

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

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

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

December 20, 2019

1	Table of Contents	
2	I. INTRODUCTION	4
3	I.A. NAME AND ADDRESS OF CERTIFICATE HOLDER	4
4	I.B. DESCRIPTION OF THE APPROVED FACILITY AND FACILITY LOCATION	5
5	I.C. PROCEDURAL HISTORY	7
6	II. AMENDMENT PROCESS	7
7	II.A. REQUESTED AMENDMENT	7
8	II.B. AMENDED SITE CERTIFICATE FORMAT	8
9	II.C. AMENDMENT REVIEW PROCESS	8
10	II.D. COUNCIL REVIEW PROCESS	10
11	II.E. APPLICABLE DIVISION 27 RULE REQUIREMENTS	10
12	III. REVIEW OF THE REQUESTED AMENDMENT	11
13	III.A. STANDARDS POTENTIALLY IMPACTED BY REQUEST FOR AMENDMENT 2	11
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	17
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.....	27
20	III.A.7 Recreation: OAR 345-022-0100	33
21	III.A.8 Public Services: OAR 345-022-0110.....	36
22	III.A.9 Waste Minimization: OAR 345-022-0120.....	40
23	III.A.10 Division 24 Standards	42
24	III.A.11 Other Applicable Regulatory Requirements Under Council Jurisdiction	48
25	III.B. STANDARDS NOT LIKELY TO BE IMPACTED BY REQUEST FOR AMENDMENT 2	53
26	III.B.1 Protected Areas: OAR 345-022-0040.....	55
27	III.B.2 Retirement and Financial Assurance: OAR 345-022-0050	57
28	III.B.3 Threatened and Endangered Species: OAR 345-022-0070	58
29	III.B.4 Scenic Resources: OAR 345-022-0080	58
30	III.B.5 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090	58
31	III.B.6 Division 23 Standards	59
32	III.B.7 Siting Standards for Transmission Lines: OAR 345-024-0090	59
33	III.B.8 Removal-Fill	59
34	III.B.9 Water Rights	59
35	IV. FINAL CONCLUSIONS AND ORDER	61
36		
37		
38		
39		

1	Figures	
2	Figure 1: Facility Regional Location	6
3		
4		
5	Tables	
6	Table 1: Gilliam County Applicable Substantive Criteria	24
7	Table 2: Estimated Acreage of the Proposed RFA2 Facility Repower	29
8	Table 3: Statistical Noise Limits for Industrial and Commercial Noise Sources.....	51
9	Table 4: Summary of Council Standards Not Likely Impacted by RFA2.....	54
10		
11	Attachments	
12	Attachment A: Amended Site Certificate	
13	Attachment B: Reviewing Agency Comments on preliminary RFA2	
14	Attachment C: Draft Proposed Order Comments	
15	Attachment D: Revegetation Plan	
16	Attachment E: Wildlife Monitoring and Mitigation Plan	
17	Attachment F: Habitat Mitigation Plan	

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 North site certificate.
6 The certificate holder for the facility is North Hurlburt Wind, LLC (certificate holder), a wholly
7 owned subsidiary of Caithness Energy, LLC, a subsidiary of Caithness Equities Corporation.
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
17 blade-tip clearance).¹
- 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 North site certificate subject to the
22 existing operational and new pre-construction and construction conditions set forth in this
23 order. No public comments were received on the record of the complete request for
24 amendment nor on the draft proposed order. The certificate holder, and three reviewing
25 agencies provided comments during the draft proposed order comment period.
26

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

28
29 North Hurlburt 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

¹ 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 North Hurlburt 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 North is a wind energy facility with approximately 106 wind turbines and a
14 maximum generating capacity of 265 megawatts (MW). The facility includes a 34.5 kilovolt (kV)
15 electrical collection system, a collector substation, a 230 kV interconnection transmission line,
16 two meteorological towers, a field workshop, supervisory control and data acquisition system
17 (SCADA), access roads, and temporary construction areas.

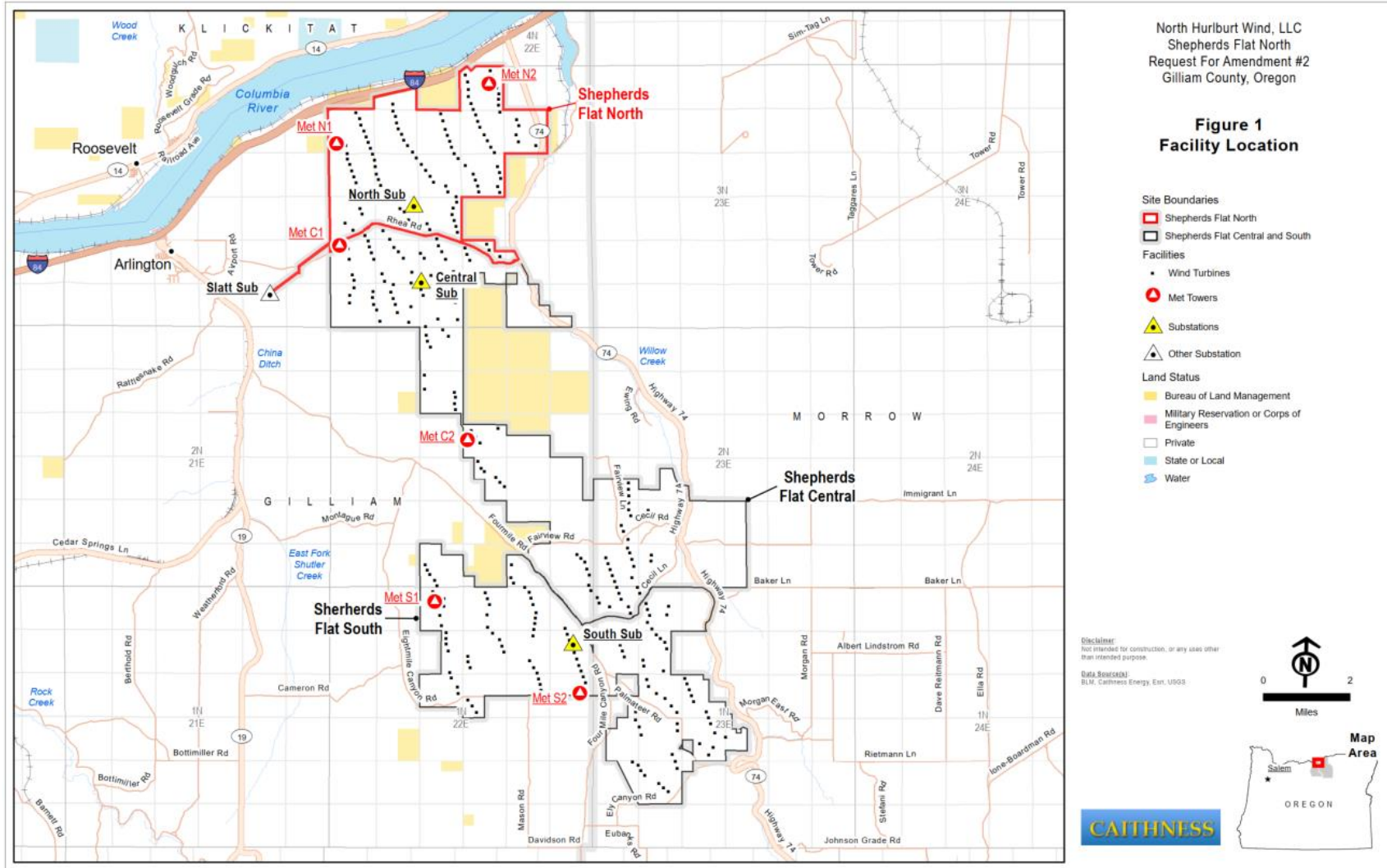
18

19 As presented in Figure 1: *Facility Regional Location* below, the facility is located within a site
20 boundary of approximately 9,264 acres, south of Interstate Highway 84, east of Arlington, in
21 Gilliam County. The amendment request would not change the site boundary.

22

23

1 **Figure 1: Facility Regional Location**



2 Z:\Users\Berd\Shepherds Flat\Reports\FIG 1\FIG 1 Facility Location_NORTH.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) 106 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. It is noted that the longer turbine blades would increase the blade-tip height and
37 rotor diameter of the turbines within the parameters allowed by the site certificate.² The
38 proposed RFA2 facility repower would allow each wind turbine to generate more electricity
39 without increasing the permanent footprint of the facility. The authorized peak generating
40 capacity of the facility would remain the same (265 MW). Replacing old turbine components

² 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 with modern, more technologically advanced equipment would increase the capacity and
2 efficiency of the facility by allowing the turbines to process low velocity winds that they
3 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 109.3 acres of temporary
10 disturbance.³

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. 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 North 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

³ SFNAM2 Complete RFA 2019-11-21. 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 their
21 preliminary request for amendment 2 (pRFA2). On October 23, 2019, the Department
22 determined that Request for Amendment 2 of the Shepherds Flat North Site Certificate justifies
23 Type B review, based on the low level of complexity, the limited level of interest in the
24 proposed changes anticipated by the Department, and the low likelihood of significant adverse
25 impacts or 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.⁴ The certificate holder provided
29 responses to the information request on November 8, 2019. After reviewing the responses to
30 its information request, on November 21, 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 November 21, 2019, which was then posted on November 22,
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)

⁴ SFNAMD2 Completeness Letter and RAI Table 2019-10-28.

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

II.D. Council Review Process

On November 22, 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 November 22, 2019 through December 13, 2019.

The Department received four comments on the record of the draft proposed order; three comments from reviewing agencies (ODFW, Confederated Tribes of the Umatilla Indian Reservation, and Morrow County) and one comment from the certificate holder.⁵ No comments were received from members of the public on the record of the draft proposed order.

On December 18, 2019, the Department issued the proposed order. Concurrent with the issuance of the proposed order, the Department also issues a Public Notice of the proposed order.⁶

At its December 19-20, 2019 meeting in Pendleton, 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.

⁵ The ODFW comment is discussed in Section II.A.6, *Fish and Wildlife Habitat*. The CTUIR comment is discussed in Section III.B.5, *Historic, Cultural, and Archaeological Resources*. The Morrow County comment is discussed in Section III.A.5, *Land Use*.

⁶ 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.”⁷ 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

⁷ ORS 469.401(2).

1 *requirements, the Council shall resolve the conflict consistent with the public interest.*
2 *In resolving the conflict, the Council cannot waive any applicable state statute.*

3 * * *

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

10
11 **Findings of Fact**

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

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

35
36 *Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-*
37 *025-0010]*

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

1 amended site certificate and provided in Attachment A of this order.⁸ The Council also removes
2 the rule reference from the beginning of each of the mandatory conditions to improve
3 readability and avoid duplication. Additionally, Council makes minor edits to the site certificate
4 to remove unnecessary and inaccurate references (e.g., references to “pipelines,” when the
5 facility is not a pipeline).

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

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

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

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

36
37 In RFA2 Section 6.13 *Public Services*, the certificate holder explains that proposed RFA2 facility
38 repower activities would be completed on a rolling schedule, and are assumed to be completed
39 within a duration of 6 months. The Council grants a construction commencement and
40 completion deadline based upon three years following the amended site certificate execution

⁸ Council adopted temporary rules on August 22, 2019, which include OAR 345, Division 25, as part of Order EFSC 9-2019.

1 date and an additional three years following date of construction commencement. This
2 timeframe would provide sufficient time for satisfying preconstruction condition requirements
3 established in the amended site certificate, allow sufficient time to obtain required permits not
4 governed by the site certificate, and would be consistent with past Council requirements.⁹
5

6 In accordance with OAR 345-025-0006(4), the Council imposes the following conditions:
7

8 **Condition 104:** The certificate holder shall begin construction of the Shepherds Flat North
9 facility modifications, as approved in the Second Amended Site Certificate, within three
10 years after the effective date of the amended site certificate [TBD]. The certificate holder
11 shall notify the Department when construction of the of the facility modifications, as
12 approved in Request for Amendment 2, commences. Under OAR 345-015-0085(8), the
13 amended site certificate is effective upon execution by the Council Chair and the
14 certificate holder.
15 [Amendment 2]
16

17 **Condition 105:** The certificate holder shall complete construction of the Shepherds Flat
18 North facility modifications, as approved in the Second Amended Site Certificate, within
19 three years following the date of construction commencement [TBD]. The certificate
20 holder shall promptly notify the Department of the date of completion of construction of
21 the Shepherds Flat North facility modifications, as approved in Request for Amendment 2.
22 [Amendment 2]
23

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

25

26 The Council has adopted rules at OAR Chapter 345, Division 26 to ensure that construction,
27 operation, and retirement of facilities are accomplished in a manner consistent with the
28 protection of the public health, safety, and welfare and protection of the environment. These
29 rules include requirements for compliance plans, inspections, reporting and notification of
30 incidents. Pursuant to OAR 345-026-0080, a certificate holder is obligated to report to the
31 Department on facility status and operational experience.
32

33 **Conclusions of Law**

34

35 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with
36 the new conditions, the Council finds that the certificate holder would satisfy the requirements
37 of OAR 345-022-0000.

⁹ SFNAM2 Complete RFA 2019-11-21, Section 4.1 *Required Permits* indicates that an updated Notice of Proposed Construction or Alteration has been submitted to 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.

1
2 III.A.2 Organizational Expertise: OAR 345-022-0010

3
4 *(1) To issue a site certificate, the Council must find that the applicant has the organizational*
5 *expertise to construct, operate and retire the proposed facility in compliance with*
6 *Council standards and conditions of the site certificate. To conclude that the applicant*
7 *has this expertise, the Council must find that the applicant has demonstrated the ability*
8 *to design, construct and operate the proposed facility in compliance with site certificate*
9 *conditions and in a manner that protects public health and safety and has demonstrated*
10 *the ability to restore the site to a useful, non-hazardous condition. The Council may*
11 *consider the applicant’s experience, the applicant’s access to technical expertise and the*
12 *applicant’s past performance in constructing, operating and retiring other facilities,*
13 *including, but not limited to, the number and severity of regulatory citations issued to*
14 *the applicant.*

15
16 *(2) The Council may base its findings under section (1) on a rebuttable presumption that an*
17 *applicant has organizational, managerial and technical expertise, if the applicant has an*
18 *ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate*
19 *the facility according to that program.*

20
21 *(3) If the applicant does not itself obtain a state or local government permit or approval for*
22 *which the Council would ordinarily determine compliance but instead relies on a permit*
23 *or approval issued to a third party, the Council, to issue a site certificate, must find that*
24 *the third party has, or has a reasonable likelihood of obtaining, the necessary permit or*
25 *approval, and that the applicant has, or has a reasonable likelihood of entering into, a*
26 *contractual or other arrangement with the third party for access to the resource or*
27 *service secured by that permit or approval.*

28
29 *(4) If the applicant relies on a permit or approval issued to a third party and the third party*
30 *does not have the necessary permit or approval at the time the Council issues the site*
31 *certificate, the Council may issue the site certificate subject to the condition that the*
32 *applicant shall not commence construction or operation as appropriate until the third*
33 *party has obtained the necessary permit or approval and the applicant has a contract or*
34 *other arrangement for access to the resource or service secured by that permit or*
35 *approval.*

36
37 **Findings of Fact**

38
39 Subsections (1) and (2) of the Council’s Organizational Expertise standard require that the
40 applicant (certificate holder) demonstrate its ability to design, construct operate and retire the
41 facility with proposed changes in compliance with Council standards and all site certificate
42 conditions, and in a manner that protects public health and safety, as well as its ability to
43 restore the facility site to a useful, non-hazardous condition. The Council may consider the
44 certificate holder’s experience and past performance in constructing, operating and retiring

1 other facilities in determining compliance with the Council’s Organizational Expertise standard.
2 Subsections (3) and (4) address third party permits.

