind Farm and  
36 shall, to the extent practicable, maintain a 30-meter no-construction buffer around these  
37 features. If a 30-meter buffer cannot be maintained, the certificate holder shall consult  
38 with the State Historic Preservation Office (SHPO) and the Department to determine  
39 appropriate action to preserve or document the feature.

40 (c) The certificate holder shall label "no entry" areas around all identified historic,  
41 cultural or archaeological resource sites on construction maps and drawings, and if

1 construction activities will occur within 200 feet of an identified site, the certificate holder  
2 shall flag a 30-meter buffer around the site.

3 (d) The certificate holder shall hire qualified personnel to conduct pre-construction field  
4 investigation for historic, cultural or archaeological resources in any areas of potential  
5 construction disturbance that AINW did not previously survey.

6 (e) The certificate holder shall provide written reports of the field investigation required  
7 under (d) to the Department and to the SHPO. If any historic, cultural or archaeological  
8 resources are found that the SHPO determines to be significant, the certificate holder shall  
9 consult with the Department and the SHPO to develop plan to avoid disturbance of the  
10 resources during construction and operation of the facility. The certificate holder shall  
11 instruct all construction personnel to avoid areas where the resources were found and  
12 shall implement other appropriate measures to protect the resources.

13 [Amendment #1 (SFWF)]

14 44 The certificate holder shall ensure that a qualified archeologist, as defined in OAR 736-  
15 051-0070, instructs construction personnel in the identification of cultural materials and  
16 avoidance of accidental damage to identified resource sites.

17 45 The certificate holder shall ensure that construction personnel cease all ground-disturbing  
18 activities in the immediate area if any archaeological or cultural resources are found  
19 during construction of the facility until a qualified archeologist can evaluate the  
20 significance of the find. The certificate holder shall notify the Department and the State  
21 Historic Preservation Office (SHPO) of the find. If the SHPO determines that the resource is  
22 significant, the certificate holder shall make recommendations to the Council for  
23 mitigation, including avoidance, field documentation and data recovery, in consultation  
24 with the Department, SHPO, interested tribes and other appropriate parties. The  
25 certificate holder shall not restart work in the affected area until the certificate holder has  
26 demonstrated to the Department and the SHPO that it has complied with archaeological  
27 resource protection regulations.

28 46 In reference to the presumed alignments of the Oregon Trail described in the Final Order  
29 on the Application, the certificate holder shall comply with the following requirements:

30 (a) The certificate holder shall not locate facility components on visible remnants of the  
31 Oregon Trail and shall avoid any construction disturbance to those remnants.

32 (b) The certificate holder shall not locate facility components on undeveloped land  
33 where the trail alignment was marked by existing Oregon-California Trail Association  
34 markers as described in the October 2007 Archaeological Investigations Northwest, Inc.  
35 report (No. 2012) on the Oregon Trail.

36 (c) Before beginning construction, the certificate holder shall provide to the State  
37 Historic Preservation Office (SHPO) and to the Department photographic documentation  
38 of the presumed Oregon Trail alignments within the site boundary.

39 (d) The certificate holder shall ensure that construction personnel proceed carefully in  
40 the vicinity of the presumed alignments of the Oregon Trail. If any intact physical evidence  
41 of the trail is discovered, the certificate holder shall avoid any disturbance to the intact  
42 segments, by redesign, re-engineering or restricting the area of construction activity. The

1 certificate holder shall promptly notify the SHPO and the Department of the discovery.  
2 The certificate holder shall consult with the SHPO and the Department to determine  
3 appropriate mitigation measures.

#### 4. Geotechnical Conditions

4 47 Before beginning construction, the certificate holder shall conduct a site-specific  
5 geotechnical investigation and shall report its findings to the Oregon Department of  
6 Geology & Mineral Industries (DOGAMI) and the Department. The certificate holder shall  
7 conduct the geotechnical investigation after consultation with DOGAMI and in general  
8 accordance with DOGAMI open file report 00-04 "Guidelines for Engineering Geologic  
9 Reports and Site-Specific Seismic Hazard Reports."

10 48 The certificate holder shall design and construct the facility in accordance with  
11 requirements set forth by the State of Oregon's Building Code Division and any other  
12 applicable codes and design procedures. The certificate holder shall design facility  
13 structures to meet or exceed the minimum standards required by the 2003 International  
14 Building Code.

15 49 The certificate holder shall design, engineer and construct the facility to avoid dangers to  
16 human safety presented by non-seismic hazards. As used in this condition, "non-seismic  
17 hazards" include settlement, landslides, flooding and erosion.

#### 5. Hazardous Materials, Fire Protection & Public Safety Conditions

18 50 The certificate holder shall handle hazardous materials used on the site in a manner that  
19 protects public health, safety and the environment and shall comply with all applicable  
20 local, state and federal environmental laws and regulations. The certificate holder shall  
21 not store diesel fuel or gasoline on the facility site.

22 51 If a spill or release of hazardous material occurs during construction or operation of the  
23 facility, the certificate holder shall notify the Department within 72 hours and shall clean  
24 up the spill or release and dispose of any contaminated soil or other materials according to  
25 applicable regulations. The certificate holder shall make sure that spill kits containing  
26 items such as absorbent pads are located on equipment and at the field workshop. The  
27 certificate holder shall instruct employees about proper handling, storage and cleanup of  
28 hazardous materials. [Amendment #1 (SFWF)]

29 52 During construction, the certificate holder shall ensure that construction personnel are  
30 trained in fire prevention and response, that construction vehicles and equipment are  
31 operated on graveled areas to the extent possible and that open flames, such as cutting  
32 torches, are kept away from dry grass areas.

33 53 During operation, the certificate holder shall ensure that all on-site employees receive  
34 annual fire prevention and response training, including tower rescue training, by qualified  
35 instructors or members of the local fire districts. The certificate holder shall ensure that all  
36 employees are instructed to keep vehicles on roads and off dry grassland, except when  
37 off-road operation is required for emergency purposes. The certificate holder shall

- 1 encourage employees to become volunteer members of local fire departments and shall  
2 facilitate appropriate training.
- 3 54 During construction and operation of the facility, the certificate holder shall ensure that  
4 the field workshop and all service vehicles are equipped with shovels and portable fire  
5 extinguishers of a 4A50BC or equivalent rating. [Amendment #1 (SFWF)]
- 6 55 During construction and operation of the facility, the certificate holder shall develop and  
7 implement fire safety plans in consultation with the local fire protection agencies (the  
8 North Gilliam County Rural Fire Protection District and the Lone Rural Fire Protection  
9 District) to minimize the risk of fire and to respond appropriately to any fires that occur on  
10 the facility site. In developing the fire safety plans, the certificate holder shall take into  
11 account the dry nature of the region and shall address risks on a seasonal basis. The  
12 certificate holder shall meet annually with local fire protection agency personnel to  
13 discuss emergency planning and shall invite local fire protection agency personnel to  
14 observe any emergency drill or tower rescue training conducted at the facility.
- 15 56 Upon the beginning of operation of the facility, the certificate holder shall provide a site  
16 plan to the local fire protection agencies (the North Gilliam County Rural Fire Protection  
17 District and the Lone Rural Fire Protection District). The certificate holder shall indicate on  
18 the site plan the identification number assigned to each turbine and the location of all  
19 facility structures and shall provide an updated site plan if additional turbines or other  
20 structures are later added to the facility. During operation, the certificate holder shall  
21 ensure that appropriate fire protection agency personnel have an up-to-date list of the  
22 names and telephone numbers of facility personnel available to respond on a 24-hour  
23 basis in case of an emergency on the facility site.
- 24 57 Before beginning construction, the certificate holder shall submit a Notice of Proposed  
25 Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon  
26 Department of Aviation identifying the proposed final locations of turbine towers and  
27 meteorological towers. The certificate holder shall promptly notify the Department of the  
28 responses from the FAA and the Oregon Department of Aviation. [Amendment #1 (SFWF)]
- 29 58 The certificate holder shall construct turbines on concrete foundations and shall surround  
30 the base of each tower with a ten-foot pad area of washed crushed rock on all sides. The  
31 certificate holder shall cover turbine pad areas with non-erosive, non-flammable material  
32 as soon as possible following exposure during construction and shall maintain the pad area  
33 covering during operation of the facility.
- 34 59 The certificate holder shall follow manufacturers' recommended handling instructions and  
35 procedures to prevent damage to turbine or turbine tower components that could lead to  
36 failure.
- 37 60 The certificate holder shall install and maintain self-monitoring devices on each turbine,  
38 connected to a fault annunciation panel or supervisory control and data acquisition  
39 (SCADA) system at the field workshop to alert operators to potentially dangerous  
40 conditions. The certificate holder shall maintain automatic equipment protection features



1 in each turbine that would shut down the turbine and reduce the chance of a mechanical  
2 problem causing a fire. [Amendment #1 (SFWF)]

3 61 The certificate holder shall construct turbine towers with no exterior ladders or access to  
4 the turbine blades and shall install locked tower access doors. The certificate holder shall  
5 keep tower access doors locked at all times except when authorized personnel are  
6 present.

7 62 The certificate holder shall have an operational safety-monitoring program and shall  
8 inspect all turbine and turbine tower components on a regular basis. All turbine and  
9 turbine tower components will be inspected within 6 months of being repowered.  
10 Following the inspection, the certificate holder shall submit a written report to the  
11 Department describing the results of the turbine tower component inspection. The  
12 certificate holder shall maintain or repair turbine and turbine tower components as  
13 necessary to protect public safety. [Amendment #2]

14 63 For turbine types having pad-mounted step-up transformers, the certificate holder shall  
15 install the transformers at the base of each tower in locked cabinets designed to protect  
16 the public from electrical hazards and to avoid creation of artificial habitat for raptor prey.

17 64 To protect the public from electrical hazards, the certificate holder shall enclose the  
18 facility substation with appropriate fencing and locked gates. [Amendment #1 (SFWF)]

19 65 The certificate holder shall construct access roads with a finished width of approximately  
20 16 feet, a compacted base of native soil and a gravel surface to a depth of four to ten  
21 inches. [Amendment #1 (SFWF); Amendment #1]

22 66 During construction, the certificate holder shall implement measures to reduce traffic  
23 impacts, including:

24 (a) Providing notice to the City of Arlington Road Department, the Gilliam County Road  
25 Department and the Gilliam County Sheriff's Office in advance of deliveries that could  
26 cause traffic disruption in Arlington.

27 (b) Providing notice to the residents of Arlington in advance of deliveries that could  
28 cause traffic disruption.

29 (c) Requiring flaggers to be at appropriate locations at appropriate times during  
30 construction to direct traffic.

31 67 The certificate holder shall cooperate with the Gilliam County Road Department and the  
32 Morrow County Public Works Department to ensure that any unusual damage or wear to  
33 county roads that is caused by construction of the facility is repaired by the certificate  
34 holder. Submittal to the Department of an executed Road Use Agreement with Gilliam  
35 County and Morrow County shall constitute evidence of compliance with this condition.  
36 Upon completion of construction, the certificate holder shall restore county roads to pre-  
37 construction condition or better, to the satisfaction of the applicable county departments.  
38 If required by Morrow County or Gilliam County, the certificate holder shall post bonds to  
39 ensure funds are available to repair and maintain roads affected by the proposed facility.  
40 [Amendment #2]

- 1 68 During construction, the certificate holder shall require that all on-site construction  
2 contractors develop and implement a site health and safety plan that informs workers and  
3 others on-site what to do in case of an emergency and that includes the locations of fire  
4 extinguishers and nearby hospitals, important telephone numbers and first aid techniques.  
5 The certificate holder shall ensure that construction contractors have personnel on-site  
6 who are trained and equipped for tower rescue and who are first aid and CPR certified.
- 7 69 During operation, the certificate holder shall develop and implement a site health and  
8 safety plan that informs employees and others on-site what to do in case of an emergency  
9 and that includes the locations of fire extinguishers and nearby hospitals, important  
10 telephone numbers and first aid techniques.
- 11 70 During construction and operation of the facility, the certificate holder shall provide for  
12 on-site security and shall establish good communications between on-site security  
13 personnel and local law enforcement agencies (Gilliam County Sheriff and Morrow County  
14 Sheriff). During operation, the certificate holder shall ensure that appropriate law  
15 enforcement agency personnel have an up-to-date list of the names and telephone  
16 numbers of facility personnel available to respond on a 24-hour basis in case of an  
17 emergency on the facility site.
- 18 71 The certificate holder shall notify the Department and the Planning Directors of Gilliam  
19 County and Morrow County within 72 hours of any accidents including mechanical failures  
20 on the site associated with construction or operation of the facility that may result in  
21 public health and safety concerns.

## **6. Water, Soils, Streams & Wetlands Conditions**

- 22 72 The certificate holder shall not build any roads or construct transmission line support  
23 poles within Eightmile Creek or within a 10-foot buffer from the ordinary high water line  
24 of the creek.
- 25 73 The certificate holder shall conduct all construction work, including the repowering  
26 activities associated with Amendment #2, in compliance with an Erosion and Sediment  
27 Control Plan (ESCP) satisfactory to the Oregon Department of Environmental Quality and  
28 as required under the National Pollutant Discharge Elimination System (NPDES) Storm  
29 Water Discharge General Permit #1200-C. The certificate holder shall include in the ESCP  
30 any procedures necessary to meet local erosion and sediment control requirements or  
31 storm water management requirements. [Amendment #2]
- 32 74 During construction, the certificate holder shall limit truck traffic to designated existing  
33 and improved road surfaces to avoid soil compaction, to the extent practicable.
- 34 75 During construction, including the repowering activities associated with RFA2, the  
35 certificate holder shall implement best management practices to control any dust  
36 generated by construction activities, such as applying water to roads and disturbed soil  
37 areas. [Amendment #2]
- 38 76 During construction, the certificate holder shall reduce temporary disturbance impacts by  
39 making use of previously disturbed areas, including roadways and tracks, and by

1 preserving vegetation rootstalks by crushing, rather than scraping, vegetation in areas of  
2 temporary disturbance.

3 77 During facility operation, the certificate holder shall routinely inspect and maintain all  
4 roads, pads and trenched areas and, as necessary, maintain or repair erosion and  
5 sediment control measures. The certificate holder shall restore areas that are temporarily  
6 disturbed during facility maintenance or repair activities to pre-disturbance condition or  
7 better.

8 78 During facility operation, the certificate holder shall obtain water for on-site uses from a  
9 well at the field workshop, subject to compliance with applicable permit requirements.  
10 The certificate holder shall not use more than 5,000 gallons of water per day from the  
11 facility's on-site well. [Amendment #1 (SFWF)]

### **7. Transmission Line & EMF Conditions**

12 79 The certificate holder shall install the 34.5-kV collector system underground to the extent  
13 practicable. The certificate holder shall install underground lines at a minimum depth of  
14 three feet. Based on geotechnical conditions or other engineering considerations, the  
15 certificate holder may install segments of the collector system aboveground on single-  
16 pole, cross-arm structures, but the total length of aboveground double-circuit segments  
17 installed on single-pole structures must not exceed 3.2 miles. [Amendment #1 (SFWF);  
18 Amendment #1]

19 80 The certificate holder shall ground appropriate sections of fencing that parallel  
20 transmission lines to reduce the risk of shock from induced voltage. In particular, the  
21 certificate holder shall ground appropriate sections of fencing located in the northern  
22 project area on the west side of Eightmile Canyon if the certificate holder builds a parallel  
23 transmission line in that location that could induce a voltage on the fence.