3
4 *Compliance with Council Standards and Site Certificate Conditions*

5
6 The Council may consider a certificate holder’s past performance, including but not limited to
7 the quantity or severity of any regulatory citations in the construction or operation a facility,
8 type of equipment, or process similar to the facility, in evaluating whether a proposed change
9 may impact the certificate holder’s ability to design, construct and operate a facility, with
10 proposed changes, in compliance with Council standards and site certificate conditions.¹⁰

11
12 The certificate holder, North Hurlbert Wind, LLC, as a wholly owned subsidiary of Caithness
13 Energy, LLC (Caithness), relies upon the organizational expertise and experience of its parent
14 company, Caithness. In RFA2, the certificate holder explains that Caithness and its subsidiaries
15 have not received any regulatory citations in the course of constructing and operating wind
16 energy facilities. Furthermore, the certificate holder describes Caithness’ direct and relevant
17 experience to perform upgrading/repowering tasks at the facility through its experience in wind
18 farm site development, wind farm operation and maintenance (O&M) activities, and staff wind
19 farm repower experience. Caithness has experience developing and selling wind assets which
20 required much larger construction activities than repowering. Provided in RFA2, the certificate
21 holder explains that the Shepherds Flat Management team has industry experience in full
22 repower construction, including the replacement of all turbine components including towers
23 with new components at other wind facilities. Additionally, because the facility is currently
24 operational, activities including turbine component replacement (including blades and nacelles)
25 occur as part of routine operations and maintenance.

26
27 Based on the compliance history of the certificate holder and its parent company, the Council
28 finds that the proposed RFA2 facility repower would not impact the certificate holder’s ability
29 to design, construct, operate and retire the facility in compliance with Council standards and
30 site certificate conditions.

31
32 *Public Health and Safety*

33
34 The proposed RFA2 facility repower could result in health and safety risks from blade failure,
35 structural and reliability concerns, ice throw, risks to public and private providers of air
36 transportation and agricultural services, and risks to public providers of fire service during
37 tower rescue events. The Council’s evaluation of these risks is presented in Section III.A.8,
38 *Public Services* and Section III.A.10.1, *Public Health and Safety Standards for Wind Facilities* of
39 this order. Based on the reasoning and analysis provided in the sections described, the Council
40 finds that the proposed RFA2 facility repower, including the change to minimum aboveground

¹⁰ OAR 345-021-0010(1)(d)(D)

1 blade tip clearance would not impact the certificate holder's ability to design, construct, and
2 operate the facility in a manner that protects public health and safety.

3
4 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

5
6 As described in Table 4 of Section III.B, *Standards Not Likely to be Impacted by Request for*
7 *Amendment 2*, the proposed RFA2 facility repower would not be expected to impact the
8 certificate holder's ability to restore the facility site to a useful, non-hazardous condition.

9
10 *ISO 900 or ISO 14000 Certified Program*

11
12 OAR 345-022-0010(2) is not applicable because the certificate holder has not proposed to
13 design, construct or operate the amended facility according to an ISO 9000 or ISO 14000
14 certified program.

15
16 *Third-Party Permits*

17
18 OAR 345-022-0010(3) addresses the requirements for potential third party permits. In RFA2,
19 the certificate holder describes that the proposed RFA2 facility repower would not require
20 any additional third-party permits that would normally be governed by the site certificate.

21
22 **Conclusions of Law**

23
24 Based on the evidence in the record, the Council finds that the certificate holder would
25 continue to satisfy the requirements of the Council's Organizational Expertise standard.

26
27 **III.A.3 Structural Standard: OAR 345-022-0020**

28
29 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
30 *Council must find that:*

31
32 *(a) The applicant, through appropriate site-specific study, has adequately*
33 *characterized the seismic hazard risk of the site;*

34
35 *(b) The applicant can design, engineer, and construct the facility to avoid dangers to*
36 *human safety and the environment presented by seismic hazards affecting the*
37 *site, as identified in subsection (1)(a);*

38
39 *(c) The applicant, through appropriate site-specific study, has adequately*
40 *characterized the potential geological and soils hazards of the site and its vicinity*
41 *that could, in the absence of a seismic event, adversely affect, or be aggravated*
42 *by, the construction and operation of the proposed facility; and*
43

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

4
5 (2) *The Council may not impose the Structural Standard in section (1) to approve or deny*
6 *an application for an energy facility that would produce power from wind, solar or*
7 *geothermal energy. However, the Council may, to the extent it determines*
8 *appropriate, apply the requirements of section (1) to impose conditions on a site*
9 *certificate issued for such a facility.*

10
11 (3) *The Council may not impose the Structural Standard in section (1) to deny an*
12 *application for a special criteria facility under OAR 345-015-0310. However, the*
13 *Council may, to the extent it determines appropriate, apply the requirements of*
14 *section (1) to impose conditions on a site certificate issued for such a facility.*

15
16 **Findings of Fact**

17
18 As provided in section (1) above, the Structural Standard generally requires the Council to
19 evaluate whether the applicant (certificate holder) has adequately characterized the potential
20 seismic, geological and soil hazards of the site, and that the applicant (certificate holder) can
21 design, engineer and construct the facility to avoid dangers to human safety from these
22 hazards.¹¹ Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a wind
23 energy facility without making findings regarding compliance with the Structural Standard;
24 however, the Council may apply the requirements of the standard to impose site certificate
25 conditions. The analysis area for the Structural Standard is the area within the site boundary.

26
27 In accordance with the informational requirements established in OAR 345-021-0010(1)(g)(B),
28 the certificate holder completed consultation with the Oregon Department of Geology and
29 Mineral Industries (DOGAMI) on August 20, 2019 to discuss the scope of the repowering activity
30 and appropriate level of seismic and non-seismic impact evaluation. During consultation,
31 DOGAMI Resilience Engineer, Yumei Yang, P.E., requested information on how seismic ground
32 motions that exceed the building code response spectrum would be addressed and requested
33 disaster resilience and future climate change be addressed.¹²

34
35 *Potential Seismic, Geological and Soil Hazards*

36
37 In RFA2, in response to the DOGAMI consultation, the certificate holder explains that although
38 highly unlikely given the lack of recent activity, potential sources of long-period ground motions
39 could include a significant event at or near recent faults associated with the Arlington-Shulter

¹¹ OAR 345-022-0020(3) does not apply to the facility, with proposed changes, because it is not a special criteria facility under OAR 345-015-0310.

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

1 Butte faults and Columbia Hills structure as identified in the 2007 Seismic Hazard Assessment.
2 The Seismic Hazard Assessment was conducted as part of the original ASC (Shannon & Wilson,
3 Inc. 2007). Given adequate seismic design, the potential impacts of long-period ground motions
4 are not expected to impact the proposed RFA2 facility repower.

5
6 *Design, Engineer and Construct Facility to Avoid Dangers to Human Safety from Seismic and*
7 *Non-Seismic Hazards*

8
9 The certificate holder has presented evidence in RFA2 that it can design, engineer, and
10 construct the proposed RFA2 facility repower to avoid dangers to human safety and the
11 environment in accordance with the Council's Structural Standard. The proposed repowering
12 activity would include the removal and replacement of existing turbine blades with longer
13 blades, and the replacement and modification to associated machinery including the rotor
14 upgrade (replacing the hub casting), modification to existing nacelles roof, and an installation of
15 a new gearbox and bedplate.

16
17 The existing turbine foundation and tower would remain in place. To demonstrate that the
18 proposed RFA2 facility repower would be designed, engineered and constructed to avoid
19 dangers to human safety from seismic and non-seismic hazards, in Section 6.3 of RFA2, the
20 certificate holder explains that a foundation uprate analysis will be conducted on turbines
21 within the Facility, to review the original foundation calculations with the new loading
22 documents to verify whether the existing turbine foundations can support the newly proposed
23 loading. Moreover, the evaluation will be conducted by a licensed engineer using current code
24 requirements and state-of-practice methods and will be provided to the Department and
25 DOGAMI. The findings and analysis of the upgrade analysis will be reviewed by the Caithness
26 engineering staff, from which any necessary mitigation and remediation measures, or
27 operational timing recommendations may be identified. Based on potential mitigation and
28 remediation measures, or timing recommendations as a result of the foundation upright
29 analysis, the Council imposes condition 106 as follows:

30
31 **Condition 106:** Prior to RFA2 facility repower activities, the certificate holder shall
32 provide the Department with the foundation uprate analysis on facility turbines. If the
33 analysis results identify necessary mitigation and remediation measures, or operational
34 timing recommendations, the certificate holder shall implement the identified measures
35 and recommendations prior to beginning the repowering activities unless otherwise
36 approved by the Department. [Amendment #2]

37
38 Council previously imposed Condition 62, which requires the certificate holder to have an
39 operational safety-monitoring program and shall inspect all turbine and turbine tower
40 components on a regular basis. The certificate holder shall maintain or repair turbine and
41 turbine tower components as necessary to protect public safety. In RFA2, in an effort to focus
42 the operational inspection process and procedures on the applicable proposed RFA2 facility
43 repower components, the certificate holder proposed an amendment to Condition 62, to
44 require an inspection of all turbine and turbine tower components within 6 months of being

1 repowered. Additionally, Council amends Condition 62 to include a reporting requirement
2 following the 6 month inspection, specifically requiring the certificate holder to provide a
3 written report to the Department upon completing the inspection, as follows:¹³
4

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

13 *Integration of Disaster Resilience Design*

14

15 In RFA2, the certificate holder explains that although disaster resilience and climate change
16 impacts were not addressed in the original ASC, the facility has been in operation for 8 years,
17 and during that time, climate change has not impacted the facility. Disasters such as those
18 relating to greater-intensity rainfall events, fluctuations in typical annual snowpack (above or
19 below normal), and warmer average annual temperatures, are not anticipated to have a
20 major impact on the geologic, geotechnical, and seismic conditions at the Facility.
21 Furthermore, sea level rise will not affect the Facility due to its location.
22

23 Additionally, in RFA2, the certificate holder explains that GE Renewables, a contractor that
24 performs O&M activities at the facility, maintains an Emergency Preparedness and Fire
25 Prevention Plan that outlines the procedures to effectively respond to lightning and high
26 winds, icing on blades or external equipment, cold weather work, and EMS coordination
27 including on-site safety requirements and communication protocols. This Plan, which is
28 updated on an annual basis was included as Attachment 4 of RFA2.
29

30 Based upon compliance with both existing and proposed site certificate conditions, and
31 because the proposed amendment would not result in the placement of facility components
32 within geologic areas that have not been previously evaluated, the Council finds that the
33 proposed amendment would not affect the certificate holder's characterization of the site or
34 seismic and non-seismic hazards, or its ability to design, engineer, and construct the facility to
35 avoid dangers to human safety presented by seismic, geologic or soils hazards.
36

¹³ At its December 20, 2019 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 to submit the written report in amended condition 62, based on its deliberations at the December 20, 2019 EFSC meeting.

1 **Conclusions of Law**

2
3 Based on the foregoing analysis, subject to compliance with existing, amended, and new
4 conditions, and in compliance with OAR 345-022-0020(2), the Council finds that the certificate
5 holder would satisfy the requirements of the Council’s Structural Standard.

6
7 **III.A.4 Soil Protection: OAR 345-022-0022**

8
9 *To issue a site certificate, the Council must find that the design, construction and*
10 *operation of the facility, taking into account mitigation, are not likely to result in a*
11 *significant adverse impact to soils including, but not limited to, erosion and chemical*
12 *factors such as salt deposition from cooling towers, land application of liquid effluent,*
13 *and chemical spills.*

14
15 **Findings of Fact**

16
17 The Soil Protection standard requires the Council to find that the design, construction, and
18 operation of a proposed facility, or facility with proposed changes, is not likely to result in
19 significant adverse impacts to soils.

20
21 The analysis area for the Soil Protection standard, as defined in the project order, includes the
22 area within the site boundary.

23
24 *Potential Significant Adverse Impacts to Soil*

25
26 Potential impacts to soils within the analysis area (site boundary) could occur during
27 construction and operation of the proposed RFA2 facility repower from spills or releases of
28 chemicals or other liquid materials. The certificate holder explains that the RFA2 facility
29 repower would temporarily impact approximately 109.3 acres, and that approximately 15 of
30 the total 109.3 acres would require grading. In RFA2 Section 6.4 *Soil Protection*, the certificate
31 holder explains that temporary disturbance would be minimized by utilizing previously
32 disturbed areas, including roadways and turbine pads. To protect existing plant cover during
33 construction, the certificate holder would avoid scraping vegetation from areas of temporary
34 disturbance (per Condition 76). Additionally, existing best management practices (BMPs) would
35 be implemented to control any dust that is generated by upgrading activities, such as applying
36 water to roads and disturbed soil areas (Condition 75). Once the crane is removed from the
37 site, the temporary, superficial disturbance would be revegetated according to Condition 77
38 and 84, as is routinely done as part of O&M activities. The Revegetation Plan is included as
39 Attachment D to this Order.

40
41 Traffic impacts would be minimized and managed by restricting facility modification activities to
42 areas previously approved for both temporary and permanent impacts, utilize a rolling
43 construction schedule in coordination with the Morrow County Road Department, and
44 implementation of an executed road use agreement with both Gilliam County and Morrow

1 County (per amended Condition 67). The certificate holder states that the approximate 109
2 acres of temporary impact is less than 40 percent of the maximum temporary impacts
3 previously approved in the Amendment #1. Council previously imposed Condition 74, which
4 would continue to apply to the proposed RFA2 facility repower and would ensure that truck
5 traffic would be limited to designated existing and improved road surfaces to avoid soil
6 compaction, to the extent practicable.

7
8 As mentioned above in Section II.A. *Requested Amendment*, the certificate holder states that if
9 determined to be necessary, a National Pollutant Discharge Elimination System (NPDES) Storm
10 Water Discharge General Permit 1200-C would be obtained from the Oregon Department of
11 Environmental Quality (DEQ). The NPDES Storm Water Discharge Permit #1200-C would include
12 an approved Erosion Sediment Control Plan (ESCP). Council previously imposed Condition 73,
13 which would continue to apply to the proposed repowering activities of RFA2, and would
14 ensure that a DEQ-issued 1200-C NPDES permit is obtained prior to construction and that
15 erosion control measures are implemented in accordance with the ESCP, if determined to be
16 necessary. To ensure that the requirements of Condition 73 apply to the repowering activities
17 associated with RFA2, the Council amends Condition 73 as follows:

18
19 **Amended Condition 73:** The certificate holder shall conduct all construction work,
20 including the repowering activities associated with RFA2, in compliance with an Erosion
21 and Sediment Control Plan (ESCP) satisfactory to the Oregon Department of
22 Environmental Quality and as required under the National Pollutant Discharge Elimination
23 System (NPDES) Storm Water Discharge General Permit #1200-C. The certificate holder
24 shall include in the ESCP any procedures necessary to meet local erosion and sediment
25 control requirements or storm water management requirements. [Amendment #2]

26
27 Potential impacts to soils from spills could occur during the repowering activities, however,
28 previously imposed Condition 50 will continue to apply to the proposed RFA2 facility
29 repowering, and would ensure that hazardous materials present on site, are handled in a
30 manner that protects public health, safety, and the environment, and that applicable
31 environmental laws and regulations are complied with. Previously imposed Condition 51,
32 addressing the preparation for, and the response to spills and accidental releases of hazardous
33 materials will also continue to apply to the repowering activities of RFA2.

34
35 Based upon compliance with the existing site certificate conditions, the Council finds that the
36 design, construction and operation of the proposed RFA2 facility repowering would not result in
37 a significant adverse impact to soils.

38
39 **Conclusions of Law**

40
41 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with
42 existing site certificate conditions, the Council finds that the proposed RFA2 repowering
43 activities would comply with the Council's Soil Protection standard.