24 81 The certificate holder shall take reasonable steps to reduce or manage human exposure to  
25 electromagnetic fields, including but not limited to:

26 (a) Constructing all aboveground transmission lines at least 200 feet from any residence  
27 or other occupied structure, measured from the centerline of the transmission line.

28 (b) Constructing all aboveground 34.5-kV transmission lines with a minimum clearance  
29 of 20 feet from the ground.

30 (c) Constructing all aboveground 230-kV transmission lines with a minimum clearance of  
31 24 feet from the ground.

32 (d) Fencing the areas near the facility substation to ensure that substation equipment is  
33 not accessible to the public.

34 (e) Providing to landowners a map of underground and overhead transmission lines on  
35 their property and advising landowners of possible health risks.

36 (f) Designing and maintaining all transmission lines so that alternating current electric  
37 fields do not exceed 9 kV per meter at one meter above the ground surface in areas  
38 accessible to the public.

39 [Amendment #1 (SFWF)]

1 82 In advance of, and during, preparation of detailed design drawings and specifications for  
2 230-kV and 34.5-kV transmission lines, the certificate holder shall consult with the Utility  
3 Safety and Reliability Section of the Oregon Public Utility Commission to ensure that the  
4 designs and specifications are consistent with applicable codes and standards.

## 8. Plants, Wildlife & Habitat Protection Conditions

5 83 The certificate holder shall conduct wildlife monitoring as described in the *Wildlife*  
6 *Monitoring and Mitigation Plan* that is incorporated in the *Final Order on Amendment #1*  
7 as Attachment A and as amended from time to time. [Amendment #1 (SFWF); Amendment #1]

8 84 The certificate holder shall restore areas disturbed by facility construction but not  
9 occupied by permanent facility structures according to the methods and monitoring  
10 procedures described in the *Revegetation Plan* that is incorporated in the *Final Order on*  
11 *Amendment #1 for the Shepherds Flat Wind Farm* as Attachment SFS-B and as amended  
12 from time to time. [Amendment #1 (SFWF)]

13 85 The certificate holder shall acquire the legal right to create, enhance, maintain and protect  
14 a habitat mitigation area as long as the site certificate is in effect by means of an outright  
15 purchase, conservation easement or similar conveyance and shall provide a copy of the  
16 documentation to the Department. Within the habitat mitigation area, the certificate  
17 holder shall improve the habitat quality as described in the *Habitat Mitigation Plan* that is  
18 incorporated in the *Final Order on Amendment #1* as Attachment C and as amended from  
19 time to time. [Amendment #1 (SFWF); Amendment #1]

20 86 The certificate holder shall avoid permanent and temporary disturbance to the areas  
21 described in (a) through (g) and, during the times indicated, shall avoid construction  
22 disturbance in the areas described in (h) through (k). The certificate holder shall flag these  
23 areas for the duration of construction activities nearby and shall ensure that construction  
24 personnel avoid disturbance of the areas. The avoidance areas are:

25 (a) All Category 1 and those areas of Category 2 habitat shown on the “ODFW-2” Figures  
26 1 through 12 in the Shepherds Flat Wind Farm Application. [Amendment #1 (SFWF)]

27 (b) Eight small areas of Category 3 shrub-steppe habitat as described in the Final Order  
28 on Amendment #1 for the Shepherds Flat Wind Farm, Section IV.4.(b)A. [Amendment #1  
29 (SFWF)]

30 (c) All seeps, riparian areas and vernal pools.

31 (d) All water sources for wildlife, including perennial and intermittent streams, stock  
32 ponds and watering stations.

33 (e) All faces of bluffs or rock outcroppings.

34 (f) All trees or other structures that contain active raptor nests.

35 (g) For the facility substation and field workshop, all Category 3 habitat. [Amendment #1  
36 (SFWF)]

37 (h) [Text was removed by Amendment #1]

38 (i) The area within 0.5 miles of Category 3 curlew nesting habitat and the area within 0.5  
39 miles the BLM Horn Butte Wildlife Area during the nesting season (March 8 through June  
40 15). Before beginning construction, the certificate holder shall provide to the Department  
41 a map showing these avoidance areas relative to areas of potential construction

1 disturbance. The certificate holder may engage in construction activities in these areas at  
2 times other than the nesting season.

3 (j) The area within 1,000 feet of any essential, limited and irreplaceable Washington  
4 ground squirrel (WGS) habitat within the new areas added to the site by Amendment #1  
5 (excluding the areas within the site boundaries of Shepherds Flat North, Shepherds Flat  
6 Central and Shepherds Flat South as approved on September 11, 2009) during the period  
7 in which the squirrels are active. The certificate holder shall hire a qualified independent  
8 professional biologist to conduct pre-construction surveys for State-listed threatened,  
9 endangered or sensitive wildlife species in these new areas within 1,000 feet of any area  
10 potentially disturbed by facility construction. To determine whether WGS habitat exists  
11 and to determine whether WGS are active, the biologist shall search for WGS in suitable  
12 habitat using a two-survey protocol approved by the Oregon Department of Fish and  
13 Wildlife (ODFW). The certificate holder shall submit the results of the survey to ODFW and  
14 to the Department. If signs of WGS activity are observed, the certificate holder shall flag  
15 the avoidance area and ensure that construction personnel avoid disturbance of the area  
16 until the biologist has determined that the WGS are no longer active.

17 (k) Areas within a suitable buffer around confirmed populations of Laurent's milk-vetch  
18 or any other State-listed threatened or endangered plant species within the new areas  
19 added to the site by Amendment #1 (excluding the area within the site boundaries of  
20 Shepherds Flat North, Shepherds Flat Central and Shepherds Flat South as approved on  
21 September 11, 2009). The certificate holder shall not install facility components or cause  
22 temporary disturbance within these areas. The certificate holder shall hire a qualified  
23 independent professional biologist to conduct pre-construction surveys for State-listed  
24 threatened or endangered plant species in these new areas within 1,000 feet of any area  
25 potentially disturbed by facility construction. The certificate holder shall submit the results  
26 of the survey to the Department.

27 [Amendment #1]

28 **87** The certificate holder shall microsite the facility in conformance with the industry's best  
29 practices. The certificate holder shall follow the recommendations of a qualified wildlife  
30 biologist to avoid building turbine towers in the following locations:

31 (a) Areas of increased risk to avian species due to constricted flight paths, such as  
32 narrow ridge saddles and gaps between hilltops.

33 (b) Areas on slopes greater than 20 percent.

34 (c) [text removed by Amendment #1 (SFWF)]

35 (d) [text removed by Amendment #1 (SFWF)]

36 **88** During construction, the certificate holder shall avoid construction activities in areas  
37 around active nests of the following species during the sensitive period, as provided in this  
38 condition:

<u>Species</u>	<u>Sensitive Period</u>	<u>Early Release Date</u>
Swainson’s hawk	April 1 to August 15	May 31
Ferruginous hawk	March 15 to August 15	May 31
Burrowing owl	April 1 to August 15	July 15

1 The certificate holder shall conduct pre-construction surveys, using a protocol approved  
 2 by the Oregon Department of Fish and Wildlife (ODFW) to determine whether there are  
 3 any active nests of these species within 0.5 miles of any areas that would be disturbed  
 4 during construction. The certificate holder shall search the scheduled construction areas  
 5 and all areas within 0.5 miles of the construction areas. If a nest is occupied by any of  
 6 these species after the beginning of the sensitive period, the certificate holder will flag the  
 7 boundaries of a 0.5-mile buffer area around the nest and shall instruct construction  
 8 personnel to avoid disturbance of the area. The certificate holder shall hire a qualified  
 9 independent professional biologist to observe the active nest sites during the sensitive  
 10 period for signs of disturbance and to notify the Department of any non-compliance with  
 11 this condition. If the biologist observes nest site abandonment or other adverse impact to  
 12 nesting activity, the certificate holder shall implement appropriate mitigation, in  
 13 consultation with ODFW and subject to the approval of the Department, unless the  
 14 adverse impact is clearly shown to have a cause other than construction activity. The  
 15 certificate holder may begin or resume construction activities within a buffer area before  
 16 the ending day of the sensitive period if any known nest site is not occupied by the early  
 17 release date. If a nest site is occupied, then the certificate holder may begin or resume  
 18 construction before the ending day of the sensitive period with the approval of ODFW,  
 19 after the young are fledged. The certificate holder shall use a protocol approved by ODFW  
 20 to determine when the young are fledged (the young are independent of the core nest  
 21 site).

22 89 The certificate holder shall not remove any trees that are greater than three feet in height.

23 90 The certificate holder shall design all aboveground transmission line support structures  
 24 following the most current suggested practices for avian protection on power lines  
 25 published by the Avian Power Line Interaction Committee.

26 91 The certificate holder shall reduce the risk of injuries to avian species by:  
 27 (a) Installing turbine towers that are smooth steel structures that lack features that  
 28 would allow avian perching.  
 29 (b) Installing meteorological towers that are non-guyed structures to eliminate the risk  
 30 of avian collision with guy-wires.  
 31 (c) Avoiding installation of aboveground transmission lines across narrow saddles,  
 32 ravines and similar features and, where such crossings cannot be avoided, installing line-  
 33 markers to make the lines more visible to avian species.

34 92 The certificate holder shall impose and enforce construction and operation speed limits of  
 35 5 miles per hour on roads within 1,000 feet of Category 1 or Category 2 WGS habitat and  
 36 20 miles per hour on all other facility roads and shall ensure that all construction and  
 37 operations personnel are instructed on the importance of cautious driving practices while  
 38 on facility roads. [Amendment #1]

## 9. Visual Effects Conditions

- 1 93 To reduce the visual impact of the facility, the certificate holder shall:
- 2 (a) Mount nacelles on smooth, steel structures, painted uniformly in a matte-finish,  
3 neutral white color.
- 4 (b) Paint substation structures in a neutral color to blend with the surrounding  
5 landscape.
- 6 (c) Not allow any advertising to be used on any part of the facility.
- 7 (d) Use only those signs required for facility safety, required by law or otherwise  
8 required by this site certificate, except that the certificate holder may erect a sign to  
9 identify the facility near the field workshop, may paint turbine numbers on each tower  
10 and may allow unobtrusive manufacturers' logos on turbine nacelles.
- 11 (e) Not locate any facility signs along Highway 74.
- 12 (f) Design signs in accordance with Gilliam County Zoning Ordinance Section 8.030 and  
13 Morrow County Zoning Ordinance Section 4.070, as applicable.
- 14 (g) Maintain any signs allowed under this condition in good repair.
- 15 [Amendment #1 (SFWF)]
- 16 94 The certificate holder shall design and construct the field workshop to be generally  
17 consistent with the character of similar buildings used by commercial farmers or ranchers  
18 in the area and shall paint the building in a neutral color to blend with the surrounding  
19 landscape. [Amendment #1 (SFWF)]
- 20 95 The certificate holder shall not use exterior nighttime lighting except:
- 21 (a) The minimum turbine tower lighting required or recommended by the Federal  
22 Aviation Administration.
- 23 (b) Security lighting at the field workshop and substation, provided that such lighting is  
24 shielded or downward-directed to reduce glare.
- 25 (c) Minimum lighting necessary for repairs or emergencies.
- 26 (d) Minimum lighting necessary for nighttime construction. The certificate holder may  
27 use lighting only at the work location and only directed downward to illuminate the work  
28 area at the turbine base or upward from the base to illuminate the turbine tower;  
29 construction lighting shall not be directed outward. The certificate holder shall use  
30 nighttime lighting only with the approval of the owner of the property on which the work  
31 is conducted and shall provide notice of nighttime construction to occupants of all  
32 residences within one-half mile of the construction site.
- 33 [Amendment #1 (SFWF)]

## 10. Noise Control Conditions

- 34 96 To reduce noise impacts at nearby residences, the certificate holder shall:
- 35 (a) Confine the noisiest operation of heavy construction equipment to the daylight  
36 hours.
- 37 (b) Require contractors to install and maintain exhaust mufflers on all combustion  
38 engine-powered equipment; and

1 (c) Establish a complaint response system at the construction manager's office to  
2 address noise complaints.

3 97 Before beginning construction, the certificate holder shall provide to the Department:

4 (a) Information that identifies the final design locations of all turbines to be built at the  
5 facility.

6 (b) The maximum sound power level for the substation transformers and the maximum  
7 sound power level and octave band data for the turbines selected for the facility based on  
8 manufacturers' warranties or confirmed by other means acceptable to the Department.

9 (c) The results of noise analysis of the facility to be built according to the final design  
10 performed in a manner consistent with the requirements of OAR 340-035-0035  
11 (1)(b)(B)(iii)(IV) and (VI) demonstrating to the satisfaction of the Department that the total  
12 noise generated by the facility (including the noise from turbines and substation  
13 transformers) would meet the ambient degradation test and maximum allowable test at  
14 the appropriate measurement point for all potentially-affected noise sensitive properties.

15 (d) For each noise-sensitive property where the certificate holder relies on a noise  
16 waiver to demonstrate compliance in accordance with OAR 340-035-0035 (1)(b)(B)(iii)(III),  
17 a copy of the a legally effective easement or real covenant pursuant to which the owner of  
18 the property authorizes the certificate holder's operation of the facility to increase  
19 ambient statistical noise levels L<sub>10</sub> and L<sub>50</sub> by more than 10 dBA at the appropriate  
20 measurement point. The legally-effective easement or real covenant must: include a legal  
21 description of the burdened property (the noise sensitive property); be recorded in the  
22 real property records of the county; expressly benefit the certificate holder; expressly run  
23 with the land and bind all future owners, lessees or holders of any interest in the  
24 burdened property; and not be subject to revocation without the certificate holder's  
25 written approval.

26 98 During operation, the certificate holder shall maintain a complaint response system to  
27 address noise complaints. The certificate holder shall promptly notify the Department of  
28 any complaints received regarding facility noise and of any actions taken by the certificate  
29 holder to address those complaints. In response to a complaint from the owner of a noise  
30 sensitive property regarding noise levels during operation of the facility, the Council may  
31 require the certificate holder to monitor and record the statistical noise levels to verify  
32 that the certificate holder is operating the facility in compliance with the noise control  
33 regulations. [Amendment #1 (SFWF)]

## 11. Waste Management Conditions

34 99 The certificate holder shall provide portable toilets for on-site sewage handling during  
35 construction and shall ensure that they are pumped and cleaned regularly by a licensed  
36 contractor who is qualified to pump and clean portable toilet facilities.