1 III.A.5 Land Use: OAR 345-022-0030

2
3 *(1) To issue a site certificate, the Council must find that the proposed facility complies with*
4 *the statewide planning goals adopted by the Land Conservation and Development*
5 *Commission.*

6
7 *(2) The Council shall find that a proposed facility complies with section (1) if:*

8
9 *(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a) and*
10 *the Council finds that the facility has received local land use approval under the*
11 *acknowledged comprehensive plan and land use regulations of the affected local*
12 *government; or*

13
14 *(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and*
15 *the Council determines that:*

16
17 *(A) The proposed facility complies with applicable substantive criteria as described in*
18 *section (3) and the facility complies with any Land Conservation and*
19 *Development Commission administrative rules and goals and any land use*
20 *statutes directly applicable to the facility under ORS 197.646(3);*

21
22 *(B) For a proposed facility that does not comply with one or more of the applicable*
23 *substantive criteria as described in section (3), the facility otherwise complies*
24 *with the statewide planning goals or an exception to any applicable statewide*
25 *planning goal is justified under section (4); or*

26
27 *(C) For a proposed facility that the Council decides, under sections (3) or (6), to*
28 *evaluate against the statewide planning goals, the proposed facility complies*
29 *with the applicable statewide planning goals or that an exception to any*
30 *applicable statewide planning goal is justified under section (4).*

31 ***

32
33 **Findings of Fact**

34
35 The Land Use standard requires the Council to find that the proposed RFA2 facility repower
36 would continue to comply with local applicable substantive criteria, as well as the statewide
37 planning goals adopted by the Land Conservation and Development Commission (LCDC).¹⁴
38 Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if
39 the Council finds that the proposed RFA2 facility repower, “complies with applicable
40 substantive criteria from the affected local government’s acknowledged comprehensive plan
41 and land use regulations that are required by the statewide planning goals and in effect on the
42 date the application is submitted.” RFA2 was received on October 7, 2019.
43

¹⁴ The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504.

1 The analysis area for potential land use impacts, as defined in the project order, is the area
 2 within and extending ½-mile from the site boundary. The facility, as approved and with
 3 proposed changes, is located within Gilliam County. Therefore, the governing body within
 4 Gilliam County is the Special Advisory Group (SAG).¹⁵ Prior to previous approval of the site
 5 certificate, the Council appointed the Gilliam County Court as a SAG.

6
 7 Facility Modifications

8
 9 In RFA2, the certificate holder requests Council approval to replace existing wind turbine blades
 10 and nacelles, or repower, up to 106 existing wind turbines, which would increase the maximum
 11 blade tip height and lower the minimum aboveground blade tip clearance of the currently-
 12 installed turbines. The proposed RFA2 facility repower would also result in approximately 109
 13 acres of temporary disturbance within the previously approved site boundary.

14
 15 Local Applicable Substantive Criteria

16
 17 Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria
 18 recommended by the SAG. The applicable substantive criteria for which the certificate holder
 19 must comply are established in the Gilliam County Zoning and Land Development Ordinance
 20 (GCZO) and Gilliam County Comprehensive Plan (GCCP). The GCZO was updated and amended
 21 in 2017. The application criteria from GCZO and goals and policies from GCCP are presented
 22 below in Table 1, *Gilliam County Applicable Substantive Criteria*.

23
Table 1: Gilliam County Applicable Substantive Criteria

Gilliam County Zoning and Land Development Ordinance (GCZO)	
<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
Gilliam County Comprehensive Plan (GCCP)	
(Goal 2) Land Use Planning – Policy 7	
(Goal 3) Agricultural Lands – Policy 3	
(Goal 5) Natural Resources – Policies 2 and 12	

¹⁵ 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.

Table 1: Gilliam County Applicable Substantive Criteria

(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 Council reviewed the applicable substantive criteria as presented in Table 1: *Gilliam County*
3 *Applicable Substantive Criteria* above.

4
5 GCZO Article 7 covers conditional uses, including wind energy facilities located on EFU-zoned
6 land, such as the SFN facility. At the time of the original site certificate issuance and the first
7 site certificate amendment, the Council approved the facility’s conditional use permit, and
8 Gilliam County subsequently issued a conditional use permit. Article 7, Section 7.020(T)(7)(c)(2)
9 of the GCZO defines when an amendment to a conditional use permit for a wind energy facility
10 is required. If an amended conditional use permit is required, the current zoning code
11 provisions (as adopted by Gilliam County in 2017) would apply to the facility, as amended. It is
12 noted that the 2017 GCZO update includes specific code provisions that apply to wind energy
13 facilities, including turbine setback requirements and other criteria that were not in effect at
14 the time of the original site certificate authorization or the previous site certificate amendment
15 approval.

16
17 By way of procedural history, the Council notes that in the Department’s draft proposed order
18 and proposed order, the Department had recommended to Council that the RFA2 activities
19 constituted an alteration to the existing wind turbines, as that term is described in GCZO Article
20 7, Section 7.010, and as such, that the RFA2 activities required an amended conditional use
21 permit. If an amended conditional use permit was required, the facility, as amended, would
22 require application of, and compliance with, current GCZO criteria.¹⁶ On the record of the draft
23 proposed order, the certificate holder argued that the RFA2 activities do not require an
24 amended conditional use permit because the requested facility changes (“repowering”) do not
25 trigger any of the criteria at GCZO Article 7, Section 7.020(T)(7)(c)(2).

26
27 At its December 20, 2019 meeting, the Council reviewed the Department’s proposed order and
28 all comments received on the record of the draft proposed order. The Council also reviewed, in
29 detail, the GCZO including Article 7 related to conditional uses and wind facilities, as well as
30 GCZO Article 6, related to nonconforming uses. The Council recognized that while a portion of
31 the existing facility (approximately 12 turbines, out of 106) is likely out of compliance with the
32 current GCZO setback provisions, the specific requirements and provisions of the GCZO Article
33 7, Section 7.020(T)(7)(c)(2) should govern the decision as to when an amended conditional use

¹⁶ See Section III.A.5, *Land Use Standard*, of the Department’s November 22, 2019 draft proposed order and December 18, 2019 proposed order.

1 permit is required.¹⁷ The Council concludes that SFN RFA2 activities do not fall under any of the
2 criteria listed in (a)-(e), and as such, the RFA2 activities (repowering) do not require an
3 amended conditional use permit.

4

5 The criteria of Article 7, Section 7.020(T)(7)(c)(2) of the GCZO are as follows:

6

7 *An amendment to the conditional use permit shall be required if proposed facility*
8 *changes would:*

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

18

19 Based on the record of the request for amendment 2, Council finds that RFA2 activities would
20 not:

- 21 • Increase the land area taken out of agricultural production;
22 • Require an expansion of the facility site boundary;
23 • Increase the number of turbine towers; or
24 • Increase generator output by more than 25 percent.

25

26 As such, the Council finds that an amended conditional use permit is not required. The Council
27 confirms that the existing site certificate Land Use conditions continue to apply to the facility,
28 as amended, including site certificate Condition 40 related to turbine setback requirements.

29

30 The Council also notes that prior to releasing the proposed order, the Department consulted
31 with the Planning Director of Gilliam County, Michelle Colby, eliciting her interpretation of
32 which substantive criteria and setback requirements would apply to the repowered facility.
33 Following an initial phone call to Ms. Colby, the Department received an email from Ms. Colby
34 that provided her evaluation of the Department's questions.¹⁸ In her response, Ms. Colby
35 included the response she received from Gilliam County's legal counsel, which stated:

36

37 *"It doesn't look like the zoning ordinance addresses this issue. I would say that most*
38 *jurisdictions do not apply subsequently adopted regulations to a modification of a prior*

¹⁷ The entirety of the facility turbines were in compliance with the GCZO at the time of the original site certificate approval and subsequent site certificate amendments. The approximate 12 turbines that are unlikely in compliance with the current GCZO code are thus lawfully established nonconforming uses.

¹⁸ SFNAMD2 GCZO Clarification email (Gilliam County) 2019-12-16

1 *approval unless the proposed modification implicates those provisions. In this context,*
2 *the applicant wouldn't have to adhere to current setbacks unless their proposal is to add*
3 *more turbines. Those new turbines would have to comply with current setbacks, but*
4 *existing/replacement turbines could continue in their present location even if it violated*
5 *current setbacks."*
6

7 The Council's decision that the RFA2 activities do not require an amended conditional use
8 permit takes into consideration the position of the county, in particular, as described in the
9 Department's proposed order, that there is not a clear direction in the county's zoning
10 ordinance on the issue. As described above, Council finds that the specific section of GCZO
11 Article 7, Section 7.020(T)(7)(c)(2), related to when an amended conditional use permit is
12 required for requested changes at an existing wind energy facility, should govern the decision
13 on when an amended conditional use permit is required.
14

15 Based on the findings presented here, Council concludes that the RFA2 activities do not require
16 an amended conditional use permit, and as such, no further evaluation of applicable
17 substantive criteria must be conducted. The Council finds that the facility, as amended,
18 complies with the Land Use standard.¹⁹
19

20 **Conclusions of Law**

21
22 Based on the foregoing findings and the evidence in the record, and subject to compliance with
23 existing site certificate conditions, the Council finds that the proposed RFA2 facility repower
24 would continue to comply with the Land Use standard.
25

26 **III.A.6 Fish and Wildlife Habitat: OAR 345-022-0060**

27
28 *To issue a site certificate, the Council must find that the design, construction and*
29 *operation of the facility, taking into account mitigation, are consistent with:*
30

31 *(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-*
32 *0025(1) through (6) in effect as of February 24, 2017****
33

34 **Findings of Fact**

35
36 The EFSC Fish and Wildlife Habitat standard requires the Council to find that the design,
37 construction and operation of a proposed facility, or facility with proposed changes, is
38 consistent with the Oregon Department of Fish and Wildlife's (ODFW) habitat mitigation policy,
39

¹⁹ In its draft proposed order and proposed order, the Department had recommended Council include two additional conditions in the amended site certificate under the Land Use standard, one related to road use agreements with Gilliam and Morrow counties, and one related to a revised weed control plan. Council includes amended Condition 67, related to road use agreements with Gilliam and Morrow counties, under its Public Services standard. Council also includes Condition 107, related to a revised weed control plan, under its Fish and Wildlife Habitat standard.

1 goals, and standards, as set forth in OAR 635-415-0025. The ODFW Habitat Mitigation Policy
2 and EFSC Fish and Wildlife Habitat standard create requirements to mitigate impacts to fish and
3 wildlife habitat, based on the quantity and quality of the habitat as well as the nature, extent,
4 and duration of the potential impacts to the habitat. The policy also establishes a habitat
5 classification system based on value the habitat would provide to a species or group of species.
6 There are six habitat categories; Category 1 being the most valuable and Category 6 the least
7 valuable.

8
9 The analysis area for the Fish and Wildlife Habitat standard includes the area within and
10 extending ½-mile from the site boundary.

11
12 *Habitat Types and Categories in the Analysis Area*

13
14 To identify potential habitat category and types within the temporary work areas of the
15 proposed RFA2 facility repower, the certificate holder relied upon a combination of 2010
16 preconstruction habitat categorization data and aerial imagery. As further discussed below,
17 habitat types and categories that may be impacted by RFA2 activities include: Category 2
18 Grassland; Category 3 Grassland, Curlew and Shrub-steppe (Sagebrush and Rabbitbrush);
19 Category 4 Grassland, and Rock and Sand; Category 5 Shrub-steppe; and Category 6 Animal
20 Facilities and Roads, and parking

21
22 *Potential Habitat Impacts*

23
24 As described above in Section II.A. *Requested Amendment* of this order, the proposed RFA2
25 facility repower would include temporary laydown areas used to stage and store construction
26 equipment, improvements to existing access roads and turbine pad areas, and temporary
27 turnaround areas, resulting in approximately 109.3 acres of temporary disturbance. Based on
28 the habitat categories (2, 3, 4 and 5) and types (Grassland, Curlew, Shrub-steppe, Rock and
29 Sand) described above, potential habitat impacts would include temporary and temporal
30 habitat loss. Impacts to Category 6 habitat do not require compensatory mitigation under the
31 Council's Fish and Wildlife Habitat standard.

32
33 In Section 6.8.1 of RFA2, the certificate holder explains that temporary disturbance to
34 vegetation would be limited to areas previously disturbed during facility construction.
35 Furthermore, the certificate holder indicates that the temporary disturbance resulting from the
36 proposed RFA2 facility repower would be smaller (less) in area than the areas previously
37 disturbed during construction.

38
39 As presented in Table 2, *Estimated Acreage of the Proposed RFA2 Facility Repower (by Category*
40 *and Subtype)* below, the repowering activities would temporarily disturb approximately 10.6,

1 80.9, 9.8, 0.7, and 4.4 acres of Category 2, 3, 4, 5, and 6 respectively, resulting in temporary and
 2 temporal habitat impacts.²⁰

3

**Table 2: Estimated Acreage of the Proposed RFA2 Facility Repower
 (by Category and Subtype)**

Habitat Category and Subtype		Temporary Impacts	Impact totals by Category
Habitat Category 2			
GL	Grasslands	10.6	10.6
Habitat Category 3			
CUR	Long-Billed Curlew	62.3	80.9
GL	Grasslands	10.1	
SS-R	Shrub Steppe - rabbitbrush	6.8	
SS-S	Shrub Steppe – sage steppe	1.7	
Habitat Category 4			
GL	Grasslands	8.6	9.8
RS	Rock and Sand	1.2	
Habitat Category 5			
SS-B	Shrub Steppe – broom snakeweed steppe	0.7	0.7
Habitat Category 6			
AF	Animal Facilities	2.1	4.4
RP	Roads and Parking	2.3	

4

5 Temporal loss refers to loss of habitat function and values from the time an impact occurs to
 6 the time when the restored habitat provides a pre-impact level of habitat function. Habitat
 7 types identified within the site boundary with a sagebrush steppe component are reasonably
 8 expected to require a longer restoration timeframe (5+ years) and therefore, the temporary
 9 impacts to approximately 1.7 acres to shrub steppe – sage steppe would be expected to result
 10 in temporal loss.

11

12 *Weed Control*

13 Based on consultation with Gilliam County Weedmaster Don Ferrar, the Department
 14 understands that there are specific methods that provide a higher rate of successful weed
 15 control following disturbance impacts near roadways, which are the predominant expected
 16 disturbance impacts from RFA2. Therefore, the Council imposes a condition requiring a specific
 17 Weed Control Plan be developed, in consultation with the Department and Gilliam County
 18 Weed Control Department, that addresses agency consultation, weed identification, application

²⁰ The Council notes that the proposed RFA2 facility repower would not permanently impact any habitat during construction or operation of the repowered turbines.

1 methods, appropriate control methods, monitoring and reporting.²¹ In a comment on the DPO,
2 the certificate holder requested minor edits to recommended Condition 107 related to
3 clarification on process, consistency with the county weed control program, and clarity of
4 required information.²² The Council agrees in part with the certificate holder's request and also
5 makes a minor edit to the condition for consistency with the typical Department approval
6 process of a pre-construction condition requirement:

7
8 **Condition 107:** Prior to RFA2 facility repower activities, the certificate holder shall
9 coordinate with the Gilliam County Weed Department and submit to the Department, a
10 Roadway Weed Control Plan. The Department shall review and approve the plan, in
11 consultation with the Gilliam County Weed Department. The Roadway Weed Control
12 Plan shall include, as pertinent, but not be limited to, identification of county-listed
13 weeds of economic concern, methods for evaluating weeds within impact area, results
14 of weed assessment, control methods specific to roadway weed control and timing,
15 agency consultation protocol, and process for evaluating success of weed control.
16 [Amendment #2]

17
18 *Proposed Habitat Mitigation (Temporary and Temporal Loss)*

19
20 The certificate holder proposes to mitigate temporary habitat impacts through revegetation
21 and noxious weed control. Council previously imposed Condition 38 and 84 requiring that the
22 certificate holder implement plans to control the introduction and spread of noxious weeds and
23 revegetate temporarily disturbed areas. However, because this temporary disturbance would
24 be at different stages than weed control and revegetation activities implemented under the
25 existing plans, the Council imposes new conditions to allow the certificate holder and
26 Department the ability to implement and track measures that apply specifically to the proposed
27 RFA2 facility repower disturbance areas. The Council imposes Condition 107 above, requiring
28 that, prior to RFA2 facility repower activities, the certificate holder submit a Roadway Weed
29 Control Plan, for review by the Department, in consultation with the Gilliam County Weed
30 Control Department. The Council also imposes the following condition related to revegetation:

31
32 **Condition 108:** The certificate holder shall:

33 (a) Prior to RFA2 facility repower activities:

- 34 i. Provide an updated habitat assessment of areas of disturbance, based on a
35 protocol approved by the Department in consultation with ODFW.

²¹ At its December 20, 2019 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. As provided in both the DPO and Proposed Order, the Department's recommended Condition 107 was presented in the Land Use section of each order, respectively. Based on deliberations occurring at the December EFSC meeting, Condition 107, and its related findings have been moved to the Fish and Wildlife Habitat section of this Final Order.

²² SFNAMD2 DPO comments Certificate Holder 2019-12-11.

- 1 ii. Identify monitoring and reference sites, including sites within each habitat
- 2 category and subtype impacted, and the methodology utilized for selecting the
- 3 number of monitoring and reference sites should be included.
- 4 iii. Consult with the Department, ODFW and Gilliam County Weed Control
- 5 Department on timing and methods for revegetation and weed control.
- 6 (b) Following completion of RFA2 facility repower activities:
- 7 i. Restore areas temporarily disturbed by RFA2 facility repower activities
- 8 according to the methods and monitoring procedures described in the
- 9 Revegetation Plan that is incorporated in the Final Order on Amendment 2 for
- 10 Shepherds Flat North as Attachment D and as amended from time to time.
- 11 ii. Consult annually with the Department, ODFW and Gilliam County Weed
- 12 Control Department on timing and methods for revegetation and weed control.
- 13 [Amendment #2]

14
15 Based on compliance with the new conditions, the Council finds that the certificate holder
16 would meet the habitat mitigation goals for temporary habitat impacts.

17
18 The certificate holder’s existing Habitat Mitigation Plan (HMP) addresses temporal habitat
19 impacts (i.e. loss of habitat function and values from the time an impact occurs to the time
20 when the restored habitat provides a pre-impact level of habitat function) in the form of a
21 permanent conservation easement on a habitat mitigation area (HMA). Specifically, for
22 temporal habitat impacts, the certificate holder has included in its HMA 0.5 acre for every 1
23 acre of Category 3 Shrub-steppe sage habitat temporarily disturbed (a 0.5:1 ratio). Because the
24 areas of temporary disturbance are within previously disturbed areas, the temporal habitat
25 impacts that would occur as a result of the proposed RFA2 facility repower have been
26 accounted for in the HMA and are addressed in the existing HMP. Based on compliance with
27 the existing HMP, the Council finds that the certificate holder meets the habitat mitigation
28 goals for temporal habitat impacts.

29
30 *Potential Impact to State-Sensitive Species*

31
32 The certificate holder conducted a desktop review to identify State Sensitive species with the
33 potential to occur within the analysis area based on species range and existing habitat. The
34 desktop review evaluated ODFW’s 2016 Sensitive Species List. Based on this desktop review,
35 the certificate holder identified suitable habitat within the analysis area for: 18 State-sensitive
36 species (including 1 reptile, 10 birds, and 5 bat species). Of these State-sensitive species,
37 presence was confirmed for the following: 10 birds and 2 bats.

38
39 The certificate holder identifies that increased activity during the proposed RFA2 facility
40 repower could result in potential impacts to state-sensitive species during nesting season,
41 including ferruginous hawk and Swainson’s hawk. To minimize potential disturbance impacts to
42 state-sensitive species, the Council imposes the following condition:

Condition 109: The certificate holder shall:

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

- (c) During RFA2 repower activities, if a nest becomes occupied by any of these species after the beginning of the sensitive period, the certificate holder will flag the boundaries of a 0.25-mile buffer area around the nest and shall instruct construction personnel to avoid disturbance of the area.
- (d) During RFA2 repower activities, if active nest sites are observed per (b) or (c) of this condition, the certificate holder shall hire a qualified independent professional biologist to observe the active nest sites during the sensitive period for signs of disturbance and to notify the Department of any non-compliance with this condition. If the biologist observes nest site abandonment or other adverse impact to nesting activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of the Department, unless the adverse impact is clearly shown to have a cause other than construction activity. The certificate holder may begin or resume construction activities within a buffer area before the ending day of the sensitive period if any known nest site is not occupied by the early release date. If a nest site is occupied, then the certificate holder may begin or resume construction before the ending day of the sensitive period with the approval of ODFW, after the young are fledged. The certificate holder shall use a protocol approved by ODFW to determine when the young are fledged (the young are independent of the core nest site).

[Amendment 2]

For each repowered wind turbine, permanent changes, not previously evaluated, would include a lower minimum aboveground blade tip clearance from 25 to 21.5 meters, and increasing the overall rotor diameter and rotor swept area from 100 to 127 meters. The maximum blade tip height of 150 meters, as approved by Council in the *Final Order*, would not change as a result of the proposed RFA2 facility repower. In RFA2, the certificate holder describes that potential impacts from these dimension changes could be an increase in bird and bat fatality from collision risk, however they assert that the primary impact from the repowering activities would

1 be direct fatality from collision with, or crushing by heavy equipment. The certificate holder
2 indicates that based on studies conducted in 2007 through 2016, the effect of turbine size on
3 bird and bat collision risk remains unclear. Based on review of the studies referenced in RFA2,
4 the Council agrees that a change in minimum aboveground blade tip clearance and rotor
5 diameter does not represent a direct correlation in bird and bat fatality risk. Nonetheless, in
6 response to ODFW recommendations that a bird and bat fatality monitoring study be
7 conducted for two years, following completion of the facility repowering activities, the Council
8 imposes Condition 110 as follows.²³

9
10 **Condition 110:** Following completion of RFA2 facility repower activities, the certificate
11 holder shall conduct two years of avian and bat fatality monitoring, as described in the
12 Wildlife Monitoring and Mitigation Plan, or based on protocol otherwise approved by the
13 Department in consultation with ODFW, provided as Attachment E of the Final Order on
14 Amendment 2. [Amendment #2]

15
16 **Conclusions of Law**

17
18 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing
19 and new site certificate conditions, the Council finds that the proposed RFA2 facility repower
20 would comply with the Council’s Fish and Wildlife Habitat standard.

21
22 **III.A.7 Recreation: OAR 345-022-0100**

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

- 30
31 *(a) Any special designation or management of the location;*
32 *(b) The degree of demand;*
33 *(c) Outstanding or unusual qualities;*
34 *(d) Availability or rareness;*
35 *(e) Irreplaceability or irretrievability of the opportunity.*
36 ***

²³ In a comment on the record of the DPO, ODFW biologist Steve Cherry supported the recommendation for two years of post-construction fatality monitoring, and stated that ODFW had no further comments on the project. SFNAMD2 Reviewing Agency DPO Comment ODFW 2019-11-22.

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Findings of Fact

The Recreation standard requires the Council to find that the design, construction, and operation of a facility would not likely result in significant adverse impacts to “important” recreational opportunities. Therefore, the Council’s Recreation standard applies only to those recreation areas that the Council finds to be “important,” utilizing the factors listed in the sub-paragraphs of section (1) of the standard. The importance of recreational opportunities is assessed based on five factors outlined in the standard: special designation or management, degree of demand, outstanding or unusual qualities, availability or rareness, and irreplaceability or irretrievability of the recreational opportunity.

In accordance with OAR 345-001-0010(59)(d) and consistent with the study area boundary, the analysis area for recreational opportunities is the area within and extending 5 miles from the site boundary.

Recreational Opportunities within the Analysis Area

In the *Final Order on the ASC*, and the *Final Order on Amendment 1*, Council found that the design, construction and operation of the facility, taking into account mitigation and conditions stated in the orders, were not likely to result in significant adverse impacts to recreational opportunities in the analysis area. In RFA2, the certificate holder identified one new recreational opportunity within the analysis area: Quesna County Park, which is estimated to be approximately 4 miles from the site boundary.

As represented in RFA2, the certificate holder requests that the Council determine Quesna County Park not to be important based on the factors under OAR 345-022-0100, and therefore not require an impact assessment. Based on review of the OAR 345-022-0100 factors and historic Council evaluation of this recreation opportunity, the Council finds that that Quesna County Park is an important recreational opportunity and therefore evaluate potential impacts from the proposed RFA2 facility repower to this resource.²⁴

Direct Loss

A direct loss occurs when construction or operation of a facility would impact a recreational opportunity by directly altering the resource so that it no longer exists in its current state. The facility, which is located entirely on private property, would not be located on or within any of the important recreational opportunities identified above. Therefore, the Council finds that the facility would not result in direct loss of any of the recreational opportunities identified as important.

²⁴ See *Final Order on the Application for Site Certificate for the Boardman Solar Energy Facility*, p.156

1 **Indirect Loss**

2 Similar to the assessment of direct loss, indirect loss would result if construction or operation of
3 a facility would impact a recreational opportunity by indirectly altering the resource or some
4 component of it. For the proposed RFA2 facility repower, the evaluation of indirect loss
5 associated with noise, traffic, and visual impacts are provided in the sections below.

6
7 **Noise**

8 As described in RFA2, the evaluation of noise related impacts to important recreational
9 opportunities within the analysis area, evaluates impacts associated with the construction and
10 operation of the proposed RFA2 facility repower.

11
12 As explained in Section III.A.11.1, *Noise Control Regulations*, of this order the noise caused by
13 construction activities is exempt from the application of the DEQ noise rules, per OAR 340-035-
14 0035(5)(g). However, construction of the proposed facility repowering will produce localized,
15 short-duration noise levels similar to those produced by any large construction project with
16 heavy construction equipment that may impact near-by recreational opportunities. Figure 3 in
17 RFA2 illustrates recreational opportunities within the analysis area and the Council estimates
18 that Quesna County Park is approximately 4 miles from the site boundary. Given the far
19 proximity of the Park to the proposed construction activities associated with turbine
20 repowering, the Council finds that noise from construction would not create significant adverse
21 impact at the recreational opportunity.

22
23 Operation of the proposed RFA2 facility repower are expected to be similar to the existing wind
24 turbines and will feature wind turbine blades that have been manufactured and designed to
25 significantly reduce noise. The certificate holder explains that in all likelihood, the repowered
26 turbines of the proposed RFA2 facility repower will produce lower sound levels than the
27 existing turbines. Considering the existing ambient noises of activities on the Columbia River, I-
28 84, and the high-volume railroad track, the Council finds that the noise generated by the
29 construction and operation of the proposed RFA2 facility repower is not likely to result in
30 significant adverse impacts to Quesna County Park.

31
32 **Traffic**

33 The evaluation of traffic related impacts to important recreational opportunities within the
34 analysis area, only evaluates impacts associated with the construction of the proposed RFA2
35 facility repower. Operational related impacts will be the same as the original review, and are
36 not reiterated in the evaluation that follows.

37
38 As discussed in Section IIIA.8., *Public Services*, of this order, the certificate holder identified
39 Interstate 84 (I-84) as the primary transportation route for construction and operation of the
40 facility. The certificate holder then explains that most vehicles will exit I-84 at Arlington.
41 Because Quesna County Park is approximately 13 miles east of the Arlington exit off of I-84, the
42 Council finds that traffic associated with the proposed RFA2 facility repower would not likely
43 result in significant adverse impacts to Quesna County Park.

44

1 **Visual Impacts**

2 Council previously evaluated and approved turbines with a maximum blade tip height of 150
3 meters in the Final Order on the ASC, and found that the certificate holder could design,
4 construct, and operate the facility in compliance with the Recreation Standard. Because the
5 proposed RFA2 facility repower will not result in an increase to the maximum blade tip height,
6 the Council finds that the proposed RFA2 facility repower will not result in significant adverse
7 impacts to Quesna County Park.

8
9 **Conclusions of Law**

10
11 Based on the foregoing findings of fact, and subject to compliance with the existing site
12 certificate conditions, the Council finds that the facility, as amended, would continue to comply
13 with the Council’s Recreation standard.

14
15 **III.A.8 Public Services: OAR 345-022-0110**

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

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

28 ***

29
30 **Finding of Fact**

31
32 The Council’s Public Services standard requires the Council to find that the facility is not likely to
33 result in significant adverse impacts on the ability of public and private service providers to
34 supply sewer and sewage treatment, water, stormwater drainage, solid waste management,
35 housing, traffic safety, police and fire protection, health care, and schools. Pursuant to OAR
36 345-022-0110(2), the Council may issue a site certificate for a facility that would produce power
37 from wind or solar energy without making findings regarding the Public Services standard;
38 however, the Council may impose site certificate conditions based upon the requirements of
39 the standard.

40
41 The analysis area for potential impacts to public services is the area within and extending 10-
42 miles from the site boundary. The evaluation of impacts to public services, provided below, is
43 an evaluation of only construction related impacts resulting from the proposed RFA2 facility

1 repower. Operational impacts will be the same as the original review and are not reiterated in
2 this order.

3
4 As described in RFA2, the proposed facility repowering will be completed on a rolling schedule,
5 where wind turbines will be upgraded over an approximately 6-month time frame with typically
6 8-12 turbines off-line being upgraded at a time. It will take approximately 2 weeks to upgrade
7 each turbine. There will be four crane crews including crane operation and tower work crews.
8 There will also be other upgrade support crews. It is estimated that there will be approximately
9 60 workers on-site at one time. The equipment used for upgrading will generally consist of
10 cranes, semi-trucks and regular sized pick-up/operational trucks.

11
12 *Sewer and Sewage Treatment; Stormwater Drainage*

13
14 During construction of the proposed repowered turbines, on-site work crew will use existing
15 sanitary facilities as well as portable toilet facilities, as needed. The disposal of these facilities
16 will be managed similar to previously evaluated methods and addressed within existing site
17 certificate conditions. Construction and operation of the proposed RFA2 facility repowering will
18 not require use of public sewers or sewage treatment, nor require use of public or private
19 stormwater drainage facilities. Therefore, construction and operation would not impact public
20 and private providers of sewer, sewage treatment or stormwater drainage.

21
22 *Water*

23
24 Construction activities associated with the RFA2 repowering would require water for dust
25 control. The certificate holder indicates in Section 6.19 of RFA2 that the repowering activities
26 would not alter the certificate holder's ability to obtain water from the City of Arlington, nor
27 would the repowering affect the ability to comply with existing Condition 78, limiting water use
28 from the facility's onsite well to 5,000 gallon per day. Provided as Attachment 5 in RFA2, email
29 correspondence between the City Recorder from the City of Arlington and the certificate
30 holder, confirms the City of Arlington's continued ability to provide water to the facility,
31 including the proposed repowering. Based on the minimal increase in construction-related
32 water use, the Council finds that construction of the proposed facility repowering of RFA2
33 would continue to not likely result in significant adverse impacts on the ability of public or
34 private providers of water to deliver services.

35
36 The proposed repowering activities of RFA2 would not result in changes to operational water
37 use, which is limited to facility-specific wells that do not result in impacts on the ability of public
38 or private providers of water to deliver services.