37 100 During operation, the certificate holder shall discharge sanitary wastewater generated at  
38 the field workshop to a licensed on-site septic system in compliance with county permit  
39 requirements. The certificate holder shall design the septic system for a discharge capacity  
40 of less than 2,500 gallons per day. [Amendment #1 (SFWF)]



- 1 101 The certificate holder shall implement a waste management plan during construction that  
2 includes but is not limited to the following measures:
- 3 (a) Recycling steel and other metal scrap.
  - 4 (b) Recycling wood waste.
  - 5 (c) Recycling packaging wastes such as paper and cardboard.
  - 6 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste  
7 hauler or by using facility equipment and personnel to haul the waste.
  - 8 (e) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent  
9 materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for  
10 disposal by a licensed firm specializing in the proper recycling or disposal of hazardous  
11 wastes.
  - 12 (f) Discharging all concrete truck rinse water into foundation holes and completing truck  
13 wash-down off-site.
- 14 102 The certificate holder shall implement a waste management plan during operation that  
15 includes but is not limited to the following measures:
- 16 (a) Training employees to minimize and recycle solid waste.
  - 17 (b) Recycling paper products, metals, glass and plastics.
  - 18 (c) Recycling used oil and hydraulic fluid.
  - 19 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste  
20 hauler or by using facility equipment and personnel to haul the waste.
  - 21 (e) Segregating all hazardous, non-recyclable wastes such as used oil, oily rags and oil-  
22 absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium  
23 batteries for disposal by a licensed firm specializing in the proper recycling or disposal of  
24 hazardous wastes.
- 25 103 Before beginning construction, the certificate holder shall determine whether any  
26 construction disturbance would occur in locations not previously investigated for potential  
27 jurisdictional waters as described in the *Final Order on Amendment #1*. The certificate  
28 holder shall conduct pre-construction investigations in these new areas within 1,000 feet  
29 of any area potentially disturbed by facility construction to determine whether any State-  
30 jurisdictional waters exist in those locations. The certificate holder shall submit a written  
31 report on the pre-construction investigation to the Department of Energy and to the  
32 Department of State Lands for approval before beginning construction and shall ensure  
33 that construction would have no impact on any jurisdictional water identified in the  
34 report. [Amendment #1]

## **12. New Conditions Applicable to Amendment 2 Facility Repower**

- 35 104 The certificate holder shall begin construction of the Shepherds Flat South facility  
36 modifications, as approved in the Second Amended Site Certificate, within three years  
37 after the effective date of the amended site certificate [TBD]. The certificate holder shall  
38 notify the Department, the Morrow County Planning Department, and the Gilliam County  
39 Planning Department when construction of the facility modifications, as approved in  
40 Request for Amendment 2, commences. Under OAR 345-015-0085(8), the amended site  
41 certificate is effective upon execution by the Council Chair and the certificate holder.

1 [Amendment #2]

2 105 The certificate holder shall complete construction of the Shepherds Flat South facility  
3 modifications, as approved in the Second Amended Site Certificate, within three years  
4 following the date of construction commencement [TBD]. The certificate holder shall  
5 promptly notify the Department , the Morrow County Planning Department, and the  
6 Gilliam County Planning Department of the date of completion of construction of the  
7 facility modifications, as approved in Request for Amendment 2.

8 [Amendment #2]

9 106 Prior to Amendment #2 facility repower activities, the certificate holder shall provide the  
10 Department with the foundation uprate analysis on facility turbines. If the analysis results  
11 identify necessary mitigation and remediation measures, or operational timing  
12 recommendations, the certificate holder shall implement the identified measures and  
13 recommendations prior to beginning the repowering activities unless otherwise approved  
14 by the Department. [Amendment #2]

15 107 Prior to Amendment #2 facility repower activities, the certificate holder shall coordinate  
16 with the Gilliam County Weed Department and the Morrow County Weed Control  
17 Department, and submit to the Department, a Roadway Weed Control Plan. The  
18 Department shall review and approve the plan, in consultation with the Gilliam County  
19 Weed Department and the Morrow County Weed Control Department. The Roadway  
20 Weed Control Plan shall include, as pertinent, but not be limited to, identification of  
21 county-listed weeds of economic concern, methods for evaluating weeds within impact  
22 area, results of weed assessment, control methods specific to roadway weed control and  
23 timing, agency consultation protocol, and process for evaluating success of weed control.

24 [Amendment #2]

25 108 The certificate holder shall:

26 (a) Prior to RFA2 facility repower activities:

27 (i) Provide an updated habitat assessment of areas of disturbance, based on a  
28 protocol approved by the Department in consultation with ODFW.

29 (ii) Identify monitoring and reference sites, including sites within each habitat  
30 category and subtype impacted, and the methodology utilized for selecting the  
31 number of monitoring and reference sites should be included.

32 (iii) Consult with the Department, ODFW and Gilliam County Weed Control  
33 Department and Morrow County Weed Control Department on timing and methods  
34 for revegetation and weed control.

35 (b) Following completion of RFA2 facility repower activities:

36 (i) Restore areas temporarily disturbed by RFA2 facility repower activities according  
37 to the methods and monitoring procedures described in the Revegetation Plan that  
38 is incorporated in the Final Order on Amendment 2 for Shepherds Flat South as  
39 Attachment D and as amended from time to time.

1 (ii) Consult annually with the Department, ODFW. Gilliam and Morrow County Weed  
2 Control Departments on timing and methods for revegetation and weed control. If  
3 mutually agreed upon by the Department, ODFW, Gilliam and Morrow County Weed  
4 Control Departments, the annual consultation may be discontinued after 5 years.  
5 This provision does not relieve the certificate holder from complying with its weed  
6 control obligations as described in Condition 107 and 38, and any other provisions of  
7 applicable state or local requirements for weed control.

8 [Amendment #2]

9 **109** The certificate holder shall:

10 (a) Prior to RFA2 facility repower activities, the certificate holder shall conduct a pre-  
11 construction raptor nest survey, using a protocol approved by the Oregon Department  
12 of Fish and Wildlife (ODFW) to determine whether there are any active nests of state  
13 sensitive species within 0.5 miles of any areas that would be disturbed.

14 (b) During RFA2 repower activities, if active raptor nests were identified within 0.5-mile  
15 of RFA2 repower activities per (a) of this condition or become active during the sensitive  
16 season, per (c) below, the certificate holder shall avoid construction activities within  
17 0.25 mile buffer in areas around active nests of the following species during the  
18 sensitive period, as provided in this condition:

<u>Species</u>	<u>Sensitive Period</u>	<u>Early Release Date</u>
<u>Swainson's hawk</u>	<u>April 1 to August 15</u>	<u>May 31</u>
<u>Ferruginous hawk</u>	<u>March 15 to August 15</u>	<u>May 31</u>
<u>Burrowing owl</u>	<u>April 1 to August 15</u>	<u>July 15</u>

19 (c) During RFA2 repower activities, if a nest becomes occupied by any of these species  
20 after the beginning of the sensitive period, the certificate holder will flag the boundaries  
21 of a 0.25-mile buffer area around the nest and shall instruct construction personnel to  
22 avoid disturbance of the area.

23 (d) During RFA2 repower activities, if active nest sites are observed per (b) or (c) of this  
24 condition, the certificate holder shall hire a qualified independent professional biologist  
25 to observe the active nest sites during the sensitive period for signs of disturbance and  
26 to notify the Department of any non-compliance with this condition. If the biologist  
27 observes nest site abandonment or other adverse impact to nesting activity, the  
28 certificate holder shall implement appropriate mitigation, in consultation with ODFW  
29 and subject to the approval of the Department, unless the adverse impact is clearly  
30 shown to have a cause other than construction activity. The certificate holder may begin  
31 or resume construction activities within a buffer area before the ending day of the  
32 sensitive period if any known nest site is not occupied by the early release date. If a nest  
33 site is occupied, then the certificate holder may begin or resume construction before  
34 the ending day of the sensitive period with the approval of ODFW, after the young are  
35 fledged. The certificate holder shall use a protocol approved by ODFW to determine  
36 when the young are fledged (the young are independent of the core nest site).

1 [Amendment #2]

2 **110** Following completion of Amendment #2 facility repower activities, the certificate holder  
3 shall conduct two years of avian and bat fatality monitoring, as described in the Wildlife  
4 Monitoring and Mitigation Plan, or based on protocol otherwise approved by the  
5 Department in consultation with ODFW, provided as Attachment E of the Final Order on  
6 Amendment 2. [Amendment #2]

7 **111** During Amendment #2 facility repower activities, the certificate holder shall, or ensure its  
8 third-party contractors, reuse or recycle wind turbine blades, hubs and other removed  
9 wind turbine components to the extent practicable and in accordance with the Morrow  
10 County Solid Waste Management Plan. The certificate holder shall report in its semi-  
11 annual report to the Department the quantities of removed wind turbine components  
12 recycled, reused, sold for scrap, and disposed of in a landfill, to the extent practicable.  
13 [Amendment #2]

14 **112** Prior to Amendment #2 facility repower activities, the certificate holder shall submit a  
15 Notice of Proposed Construction or Alteration to the Federal Aviation Administration  
16 (FAA) and the Oregon Department of Aviation identifying the new maximum blade tip  
17 height of 150 meters. The certificate holder shall promptly notify the Department of the  
18 responses from the FAA and the Oregon Department of Aviation. [Amendment #2]

19 **113** Prior to Amendment #2 facility repower activities, the certificate holder shall provide to  
20 the Department:

21 (a) The maximum sound power level and octave band for the modified wind turbines  
22 based on manufacturer’s warranties or confirmed by other means acceptable to the  
23 Department.

24 (b) If the information provided to the Department in (a) shows that the modified  
25 (repowered) wind turbines would produce a higher maximum sound power level and  
26 octave band than the currently installed wind turbines, the certificate holder must  
27 conduct a noise analysis of the modified (repowered) turbines. If required, the  
28 certificate holder must provide to the Department results of the noise analysis for the  
29 Amendment #2 facility repower, performed in a manner consistent with the  
30 requirements of OAR 340-035-0035(1)(b)(B)(iii)(IV) and (VI) demonstrating to the  
31 satisfaction of the Department that the total noise generated (including the noise from  
32 repowered wind turbines and existing substation transformers) would meet the  
33 ambient degradation test and maximum allowable test at the appropriate measurement  
34 point for all potentially-affected noise sensitive properties.

35 (c) If the information provided to the Department in (a) shows that the modified  
36 (repowered) wind turbines would produce a higher maximum sound power level and  
37 octave band than the currently installed wind turbines, the certificate holder must  
38 provide to the Department, for each noise-sensitive property where the certificate  
39 holder relies on a noise waiver to demonstrate compliance in accordance with OAR 340-  
40 035-0035 (1)(b)(B)(iii)(III) related to site certificate Amendment #2 activities, a copy of  
41 the a legally effective easement or real covenant pursuant to which the owner of the

1 property authorizes the certificate holder's operation of the facility to increase ambient  
2 statistical noise levels L10 and L50 by more than 10 dBA at the appropriate  
3 measurement point. The easement must only be provided to the Department if the  
4 modified wind turbines would produce a higher maximum sound power level and  
5 octave band than the currently installed wind turbines and the current noise-easements  
6 do not allow ambient statistical noise levels L10 and L50 by more than the statistical  
7 noise levels anticipated to occur from the repowered turbines at the appropriate  
8 measurement point. The legally-effective easement or real covenant must: include a  
9 legal description of the burdened property (the noise sensitive property); be recorded in  
10 the real property records of the county; expressly benefit the certificate holder;  
11 expressly run with the land and bind all future owners, lessees or holders of any interest  
12 in the burdened property; and not be subject to revocation without the certificate  
13 holder's written approval. [Amendment #2]

14

**VI. SUCCESSORS AND ASSIGNS**

1 To transfer this site certificate or any portion thereof or to assign or dispose of it in any  
2 other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0400.

**VII. SEVERABILITY AND CONSTRUCTION**

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

**VIII. GOVERNING LAW AND FORUM**

7 This site certificate shall be governed by the laws of the State of Oregon. Any litigation  
8 or arbitration arising out of this agreement shall be conducted in an appropriate forum in  
9 Oregon.

**IX. EXECUTION AND EFFECTIVE DATE**


10 This site certificate may be executed in counterparts and will become effective upon  
11 signature by the Chair of the Energy Facility Siting Council and the authorized representative of  
12 the certificate holder. [Amendment #1 (SFWF); Amendment #1; Amendment #2]

13 **IN WITNESS WHEREOF**, this site certificate has been executed by the State of Oregon, acting by  
14 and through its Energy Facility Siting Council, and by Horseshoe Bend Wind, LLC.

ENERGY FACILITY SITING COUNCIL

HORSESHOE BEND WIND, LLC

By:   
Hanley Jenkins II, Chair  
Oregon Energy Facility Siting Council

By:   
Print: Vandana Gupta

Date: 1-24-2020

Date: 1-29-2020

**Attachment B: Reviewing Agency Comments on preliminary RFA2**

## MEMORANDUM

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TO: Chase McVeigh - Walker  
Oregon Department of Energy

FROM: Steve Cherry, District Wildlife Biologist  
Oregon Department of Fish and Wildlife  
PO Box 363 Heppner, OR 97836  
(541) 676-5230  
[Steve.p.cherry@state.or.us](mailto:Steve.p.cherry@state.or.us)

DATE: November 12, 2019

RE: Oregon Department of Fish and Wildlife (ODFW) Comments on the Request for Amendment 2 for Shepherds Flat South wind facility

---

GENERAL COMMENTS: ODFW appreciates the opportunity to review this project according to the Energy Facility Siting Standard for Fish and Wildlife Habitat, as well as the Threatened and Endangered Species Standard.

ODFW appreciates the Applicant working with ODFW and our concerns on the proposed amendment. The Applicant has incorporated our comments from earlier consultation into their current application. ODFW would however make one comment regarding the proposed amendment.

SPECIFIC COMMENTS: ODFW would recommend that the Applicant complete two years of fatality monitoring on the project after the turbines have been retrofitted with the larger blades to look at mortality effects from the larger turbine sizes. ODFW's recommendation is based on the fact that we understand that mortality surveys can vary from year to year and that one year of monitoring may not be completely indicative of the fatality effects for the project.

ODFW has no further comments on this amendment at this time. Please contact Steve Cherry (District Wildlife Biologist) or Sarah Reif (Energy Coordinator) with any questions.



## MCVEIGH-WALKER Chase \* ODOE

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**From:** LAWYER Matthew A <Matthew.A.LAWYER@aviation.state.or.us>  
**Sent:** Wednesday, November 13, 2019 3:15 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Cc:** PECK Heather  
**Subject:** FW: Shepherds Flat North, Central, and South pRFA review and comments (ODA)

Chase,

With regards to the proposed amendments to the Shepherds Flat North, Central and South Facilities, Oregon Department of Aviation requests that site certificate conditions for all of these proposed amendments include:

“Prior to construction or modification of Turbines, the certificate holder shall submit a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon Department of Aviation identifying the new maximum blade tip height not to exceed 150 meters. The certificate holder shall promptly notify the Department of the responses from the FAA and the Oregon Department of Aviation.”

So long as a condition of approval as stated above is present in each of the proposed amendments and any changes do not exceed 150 meters, the Oregon Department of Aviation has no further comment.

**Matt Lawyer**  
OREGON DEPARTMENT OF AVIATION  
PROGRAM COORDINATOR



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**From:** PECK Heather <heather.peck@aviation.state.or.us>  
**Sent:** Wednesday, November 13, 2019 2:49 PM  
**To:** LAWYER Matthew A <Matthew.A.LAWYER@aviation.state.or.us>  
**Subject:** FW: Shepherds Flat North, Central, and South pRFA review and comments (ODA)

Best,  
Heather

*Heather Peck* | Planning & Projects Division Manager  
503.378.3168 | 503.881.6966 (Cell) | [Heather.peck@aviation.state.or.us](mailto:Heather.peck@aviation.state.or.us)

[www.Oregon.gov/aviation](http://www.Oregon.gov/aviation)

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**From:** MCV EIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>  
**Sent:** Wednesday, October 30, 2019 3:22 PM  
**To:** PECK Heather <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>  
**Subject:** Shepherds Flat North, Central, and South pRFA review and comments (ODA)

Good afternoon Heather,

The Department has received three preliminary Requests for Amendments (pRFA's) from Caithness Energy, LLC, the parent company of each facility's certificate holder for the three Shepherds Flat facilities; Shepherds Flat North (SFN), Shepherds Flat Central (SFC), and Shepherds Flat South (SFS).