39
40 *Solid Waste Management*

41
42 Construction activities associated with the RFA2 facility repowering will generate solid waste,
43 including non-hazardous packaging associated with equipment, removed wind turbine blades,
44 and erosion control materials (i.e. straw bales and silt fencing) which will be removed and

1 recycled or taken to landfill in compliance with federal, state and local regulations. In RFA2, the
2 Certificate Holder states that currently turbine blades and other materials used for Facility
3 maintenance are taken to the Columbia Ridge Landfill. Additionally, the certificate holder
4 explains that the Columbia Ridge Landfill has adequate capacity to accommodate construction-
5 related debris and is not expected to reach full capacity for more than 100 years.

6
7 The Council previously imposed several conditions addressing solid waste management,
8 including conditions that require the certificate holder to develop and implement a solid waste
9 management plan for the construction and operation of the facility (Condition 101 and 102).
10 Existing Conditions 50, 51, and 100 provide guidance for the disposal of hazardous materials,
11 spill response and accidental releases of hazardous materials, and the discharge of sanitary
12 wastewater, and will continue to apply to the facility repowering activities of RFA2. Based on
13 the capacity of the Columbia Ridge Landfill, and compliance with the aforementioned existing
14 conditions, the Council finds that the construction and operation of the proposed RFA2 facility
15 repowering would not be likely to result in a significant adverse impact on the ability of public
16 and private providers of solid waste management to deliver services.

17
18 *Traffic Safety*

19
20 Construction of the proposed RFA2 facility repower would result in increased trip generation
21 on local and state roads (I-84, OR 74 and OR 19) for approximately 6-months. In RFA2, the
22 certificate holder estimates that proposed RFA2 facility repower activities would require
23 approximately 60 temporary workers, 20 trucks, and 28 semi-trucks per day, which the
24 Council estimate equates to a maximum trip rate increase of 216 trips per day on local and
25 state roads.²⁵

26
27 During construction, trucks used to transport wind turbine blades and other heavy
28 construction equipment (i.e. cranes) would likely require oversize load/overweight permits
29 from Oregon Department of Transportation (ODOT) and Gilliam County Road Department. In
30 addition to haul and heavy load permits, the certificate holder commits to consultation with
31 Gilliam County Road Department prior to transport of new wind turbine blades and gearboxes
32 to establish roads to be used, traffic control measures, and roadway improvement necessary
33 before and after completion of the proposed activity.²⁶

34
35 In its DPO, the Department had recommended a new condition (DPO Condition 108), that
36 would have required a pre-construction transportation system plan and county-approved road
37 use agreement. However, in a comment on the record of the DPO, the certificate holder noted

²⁵ Council's 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.

²⁶ SFNAM2 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 that DPO Condition 108 is unnecessary as the certificate holder is already working with the
2 county regarding the road use agreement, and the requirement that DPO Condition 108 would
3 have imposed including a transportation system plan are unnecessary and not beneficial to the
4 county.²⁷ The Council agrees in part, and also notes that in a comment on the pRFA, Gilliam
5 County requested a road use agreement, but not a transportation system plan. Furthermore,
6 the Council notes that the site certificate already includes a condition (Condition 60) that covers
7 the intent of the request from the county regarding restoration of county roads, and also is
8 aligned with the certificate holder's request. Finally, on the record of the DPO, the Department
9 received a comment from Morrow County, which noted that the proposed repowering project
10 could use Morrow County roads even though the facility is not located in Morrow County, and
11 requesting a road use agreement also be entered with Morrow County to protect that county's
12 roads from unusual wear and tear during repowering construction. As such, the Council deleted
13 DPO Condition 108 and modifies existing site certificate condition 67 as presented below.^{28 29}

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Amended Condition 67: The certificate holder shall cooperate with the Gilliam County Road Department to ensure that any unusual damage or wear to county roads that is caused by construction of the facility is repaired by the certificate holder. Submittal to the Department of an executed Road Use Agreement with Gilliam County shall constitute evidence of compliance with this condition. Upon completion of construction, the certificate holder shall restore county roads to pre-construction condition or better, to the satisfaction of the county Road Department. If required by Gilliam County, the certificate holder shall post bonds to ensure funds are available to repair and maintain roads affected by the proposed facility. The certificate holder shall also coordinate with the Morrow County Road Department regarding implementation of a similar Road Use agreement. The certificate holder must submit evidence of compliance prior to construction of facility repowering as authorized by site certificate Amendment #2 [Amendment #1 (SFWF), Amendment #2]

²⁷ SFNAM2 DPO comments Certificate Holder 2019-12-11.

²⁸ SFNAM2 DPO Comments (Morrow County) LETTER 2019-12-11. On the record of the draft proposed order, on behalf of the Morrow County Planning Department (collectively referred to as Mr. Wrecsics), Mr. Wrecsics explains that based on the potential utilization and impact to the Morrow County road network, implementation of a full Road Use Agreement should be required before the start of the repowering. Based on Mr. Wrecsics comment, the Department recommended Council amend existing Condition 67, to include coordination requirements with counties other than Gilliam, should the repowering activities utilize their county roads. Council agrees.

²⁹ At its December 20, 2019 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. As provided in both the DPO and Proposed Order, the Department's recommended amended Condition 67 was presented in the Land Use Section of each order, respectively. Based on deliberations occurring at the December EFSC meeting, Council amended Condition 67, and its related findings have been moved to the Public Services section of this Final Order.

1 *Housing, Police, Fire, Schools, and Healthcare*

2

3 In Section 6.13 of the RFA, the certificate holder explains that although the Shepherds Flat
4 North facility is already constructed and operational, the proposed repowering would result in a
5 short-term and temporary influx of workers. The certificate holder estimates that the
6 repowering activities would have a duration of six months and require a maximum of 60
7 workers on-site at one time. Additionally, the certificate holder provided a conservative
8 estimate that 30 percent of the workers necessary for the repowering would be local. The
9 remaining 70 percent may be temporary new residents. In any case, the workforce required for
10 the repowering activities would be less than the 175 transient workers evaluated in the Final
11 Order on the Site Certificate.³⁰ Council previously concluded that the impact to the ability of
12 communities to provide housing, police and fire protection, healthcare and schools was not
13 likely to be significant. Operation of the proposed repowered facility would not result in
14 permanent population increases.

15

16 **Conclusions of Law**

17

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

20

21 **III.A.9 Waste Minimization: OAR 345-022-0120**

22

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

25

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

30

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

34

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

39 ***

³⁰ 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.

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Finding of Fact

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

Solid Waste and Wastewater

As mentioned above in Section III.A.8. *Public Services* of this order, construction activities associated with the proposed RFA2 facility repower would generate solid waste, including non-hazardous packaging associated with equipment, removed wind turbine blades, and erosion control materials (i.e. straw bales and silt fencing) which will be removed and recycled or taken to landfill in compliance with federal, state and local regulations. The construction activities are not expected to generate wastewater. In RFA2, the certificate holder states that currently, turbine blades and other materials used for Facility maintenance are taken to the Columbia Ridge Landfill, and that operational Conditions 50, 51, 100, 101, and 102, which address the waste minimization standard, would continue to apply to the proposed RFA2 facility repower. Existing Condition 101 requires the certificate holder to implement a waste management plan during facility construction. Furthermore, it includes measures to be followed, including but not limited to the recycling of: steel and other metal scrap, wood waste, and packaging waste such as paper and cardboard. Although the certificate holder explains that the Columbia Ridge Landfill has adequate capacity to accommodate construction-related debris and is not expected to reach full capacity for more than 100 years, the Council imposes Condition 111 to ensure the certificate holder minimizes waste generation consistent with Council’s standard. In a comment on the DPO, the certificate holder requested a minor amendment to the reporting requirement to account for uncertainty in tracking the ultimate disposal of facility waste. The Council agrees and has made the edit in the condition.³¹

Condition 111: During RFA2 facility repower activities, 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. The certificate holder shall report in its semi-annual report to the Department the quantities of removed wind turbine components recycled, reused, sold for scrap, and disposed of in a landfill, to the extent practicable. [Amendment 2]

Solid waste from operations of the proposed RFA2 facility repower would not exceed the existing amount of solid waste generated from the facility. Council previously imposed

³¹ SFNAMD2 DPO Comments (Certificate Holder) LETTER 2019-12-11.

1 Condition 102, to require the certificate holder to, during operation, implement a waste
2 management plan. The Council finds that compliance with previously imposed conditions would
3 minimize potential operational solid waste, and potential impacts from solid waste on
4 surrounding lands.

5
6 **Conclusions of Law**

7
8 Based on the foregoing analysis, and subject to existing and new conditions, the Council finds
9 that the proposed RFA2 facility repower would continue to comply with the Council’s Waste
10 Minimization standard.

11
12 **III.A.10 Division 24 Standards**

13
14 The Council’s Division 24 standards include specific standards for the siting of wind project,
15 which is further evaluated below.

16
17 **III.A.10.1 Public Health and Safety Standards for Wind Energy Facilities: OAR 345-024-0010**

18
19 *To issue a site certificate for a proposed wind energy facility, the Council must find that the*
20 *applicant:*

21
22 *(1) Can design, construct and operate the facility to exclude members of the public from*
23 *close proximity to the turbine blades and electrical equipment.*

24
25 *(2) Can design, construct and operate the facility to preclude structural failure of the tower*
26 *or blades that could endanger the public safety and to have adequate safety devices and*
27 *testing procedures designed to warn of impending failure and to minimize the consequences*
28 *of such failure.*

29
30 **Findings of Fact**

31
32 OAR 345-024-0010 requires the Council to consider specific public health and safety standards
33 related to wind energy facilities. Under this standard, the Council must evaluate a certificate
34 holder’s proposed measures to exclude members of the public from proximity to the turbine
35 blades and electrical equipment, and the certificate holder’s ability to design, construct and
36 operate the facility, with proposed changes, to prevent structural failure of the tower or blades
37 and to provide sufficient safety devices to warn of failure.

38
39 *Potential Impacts from Structural Failure of the Tower or Blades and Safety Devices and Testing*
40 *Procedures to Warn of Impending Failure*

41
42 The Council must evaluate if the certificate holder has demonstrated that it has the ability to
43 preclude a structural failure in the first place through design, construction and operation of the
44 turbines. OAR 345-024-0010(2) does not require that a certificate holder demonstrate an

1 *elimination* of all public health and safety risk [*Emphasis added*]. Instead, it requires that the
2 certificate holder design, construct and operate the facility to avoid structural failure, to have
3 adequate mechanisms in place to warn of an impending failure, and to minimize the
4 consequences of such failure.

5
6 The proposed repowering activity, resulting in a lower minimum aboveground blade tip
7 clearance (25 to 21.5 meters) compared to the Council’s previous evaluation could potentially
8 result in increased public health and safety risks. The Council evaluates the sufficiency of
9 previously imposed conditions related to safety devices and testing procedures to warn of
10 impending failure and minimize potential increases in risk.

11
12 The site certificate includes a number of existing conditions that were imposed to address
13 sub(2) of the standard and which would continue to ensure that the certificate holder reduces
14 the risk of potential impacts from structural failure of the wind turbine tower or blades.

- 15
- 16 • Condition 71 requires that the certificate holder notify the Department and the Gilliam
17 County Planning Director within 72 hours of any accidents or mechanical failures
18 associated with operation of the facility that may result in public health and safety
19 concerns.
 - 20 • Condition 40 establishes required setback distances of: 3,520 foot setback from the
21 property line of properties zoned residential use or designated in the Gilliam County
22 Comprehensive Plan as residential; and, a minimum distance of 110-percent of
23 maximum blade tip height measured from the centerline of the turbine tower to the
24 nearest edge of any public road right-of-way (assuming a minimum road right of way
25 width of 60 feet), when the 3,520 foot setback from doesn’t apply.

26
27 As mentioned above in Section III.A.1 *General Standard of Review*, Council imposed Condition
28 26 in *The Final Order on the ASC* to establish limits on the turbines selected, depending on the
29 turbine type selected. Condition 26(d) established a the minimum blade tip clearance of 25
30 meters above the ground at the closest point of rotation. The proposed lowering of the
31 minimum aboveground blade tip clearance could result in potential public health and safety
32 impacts from increased proximity to turbine blades. However, the certificate holder describes
33 that the Turbines would remain located entirely on private property, in rural eastern Oregon,
34 and that public access would be limited. Council finds that the facility design, including
35 restricted public access, and compliance to the setback requirements of Condition 40, to be
36 sufficient to minimize potential increases in public health and safety risks from proximity to the
37 proposed RFA2 repowered turbines, with lower minimum aboveground blade tip clearance.

38
39 Based upon the proposed RFA2 repowering activities for Shepherds Flat North, the Council
40 amends Condition 26 to specify the minimum blade tip clearance from 25 meters to 21.5
41 meters. Additionally, the Council removes a limitation on the megawatt output of the facility
42 from the condition. The Council’s standards are not concerned with the electrical power output
43 of the facility. The amended condition reads as follows:

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

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

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

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

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

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

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

18 (f) The certificate holder shall request an amendment of the site certificate to ~~increase~~
19 ~~the combined peak generating capacity of the facility beyond 318 megawatts, to~~
20 increase the number of wind turbines to more than 106 wind turbines or to install
21 wind turbines with a hub height greater than 105 meters, a blade tip height greater
22 than 150 meters or a blade tip clearance less than 21.5 meters above ground.

23 [Amendment #1 (SFWF); Amendment #1, Amendment #2]

24
25 As mentioned above, the proposed RFA2 facility repowering would not only lower the minimum
26 blade tip clearance, but would also increase maximum height and the rotor diameter of the two
27 specified turbines. The new maximum height of the repowered turbines would be 150 meters,
28 consistent with the maximum blade tip height limited in Condition 26. Council previously
29 evaluated and approved turbines with a maximum blade tip height of 150 meters in the Final
30 Order on the ASC, and found that the certificate holder could design, construct, and operate the
31 facility in compliance with the Public Health and Safety Standard for Wind Energy Facilities.

32
33 Existing Condition 57 requires the certificate holder to submit a Notice of Proposed Construction
34 or Alteration (Form 7460) to the Federal Aviation Administration (FAA) and the Oregon
35 Department of Aviation (ODA). Because the existing turbine specifications feature a maximum
36 blade tip height of 135 meters, and the proposed demonstration activities would increase the
37 maximum height to 150 meters, the Council imposes condition 111 to require the certificate
38 holder to submit a Notice of Proposed Construction and Alteration to the FAA and ODA.
39 Condition 112 reads as follows:

40
41 **Condition 112:** Prior to RFA2 facility repower activities, the certificate holder shall submit a
42 Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA)
43 and the Oregon Department of Aviation identifying the new maximum blade tip height of

1 150 meters. The certificate holder shall promptly notify the Department of the responses
2 from the FAA and the Oregon Department of Aviation. [Amendment #2]

3
4 The Council finds that compliance with the existing, new and amended conditions would
5 continue to satisfy the requirements of the standard and ensure that the proposed RFA2 facility
6 repowering are designed, constructed, and operated to preclude structural failure of the tower
7 or blades that could endanger public safety, and that the proposed RFA2 facility repowering
8 would have adequate safety devices and testing procedures to warn of impending failure and
9 minimize consequences of such failure, should it occur.

10
11 **Conclusions of Law**

12
13 Based on the foregoing analysis, and subject to compliance with existing and new conditions,
14 the Council finds that the proposed RFA2 facility repower activity would comply with the
15 Council’s Public Health and Safety Standards for Wind Energy Facilities.

16
17 **III.A.10.2 Cumulative Effects Standard for Wind Energy Facilities OAR 345-024-0015**

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

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

35
36 **Findings of Fact**

37
38 This standard requires the use of practicable measures to reduce the cumulative adverse
39 environmental effects by practicable measures.