For reference, all three facilities are operational wind generation facilities. SFN is located entirely in Gilliam County, with 106 wind turbines and a maximum generating capacity of 265 megawatts. SFC is located in both Gilliam and Morrow counties, and has 116 wind turbines with a maximum generating capacity of 290 megawatts. Lastly, SFS is also located in both Gilliam and Morrow counties, and includes 116 wind turbines and has a maximum generating capacity of 290 megawatts.

As mentioned above, the Department has received three individual pRFA's (one per facility) for the three Shepherds Flat Facilities. All three of the requests seek approval from the Energy Facility Siting Council for wind turbine repowering upgrades that would include replacing the wind turbine blades with slightly longer new blades, and modifications to the nacelles. The upgrades would require amending one condition in the site certificate to allow lowering the minimum aboveground wind turbine blade tip clearance from 25 to 21.5 meters.

For context, at the October 25, 2019 EFSC meeting, Council reviewed and approved an amendment to SFC to allow the same change (i.e., a repowering project, and amending the site certificate to reduce minimum aboveground clearance) for two specific wind turbines. The current request at SFC seeks Council approval to make the same modifications to the remaining 114 wind turbines at the facility.

Shepherds Flat North Project Page:  
<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SFN.aspx>

Shepherds Flat Central Project Page:  
<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SFC.aspx>

Shepherds Flat South Project Page:  
<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SFS.aspx>

We would like to request ODA's review and comment all three amendment requests by **November 12, 2019**. I will follow up tomorrow with a phone call, to discuss the scope of the Amendments, and anticipated review schedule.

Thanks,  
Chase

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** Michelle Colby <michelle.colby@co.gilliam.or.us>  
**Sent:** Friday, November 15, 2019 10:39 AM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Subject:** RE: Shepherds Flat North, Central, and South pRFA review and comments (Gilliam Co.)

Chase –

Good morning, below are a few comments regarding repowering of Shepherds Flat Wind Farm in its entirety.

Gilliam County would encourage the existing conditions be reviewed and that particular attention be given to words and phrases about construction, although the wind farm is constructed there are several original construction conditions that may reapply to this situation. Throughout the Final Order and Conditions listed Gilliam County would emphasize that the word(s) 'during construction and/or construction' should apply to the repower installation; this may require rewording the conditions to ensure clarity that repower is in fact a type of construction.

A few examples are outlined below.

Please ensure landowners and lessees are informed of the repower project prior to commencing (No. 36)  
Weed control plan may need to be reviewed to determine if any additional measures/precautions need to take place during the repower (No. 38)  
Please ensure / double check there is no issue with sets backs and the new proposed longer blades (No. 40 b and d)  
Ensure local fire protection district and emergency service is informed of when repower construction will commence (No. 54, 55, 56, 68)  
Ensure Gilliam County Road Department is consulted regarding whether a road use agreement is necessary for this phase of repower construction (No. 66, 67)  
Ensure notification to local law enforcement specifically Gilliam County Sheriff's Office of when repower will commence and for how long the repower project is anticipated (No. 70)  
Suggest conducting wildlife monitoring to assess if the new longer blades impact area raptors and bats and coordinating repower construction with ODFW .  
Restore vegetation (No. 11)

Has the wind farm commented or proposed a timeframe for the repower? Or is the time frame prescribed by EFSC? (No. 24, 25, 26)

Thank you for your consideration.

---

**From:** MCVEIGH-WALKER Chase \* ODOE <Chase.McVeigh-Walker@oregon.gov>  
**Sent:** Tuesday, November 12, 2019 3:34 PM  
**To:** Michelle Colby <michelle.colby@co.gilliam.or.us>  
**Subject:** FW: Shepherds Flat North, Central, and South pRFA review and comments (Gilliam Co.)

FYI.

---

**From:** MCVEIGH-WALKER Chase \* ODOE  
**Sent:** Wednesday, October 30, 2019 3:20 PM

To: 'michelle.colby@co.gilliam.or.us' <[michelle.colby@co.gilliam.or.us](mailto:michelle.colby@co.gilliam.or.us)>

Subject: Shepherds Flat North, Central, and South pRFA review and comments (Gilliam Co.)

Good afternoon Michelle,

The Department has received three preliminary Requests for Amendments (pRFA's) from Caithness Energy, LLC, the parent company of each facility's certificate holder for the three Shepherds Flat facilities; Shepherds Flat North (SFN), Shepherds Flat Central (SFC), and Shepherds Flat South (SFS).

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For context, at the October 25, 2019 EFSC meeting, Council reviewed and approved an amendment to SFC to allow the same change (i.e., a repowering project, and amending the site certificate to reduce minimum aboveground clearance) for two specific wind turbines. The current request at SFC seeks Council approval to make the same modifications to the remaining 114 wind turbines at the facility.

Shepherds Flat North Project Page:

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

Shepherds Flat Central Project Page:

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

Shepherds Flat South Project Page:

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

We would like to request Gilliam County's review and comment all three amendment requests by **November 12, 2019**. I will follow up tomorrow with a phone call, to discuss the scope of the Amendments, and anticipated review schedule.

Thanks,  
Chase



**Chase McVeigh-Walker**

Senior Siting Analyst

550 Capitol St. NE | Salem, OR 97301

P: 503-934-1582

P (In Oregon): 800-221-8035



Stay connected!

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** Michelle Colby <michelle.colby@co.gilliam.or.us>  
**Sent:** Monday, November 18, 2019 9:00 AM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Subject:** Shepherds flat

Chase –

Good morning, Dewey Kennedy the Gilliam County Road Master was on vacation all last week and I just had a conversation with him, in response to my phone message and emails I sent him about Shepherd's Flat repower. He is very concerned that Shepherd's Flat repower must have a pre-construction meeting about roads prior to repower and yes, he will require a road use agreement be in affect prior to the repower construction starting. So whether or not these items are addressed in the amendment it sounds like the Road Master will ensure it gets done one way or another.

Just wanted to share.

*Michelle Colby*  
Planning Director  
Gilliam County  
221 S. Oregon St.  
Condon, OR 97823  
Ph. 541-384-2381  
[Michelle.colby@co.gilliam.or.us](mailto:Michelle.colby@co.gilliam.or.us)

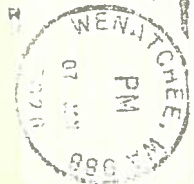
**Attachment C: Draft Proposed Order Comments**

RECEIVED

JAN 9 2020

DEPARTMENT OF ENERGY

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol Street NE, 1st Floor  
Salem, OR 97301



*[Faint, illegible text, likely a return address or recipient information.]*



*[Vertical barcode or tracking information.]*

Vic Jansen  
P.O. Box 579  
Moses Lake, WA 98837

January 7, 2020

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol Street NE, 1<sup>st</sup> Floor  
Salem, OR 97301

RE: *Shepherds Flat South*  
*RFA2 and the Draft Proposed Order*

To Whom It May Concern:

As a neighboring land owner, I would like to express my support for the Shepherds Flat South RFA2 and the Draft Proposed order on RFA2.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Vic Jansen', written in a cursive style.



## MCVEIGH-WALKER Chase \* ODOE

---

**From:** Jordan Brown <brownj@science.oregonstate.edu>  
**Sent:** Thursday, January 16, 2020 9:33 AM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Subject:** Shepherds Flat Wind Farm - concern over lack of plant surveys

Hello Chase,

My name is Jordan Brown and I'm with the Oregon Department of Agriculture Native Plant Conservation Program, which is responsible for the conservation and regulation of threatened and endangered plants in Oregon. I was reviewing a notification of a complete request for amendment for the Shepherds Flat South Wind Project, and after taking a look at where the project was located, got a little concerned about the lack of surveying for Laurent's milkvetch. This is a species that is listed as Threatened by the State of Oregon and is referenced in the project application.

I just wanted to let ODOE know that the limited scope of the analysis of impacts for state-listed threatened and endangered plants does not appear to meet the standards we would require for a project consultation. The determination that Lawrence's milkvetch did not need to be surveyed for discounts the real possibility that it could occur within the analysis area or project site. The project application lists sheep grazing and altitude limitation for potential reasons why it might not occur on site, but the project area definitely falls within the historic range of the species, with one historic occurrence located less than 20 miles directly to the west. The fact that no other occurrence have already been documented in this area could be the result of restricted access to the land during past survey efforts.

Hopefully, in the future ODOE can expand survey requirements to better capture priority areas where listed plants might occur. Thanks for taking my comments, and feel free to call and talk this over.

Jordan Brown  
Program Lead / Conservation Biologist  
OR Department of Agriculture  
Native Plant Conservation Program  
Oregon State University, Dept. of Botany  
Cordley 2082  
Corvallis, OR 97331  
office: (541)-737-2346  
cell: (541)-224-2245

## MEMORANDUM

---

**TO:** Chase McVeigh-Walker  
Oregon Department of Energy  
550 Capitol St N.E., 1st Floor  
Salem, OR 97301

**FROM:** Nancy Breuner, Greater Eastern Regional Solutions Liaison  
Oregon Department of Environmental Quality  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
541-633-2001  
breuner.nancy@deq.state.or.us

**DATE:** 01/16/2020

**RE:** ODEQ Comments on the Shepherds Flat South Amendment #2 Complete  
Amendment Request and Draft Proposed Order

---

### **General Comments:**

I have reviewed the Shepherds Flat South Request for Amendment 2 and Draft Proposed Order (DPO) and am responding to ODOE's Request for comment dated December 27, 2019. My review is to confirm that the DPO adequately discusses, mentions, addresses and incorporates statutory reference to probable ODEQ permitting needs and regulations, for example: air quality issues (i.e. dust minimization during construction), water quality issues (construction stormwater, on-site septic systems, and WPCF permits), waste minimization planning and hazardous waste and spill response.

**\* You will receive an electronic version of this review request memo and the below comment templates via email sent from the project siting analyst. \***

### **Specific Comments:**

These comments are pertinent mainly to the short term construction activities during the proposed wind turbine repowering. Of particular concern would be any activities during the turbine blade expansion which might cause hazardous spills, controlling dust on access roads catching and removing equipment/vehicle wash water and addressing on-site septic needs of workers over the proposed six month construction period if short term housing is provided on location.

**Comments on the Shepherds Flat South Amendment #2  
Complete Amendment Request and Draft Proposed Order**

**From: Oregon Department of Environmental Quality**

Exhibit	Rule/ Ordinance/Law Reference	Pg. / Para. / Sentence Reference (as needed)	Comment or Information Request
			<p>ODEQ understands the primary air emissions from the project are generated from construction activities. These activities include but are not limited to:</p> <ul style="list-style-type: none"> <li>• Fugitive dust and combustion emissions from heavy equipment construction activities</li> <li>• Fugitive dust and combustion emissions from personnel mobilization activities.</li> <li>• Fugitive dust and combustion emissions from hauling materials to and from the site</li> </ul>
Exhibit V			<p>If there is a discharge of wastewater associated with construction or subsequent maintenance, ODEQ will need a description of that activity so that ODEQ can evaluate whether a wastewater permit will be required.</p> <p>Contact DEQ's Pendleton office at 541-276-4063 if any diesel generator will remain at one location for 365 days or longer.</p>
Exhibit V			<p>ODEQ recommends that the Applicant have a plan in place to address any spills or oil or other hazardous materials, in line with best practices for secondary containment and water protection.</p> <p>If short term housing is proposed on location, then on-site septic needs will require ODEQ approval.</p>



## PLANNING DEPARTMENT

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

January 17, 2020

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol Street NE, 1<sup>st</sup> Floor  
Salem, OR 97301

Dear Mr. McVeigh-Walker,

Morrow County appreciates the opportunity to comment on Shepherds Flat South Request for Amendment 2 (RFA2) and the Draft Proposed Order (DPO). It is the understanding of Morrow County that Amendment #2 would lower the minimum allowed blade tip clearance of turbines from 25 meters, to 21.5 meters. This change in clearance would allow the certificate holder to modify turbine components and install longer turbine blades on the existing towers for repowering the existing project.

After review of the Draft Proposed Order, Morrow County finds that the various Conditions meet the needs of the County with a couple of minor exceptions. As required by Oregon Revised Statute and the Morrow County Zoning Ordinance, once the Site Certificate is issued, Morrow County will work with the developer to approve and issue, if necessary, Morrow County permits. We understand, and our Zoning Ordinance states, that any local land use permit can only include the Conditions found in the Site Certificate. Because of this limitation we would ask for minor changes, as shown in ***bold italics***, to the following Conditions.

- Condition 104: ...shall notify the Department ***and the Morrow County Planning Department*** when construction of the facility modifications, as approved in Request for Amendment 2, commences.
- Condition 105: ...shall promptly notify the Department ***and the Morrow County Planning Department*** of the date of completion of construction...
- Condition 111: ...the certificate holder shall, or ensure its third-party contractors, reuse or recycle wind turbine blades, hubs and other removed wind turbine components to the extent practicable ***and in accordance with applicable Department of Energy provisions and the Morrow County Solid Waste Management Plan.***

As stated in Recommended Amended Condition 67, Morrow County would require that a full Road Use Agreement be implemented with Morrow County Public Works before the start of repowering

construction. Conversations between the Morrow County Public Works Director and Caithness Energy, LLC have taken place, and Caithness representatives are aware of this requirement.

At the request of the Morrow County Board of Commissioners, Morrow County requests the installation and utilization of an Aircraft Detection Lighting System (ADLS) on each wind tower installed in the Project, so long as the use has been authorized by the Federal Aviation Administration (FAA) and complies with all FAA rules and regulations.

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,



Stephen Wrecsics  
GIS Planning Technician

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

**Attachment D: Revegetation Plan**

# Shepherds Flat South : Revegetation Plan

[SEPTEMBER 11, 2009]

---

1 **I. Introduction**

2 This plan describes methods and standards for restoration of areas of construction  
3 disturbance. This plan applies to the areas surrounding the permanent facility components of  
4 Shepherds Flat South (SFS).<sup>1</sup> The objective of revegetation is to restore the disturbed areas to  
5 pre-disturbance condition or better. The site certificate for the facility requires restoration of  
6 these areas. This plan has been developed in consultation with the Oregon Department of Fish  
7 and Wildlife (ODFW).

8 The areas of construction disturbance include cultivated or otherwise developed  
9 agricultural land (cropland) as well as areas of grassland, shrub-steppe habitat and other habitat  
10 subtypes (wildlife habitat areas). The intensity of construction impact will vary. In some areas,  
11 the impact will be relatively light, but in other areas, heavy construction activity will remove all  
12 vegetation, remove topsoil and compact the remaining subsoil. Where vegetation has been  
13 damaged or removed during construction, the certificate holder must restore suitable vegetation.  
14 In addition, the certificate holder shall maintain erosion and sediment control measures put in  
15 place during construction until the affected areas are restored as described in this plan and the  
16 risk of erosion has been eliminated. The plan specifies monitoring procedures to evaluate  
17 revegetation success of disturbed wildlife habitat areas. Remedial action may be necessary for  
18 wildlife habitat areas that do not show revegetation progress. Additional mitigation may be  
19 necessary if revegetation is unsuccessful.

20 **II. Description of the Project Area**

21 Most of the SFS site lies within Gilliam County (approximately 7,378 acres).  
22 Approximately 4,033 acres within the site boundary lie within Morrow County. Much of the area  
23 in the northern part of the site is characterized by shallow soils. The area is used primarily for  
24 grazing of sheep, but low rainfall (approximately 9 inches of precipitation annually) limits  
25 forage, and sheep are typically removed from the area from May to November. The site contains  
26 areas of bare sand, exposed rock and bare soil, and there are numerous unimproved roads and  
27 off-road vehicle tracks as well as several electrical transmission line corridors. Some locations  
28 are highly disturbed from congregation of sheep around watering and transport sites. Invasive  
29 species (such as cheatgrass and spring-Whitlow grass) are the predominant grass species in most  
30 areas, but native species (such as Sandberg’s bluegrass, needle-and-thread grass, bluebunch  
31 wheatgrass and six-weeks fescue) are also present. Portions of Eightmile Canyon lie within or  
32 near the site boundary. Eightmile Canyon contains an intermittent stream and is cultivated in  
33 some areas.

34 The southern part of the site contains deeper soils. Most of the southern area is cultivated  
35 for dryland wheat farming. Portions of the southern section are enrolled in the Conservation  
36 Reserve Program. Some slopes contain small stands of big sagebrush in good condition. Portions

---

<sup>1</sup> This plan is incorporated by reference in the site certificate for Shepherds Flat South and must be understood in that context. It is not a “stand-alone” document. This plan does not contain all mitigation required of the certificate holder.

# Shepherds Flat South: Revegetation Plan

[SEPTEMBER 11, 2009]

1 of Fourmile Canyon cross through the site. Fourmile Canyon contains an ephemeral stream and a  
2 diversity of plant species.

### 3 **III. Revegetation Methods**

4 The certificate holder shall begin restoration of disturbed areas as soon as possible after  
5 completion of facility construction activity in the area to be restored. Restoration measures  
6 include soil preparation and seeding as described below. Planting should be done at the  
7 appropriate time of year to facilitate seed germination, based on weather conditions. The  
8 certificate holder shall choose planting methods based on site-specific factors such as slope,  
9 erosion potential and the size of the area in need of revegetation.

#### 10 **1. Correction for Compaction**

11 In the northern section, soils are generally too shallow to become compacted by  
12 construction activities. Deeper soils in the southern section may become compacted. The  
13 certificate holder shall examine disturbed areas as soon as construction is finished in the area.  
14 Areas that appear to be affected by compaction will be treated by deep tillage or ripping  
15 (scarification) using the method preferred by the landowner. In some areas, compaction might  
16 not become evident until vegetation indicates the condition through poor seed sprouting, stunting  
17 or plant death. Where that occurs, the area will be tilled or ripped and then re-seeded.

#### 18 **2. Revegetation of Cropland**

19 In the dryland wheat areas, ground disturbance is likely to include off-road trenching for  
20 transmission and communication lines, leveling of portions of the crane pads and disturbance by  
21 the off-road crane tread paths. Areas disturbed by off-road trenching and crane paths and ground  
22 disturbance around power poles and meteorological towers are limited in area and width, with  
23 low risk for wind or water erosion of soils. Larger disturbed areas will be cultivated as soon as  
24 possible after construction work is done. If it is the proper season for wheat planting and the  
25 disturbed area is within a field that is not intended to remain fallow, the area will be planted with  
26 a wheat variety selected by the landowner. Otherwise, cultivation and planting will occur on the  
27 same schedule as in surrounding fields. The certificate holder will reimburse landowners for the  
28 work if landowners prefer to perform the plowing and planting themselves.

#### 29 **3. Revegetation of Wildlife Habitat Areas**

30 The predominant wildlife habitat subtype that will be disturbed by facility construction is  
31 grassland. The seed mix used for revegetation in these areas will contain a mixture of species  
32 expected to perform well in the affected soils and including, as available, seed adapted to the  
33 local environment. The certificate holder will select a seed mix through consultation with the  
34 parcel landowner and the grazing right lessee, ODFW, the Oregon State University Extension  
35 Service, the Oregon Department of Agriculture, The Nature Conservancy and the Oregon  
36 Department of Energy (Department). The certificate holder shall use seed provided by a  
37 reputable supplier and complying with the Oregon Seed Law.

38 After construction activities are completed, disturbed areas will be evaluated to determine  
39 whether restoration seeding is needed. In some areas where existing vegetation has been crushed  
40 but not removed during construction, recovery is likely to occur in a reasonable time without



# Shepherds Flat South: Revegetation Plan

[SEPTEMBER 11, 2009]

1 intervention. Seeding will not be done in areas where the pre-construction condition was exposed  
2 rock, bare soil or sand that is unlikely to support vegetation.

3         Narrow areas of soil disturbance due to off-road trenching, off-road crane paths and other  
4 limited disturbance may be seeded and left without mulch. Hand seeding, rather than mechanical  
5 seeding, will be used in small areas where the use of planting equipment is likely to increase the  
6 area of disturbance. Larger disturbed areas will be seeded followed by application of weed-free  
7 straw or other mulch to protect against erosion and preserve moisture. No-till methods, such as  
8 drilling or broadcast seeding, will be employed.

9         In the arid climate of the site, successful seeding is limited to mid-fall through very early  
10 spring. If seeding of large disturbance areas cannot be accomplished within this optimal seeding  
11 period within two months after construction disturbance, the areas will be mulched or otherwise  
12 treated to minimize erosion until seeding can be done in the fall.

## 13 **4. Weed control**

14         In the spring and early summer (approximately April through June), weeds commonly  
15 found on the site can be identified before they seed. After construction, all disturbed areas  
16 (except areas of exposed rock, bare soil and sand) will be evaluated annually in the spring for the  
17 presence of invasive weed species. The certificate holder shall implement weed control measures  
18 recommended by Gilliam County and Morrow County weed control authorities. Annual weed  
19 inspection and treatment of revegetation areas will be discontinued in areas that are determined  
20 to be successfully revegetated, but the certificate holder shall continue to implement a weed  
21 control program during facility operation, as required by Condition 38 of the site certificate.

## 22 **IV. Monitoring**

### 23 **1. Revegetation Record**

24         The certificate holder shall maintain a record of revegetation work for both cropland and  
25 wildlife habitat areas. In the record, the certificate holder shall include the date that construction  
26 activity was completed in the area to be restored, a description of the affected area (location,  
27 acres affected and pre-disturbance condition), the date that revegetation work began and a  
28 description of the work done within the affected area. The certificate shall update the  
29 revegetation records from time to time, as revegetation work occurs. The certificate holder shall  
30 provide copies of these records to the Department at the time of submitting the annual report  
31 required under the site certificate.

### 32 **2. Monitoring Procedures**

#### 33 Cropland

34         During the first growing season following planting of cropland previously disturbed by  
35 facility construction, the certificate holder shall consult with the landowners on soil compaction,  
36 construction-related erosion or poor crop growth in disturbed areas. The certificate holder may  
37 rely on the judgment of the landowner regarding any corrective measures needed.

#### 38 Wildlife Habitat Areas

39         The certificate holder shall monitor the revegetation of wildlife habitat areas as described  
40 in this section, unless the landowner has converted the area to a use inconsistent with the success

## Shepherds Flat South: Revegetation Plan

[SEPTEMBER 11, 2009]

1 criteria. The certificate holder shall employ a qualified investigator (an independent botanist or  
2 revegetation specialist) to examine all non-cropland revegetation areas to assess vegetation cover  
3 (species, structural stage, etc.) and progress toward meeting the success criteria described below  
4 in subsection (3). Within representative sample plots, the investigator will estimate the  
5 percentages of the area that are covered by bare soil, desirable native vegetation or invasive weed  
6 species. The investigator will qualitatively assess the degree of erosion at each site. The  
7 investigator will compare the sample plots with representative reference plots of the same habitat  
8 category and subtype.

9 The investigator will survey at least 20 percent of the disturbed area. The investigator  
10 will select sample plots that are representative of all habitat subtypes disturbed. Sample plots  
11 must proportionally represent areas of light disturbance (crushed vegetation) and areas of heavier  
12 disturbance (scraped or heavily compacted soil). Reference plots will be selected from nearby  
13 undisturbed areas within the same habitat subtype and category. Reference plots should have  
14 similar slopes, soil depth and prevalence of rock outcrops as the sample plots to which they will  
15 be compared.

16 The investigator shall use the same reference and sample plots for every survey, unless  
17 the investigator finds that a plot is no longer suitable for survey purposes. If the investigator  
18 finds a plot is no longer suitable, the investigator will select a suitable replacement plot and  
19 report the reasons for the replacement to the certificate holder, the Department and ODFW.

20 Revegetation monitoring surveys will be conducted annually beginning one year after  
21 initial restoration seeding and continuing until there is sufficient evidence of progress for the  
22 Department to conclude that additional revegetation efforts in the area are not necessary.  
23 Thereafter, the restored areas will be surveyed at five-year intervals for the life of the facility.<sup>2</sup>

24 The investigator will report to the certificate holder, the Department and ODFW  
25 following each inspection. In the report, the investigator shall include an assessment of whether  
26 the revegetated areas are trending toward meeting the success criteria. The investigator will  
27 include in the report any remedial actions recommended. The investigator shall include a report  
28 on the success of weed control measures.

29 Within each revegetation area, the investigator shall evaluate the progress of habitat  
30 recovery in comparison to the reference area. The investigator shall evaluate the following site  
31 conditions (both within the revegetation area and within the reference area):

- 32 • Degree of erosion due to disturbance activities (high, moderate or low).
- 33 • Vegetation density.
- 34 • Relative proportion of desirable vegetation as determined by the average number  
35 of stems of desirable vegetation per square foot or by a visual scan of the area,  
36 noting overall recovery status.
- 37 • Species diversity of desirable vegetation.

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<sup>2</sup> 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.

## Shepherds Flat South: Revegetation Plan

[SEPTEMBER 11, 2009]

### 3. Success Criteria

#### Cropland

Cropland areas are successfully revegetated when the replanted areas achieve crop production comparable to adjacent non-disturbed cultivated areas. The certificate holder shall consult with the landowner or farmer to determine whether these areas have been successfully revegetated and shall report to the Department on the success of revegetation in these areas.

#### Wildlife Habitat Areas

A wildlife habitat area is successfully revegetated when its habitat quality is equal to, or better than, the habitat quality of the reference area as measured by the site conditions listed above in subsection (2). When the Department finds that the condition of a revegetated wildlife habitat area satisfies the criteria for revegetation success, the Department will conclude that the certificate holder has met its restoration obligations for that area. If the Department finds that the landowner has converted a wildlife habitat area to a use that is inconsistent with the success criteria, the Department may conclude that the certificate holder has no further obligation to restore the area for wildlife habitat uses.

Revegetation will be considered successful when:

1. The percentage of vegetation cover by desirable native species in the sample plot is greater than or equal to the percentage of desirable native species cover in the reference plots.
2. The percentage of cover by invasive weed species in the sample plot is less than 10 percent; and
3. The percentage of bare soil in the sample plot is not greater than the percentage of bare soil in the reference plot, unless the percentage of desirable native species cover in the sample plot exceeds the percentage of desirable native species cover in the reference plots as described in #4 below.
4. If the percentage of desirable native species cover in the sample plot exceeds the percentage of desirable native species cover in the reference plots by 10 percent or more, then the percentage of bare soil in the sample plot may exceed the percentage of bare soil in the reference plot by up to 20 percent.

### 4. Remedial Action in Wildlife Habitat Areas

After each monitoring visit, the certificate holder's qualified investigator shall report to the certificate holder regarding the revegetation progress of each wildlife habitat area. The investigator shall make recommendations to the certificate holder for reseeding or other remedial measures for areas that are not showing progress toward achieving revegetation success.

Indications that an area is not showing progress toward achieving revegetation success include emergence of comparatively few plants one year after disturbance or low vegetation cover in the second monitoring year compared to reference plots and little increase in vegetation between the first and second monitoring year.

The certificate holder shall take appropriate action to meet the objectives of this revegetation plan. If soil compaction is suspected as the reason for lack of progress, the

## Shepherds Flat South: Revegetation Plan

[SEPTEMBER 11, 2009]

1 compacted areas may be deep tilled or scarified to reduce compaction, followed by re-seeding.  
2 The certificate holder's qualified investigator shall assess the vegetation that has appeared in the  
3 disturbed area to determine specific recommendations for remediation.

4 On an annual basis as part of the annual report on the facility, the certificate holder shall  
5 report to the Department the investigator's recommendations and the remedial actions taken. The  
6 Department may require re-seeding or other remedial measures in those areas that do not meet  
7 the success criteria.

8 If a wildlife habitat area is damaged by wildfire, the certificate holder shall work with the  
9 landowner to restore the damaged area. The certificate holder shall report to the Department on  
10 the damage caused by wildfire and the cause of the fire, if known. The certificate holder shall  
11 continue to report on revegetation progress as described in this plan.

12 If an area is not trending toward meeting the success criteria by the fifth monitoring year  
13 (and has not been converted by the landowner to an inconsistent use), the certificate holder may  
14 conclude that revegetation of the area was unsuccessful and propose appropriate mitigation for  
15 the loss of habitat quality or quantity. The certificate holder shall carry out mitigation actions  
16 approved by the Department, subject to review by the Oregon Energy Facility Council (Council).

### 17 **V. Amendment of the Plan**

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

**Attachment E: Wildlife Monitoring and Mitigation Plan**

# Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

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1 This plan describes wildlife monitoring that the certificate holder shall conduct during  
2 operation of Shepherds Flat South (SFS).<sup>1</sup> The monitoring objectives are to determine whether  
3 the facility causes significant fatalities of birds and bats and to determine whether the facility  
4 results in a loss of habitat quality.

5 SFS consists of up to 120 wind turbines, two non-guyed meteorological (met) towers, a  
6 substation and other related or supporting facilities as described in the site certificate. The  
7 permanent facility components occupy a combined area of up to 66 acres.<sup>2</sup> The affected habitat  
8 lies within a micro-siting area of approximately 11,411 acres.

9 The certificate holder shall use experienced and properly trained personnel (the  
10 “investigators”) to conduct the monitoring required under this plan. The professional  
11 qualifications of the investigators are subject to approval by the Oregon Department of Energy  
12 (Department). For all components of this plan, the certificate holder shall hire independent third  
13 party investigators (not employees of the certificate holder) to perform monitoring tasks. The  
14 monitoring will be performed in a manner that minimizes agricultural crop loss and interference  
15 with agricultural and ranching activities.

16 The Wildlife Monitoring and Mitigation Plan for SFS has the following components:

17 1) Fatality monitoring program including:

- 18 a) Removal trials
- 19 b) Searcher efficiency trials
- 20 c) Fatality search protocol
- 21 d) Statistical analysis

22 2) Washington ground squirrel colony assessment

23 3) Raptor nest monitoring

24 4) Ongoing monitoring, reporting and handling of wildlife injuries and fatalities

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

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<sup>1</sup> This plan is incorporated by reference in the site certificate for Shepherds Flat South and must be understood in that context. It is not a “stand-alone” document. This plan does not contain all mitigation required of the certificate holder.

<sup>2</sup> Estimates of the area that the facility components would occupy are shown in Tables 11 and 12 of the *Final Order on Amendment #1* for the Shepherds Flat Wind Farm (SFWF).

# Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

## 1. Fatality Monitoring

### (a) Definitions and Methods

#### Seasons

This plan uses the following dates for defining seasons:

Season	Dates and Duration
Spring	March 16 to May 15 (2 months)
Summer	May 16 to August 15 (3 months)
Fall Migration	August 16 to October 31 (2 ½ months)
Winter	November 1 to March 15 (4 ½ months)

#### Schedule

The investigators shall perform fatality monitoring for two years for each phase of construction. For each phase of construction, the first monitoring year will begin one month after the beginning of commercial operation of that phase; the second monitoring year will begin directly following the first year.

In each monitoring year, the investigators shall conduct fatality monitoring searches at the rates of frequency shown below. Over the course of one monitoring year, the investigators will conduct 16 searches, as follows:

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

#### Search Plots

The investigators shall conduct fatality monitoring within search plots. The certificate holder, in consultation with the investigators and 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 circular. Circular search plots will be centered on the turbine location and will have a radius equal to the maximum blade tip height of the turbine contained within the plot. "Maximum blade tip height" is the turbine hub-height plus one-half the rotor diameter. The certificate holder shall provide maps of the search plots to the Department before beginning fatality monitoring at the facility. The investigators shall use the same search plots for each search conducted during a single monitoring year.

#### Sample Size

The sample size for fatality monitoring is the number of turbines searched per phase per monitoring year. For each phase of construction, the investigators shall search a representative sample of the turbines that are built in that phase, according to the following schedule:

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

Number of Turbines Built	Sample Size: First Year	Sample Size: Second Year
50 to 120	50	50
less than 50	all turbines	all turbines

1 If 50 to 120 turbines are built in a phase, the investigators shall search a different  
2 representative sample of 50 turbines in the second year, to the extent possible based on the total  
3 number of turbines built.

### 4 (b) Removal Trials

5 The objective of the removal trials is to estimate the length of time avian and bat  
6 carcasses remain in the search area. Estimates of carcass removal rates will be used to adjust  
7 carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from the  
8 search area due to predation, scavenging or other means such as farming activity.

9 The investigators shall conduct carcass removal trials within each of the seasons defined  
10 above during the years in which fatality monitoring occurs. For each trial, the investigators shall  
11 use 10 to 15 carcasses of small, medium and large-bodied species.<sup>3</sup> Trial carcasses shall be  
12 placed at least 1,000 feet from any search plots and distributed proportionately within habitat  
13 categories and subtypes similar to the search plots.

14 The investigators shall use game birds or other legal sources of avian species as test  
15 carcasses for the removal trials, and the investigators may use carcasses found in fatality  
16 monitoring searches. The investigators shall select species with the same coloration and size  
17 attributes as species found within the site boundary. If suitable trial carcasses are available, trials  
18 during the fall season will include several small brown birds to simulate bat carcasses. Legally  
19 obtained bat carcasses will be used if available.

20 Trial carcasses will be marked discreetly for recognition by searchers and other  
21 personnel. Carcasses will be placed in a variety of postures to simulate a range of conditions. For  
22 example, birds will be: 1) placed in an exposed posture (e.g., thrown over the shoulder), 2)  
23 hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass) or 3) partially  
24 hidden. The planted carcasses will be located randomly within the carcass removal trial plots.  
25 Trial carcasses will be left at the location until the end of the carcass removal trial.

26 An approximate schedule for assessing removal status is once daily for the first 4 days,  
27 and on days 7, 10, 14, 21, 30 and 45. This schedule may be adjusted depending on actual carcass  
28 removal rates, weather conditions and coordination with the other survey work. The condition of  
29 scavenged carcasses will be documented during each assessment, and at the end of the trial all  
30 traces of the carcasses will be removed from the site. Scavenger or other activity could result in  
31 complete removal of all traces of a carcass in a location or distribution of feathers and carcass  
32 parts to several locations. This distribution will not constitute removal if evidence of the carcass  
33 remains within an area similar in size to a search plot and if the evidence would be discernable to  
34 a searcher during a normal survey.

35 Before beginning removal trials for the second year of fatality monitoring, the certificate  
36 holder shall report the results of the first year removal trials to the Department and ODFW. In the

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<sup>3</sup> To reduce the combined number of carcasses used in the removal trials and searcher efficiency trials, these trials may be coordinated with similar trials for Shepherds Flat North and Shepherds Flat Central if the trials take place in the same year and after consultation with ODFW and approval by the Department.



## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 report, the certificate holder shall analyze whether four removal trials per year, as described  
2 above, provides sufficient data to accurately estimate adjustment factors for carcass removal. The  
3 number of removal trials for the second year of fatality monitoring may be adjusted up or down,  
4 subject to the approval of the Department.

### 5 (c) Searcher Efficiency Trials

6 The objective of searcher efficiency trials is to estimate the percentage of bird and bat  
7 fatalities that searchers are able to find. The certificate holder shall conduct searcher efficiency  
8 trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated  
9 agriculture habitat types. A pooled estimate of searcher efficiency will be used to adjust carcass  
10 counts for detection bias.

11 The investigators shall conduct searcher efficiency trials within each of the seasons  
12 defined above during the years in which the fatality monitoring occurs. Each trial will involve  
13 approximately 40 carcasses (approximately 160 carcasses per year). The searchers will not be  
14 notified of carcass placement or test dates. The investigators shall vary the number of trials per  
15 season and the number of carcasses per trial so that the searchers will not know the total number  
16 of trial carcasses being used in any trial.

17 For each trial, the investigators shall use small, medium and large-bodied species. The  
18 investigators shall use game birds or other legal sources of avian species as test carcasses for the  
19 efficiency trials, and the investigators may use carcasses found in fatality monitoring searches.  
20 The investigators shall select species with the same coloration and size attributes as species  
21 found within the site boundary. If suitable test carcasses are available, trials during the fall  
22 season will include several small brown birds to simulate bat carcasses. Legally obtained bat  
23 carcasses will be used if available. The investigators shall mark the test carcasses to differentiate  
24 them from other carcasses that might be found within the search plot and shall use methods  
25 similar to those used to mark removal test carcasses as long as the procedure is sufficiently  
26 discreet and does not increase carcass visibility.

27 The certificate holder shall distribute trial carcasses in varied habitat in rough proportion  
28 to the habitat types within the facility site. On the day of a standardized fatality monitoring  
29 search (described below) but before the beginning of the search, investigators will place  
30 efficiency trial carcasses randomly within search plots (one to three trial carcasses per search  
31 plot) within areas to be searched. If scavengers appear attracted by placement of carcasses, the  
32 carcasses will be distributed before dawn.

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

37 The number and location of the efficiency trial carcasses found during the carcass search  
38 will be recorded. The number of efficiency trial carcasses available for detection during each  
39 trial will be determined immediately after the trial by the person responsible for distributing the  
40 carcasses. Following plot searches, all traces of test carcasses will be removed from the site.

41 If new searchers are brought into the search team, additional searcher efficiency trials  
42 will be conducted to ensure that detection rates incorporate searcher differences. The certificate

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 holder shall include a discussion of any changes in search personnel and any additional detection  
2 trials in the reporting required under Section 5 of this plan.

3 Before beginning searcher efficiency trials for the second year of fatality monitoring, the  
4 certificate holder shall report the results of the first year efficiency trials to the Department and  
5 ODFW. In the report, the certificate holder shall analyze whether the efficiency trials as  
6 described above provides sufficient data to accurately estimate adjustment factors for carcass  
7 removal. The number of removal trials for the second year of fatality monitoring may be adjusted  
8 up or down, subject to the approval of the Department.

### 9 (d) Fatality Monitoring Search Protocol

10 The objective of fatality monitoring is to estimate the number of bird and bat fatalities  
11 that are attributable to facility operation as an indicator of the impact of the facility on habitat  
12 quality. The goal of bird and bat fatality monitoring is to estimate fatality rates and associated  
13 variances. The certificate holder shall conduct fatality monitoring using standardized carcass  
14 searches according to the schedule described above.

15 Personnel trained in proper search techniques (“the searchers”) will conduct the carcass  
16 searches by walking parallel transects approximately 20 feet apart within the search plots. A  
17 searcher will walk at a rate of approximately 45 to 60 meters per minute along each transect  
18 searching both sides out to three meters for casualties. Search area and speed may be adjusted by  
19 habitat type after evaluation of the first searcher efficiency trial.

20 Searchers shall flag all avian or bat carcasses discovered. Carcasses are defined as a  
21 complete carcass or body part, 10 or more feathers, or three or more primary feathers in one  
22 location. When parts of carcasses and feathers from the same species are found within a search  
23 plot, searchers shall make note of the relative positions and assess whether or not these are from  
24 the same fatality.

25 All carcasses (avian and bat) found during the standardized carcass searches will be  
26 photographed, recorded and labeled with a unique number. Searchers shall make note of the  
27 nearest two or three structures (turbine, power pole, fence, building or overhead line) and the  
28 approximate distance from the carcass to these structures. The species and age of the carcass will  
29 be determined when possible. Searchers shall make note of the extent to which the carcass is  
30 intact and an estimation of time since death. Searchers shall describe all evidence that might  
31 assist in determination of cause of death, such as evidence of electrocution, vehicular strike, wire  
32 strike, predation or disease, will be described. When assessment of the carcass is complete, all  
33 traces of it will be removed from the site.

34 Each carcass will be bagged and frozen for future reference and possible necropsy. A  
35 copy of the data sheet for each carcass will be kept with the carcass at all times. For each carcass  
36 found, searchers will record species, sex and age when possible, date and time collected,  
37 location, condition (e.g., intact, scavenged, feather spot) and any comments that may indicate  
38 cause of death. Searchers will photograph each carcass as found and will map the find on a  
39 detailed map of the search area showing the location of the wind turbines and associated  
40 facilities. The certificate holder shall coordinate collection of state endangered, threatened,  
41 sensitive or other state protected species with ODFW. The certificate holder shall coordinate  
42 collection of federally-listed endangered or threatened species and Migratory Bird Treaty Act

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 protected avian species with the U.S. Fish and Wildlife Service (USFWS). The certificate holder  
2 shall obtain appropriate collection permits from ODFW and USFWS.

3 The investigators shall calculate fatality rates using the statistical methods described in  
4 Section (f), except that the investigators may use different notation or methods that are  
5 mathematically equivalent with prior approval of the Department. In making these calculations,  
6 the investigators may exclude carcass data from the first search of each turbine (to eliminate  
7 possible counting of carcasses that were present before the turbine was operating).

8 The investigators shall estimate the number of avian and bat fatalities attributable to  
9 operation of the facility based on the number of avian and bat fatalities found at the facility site.  
10 All carcasses located within areas surveyed, regardless of species, will be recorded and, if  
11 possible, a cause of death determined based on blind necropsy results. If a different cause of  
12 death is not apparent, the fatality will be attributed to facility operation. The total number of  
13 avian and bat fatalities will be estimated by adjusting for removal and searcher efficiency bias.

14 On an annual basis, the certificate holder shall report an estimate of fatalities in eight  
15 categories: 1) all birds, 2) small birds, 3) large birds, 4) raptors, 5) grassland birds, 6) nocturnal  
16 migrants, 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. The certificate  
17 holder shall report annual fatality rates on both a per-MW and per-turbine basis.

### 18 (e) Incidental Finds and Injured Birds

19 The searchers might discover carcasses incidental to formal carcass searches (e.g., while  
20 driving within the project area). For each incidentally discovered carcass, the searcher shall  
21 identify, photograph, record data and collect the carcass as would be done for carcasses within  
22 the formal search sample during scheduled searches. If the incidentally discovered carcass is  
23 found within a formal search plot, the fatality data will be included in the calculation of fatality  
24 rates. If the incidentally discovered carcass is found outside a formal search plot, the data will be  
25 reported separately. The certificate holder shall coordinate collection of incidentally discovered  
26 state endangered, threatened, sensitive or other state protected species with ODFW. The  
27 certificate holder shall coordinate collection of incidentally discovered federally-listed  
28 endangered or threatened species and Migratory Bird Treaty Act protected avian species with the  
29 USFWS.

30 The certificate holder shall develop and follow a protocol for handling injured birds. Any  
31 injured native birds found on the facility site will be carefully captured by a trained project  
32 biologist or technician and transported to a qualified rehabilitation specialist approved by the  
33 Department.<sup>4</sup> The certificate holder shall pay costs, if any, charged for time and expenses related  
34 to care and rehabilitation of injured native birds found on the site, unless the cause of injury is  
35 clearly demonstrated to be unrelated to the facility operations.

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<sup>4</sup> Approved specialists include Lynn Tompkins (wildlife rehabilitator) of Blue Mountain Wildlife, a wildlife rehabilitation center in Pendleton and the Audubon Bird Care Center in Portland. The certificate holder must obtain Department approval before using other specialists.

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

### 1 (f) Statistical Methods for Fatality Estimates<sup>5</sup>

2 The estimate of the total number of wind facility-related fatalities is based on:

- 3 (1) The observed number of carcasses found during standardized searches during the  
4 two monitoring years for which the cause of death is attributed to the facility.<sup>6</sup>
- 5 (2) Searcher efficiency expressed as the proportion of planted carcasses found by  
6 searchers.
- 7 (3) Removal rates expressed as the estimated average probability a carcass is expected  
8 to remain in the study area and be available for detection by the searchers during  
9 the entire survey period.

### 10 Definition of Variables

11 The following variables are used in the equations below:

12	$c_i$	the number of carcasses detected at plot $i$ for the study period of interest (e.g., one
13		year) for which the cause of death is either unknown or is attributed to the facility
14	$n$	the number of search plots
15	$k$	the number of turbines searched (includes the turbines centered within each
16		search plot and a proportion of the number of turbines adjacent to search plots to
17		account for the effect of adjacent turbines on the search plot buffer area)
18	$\bar{c}$	the average number of carcasses observed per turbine per year
19	$s$	the number of carcasses used in removal trials
20	$s_c$	the number of carcasses in removal trials that remain in the study area after 40
21		days
22	$se$	standard error (square of the sample variance of the mean)
23	$t_i$	the time (days) a carcass remains in the study area before it is removed
24	$\bar{t}$	the average time (days) a carcass remains in the study area before it is removed
25	$d$	the total number of carcasses placed in searcher efficiency trials
26	$p$	the estimated proportion of detectable carcasses found by searchers
27	$I$	the average interval between searches in days
28	$\hat{\pi}$	the estimated probability that a carcass is both available to be found during a
29		search and is found
30	$m_t$	the estimated annual average number of fatalities per turbine per year, adjusted
31		for removal and observer detection bias
32	$C$	nameplate energy output of turbine in megawatts (MW)

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<sup>5</sup> These statistical methods derive from the *Draft Avian and Bat Monitoring Plan for the Stateline Wind Project*, January 10, 2001 (prepared by FPL Energy, WEST Inc. and Northwest Wildlife Consultants). The present form of the description of statistical methods is based on revisions by the Council in the *Klondike III Wildlife Monitoring and Mitigation Plan*, June 30, 2006.

<sup>6</sup> If a different cause of death is not apparent, the fatality will be attributed to facility operation.

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

### Observed Number of Carcasses

The estimated average number of carcasses ( $\bar{c}$ ) observed per turbine per year is:

$$\bar{c} = \frac{\sum_{i=1}^n c_i}{k} . \quad (1)$$

### 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:

$$\bar{t} = \frac{\sum_{i=1}^s t_i}{s - s_c} . \quad (2)$$

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 40 days are collected, yielding censored observations at 40 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.