40
41 *Access Roads*

42
43 OAR 345-024-0015(1) encourages the use of existing roads for facility site access, minimizing
44 the amount of land used for new roads, and locating new roads in such a manner that reduces

1 adverse environmental impacts. The certificate holder proposes to utilize existing access roads,
2 to be temporarily widened to support the proposed RFA2 facility repowering. No new
3 permanent roads would be constructed as part of RFA2.

4
5 Because the proposed RFA2 facility repowering would not result in new permanent access
6 roads, the Council continues to find that the certificate holder demonstrates that it would use
7 existing roads where practicable to provide access to the site and through the temporary
8 expansion of existing roads, would reduce adverse environmental impacts and constructed in a
9 manner that minimizes the amount of land used.

10
11 *Transmission Lines and Substations*

12
13 RFA2 does not propose new transmission lines or substations, or changes to the previously
14 approved site boundary. Therefore, the Council finds that RFA2 would not result in a significant
15 adverse impact under OAR 345-024-0015(2) and (3) that was not addressed in a previous
16 Council orders.

17
18 *Wildlife Protection*

19
20 OAR 345-024-0015(4) encourages facility design that reduces the risk of injury to raptors or
21 other vulnerable wildlife in areas near wind turbines or electrical equipment.

22
23 The proposed RFA2 facility repowering would increase the rotor-swept diameter from 100
24 meters to 127 meters, and decrease the aboveground blade tip clearance by 3.5 meters. The
25 proposed changes in wind turbine dimension could result in increased bird and bat fatality risk
26 from wind turbine collision. However, the certificate holder explains that the effect of turbine
27 size on bird and bat collision rates remains unclear, particularly with respect to blade length.
28 However, in response to ODFW recommendations, the certificate holder agrees that two years
29 of fatality monitoring, to look at mortality effects from turbine repowering, following
30 construction completion of the proposed RFA2 facility repower.

31
32 As discussed in Section III.A.6, *Fish and Wildlife Habitat*, the certificate holder proposes to
33 conduct 2-years of post-construction fatality monitoring to determine whether the changes in
34 wind turbine dimensions result in increased fatality risk and then whether additional mitigation
35 is necessary. The post construction fatality monitoring would be implemented in accordance
36 with the Wildlife Monitoring and Mitigation Plan (WMMP), provided as Attachment E to this
37 order.

38
39 Based on compliance with other existing and new site certificate conditions, the certificate
40 holder would implement the following measures to further reduce and avoid wildlife impacts:

- 41
42
- 43 • Pre- and post-construction raptor nest monitoring, seasonal timing restrictions and
44 avoidance requirements
 - Habitat mitigation, revegetation and monitoring

- 1 • Weed control and monitoring

2
3 Subject to compliance with existing and new site certificate conditions, the Council finds that
4 the certificate holder continues to demonstrate that it can reduce cumulative adverse
5 environmental effects in the vicinity by designing the proposed RFA2 facility repower to reduce
6 the risk of injury to raptors or other vulnerable wildlife in areas near wind turbines or electrical
7 equipment.

8 9 *Visual Features*

10 OAR 345-024-0015(5) encourages the certificate holder to design a facility to minimize adverse
11 visual features. The visual features of the proposed demonstration wind turbines would be
12 similar to those previously evaluated by Council. Additionally, based on compliance with
13 existing site certificate conditions, the certificate holder would implement the following
14 measures to reduce potential visual impacts from the proposed repowered wind turbines:
15

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

19
20 Based on the evidence in the record and subject to compliance with existing site certificate
21 conditions, the Council finds that the certificate holder continues to demonstrate that it can
22 reduce cumulative adverse environmental effects in the vicinity by designing the components
23 of the facility, with proposed changes, to minimize the adverse impacts of lighting.

24 25 *Lighting*

26
27 OAR 345-024-0015(6) requires the use of techniques to prevent casting glare from the site and
28 the use of minimum lighting necessary for safety and security purposes, except as otherwise
29 required by the Federal Aviation Administration (FAA) and the Oregon Department of Aviation.
30

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

36 37 **Conclusions of Law**

38
39 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing
40 conditions, the Council finds that the proposed RFA2 facility repower would comply with the
41 Council's Cumulative Effects Standards for Wind Energy Facilities.
42

1 III.A.11 Other Applicable Regulatory Requirements Under Council Jurisdiction

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

9
10 III.A.11.1 Noise Control Regulations: OAR 340-035-0035

11
12 *(1) Standards and Regulations:*

13 ***

14 *(b) New Noise Sources:*

15
16 *(B) New Sources Located on Previously Unused Site:*

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

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

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

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

38 *(ii) The "actual ambient background level" is the measured noise level at*
39 *the appropriate measurement point as specified in subsection (3)(b) of*
40 *this rule using generally accepted noise engineering measurement*
41 *practices. Background noise measurements shall be obtained at the*
42 *appropriate measurement point, synchronized with windspeed*
43 *measurements of hub height conditions at the nearest wind turbine*

- 1 *location. "Actual ambient background level" does not include noise*
2 *generated or caused by the wind energy facility.*
- 3 *(iii) The noise levels from a wind energy facility may increase the ambient*
4 *statistical noise levels L10 and L50 by more than 10 dBA (but not*
5 *above the limits specified in Table 8), if the person who owns the noise*
6 *sensitive property executes a legally effective easement or real*
7 *covenant that benefits the property on which the wind energy facility*
8 *is located. The easement or covenant must authorize the wind energy*
9 *facility to increase the ambient statistical noise levels, L10 or L50 on*
10 *the sensitive property by more than 10 dBA at the appropriate*
11 *measurement point.*
- 12 *(iv) For purposes of determining whether a proposed wind energy facility*
13 *would satisfy the ambient noise standard where a landowner has not*
14 *waived the standard, noise levels at the appropriate measurement*
15 *point are predicted assuming that all of the proposed wind facility's*
16 *turbines are operating between cut-in speed and the wind speed*
17 *corresponding to the maximum sound power level established by IEC*
18 *61400-11 (version 2002-12). These predictions must be compared to*
19 *the highest of either the assumed ambient noise level of 26 dBA or to*
20 *the actual ambient background L10 and L50 noise level, if measured.*
21 *The facility complies with the noise ambient background standard if*
22 *this comparison shows that the increase in noise is not more than 10*
23 *dBA over this entire range of wind speeds.*
- 24 *(v) For purposes of determining whether an operating wind energy*
25 *facility complies with the ambient noise standard where a landowner*
26 *has not waived the standard, noise levels at the appropriate*
27 *measurement point are measured when the facility's nearest wind*
28 *turbine is operating over the entire range of wind speeds between cut-*
29 *in speed and the windspeed corresponding to the maximum sound*
30 *power level and no turbine that could contribute to the noise level is*
31 *disabled. The facility complies with the noise ambient background*
32 *standard if the increase in noise over either the assumed ambient*
33 *noise level of 26 dBA or to the actual ambient background L10 and*
34 *L50 noise level, if measured, is not more than 10 dBA over this entire*
35 *range of wind speeds.*
- 36 *(vi) For purposes of determining whether a proposed wind energy facility*
37 *would satisfy the Table 8 standards, noise levels at the appropriate*
38 *measurement point are predicted by using the turbine's maximum*
39 *sound power level following procedures established by IEC 61400-11*
40 *(version 2002-12), and assuming that all of the proposed wind*
41 *facility's turbines are operating at the maximum sound power level.*
- 42 *(vii) For purposes of determining whether an operating wind energy*
43 *facility satisfies the Table 8 standards, noise generated by the energy*
44 *facility is measured at the appropriate measurement point when the*

1 *facility's nearest wind turbine is operating at the windspeed*
2 *corresponding to the maximum sound power level and no turbine that*
3 *could contribute to the noise level is disabled.*

4 ***

5
6 **Findings of Fact**

7
8 The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035
9 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy
10 facilities. The analysis area for the Noise Control Regulation is the area within and extending 1-
11 mile from the site boundary.

12
13 OAR 340-035-0035(5) outlines sources of noise that are exempt from the DEQ noise rules,
14 including sounds that originate from construction sites as well as maintenance of capital
15 equipment.

16
17 Noise generated by a wind energy facility located on a previously unused site must comply with
18 two tests: the “ambient noise degradation test” and the “maximum allowable noise test.”
19 Under the ambient noise degradation test, facility-generated noise must not increase the
20 ambient hourly L10 or L50 noise levels at any noise sensitive property by more than 10 dBA
21 when turbines are operating “between cut-in speed and the wind speed corresponding to the
22 maximum sound power level.” To show that a facility complies with this test, the certificate
23 holder may use an assumed ambient hourly L50 noise level of 26 dBA or measure the actual
24 ambient hourly noise levels at the receiver in accordance with the procedures specified in the
25 regulation. In this case, the certificate holder elected to use an assumed ambient hourly L50
26 noise level of 26 dBA.

27
28 To demonstrate compliance with the ambient noise degradation test, the noise generated
29 during facility operation must not cause the hourly L₅₀ noise level at any noise-sensitive
30 property to exceed 36 dBA. However, OAR 340-035-0035(1)(b)(B)(iii)(III) relieves the certificate
31 holder from having to show compliance with the ambient noise degradation test “if the person
32 who owns the noise sensitive property executes a legally effective easement or real covenant
33 that benefits the property on which the wind energy facility is located” (a “noise waiver”).

34
35 Under the maximum allowable noise test at OAR 340-035-0035(1)(b)(B)(i) a wind energy facility
36 may not exceed the noise levels specified in Table 8 of the noise rules, as represented in Table
37 3, *Statistical Noise Limits for Industrial and Commercial Noise Sources* below. Pursuant to OAR
38 340-035-0035(1)(b)(B)(iii)(III), it is not possible for a property owner to waive an exceedance
39 under the maximum allowable noise test.

Table 3: Statistical Noise Limits for Industrial and Commercial Noise Sources

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

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

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Potential Noise Impacts

Construction

As discussed in RFA2 and in Section III.A.8, *Public Services*, of this order, proposed RFA2 facility repower would result in worker and haul truck trips, and construction equipment operation, which would generate temporary, short-term construction noise. In RFA2, the certificate holder estimates that proposed RFA2 facility repowering activities would take approximately 6 months and would require approximately 60 temporary workers, 20 trucks, and 28 semi-trucks per day, which the Council estimates equates to a maximum trip rate increase of 216 trips per day on local and state roads. Noise related to the construction of the turbine repowering, however, exempt from the noise standards pursuant to OAR 340-035-0035(5)(g) and (h). The evaluation of construction-related noise, including methodology and assumptions, is an informational requirement per OAR Chapter 345 Division 21 and can be utilized to inform the evaluation of construction-related noise impacts under the Council’s Recreation standard of this order.

Operation

In RFA2, the certificate holder states that the sound power properties of the repowered turbines is expected to be similar to the existing wind turbines, with a sound power level of 105 dBA per turbine. The certificate holder indicates that the original noise study³² demonstrated compliance with the DEQ noise requirements. As mentioned above in Section III.A.7, due to advances in blade airfoil shape and manufacturing, significantly reducing noise from wind turbine blades, in all likelihood, the repowered turbines of the proposed RFA2 facility repower will produce lower sound levels than the existing turbines. Council previously imposed Condition 97, which requires the certificate holder to provide sound power level and octave band data, based on manufacturer warranties or as otherwise confirmed acceptable by the Department, and demonstrate through a final noise modeling assessment compliance with the DEQ noise requirements.

³² SFWF Exhibit X.

1
2 In RFA2, the certificate holder explains that Council concluded in both the *Final Order* and
3 *Amendment 1*, that the facility, subject to site certificate conditions, would comply with the
4 applicable State noise regulations. A noise survey conducted in support of RFA1, indicated the
5 facility's compliance with the L50 noise level limits at all 10 NSR's. However, the noise survey
6 results also indicated that all 10 NSR's would exceed the hourly L10 noise level limits. To comply
7 with the State noise regulations, the certificate holder either had to modify the facility design to
8 reduce the sound levels at the NSR's to below 36 dBA, or obtain noise waivers from the owners
9 of all 10 NSR's. In the noise analysis, the certificate holder indicates that because of their similar
10 sound power levels when compared to the existing wind turbines, the noise impacts of the
11 repowered turbines at all 10 NSR's are expected to be the same or less than those reported in
12 the RFA1 noise survey. To verify ongoing compliance with the applicable requirements, the
13 Council imposes Condition 113 as follows, which requires the certificate holder to provide to
14 the Department the manufacturer's warranties or specifications for the repowered wind
15 turbines, to verify that the repowered turbines would produce no more sound than the
16 currently installed turbines.

17
18 **Condition 113:** Prior to RFA2 facility repower activities, the certificate holder shall
19 provide to the Department:

- 20 (a) The maximum sound power level and octave band for the modified wind
21 turbines based on manufacturer' warranties or confirmed by other means
22 acceptable to the Department.
23 (b) If the information provided to the Department in (a) shows that the modified
24 (repowered) wind turbines would produce a higher maximum sound power level
25 and octave band than the currently installed wind turbines, the certificate holder
26 must conduct a noise analysis of the modified (repowered) turbines. If required,
27 the certificate holder must provide to the Department results of the noise
28 analysis for the RFA2 facility repower, as approved in the Second Amended Site
29 Certificate, performed in a manner consistent with the requirements of OAR
30 340-035-0035(1)(b)(B)(iii)(IV) and (VI) demonstrating to the satisfaction of the
31 Department that the total noise generated (including the noise from repowered
32 wind turbines and existing substation transformers) would meet the ambient
33 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
37 and octave band than the currently installed wind turbines, the certificate holder
38 must provide to the Department, for each noise-sensitive property where the
39 certificate holder relies on a noise waiver to demonstrate compliance in
40 accordance with OAR 340-035-0035 (1)(b)(B)(iii)(III) related to site certificate
41 Amendment #2 activities, a copy of the a legally effective easement or real
42 covenant pursuant to which the owner of the property authorizes the certificate
43 holder's operation of the facility to increase ambient statistical noise levels L10
44 and L50 by more than 10 dBA at the appropriate measurement point. The

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

12 [Amendment #2]

13
14 In the proposed order, the Department recommended modifications to Recommended
15 Condition 113 to clarify that the noise analysis modeling is only required if the repowered
16 turbines are demonstrated to produce a greater maximum sound power level than the
17 currently installed turbines, and, resubmittal of noise-easements is only required if the
18 repowered turbines are demonstrated to produce a greater maximum sound power level than
19 the currently installed turbines and also if the current noise-easements do not already
20 authorize anticipated statistical noise levels at or above the level expected to occur from the
21 repowered facility at the appropriate measurement point. The Council agrees.

22
23 In addition, Council previously imposed Condition 98, which requires the certificate holder to
24 maintain a complaint response system to address noise complaints during operation. Condition
25 98 also allows Council to require the certificate holder to monitor and record the statistical
26 noise levels to verify compliance with the noise control regulations. This condition continues to
27 apply to the proposed RFA2 facility repower.

28
29 **Conclusions of Law**

30
31 Based on the foregoing findings, the Council finds that the proposed RFA2 facility repower
32 would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).

33
34 **III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

35
36 RFA2, as described throughout this order, solely requests authorization for a proposed upgrade
37 (or repower) to the facility's wind turbines, where blade replacement and nacelle modification
38 would occur. Changes in wind turbine dimensions would lower wind turbine minimum
39 aboveground blade tip clearance from 25 to 21.5 meters, increase blade tip height from 135 to
40 150 meters, and increase rotor diameter from 100 to 127 meters, with the change in minimum
41 aboveground blade tip clearance representing the only change necessitating a site certificate
42 condition amendment as maximum blade tip height of 150 meters was previously evaluated
43 and approved (Condition 26) and rotor diameter was not previously correlated with an impact
44 protected by a Council standard nor limited by the site certificate.