### 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.

### Estimation of Facility-Related Fatality Rates

The estimated per turbine annual fatality rate ( $m_t$ ) is calculated by:

$$m_t = \frac{\bar{c}}{\hat{\pi}} , \quad (3)$$

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:

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

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

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

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 The final reported estimates of  $m$ , associated standard errors and 90% confidence  
2 intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer  
3 simulation technique that is useful for calculating point estimates, variances and confidence  
4 intervals for complicated test statistics. For each iteration of the bootstrap, the plots will be  
5 sampled with replacement, trial carcasses will be sampled with replacement and  $\bar{c}$ ,  $\bar{t}$ ,  $p$ ,  $\hat{\pi}$  and  
6  $m$  will be calculated. A total of 5,000 bootstrap iterations will be used. The reported estimates  
7 will be the means of the 5,000 bootstrap estimates. The standard deviation of the bootstrap  
8 estimates is the estimated standard error. The lower 5<sup>th</sup> and upper 95<sup>th</sup> percentiles of the 5000  
9 bootstrap estimates are estimates of the lower limit and upper limit of 90% confidence intervals.

### 10 Nocturnal Migrant and Bat Fatalities

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

### 14 (g) Mitigation

15 The certificate holder shall use a worst-case analysis to resolve any uncertainty in the  
16 results and to determine whether the data indicate that additional mitigation should be  
17 considered. The Department may require additional, targeted monitoring if the data indicate the  
18 potential for significant impacts that cannot be addressed by worst-case analysis and appropriate  
19 mitigation.

20 Mitigation may be appropriate if fatality rates exceed a “threshold of concern.”<sup>7</sup> For the  
21 purpose of determining whether a threshold has been exceeded, the certificate holder shall  
22 calculate the average annual fatality rates for species groups after two years of monitoring. Based  
23 on current knowledge of the species that are likely to use the habitat in the area of the facility, the  
24 following thresholds apply to SFS:

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<sup>7</sup> 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 WMMP to guide consideration of additional mitigation based on two years of monitoring data.”

**Shepherds Flat South: Wildlife Monitoring and Mitigation Plan**  
**[SEPTEMBER 11, 2009]**

<b>Species Group</b>	<b>Threshold of Concern</b> (fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson’s hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl and any federal threatened or endangered raptor species.)	0.06
Grassland species (All native bird species that rely on grassland habitat and are either resident species occurring year round or species that nest in the area, excluding horned lark, burrowing owl and northern harrier.)	0.59
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above.)	0.2
Bat species as a group	2.5

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

14            Mitigation should be designed to benefit the affected species group. Mitigation may  
15 include, but is not limited to, protection of nesting habitat for the affected group of native species  
16 through a conservation easement or similar agreement. Tracts of land that are intact and  
17 functional for wildlife are preferable to degraded habitat areas. Preference should be given to  
18 protection of land that would otherwise be subject to development or use that would diminish the  
19 wildlife value of the land. In addition, mitigation measures might include: enhancement of a  
20 protected tract that is degraded by weed removal and control; increasing the diversity of native  
21 grasses and forbs; planting sagebrush or other shrubs; constructing and maintaining artificial nest  
22 structures for raptors; improving wildfire response; and conducting or making a contribution to  
23 research that will aid in understanding more about the affected species and its conservation needs  
24 in the region.

25 **2. Washington Ground Squirrel Assessment**

26            A qualified professional biologist (investigator) will assess the status of that portion of  
27 the Washington ground squirrel (WGS) colony located within the site boundary.<sup>8</sup> The colony

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<sup>8</sup> The site certificate application for the SFWF included a baseline assessment of the WGS colony. Weisskopf et al., *Shepherds Flat Washington Ground Squirrel and Burrowing Owl Surveys*, May 27, 2007 (App Supp, Exhibit P, Attachment P-5a).

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 located on-site represents a small outpost of the larger complex off-site. It may expand or  
2 contract over the survey years as rainfall and vegetation affect the total population of the  
3 complex. There should be sufficient data collected before facility components are installed in the  
4 colony's vicinity for the investigator to assess natural colony fluctuation.

5 The investigator shall assess the status of the WGS colony when the squirrels are active  
6 (approximately mid-March through May) beginning in the first active period after the effective  
7 date of the site certificate for SFS. The colony will be assessed annually thereafter through the  
8 second year after the turbines closest to the WGS colony become commercially operational.

9 During each assessment, the investigator shall monitor WGS activity to determine the  
10 extent of the on-site colony and estimate the number of squirrels present. The investigator shall  
11 examine the surroundings for evidence of project-caused conditions that might increase erosion  
12 or result in a decline in vegetation quality and adversely affect the colony.

### 13 3. Raptor Nest Monitoring

14 The objectives of raptor nest surveys are: (1) to estimate the size of the local breeding  
15 populations of raptor species that nest on the ground or aboveground in trees or other  
16 aboveground nest locations in the vicinity of the facility; and (2) to determine whether operation  
17 of the facility results in a reduction of nesting activity or nesting success in the local populations  
18 of the following raptor species: Swainson's hawk, golden eagle, ferruginous hawk and burrowing  
19 owl.

20 The certificate holder shall conduct short-term and long-term monitoring. The certificate  
21 holder's qualified investigators will use aerial and ground surveys to evaluate nest success by  
22 gathering data on active nests, on nests with young and on young fledged. The investigators will  
23 analyze the data as described in Section 3(c) and will share the data with state and federal  
24 biologists.

#### 25 (a) Short-Term Monitoring

26 Short-term monitoring will be done in two monitoring seasons. The first monitoring  
27 season will be in the first raptor nesting season after completion of construction of SFS. The  
28 second monitoring season will be in the fourth year after construction is completed. The  
29 investigators will analyze two years of data after the second monitoring season.

#### 30 Survey Protocol for Raptor Species that Nest Aboveground

31 During each monitoring season, the investigators will conduct a thorough ground survey  
32 for raptor nests in late May or early June and additional surveys as described in this section. The  
33 survey area is the area within the SFS site and a 2-mile buffer around the site. All nests  
34 discovered during pre-construction surveys and any nests discovered during post-construction  
35 surveys, whether active or inactive, will be given identification numbers. Nest locations will be  
36 recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system  
37 coordinates will be recorded for each nest. Locations of inactive nests will be recorded because  
38 they could become occupied during future years.

39 Determining nest *occupancy* will likely require at least two visits to each nest. For  
40 occupied nests, the certificate holder will determine nesting *success* by a minimum of one  
41 ground visit to determine species, number of young and young fledged. "Nesting success" means



## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 that the young have successfully fledged (the young are independent of the core nest site). Nests  
2 that cannot be monitored due to the landowner denying access will be checked from a distance  
3 where feasible.

### 4 Survey Protocol for Burrowing Owls

5 The investigators will monitor burrowing owl nests according to the following protocol.  
6 The investigators will monitor all nests discovered during pre-construction surveys and any  
7 additional burrowing owl nest sites that are discovered during any wildlife monitoring tasks  
8 conducted under this plan. All nests will be given identification numbers. Nest locations will be  
9 recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system  
10 coordinates will be recorded for each nest site. Coordinates for ancillary burrows used by one  
11 nesting pair or a group of nesting pairs will also be recorded. Locations of inactive nests will be  
12 recorded because they could become occupied during future years.

13 For occupied nests, the certificate holder will determine nesting *success* by a minimum of  
14 one ground visit to determine species, number of young and young fledged. “Nesting success”  
15 means that the young have successfully fledged (the young may or may not be independent of  
16 the core nest site). Three visits to the nest sites may be necessary to determine outcome. Nests  
17 that cannot be monitored due to the landowner denying access will be checked from a distance  
18 where feasible.

### 19 (b) Long-Term Monitoring

20 In addition to the two years of post-construction raptor nest surveys described above, the  
21 certificate holder will conduct long-term raptor nest surveys at five-year intervals for the life of  
22 the facility.<sup>9</sup> Investigators will conduct the first long-term raptor nest survey in the raptor nesting  
23 season of the ninth year after construction is completed and will repeat the survey at five-year  
24 intervals thereafter. In conducting long-term surveys, the investigators will follow the same  
25 survey protocols as described above in Section 3(a) unless the investigators propose alternative  
26 protocols that are approved by the Department. In developing an alternative protocol, the  
27 investigators will consult with ODFW. The investigators will analyze the data after each year of  
28 long-term raptor nest surveys.

### 29 (c) Analysis

30 The investigators will analyze the raptor nesting data to determine whether a reduction in  
31 either nesting success or nest use has occurred in the survey area. If the analysis indicates a  
32 reduction in nesting success or nest use by Swainson’s hawks, golden eagles, ferruginous hawks  
33 or burrowing owls, then the certificate holder will propose appropriate mitigation for the affected  
34 species as described in Section 3(d) and will implement mitigation as approved by the  
35 Department, subject to review by the Council

36 Any reduction in nesting success or nest use could be due to operation of SFS or some  
37 other cause. The investigators will attribute the reduction to operation of SFS unless the  
38 investigators demonstrate, and the Department agrees, that the reduction was due to a different  
39 cause. At a minimum, if the analysis shows that a Swainson’s hawk, golden eagle, ferruginous

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<sup>9</sup> 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.

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 hawk or burrowing owl has abandoned a nest territory within the facility site or within ½ mile of  
2 the facility site or has not fledged any young over two successive surveys within that same area,  
3 the investigators will assume the abandonment or unsuccessful fledging is due to operation of the  
4 facility unless another cause can be demonstrated convincingly.

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

### 10 (d) Mitigation

11           The certificate holder will propose mitigation for the affected species in consultation with  
12 the Department and ODFW and will implement mitigation as approved by the Council. In  
13 proposing appropriate mitigation, the certificate holder will advise the Department if any other  
14 wind project in the area is obligated to provide mitigation for a reduction in raptor nesting  
15 success at the same nest site. Mitigation should be designed to benefit the affected species or  
16 contribute to overall scientific knowledge and understanding of what causes nest abandonment or  
17 nest failure. Mitigation may be designed to proceed in phases over several years. It may include,  
18 but is not limited to, additional raptor nest monitoring, protection of natural nest sites from  
19 human disturbance or cattle activity (preferably within the general area of the facility) or  
20 participation in research projects designed to improve scientific understanding of the needs of the  
21 affected species.

## 22 4. Ongoing Reporting and Handling of Wildlife Injuries and Fatalities

23           The certificate holder will implement an ongoing monitoring program for avian and bat  
24 casualties found during operation of the facility. The certificate holder will train facility  
25 personnel in the methods and practices needed to carry out this program. Facility personnel shall  
26 monitor the areas around all facility structures that may present a collision risk to avian and bat  
27 species, including turbine towers, meteorological towers, aboveground transmission lines, the  
28 substation and the field workshop. The monitoring program will include initial response,  
29 handling and reporting of bird and bat carcasses discovered incidental to maintenance operations  
30 (“incidental finds”). Maintenance personnel will follow the certificate holder’s protocol for  
31 handling injured birds as described in Section 1(d).

32           All avian and bat carcasses discovered by maintenance personnel will be photographed  
33 and data will be recorded as would be done for carcasses within the formal search sample during  
34 scheduled searches as described in Section 1(d). Maintenance personnel will notify a project  
35 biologist of incidental finds. The project biologist must be a qualified independent professional  
36 biologist who is not an employee of the certificate holder. The project biologist (or the project  
37 biologist’s experienced wildlife technician) will collect the carcass or will instruct maintenance  
38 personnel to have an on-site carcass handling permittee collect the carcass. The certificate  
39 holder’s on-site carcass handling permittee must be a person who is listed on state and federal  
40 scientific or salvage collection permits and who is available to process (collect) the find on the  
41 day it is discovered. The find must be processed on the same day as it is discovered. The  
42 certificate holder shall coordinate collection of state endangered, threatened, sensitive or other  
43 state protected species with ODFW. The certificate holder shall coordinate collection of

## Shepherds Flat South: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 federally-listed endangered or threatened species and Migratory Bird Treaty Act protected avian  
2 species with the USFWS.

3 During the years in which fatality monitoring occurs, if there are incidental finds outside  
4 the search plots for the fatality monitoring searches, the data will be reported separately from  
5 fatality monitoring data. Data on incidental finds within search plots will be included in the  
6 calculation of fatality rates.

7 The Department may determine that mitigation is appropriate if avian or bat fatalities are  
8 higher than expected and at a level of biological concern. If the Department determines that  
9 mitigation is appropriate, the certificate holder, in consultation with the Department and ODFW,  
10 shall propose mitigation measures designed to benefit the affected species. The certificate holder  
11 shall implement mitigation as approved by the Department, subject to review by the Council.

### 12 **5. Data Reporting**

13 The certificate holder will report wildlife monitoring data and analysis to the Department.  
14 The certificate holder shall notify USFWS and ODFW immediately if any federal or state  
15 endangered or threatened species are killed or injured on the facility site. The certificate holder  
16 shall report fatality monitoring program data, WGS colony assessment information, raptor nest  
17 monitoring data and data on avian and bat casualties found by facility personnel. The certificate  
18 holder may include the reporting of wildlife monitoring data and analysis in the annual report  
19 required under OAR 345-026-0080 or submit this information as a separate document at the  
20 same time the annual report is submitted. In addition, the certificate holder shall provide to the  
21 Department any data or record generated by the investigators in carrying out this monitoring plan  
22 upon request by the Department.

### 23 **6. Amendment of the Plan**

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

**Attachment F: Habitat Mitigation Plan**

# Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

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## I. Introduction

This plan describes methods and standards for preservation and enhancement of an area of land near Shepherds Flat South (SFS) to mitigate for the impacts of the facility on wildlife habitat.<sup>1</sup> This plan addresses mitigation for both the permanent impacts of facility components and the temporal impacts of facility construction. The certificate holder shall protect and enhance the mitigation area as described in this plan. This plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions. This plan does not address additional mitigation that might be required under the SFS *Wildlife Monitoring and Mitigation Plan*.

## II. Description of the Impacts Addressed by the Plan

The SFS footprint (area covered by permanent facility components) occupies areas of Category 3 grassland and shrub-steppe vegetation, Category 4 grassland, Category 5 habitat and Category 6 habitat. In compliance with Condition 86 of the site certificate, the certificate holder must avoid “all Category 1 habitat and those areas of Category 2 habitat shown on the “ODFW-2” Figures 1 through 12 in the Shepherds Flat Wind Farm Application.” The final design of the facility complied with this requirement.

In addition to the areas affected by the SFS footprint, construction may temporarily affect areas of Category 2, 3, 4, 5 and 6 habitat. Areas of Category 2 habitat temporarily affected by construction disturbance had been classified as Category 3 at the time of the Shepherds Flat Wind Farm application in 2007 but were reclassified in May 2010 during the pre-construction habitat survey. The habitat quality of these reclassified areas had improved due to the passage of time and the absence of wildfire. After disturbance, the recovery of temporarily disturbed Category 2, 3 and 4 grassland areas to a mature stage might take two to four years; recovery of shrub-steppe vegetation might take ten to 30 years to reach maximum height and vertical branching. During the period needed to achieve full recovery of these habitat subtypes, habitat quality is temporarily degraded until recovery is successful (temporal impact).