1
 2 In RFA2, the certificate holder describes the number of equipment and personnel that would be
 3 required for the proposed RFA2 facility repower, and potential impacts associated with the
 4 repowering activities. Based on the Council’s review of the RFA and of the previously evaluated
 5 impacts and imposed conditions, the following standards would not be impacted by RFA2 and
 6 do not require re-evaluation in this order.³³
 7

Table 4: Summary of Council Standards Not Likely Impacted by RFA2

Rule Citation	Standard	Evaluation
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.
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

³³ SFNAM2 Reviewing Agency DPO Comments (CTUIR) 2019-12-10. In a comment received on the record of the draft proposed order, Teara Farrow Ferman, the Cultural Resources Protection Program Manager with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) requested that an archeological pedestrian inventory survey be completed at all areas where the proposed project needs to expand beyond existing roads, and areas not previously disturbed or cleared for cultural resources. As discussed above in Section III.A.6 of this Order, the proposed RFA2 facility repower will not permanently impact any habitat during construction or operation of the repowered wind turbines. Additionally, the certificate explains in RFA2 that temporary impacts to habitat will be “limited to areas previously disturbed during [the original facility] construction.” Therefore, because the proposed RFA2 facility repower will not disturb areas not previously impacted by facility construction, an archeological pedestrian inventory survey is unnecessary.

Table 4: Summary of Council Standards Not Likely Impacted by RFA2

Rule Citation	Standard	Evaluation
		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	
	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 Council finds that the standards listed in Table 4,
 3 *Summary of Council Standards Not Likely Impacted by Amendment 2* are not likely to be
 4 impacted by RFA2.

5
 6 Sections III.B.1 through III.B.9 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
 9 III.B.1 Protected Areas: OAR 345-022-0040

10
 11 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate*
 12 *for a proposed facility located in the areas listed below. To issue a site certificate for a*
 13 *proposed facility located outside the areas listed below, the Council must find that,*
 14 *taking into account mitigation, the design, construction and operation of the facility are*
 15 *not likely to result in significant adverse impact to the areas listed below. References in*

1 *this rule to protected areas designated under federal or state statutes or regulations are*
2 *to the designations in effect as of May 11, 2007:*

3
4 *(a) National parks, including but not limited to Crater Lake National Park and Fort*
5 *Clatsop National Memorial;*

6
7 *(b) National monuments, including but not limited to John Day Fossil Bed National*
8 *Monument, Newberry National Volcanic Monument and Oregon Caves National*
9 *Monument;*

10
11 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et*
12 *seq. and areas recommended for designation as wilderness areas pursuant to 43*
13 *U.S.C. 1782;*

14
15 *(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon*
16 *Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart*
17 *Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,*
18 *Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper*
19 *Klamath, and William L. Finley;*

20
21 *(e) National coordination areas, including but not limited to Government Island,*
22 *Ochoco and Summer Lake;*

23
24 *(f) National and state fish hatcheries, including but not limited to Eagle Creek and*
25 *Warm Springs;*

26
27 *(g) National recreation and scenic areas, including but not limited to Oregon Dunes*
28 *National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon*
29 *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

30
31 *(h) State parks and waysides as listed by the Oregon Department of Parks and*
32 *Recreation and the Willamette River Greenway;*

33
34 *(i) State natural heritage areas listed in the Oregon Register of Natural Heritage*
35 *Areas pursuant to ORS 273.581;*

36
37 *(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine*
38 *Sanctuary, OAR Chapter 142;*

39
40 *(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers*
41 *designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed*
42 *as potentials for designation;*

43

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

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

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

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

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

29 *****

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

31
32 *To issue a site certificate, the Council must find that:*

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

37
38 *(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form*
39 *and amount satisfactory to the Council to restore the site to a useful, non-hazardous*
40 *condition.*

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

2
3 *To issue a site certificate, the Council, after consultation with appropriate state agencies,*
4 *must find that:*

5
6 *(1) For plant species that the Oregon Department of Agriculture has listed as*
7 *threatened or endangered under ORS 564.105(2), the design, construction and*
8 *operation of the proposed facility, taking into account mitigation:*

9
10 *(a) Are consistent with the protection and conservation program, if any, that the*
11 *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

12
13 *(b) If the Oregon Department of Agriculture has not adopted a protection and*
14 *conservation program, are not likely to cause a significant reduction in the*
15 *likelihood of survival or recovery of the species; and*

16
17 *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as*
18 *threatened or endangered under ORS 496.172(2), the design, construction and*
19 *operation of the proposed facility, taking into account mitigation, are not likely to*
20 *cause a significant reduction in the likelihood of survival or recovery of the species.*
21

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

23
24 *(1) Except for facilities described in section (2), to issue a site certificate, the Council*
25 *must find that the design, construction and operation of the facility, taking into*
26 *account mitigation, are not likely to result in significant adverse impact to scenic*
27 *resources and values identified as significant or important in local land use plans,*
28 *tribal land management plans and federal land management plans for any lands*
29 *located within the analysis area described in the project order.*

30
31 III.B.5 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

32
33 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
34 *Council must find that the construction and operation of the facility, taking into account*
35 *mitigation, are not likely to result in significant adverse impacts to:*

36
37 *(a) Historic, cultural or archaeological resources that have been listed on, or would*
38 *likely be listed on the National Register of Historic Places;*

39
40 *(b) For a facility on private land, archaeological objects, as defined in ORS*
41 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

42
43 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*

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

6 ***

7
8 III.B.6 Division 23 Standards

9
10 The Division 23 standards apply only to “nongenerating facilities” as defined in ORS
11 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The
12 facility, with proposed changes, would not be a nongenerating facility as defined in statute and
13 therefore Division 23 is inapplicable to the facility, with proposed changes..

14
15 III.B.7 Siting Standards for Transmission Lines: OAR 345-024-0090

16
17 *To issue a site certificate for a facility that includes any transmission line under Council*
18 *jurisdiction, the Council must find that the applicant:*

19
20 (1) *Can design, construct and operate the proposed transmission line so that alternating*
21 *current electric fields do not exceed 9 kV per meter at one meter above the ground*
22 *surface in areas accessible to the public;*

23
24 (2) *Can design, construct and operate the proposed transmission line so that induced*
25 *currents resulting from the transmission line and related or supporting facilities will*
26 *be as low as reasonably achievable.*

27
28 III.B.8 Removal-Fill

29
30 The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands
31 (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50
32 cubic yards or more of material is removed, filled, or altered within any “waters of the state.”³⁴
33 The Council, in consultation with DSL, must determine whether a removal-fill permit is needed
34 and if so, whether a removal-fill permit should be issued. A removal-fill permit is not required
35 for RFA2 activities.

36
37 III.B.9 Water Rights

38
39 Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources
40 Department (OWRD) administers water rights for appropriation and use of the water resources
41 of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility

³⁴ ORS 196.800(15) defines “Waters of this state.” The term includes wetlands and certain other waterbodies.

- 1 would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires
- 2 that if a facility needs a groundwater permit, surface water permit, or water right transfer, that
- 3 a decision on authorizing such a permit rests with the Council. No such water permit is required
- 4 for RFA2 activities.
- 5

1 **IV. FINAL CONCLUSIONS AND ORDER**

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

- 5
6 1. The facility, with proposed changes included in Request for Amendment 2 of the
7 Shepherds Flat North 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 North 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 North 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 North
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.
23
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1 **Final Order**

2

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

4

Issued this 20th day of December 2019

The OREGON ENERGY FACILITY SITING COUNCIL

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

5

6 Attachment A: Amended Site Certificate

7 Attachment B: Reviewing Agency Comments on preliminary RFA2

8 Attachment C: Draft Proposed Order Comments

9 Attachment D: Revegetation Plan

10 Attachment E: Wildlife Monitoring and Mitigation Plan

11 Attachment F: Habitat Mitigation Plan

Attachment A: Amended Site Certificate

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

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

ISSUANCE DATES

Site Certificate	July 25, 2008
First Amended Site Certificate	March 12, 2010
Second Amended Site Certificate	December 20, 2019

The Oregon Energy Facility Siting Council

SECOND AMENDED SITE CERTIFICATE FOR SHEPHERDS FLAT NORTH

I. INTRODUCTION

1 The Oregon Energy Facility Siting Council (Council) issues this amended site certificate
2 for Shepherds Flat North (the facility) in the manner authorized under ORS Chapter 469. This
3 amended site certificate is a binding agreement between the State of Oregon (State), acting
4 through the Council, and North Hurlburt Wind, LLC (certificate holder) authorizing the
5 certificate holder to construct and operate the facility in Gilliam County, Oregon. [Amendment #1
6 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 North*, and (d) the *Final Order on*
12 *Amendment #2 for Shepherds Flat North*. 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 for the
18 Shepherds Flat Wind Farm and to the *Final Order on Amendment #1 and #2*. [Amendment #1
19 (SFWF); Amendment #1; 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 Oregon, as described in Section III of this site certificate. ORS 469.401(1). [Amendment #1
27 (SFWF)]
- 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 for the
34 Shepherds Flat Wind Farm and in the *Final Order on Amendment #1* and *Final Order on*
35 *Amendment #2*. Such matters include, but are not limited to: building code compliance,

- 1 wage, hour and other labor regulations, local government fees and charges and other
2 design or operational issues that do not relate to siting the facility (ORS 469.401(4)) and
3 permits issued under statutes and rules for which the decision on compliance has been
4 delegated by the federal government to a state agency other than the Council. 469.503(3).
5 [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 106 wind turbines. The energy facility is
34 described further in the *Final Order on Amendment #1 for the Shepherds Flat Wind Farm, Final*
35 *Order on Amendment #1, and in the Final Order on Amendment #2.* [Amendment #1 (SFWF);
36 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 up to 106 existing turbine towers. Wind turbine
4 repowering requires trucks, small cranes or telehandlers, and a track mounted crane. Trucks
5 deliver new wind turbine components to wind turbine pad sites, and transport the old
6 components offsite for proper disposal or recycling at a licensed facility. Once the new wind
7 turbines components are delivered via truck to each pad site, smaller cranes or telehandlers
8 unload and stage the components. A track mounted crane then mobilizes to the turbine pad
9 area, setting up on the access road adjacent the turbine, and lowers the old rotor down to the
10 pad site for disassembly, followed by the old gearbox. Once disassembled, the old components
11 are staged for truck removal. The track mounted crane then lifts the new gearbox and rotor
12 into place. Once, complete, the track mounted crane advances to the next wind turbine, and
13 the process is repeated.

14
15 The facility repower activity results in approximately 109 acres of temporary disturbance from
16 temporary access roads, road improvements and laydown areas. [Amendment #2]

(b) Related or Supporting Facilities

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

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

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

Power Collection System

28
29 A power collection system operating at 34.5 kilovolts (kV) transports power from each
30 turbine to a collector substation. The collection system is installed underground at a depth of at
31 least three feet. [Amendment #1]

Collector Substations and Interconnection

32
33 The facility includes a collector substation. The facility includes a 230-kV transmission
34 line between the substation and the interconnection site. The interconnection site is located at
35 the Bonneville Power Administration Slatt Switching Station. [Amendment #1 (SFWF)]

Meteorological Towers

36
37 The facility includes two permanent meteorological (met) towers. [Amendment #1 (SFWF)]

1 **Field Workshop**

2 The facility includes a field workshop. Including fenced areas, the field workshop
3 occupies about 1.6 acres. [Amendment #1 (SFWF)]

4 **Control System**

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

9 **Access Roads**

10 The facility includes up to 31 miles of new roads that provide access to the turbine
11 strings. The access roads connect to graveled turbine turnouts at the base of each turbine.
12 [Amendment #1 (SFWF)]

13 **Temporary Construction Areas**

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

2. Location of the Facility

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

IV. CONDITIONS REQUIRED BY COUNCIL RULES

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

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

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

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

11 1 The Council shall not change the conditions of the site certificate except as provided for in
12 OAR Chapter 345, Division 27.

13 2 The certificate holder shall submit a legal description of the site to the Department of
14 Energy within 90 days after beginning operation of the facility. The legal description
15 required by this rule means a description of metes and bounds or a description of the site
16 by reference to a map and geographic data that clearly and specifically identifies the outer
17 boundaries that contain all parts of the facility.

18 3 The certificate holder shall design, construct, operate and retire the facility:

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

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

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

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

26 5 Except as necessary for the initial survey or as otherwise allowed for wind energy facilities
27 or transmission lines under this section, the certificate holder shall not begin construction,
28 as defined in OAR 345-001-0010, or create a clearing on any part of the site until the
29 certificate holder has construction rights on all parts of the site. For the purpose of this
30 rule, “construction rights” means the legal right to engage in construction activities. For
31 wind energy facilities and transmission lines, if the certificate holder does not have
32 construction rights on all parts of the site, the certificate holder may nevertheless begin
33 construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if
34 the certificate holder has construction rights on that part of the site and:

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

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

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

1 the Council may require the certificate holder to consult with the Department of Geology
2 and Mineral Industries and the Building Codes Division to propose and implement
3 corrective or mitigation actions.

4 14 The certificate holder shall notify the Department, the State Building Codes Division and
5 the Department of Geology and Mineral Industries promptly if shear zones, artesian
6 aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the
7 Department receives notice, the Council may require the certificate holder to consult with
8 the Department of Geology and Mineral Industries and the Building Codes Division to
9 propose and implement corrective or mitigation actions.

10 15 Before any transfer of ownership of the facility or ownership of the site certificate holder,
11 the certificate holder shall inform the Department of the proposed new owners. The
12 requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a
13 transfer of the site certificate.

14 16 If the Council finds that the certificate holder has permanently ceased construction or
15 operation of the facility without retiring the facility according to a final retirement plan
16 approved by the Council, as described in OAR 345-027-0110, the Council shall notify the
17 certificate holder and request that the certificate holder submit a proposed final
18 retirement plan to the Office within a reasonable time not to exceed 90 days. If the
19 certificate holder does not submit a proposed final retirement plan by the specified date,
20 the Council may direct the Department to prepare a proposed final retirement plan for the
21 Council's approval. Upon the Council's approval of the final retirement plan, the Council
22 may draw on the bond or letter of credit described in OAR 345-027-0020(8) to restore the
23 site to a useful, non-hazardous condition according to the final retirement plan, in addition
24 to any penalties the Council may impose under OAR Chapter 345, Division 29. If the
25 amount of the bond or letter of credit is insufficient to pay the actual cost of retirement,
26 the certificate holder shall pay any additional cost necessary to restore the site to a useful,
27 non-hazardous condition. After completion of site restoration, the Council shall issue an
28 order to terminate the site certificate if the Council finds that the facility has been retired
29 according to the approved final retirement plan.

30 17 If the facility includes any transmission line under Council jurisdiction:

31 (a) The certificate holder shall design, construct and operate the transmission line in
32 accordance with the requirements of the National Electrical Safety Code (American
33 National Standards Institute, Section C2, 1997 Edition); and

34 (b) The certificate holder shall develop and implement a program that provides
35 reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or
36 structures of a permanent nature that could become inadvertently charged with electricity
37 are grounded or bonded throughout the life of the line.

38 18 If the proposed energy facility has, as a related or supporting facility, a transmission line,
39 the Council shall specify an approved corridor in the site certificate and shall allow the
40 certificate holder to construct the transmission line anywhere within the corridor, subject
41 to the conditions of the site certificate. If the applicant has analyzed more than one

1 corridor in its application for a site certificate, the Council may, subject to the Council's
2 standards, approve more than one corridor.