## III. Calculation of the Size of the Mitigation Area

The habitat mitigation area (HMA) must be large enough to achieve, within a reasonable time, the habitat mitigation goals and standards of the Oregon Department of Fish and Wildlife (ODFW) described in OAR 635-415-0025. For the footprint impacts, the mitigation area must include two acres for every one acre of Category 2 habitat affected (a 2:1 ratio) and one acre for every acre of impact to Category 3 and 4 habitat (a 1:1 ratio). The 2:1 ratio for Category 2 is intended to meet the ODFW goals of “no net loss” of Category 2 habitat and “net benefit” of habitat quantity. The ODFW goals require mitigation to achieve “no net loss” of habitat in Categories 3 and 4 (acre-for-acre mitigation). For Category 5 impacts, mitigation is achieved by a “net benefit in habitat quantity or quality.” To mitigate for Category 5 impacts, ODFW recommends that “the applicant enhance at least ½ acre of Category 3, 4, or 5 habitat” for every

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<sup>1</sup> This plan is incorporated by reference in the site certificate for Shepherds Flat South and must be understood in that context. It is not a “stand-alone” document. This plan does not contain all mitigation required of the certificate holder.

## Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

1 acre of impact on Category 5 habitat.<sup>2</sup> For Category 6, mitigation is achieved by actions that minimize direct habitat loss and avoid impacts to off-site habitat.

To address the temporal loss of habitat quality during the recovery of Category 2 or 3 shrub-steppe-sage (SS-S) habitat temporarily disturbed during construction of SFS (outside the footprint), the HMA must include ½ acre for every acre of Category 2 or 3 SS-S habitat affected (a 0.5:1 ratio). If the revegetation success criteria are not met in the affected areas of temporarily disturbed SS-S habitat, as determined under the SFS Revegetation Plan, then the Council may require the certificate holder to provide additional mitigation.

Before beginning construction of the facility, the certificate holder provided to the Oregon Department of Energy (Department) and ODFW maps showing the final design configuration of the facility and a table showing the acres of permanent impacts and construction area impacts on habitat (by category, habitat types and habitat subtypes).<sup>3</sup> Based on the final design habitat assessment, SFS has had the following footprint impacts:

Habitat Category	Footprint Impact (acres)
Category 2	0
Category 3	8
Category 4	2.8
Category 5	1.9
Category 6	47.4
Total area	60.1

The overall minimum size of the HMA, the area of impact within each affected habitat category and the corresponding mitigation area requirements are shown below, based on the final design of SFS:

Category 2

Footprint impacts: 0 acres

Temporal impacts to SS-S: 0.8 acres

Mitigation area requirement: 0.8 acres x 0.5 = 0.4 acres

Category 3

Footprint impacts: 8.0 acres

Temporal impacts to SS-S: 13.4 acres

Mitigation area requirement: 8 acres + (13.4 acres x 0.5) = 14.7 acres

Category 4

Footprint impacts: 2.8 acres

Mitigation area requirement: 2.8 acres

<sup>2</sup> Email from Jon Germond, ODFW, February 26, 2008.

<sup>3</sup> The pre-construction habitat survey is described in “SFS Disturbance.pdf” (email from Patricia Pilz, May 24, 2010).

## Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

### Category 5

Footprint impacts: 1.9 acres

Mitigation area requirement:  $1.9 \text{ acres} \times 0.5 = 0.95 \text{ acres}$  of Category 3, 4 or 5 habitat<sup>4</sup>

### **Total mitigation area (rounded to nearest whole acre): 19 acres**

Before beginning construction, the certificate holder determined the final size and boundaries of the mitigation area in consultation with ODFW and the affected landowners and with the approval of the Department. The certificate holder acquired the legal right to create, maintain and protect the HMA for the life of the facility by means of a conservation easement and provided a copy of the documentation to the Department.<sup>5</sup>

## IV. Description of the Mitigation Area

The ODFW standards require mitigation for Category 2 and Category 3 impacts to be “in proximity” to SFS, and the HMA must be located where habitat protection and enhancement are feasible consistent with this plan.<sup>6</sup> The applicant for the Shepherds Flat Wind Farm identified a 435-acre parcel in proximity to SFS but outside the site boundary. The baseline habitat characteristics of the 435-acre parcel are described in Section IV.4(b)(F) of the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008). This parcel, however, was not available to the certificate holder when construction of SFS was ready to begin. The certificate holder identified a replacement parcel, and the Department approved the parcel. ODFW determined that the replacement parcel was suitable for mitigation.<sup>7</sup> The HMA for SFS is contiguous with the HMA for Shepherds Flat North and is bordered on the north by lands held by The Nature Conservancy.<sup>8</sup> It is located east of Highway 74 north of Cecil. The HMA for SFS consists of approximately 23 acres of grassland, sage steppe and one juniper tree.<sup>9</sup> There were no raptor nests observed in the HMA. The terrain consists of ridges separated by ravines perpendicular to and sloping down towards Willow Creek. The HMA includes approximately 8.8 acres of Category 2 grassland and SS-S habitat and 9.6 acres of Category 3 grassland and SS-S habitat. The landowner has used the area for cattle grazing.

## V. Habitat Enhancement Actions

The certificate holder shall implement the habitat enhancement actions described in this plan. The objectives of the plan are to protect the habitat within the HMA for the life of the facility and to enhance the baseline condition of the habitat to meet the ODFW mitigation goals.

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<sup>4</sup> ODFW has advised the Department that the Category 5 “net benefit” goal “recognizes that Category 5 habitats are generally in a ‘degraded’ state, but have high restoration potential” and that “fish and wildlife species would not benefit much from mitigation taking place on Category 5 habitat” (email from Jon Germond, ODFW, February 26, 2008).

<sup>5</sup> 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.

<sup>6</sup> OAR 635-415-0005 defines “in-proximity habitat mitigation” as follows: “habitat mitigation measures undertaken within or in proximity to areas affected by a development action. For the purposes of this policy, ‘in proximity to’ means within the same home range, or watershed (depending on the species or population being considered) whichever will have the highest likelihood of benefiting fish and wildlife populations directly affected by the development.”

<sup>7</sup> Email from Steve Cherry, ODFW, May 5, 2010.

<sup>8</sup> A more detailed description of the HMA, including maps and photographs, may be found in “Habitat mitigation area.pdf” (email from Patricia Pilz, May 21, 2010).

<sup>9</sup> Revised acreage calculations (email from Patricia Pilz, November 4, 2011).

## Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

1 To achieve “no net loss” of habitat quantity or quality to mitigate for the permanent  
2 impacts of SFS in Category 3 and 4 habitats and to achieve a “net benefit in habitat quantity or  
3 quality” to mitigate for the permanent impacts in Category 5 habitat, the certificate holder shall  
4 protect the habitat within the HMA for the life of the facility and shall implement the  
5 enhancement actions.<sup>10</sup> The certificate holder began the enhancement actions described in this  
6 section after the final design configuration of SFS was known and the location, size and  
7 boundaries of the HMA were determined and approved by the Department. Specific  
8 enhancement actions are described below.

- 9 1. Modification of Livestock Grazing Practices. The certificate holder shall restrict  
10 grazing within the habitat mitigation area. Limited livestock grazing in the mitigation  
11 area will enable recovery of native bunchgrass and sagebrush in areas where past  
12 grazing has occurred, resulting in better vegetative structure and complexity for  
13 wildlife. Reduced livestock grazing may be used as a vegetation management tool,  
14 limited to the period from November 15 to May 15.
- 15 2. Weed Control and Area Seeding. The certificate holder shall implement a weed  
16 control program. Under the weed control program, the certificate holder shall monitor  
17 the mitigation area to locate weed infestations. The certificate holder shall continue  
18 weed control monitoring, as needed, for the life of the facility. As needed, the  
19 certificate holder shall use appropriate methods to control weeds. Weed control on the  
20 mitigation site will reduce the spread of noxious weeds within the habitat mitigation  
21 area and on any nearby grassland, CRP or cultivated agricultural land. Weed control  
22 will promote the growth of desirable native vegetation. Where substantial areas of  
23 soil (greater than 100 ft<sup>2</sup>) are left bare from weed control activities, the certificate  
24 holder shall hand-seed the area in the appropriate time of year with a mixture  
25 containing native grass and shrub seeds. The certificate holder may consider weeds to  
26 be successfully controlled when weed clusters have been eradicated or reduced to a  
27 non-competing level. Weeds may be controlled with herbicides or hand-pulling. The  
28 certificate holder shall notify the landowner of the specific chemicals to be used on  
29 the site and when spraying will occur. To protect locations where young desirable  
30 forbs may be growing, spot-spraying may be used instead of total area spraying.
- 31 3. Fire Control. The certificate holder shall implement a fire control plan for wildfire  
32 suppression within the HMA. The certificate holder shall provide a copy of the fire  
33 control plan to the Department before starting habitat enhancement actions. The  
34 certificate holder shall include in the plan appropriate fire prevention measures,  
35 methods to detect fires that occur and a protocol for fire response and suppression.  
36 The certificate holder shall maintain fire control for the life of the facility. If wildfire  
37 damages any part of the HMA during the life of the facility, the certificate holder  
38 shall assess the extent of the damage and implement appropriate actions to restore  
39 habitat quality in the damaged area.
- 40 4. Erosion Control. The certificate holder shall monitor the HMA to locate sites at which  
41 past livestock grazing or vegetation loss has caused soil erosion. As needed, the

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<sup>10</sup> ODFW has advised the Department that protection of habitat alone (without enhancement activity) will not meet the intent of ODFW’s Fish and Wildlife Mitigation Policy (Letter from Rose Owens, November 9, 2006, in reference to the Leaning Juniper II Wind Power Facility).



## Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

1 certificate holder shall control erosion by a combination of sediment barriers (such as  
2 hay bales, mulch or native rock) and seeding the affected area with a mixture  
3 containing native grasses and shrub seeds. The certificate holder may consider  
4 erosion control to be successful when eroded areas can support vegetation and no  
5 indications of new soil loss are evident.

6 5. Habitat Protection. For the life of the facility, the certificate holder shall restrict uses  
7 of the HMA that are inconsistent with achieving the habitat mitigation goals.

8 6. Litter Removal. To protect wildlife from wind-blown litter, the certificate holder shall  
9 monitor the Highway 74 Oregon Trail Wayside on a monthly basis and shall remove  
10 litter from the wayside area and areas within the HMA.

### 11 VI. Monitoring

#### 12 1. Monitoring Procedures

13 The certificate holder shall hire a qualified investigator (an independent botanist, wildlife  
14 biologist or revegetation specialist) to conduct a comprehensive monitoring program for the  
15 HMA. The purpose of monitoring is to evaluate the protection of habitat quality, the results of  
16 enhancement actions and the use of the area by avian and mammal species, especially during the  
17 wildlife breeding season. The investigator shall conduct HMA monitoring beginning in the first  
18 year after enhancement actions begin and continuing for the life of the facility. The investigator  
19 shall visit the site as necessary to carry out the following monitoring procedures:

- 20 1) Annually assess the general quality of vegetation cover (species, structural stage, etc).
- 21 2) Annually assess progress toward meeting the success criteria.
- 22 3) Annually record environmental factors (such as precipitation at the time of surveys  
23 and precipitation levels for the year).
- 24 4) Annually record any wildfire that occurs within the HMA and any remedial actions  
25 taken to restore habitat quality in the damaged area.
- 26 5) Annually assess the success of the weed control (including area seeding) and erosion  
27 control programs and recommend remedial action, if needed.
- 28 6) Assess the recovery of native bunchgrass and natural recruitment of sagebrush  
29 resulting from removal of livestock grazing pressure by comparing the quality of  
30 bunchgrass and sagebrush cover at the time of each monitoring visit with the quality  
31 observed in previous monitoring visits and as observed when the HMA was first  
32 established. The investigator shall establish photo plots of naturally recovering  
33 sagebrush and native bunchgrass during the first year following the beginning of  
34 enhancement actions. The investigator shall take comparison photos in the first year  
35 and every two years thereafter until desirable vegetation has achieved mature stature.  
36 The investigator shall determine the extent of successful recovery of native  
37 bunchgrass based on measurable indicators (such as signs of more abundant seed  
38 production) and shall report on the progress of recovery within in the monitoring  
39 plots. The investigator shall report on the timing and extent of any livestock grazing  
40 that has occurred within the mitigation area since the previous monitoring visit.

## Shepherds Flat South: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

- 1           7) Between April 21 and May 21 beginning in the first spring season after the beginning  
2 of construction of SFS, conduct an area search survey of avian species. An “area  
3 search” survey consists of recording all birds seen or heard in specific areas (for  
4 example, square or circular plots that are 5 to 10 acres in size). Area searches will be  
5 conducted during morning hours on days with low or no wind. The investigator shall  
6 determine the number searches and the number of search areas in consultation with  
7 ODFW. The investigator shall repeat the area search survey every five years during  
8 the life of the facility.
- 9           8) Beginning in the first year after the beginning of construction of SFS and repeating  
10 every five years during the life of the facility, the investigator shall record  
11 observations of special status plant and wildlife species (federal or State threatened or  
12 endangered species and State sensitive species) during appropriate seasons for  
13 detection of these species.

### 14 **2. Reporting**

15           The certificate holder shall report the investigator’s findings and recommendations  
16 regarding the monitoring of the mitigation area to the Department and to ODFW on an annual  
17 basis. The certificate holder shall describe all habitat mitigation actions carried out during the  
18 reporting year and all additional work performed based on recommendations of the qualified  
19 investigator. The report shall include an evaluation of mitigation success, based on the success  
20 criteria described below, and a description of the methods used to perform the evaluation. The  
21 report to the Department may be included as part of the annual report on SFS that is required  
22 under Condition 21 of the site certificate.

### 23 **3. Success Criteria**

24           Mitigation of the permanent and temporal habitat impacts of the facility may be  
25 considered successful if the certificate holder protects and enhances sufficient habitat within the  
26 mitigation area to meet the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a  
27 “net benefit” for impacts to habitat in Categories 2 and 5. The certificate holder must protect the  
28 quantity and quality of habitat within the HMA for the life of the facility. The mitigation goals  
29 are successfully achieved when the HMA contains a sufficient quantity of habitat in each  
30 category to meet the mitigation area requirements calculated under Section III. The certificate  
31 holder may count habitat of higher value toward meeting the acreage requirements for Category  
32 3, 4 and 5 habitat.

33           The certificate holder may demonstrate enhancement of habitat quality based on evidence  
34 of indicators such as increased avian use by a diversity of species, more abundant seed  
35 production of desirable native bunchgrass, natural recruitment of sagebrush and successful weed  
36 control.

37           If the certificate holder cannot demonstrate that the HMA is trending toward meeting the  
38 success criteria within five years after the date construction of SFS begins, the certificate holder  
39 shall propose remedial action. The Department may require supplemental planting or other  
40 corrective measures, which may include increasing the size of the HMA.

### 41 **VII. Amendment of the Plan**

42           This Habitat Mitigation Plan may be amended from time to time by agreement of the  
43 certificate holder and the Oregon Energy Facility Siting Council (“Council”). Such amendments

## **Shepherds Flat South: Habitat Mitigation Plan**

**[REVISED DECEMBER 9, 2011]**

- 1 may be made without amendment of the site certificate. The Council authorizes the Department
- 2 to agree to amendments to this plan. The Department shall notify the Council of all amendments,
- 3 and the Council retains the authority to approve, reject or modify any amendment of this plan
- 4 agreed to by the Department.