3 19 The following general monitoring conditions apply:

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

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

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

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

21 20 Following receipt of the site certificate or an amended site certificate, the certificate
22 holder shall implement a plan that verifies compliance with all site certificate terms and
23 conditions and applicable statutes and rules. As a part of the compliance plan, to verify
24 compliance with the requirement to begin construction by the date specified in the site
25 certificate, the certificate holder shall report promptly to the Department of Energy when
26 construction begins. Construction is defined in OAR 345-001-0010. In reporting the
27 beginning of construction, the certificate holder shall describe all work on the site
28 performed before beginning construction, including work performed before the Council
29 issued the site certificate, and shall state the cost of that work. For the purpose of this
30 exhibit, "work on the site" means any work within a site or corridor, other than surveying,
31 exploration or other activities to define or characterize the site or corridor. The certificate
32 holder shall document the compliance plan and maintain it for inspection by the
33 Department or the Council.

34 21 The certificate holder shall report according to the following requirements:

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

36 (i) Within six months after beginning construction, and every six months thereafter
37 during construction of the energy facility and related or supporting facilities, the
38 certificate holder shall submit a semiannual construction progress report to the
39 Department of Energy. In each construction progress report, the certificate holder shall
40 describe any significant changes to major milestones for construction. The certificate
41 holder shall include such information related to construction as specified in the site
42 certificate. When the reporting date coincides, the certificate holder may include the
43 construction progress report within the annual report described in OAR 345-026-0080.

1 (ii) By April 30 of each year after beginning construction, the certificate holder shall
2 submit an annual report to the Department addressing the subjects listed in OAR 345-026-
3 0080. The Council Secretary and the certificate holder may, by mutual agreement, change
4 the reporting date.

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

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

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

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

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

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

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

33 (vi) Facility Modification Report: A summary of changes to the facility that the
34 certificate holder has determined do not require a site certificate amendment in
35 accordance with OAR 345-027-0050.

36
37 22 The certificate holder and the Department of Energy shall exchange copies of all
38 correspondence or summaries of correspondence related to compliance with statutes,
39 rules and local ordinances on which the Council determined compliance, except for
40 material withheld from public disclosure under state or federal law or under Council rules.
41 The certificate holder may submit abstracts of reports in place of full reports; however,
42 the certificate holder shall provide full copies of abstracted reports and any summarized
43 correspondence at the request of the Department.

- 1 **23** The certificate holder shall notify the Department of Energy within 72 hours of any
2 occurrence involving the facility if:
3 (a) There is an attempt by anyone to interfere with its safe operation;
4 (b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-
5 caused event such as a fire or explosion affects or threatens to affect the public health and
6 safety or the environment; or
7 (c) There is any fatal injury at the facility.

V. SPECIFIC FACILITY CONDITIONS

8 The conditions listed in this section include conditions based on representations in the
9 site certificate application and supporting record. These conditions are required under OAR
10 345-027-0020(10). The certificate holder must comply with these conditions in addition to the
11 conditions listed in Section VI. This section includes other specific facility conditions the Council
12 finds necessary to ensure compliance with the siting standards of OAR Chapter 345, Divisions
13 22 and 24, and to protect the public health and safety. For conditions that require subsequent
14 review and approval of a future action, ORS 469.402 authorizes the Council to delegate the
15 future review and approval to the Department if, in the Council's discretion, the delegation is
16 warranted under the circumstances of the case.

1. Certificate Administration Conditions

- 17 **24** The certificate holder shall begin construction of the facility by July 25, 2011. The Council
18 may grant an extension of the deadline to begin construction in accordance with OAR 345-
19 027-0030 or any successor rule in effect at the time the request for extension is
20 submitted. [Amendment #1 (SFWF)]
- 21 **25** The certificate holder shall complete construction of the facility by July 25, 2014.
22 Construction is complete when: 1) the facility is substantially complete as defined by the
23 certificate holder's construction contract documents, 2) acceptance testing has been
24 satisfactorily completed and 3) the energy facility is ready to begin continuous operation
25 consistent with the site certificate. The certificate holder shall promptly notify the
26 Department of the date of completion of construction. The Council may grant an
27 extension of the deadline for completing construction in accordance with OAR 345-027-
28 0030 or any successor rule in effect at the time the request for extension is submitted.
29 [Amendment #1 (SFWF)]
- 30 **26** The certificate holder shall construct a facility substantially as described in the site
31 certificate and may select turbines of any type, subject to the following restrictions and
32 compliance with all other site certificate conditions. Before beginning construction, the
33 certificate holder shall provide to the Department a description of the turbine types
34 selected for the facility demonstrating compliance with this condition.
35 (a) The total number of turbines at the facility must not exceed 106 turbines.
36 (b) The turbine hub height must not exceed 105 meters and the maximum blade tip
37 height must not exceed 150 meters.

1 (c) The minimum blade tip clearance must be 25 meters above ground. Repowered
2 turbines that comply with the setback requirements of Condition 110, must have a
3 minimum blade tip clearance of 21.5 meters above ground.

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

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

8 (f) The certificate holder shall request an amendment of the site certificate to increase
9 the number of wind turbines to more than 106 wind turbines or to install wind turbines
10 with a hub height greater than 105 meters, a blade tip height greater than 150 meters or a
11 blade tip clearance less than 21.5 meters above ground.

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

13 27 The certificate holder shall obtain all necessary federal, state and local permits or
14 approvals required for construction, operation and retirement of the facility or ensure that
15 its contractors obtain the necessary federal, state and local permits or approvals.

16 28 Before beginning construction, the certificate holder shall notify the Department in
17 advance of any work on the site that does not meet the definition of “construction” in ORS
18 469.300, excluding surveying, exploration or other activities to define or characterize the
19 site, and shall provide to the Department a description of the work and evidence that its
20 value is less than \$250,000.

21 29 Before beginning construction and after considering all micrositing factors, the certificate
22 holder shall provide to the Department, to the Oregon Department of Fish and Wildlife
23 (ODFW) and to the Planning Director of Gilliam County detailed maps of the facility site,
24 showing the final locations where the certificate holder proposes to build facility
25 components, and a table showing the acres of temporary and permanent habitat impact
26 by habitat category and subtype, similar to Table 7 in the Final Order on Amendment #1
27 for the Shepherds Flat Wind Farm. The detailed maps of the facility site shall indicate the
28 habitat categories of all areas that would be affected during construction (similar to the
29 maps labeled “ODFW-2” in the site certificate application for the Shepherds Flat Wind
30 Farm). In classifying the affected habitat into habitat categories, the certificate holder shall
31 consult with the ODFW. The certificate holder shall not begin ground disturbance in an
32 affected area until the habitat assessment has been approved by the Department. The
33 Department may employ a qualified contractor to confirm the habitat assessment by on-
34 site inspection. [Amendment #1 (SFWF)]

35 30 Before beginning construction, the certificate holder shall submit to the State of Oregon
36 through the Council a bond or letter of credit in the amount described herein naming the
37 State of Oregon, acting by and through the Council, as beneficiary or payee. The initial
38 bond or letter of credit amount is either \$7.443 million (1st Quarter 2010 dollars), to be
39 adjusted to the date of issuance as described in (b), or the amount determined as
40 described in (a). The certificate holder shall adjust the amount of the bond or letter of
41 credit on an annual basis thereafter as described in (b).

- 1 (a) The certificate holder may adjust the amount of the bond or letter of credit based
2 on the final design configuration of the facility and turbine types selected by
3 applying the unit costs and general costs illustrated in Table 1 in the Final Order on
4 Amendment #1 for the Shepherds Flat Wind Farm and calculating the financial
5 assurance amount as described in that order, adjusted to the date of issuance as
6 described in (b) and subject to approval by the Department.
- 7 (b) The certificate holder shall adjust the amount of the bond or letter of credit, using
8 the following calculation and subject to approval by the Department:
- 9 (i) Adjust the Subtotal component of the bond or letter of credit amount (expressed
10 in 3rd Quarter 2009 dollars) to present value, using the U.S. Gross Domestic
11 Product Implicit Price Deflator, Chain-Weight, as published in the Oregon
12 Department of Administrative Services' "Oregon Economic and Revenue
13 Forecast" or by any successor agency (the "Index") and using the index value for
14 3rd Quarter 2009 dollars and the quarterly index value for the date of issuance of
15 the new bond or letter of credit. If at any time the Index is no longer published,
16 the Council shall select a comparable calculation to adjust 3rd Quarter 2009
17 dollars to present value.
- 18 (ii) Add 1 percent of the adjusted Subtotal (i) for the adjusted performance bond
19 amount to determine the adjusted Gross Cost.
- 20 (iii) Add 10 percent of the adjusted Gross Cost (ii) for the adjusted administration
21 and project management costs and 10 percent of the adjusted Gross Cost (ii) for
22 the adjusted future developments contingency.
- 23 (iv) Add the adjusted Gross Cost (ii) to the sum of the percentages (iii) and round the
24 resulting total to the nearest \$1,000 to determine the adjusted financial
25 assurance amount.
- 26 (c) The certificate holder shall use a form of bond or letter of credit approved by the
27 Council.
- 28 (d) The certificate holder shall use an issuer of the bond or letter of credit approved by
29 the Council.
- 30 (e) The certificate holder shall describe the status of the bond or letter of credit in the
31 annual report submitted to the Council under Condition 21.
- 32 (f) The bond or letter of credit shall not be subject to revocation or reduction before
33 retirement of the facility site.

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

35 31 If the certificate holder elects to use a bond to meet the requirements of Condition 30, the
36 certificate holder shall ensure that the surety is obligated to comply with the requirements
37 of applicable statutes, Council rules and this site certificate when the surety exercises any
38 legal or contractual right it may have to assume construction, operation or retirement of
39 the energy facility. The certificate holder shall also ensure that the surety is obligated to
40 notify the Council that it is exercising such rights and to obtain any Council approvals
41 required by applicable statutes, Council rules and this site certificate before the surety
42 commences any activity to complete construction, operate or retire the energy facility.

- 1 32 Before beginning construction, the certificate holder shall notify the Department of the
2 identity and qualifications of the major design, engineering and construction contractor(s)
3 for the facility. The certificate holder shall select contractors that have substantial
4 experience in the design, engineering and construction of similar facilities. The certificate
5 holder shall report to the Department any change of major contractors.
- 6 33 The certificate holder shall contractually require all construction contractors and
7 subcontractors involved in the construction of the facility to comply with all applicable
8 laws and regulations and with the terms and conditions of the site certificate. Such
9 contractual provisions shall not operate to relieve the certificate holder of responsibility
10 under the site certificate.
- 11 34 During construction, the certificate holder shall have a full-time, on-site assistant
12 construction manager who is qualified in environmental compliance to ensure compliance
13 with all site certificate conditions. The certificate holder shall notify the Department of the
14 name, telephone number and e-mail address of this person.
- 15 35 Within 72 hours after discovery of conditions or circumstances that may violate the terms
16 or conditions of the site certificate, the certificate holder shall report the conditions or
17 circumstances to the Department.

2. Land Use Conditions

- 18 36 The certificate holder shall consult with area landowners and lessees during construction
19 and operation of the facility and shall implement measures to reduce or avoid any adverse
20 impacts to farm practices on surrounding lands and to avoid any increase in farming costs.
- 21 37 The certificate holder shall design and construct the facility using the minimum land area
22 necessary for safe construction and operation. The certificate holder shall locate access
23 roads and temporary construction laydown and staging areas to minimize disturbance
24 with farming practices and, wherever feasible, shall place turbines and transmission
25 interconnection lines along the margins of cultivated areas to reduce the potential for
26 conflict with farm operations.
- 27 38 During construction and operation of the facility, the certificate holder shall implement a
28 plan to control the introduction and spread of noxious weeds. The certificate shall develop
29 the weed control plan consistent with the Gilliam County Weed Control Program.
30 [Amendment #1 (SFWF)]
- 31 39 Before beginning construction of the facility, the certificate holder shall record in the real
32 property records of Gilliam County a Covenant Not to Sue with regard to generally
33 accepted farming practices on adjacent farmland consistent with Gilliam County Zoning
34 Ordinance 7.020(T)(4)(a)(5).
- 35 40 The certificate holder shall construct all facility components in compliance with the
36 following setback requirements:
37 (a) All facility components must be at least 3,520 feet from the property line of
38 properties zoned residential use or designated in the Gilliam County Comprehensive
39 Plan as residential.

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

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

8 (d) Where (a) does not apply, the certificate holder shall maintain a minimum distance
9 of 110-percent of maximum blade tip height, measured from the centerline of the
10 turbine tower to the nearest boundary of the certificate holder's lease area, except
11 as provided in (e).

12 (e) The turbine tower setback distance described in (d) does not apply to one isolated
13 area excluded from the certificate holder's lease with the landowner identified as
14 "Area A" in the *Final Order on Amendment #1*.

15 [Amendment #1]

16 41 Within 90 days after beginning operation, the certificate holder shall provide to the
17 Department and to the Planning Director of Gilliam County the actual latitude and
18 longitude location or Stateplane NAD 83(91) coordinates of each turbine tower,
19 connecting lines and transmission lines. In addition, the certificate holder shall provide to
20 the Department and to the Planning Director of Gilliam County, a summary of as-built
21 changes in the facility compared to the original plan, if any. [Amendment #1 (SFWF)]

22 42 The certificate holder shall install gates on all private facility access roads in Gilliam
23 County, in accordance with Gilliam County Zoning Ordinance Section 7.020(T)(4)(d)(6).

3. Cultural Resource Conditions

24 43 Before beginning construction, the certificate holder shall provide to the Department a
25 map showing the final design locations of all components of the facility and areas that
26 would be temporarily disturbed during construction. In addition, the certificate holder
27 shall comply with the following requirements:

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

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

39 (c) The certificate holder shall label "no entry" areas around all identified historic,
40 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
2 holder 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
5 potential 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
8 archaeological resources are found that the SHPO determines to be significant, the
9 certificate holder shall consult with the Department and the SHPO to develop plan
10 to avoid disturbance of the resources during construction and operation of the
11 facility. The certificate holder shall instruct all construction personnel to avoid areas
12 where the resources were found and shall implement other appropriate measures
13 to protect the resources.

14 [Amendment #1 (SFWF)]

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

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

29 46 [Condition removed by Amendment #1 (SFWF)]

4. Geotechnical Conditions

30 47 Before beginning construction, the certificate holder shall conduct a site-specific
31 geotechnical investigation and shall report its findings to the Oregon Department of
32 Geology & Mineral Industries (DOGAMI) and the Department. The certificate holder shall
33 conduct the geotechnical investigation after consultation with DOGAMI and in general
34 accordance with DOGAMI open file report 00-04 "Guidelines for Engineering Geologic
35 Reports and Site-Specific Seismic Hazard Reports."

36 48 The certificate holder shall design and construct the facility in accordance with
37 requirements set forth by the State of Oregon's Building Code Division and any other
38 applicable codes and design procedures. The certificate holder shall design facility
39 structures to meet or exceed the minimum standards required by the 2003 International
40 Building Code.

1 49 The certificate holder shall design, engineer and construct the facility to avoid dangers to
2 human safety presented by non-seismic hazards. As used in this condition, “non-seismic
3 hazards” include settlement, landslides, flooding and erosion.

5. Hazardous Materials, Fire Protection & Public Safety Conditions

4 50 The certificate holder shall handle hazardous materials used on the site in a manner that
5 protects public health, safety and the environment and shall comply with all applicable
6 local, state and federal environmental laws and regulations. The certificate holder shall
7 not store diesel fuel or gasoline on the facility site.

8 51 If a spill or release of hazardous material occurs during construction or operation of the
9 facility, the certificate holder shall notify the Department within 72 hours and shall clean
10 up the spill or release and dispose of any contaminated soil or other materials according to
11 applicable regulations. The certificate holder shall make sure that spill kits containing
12 items such as absorbent pads are located on equipment and at the field workshop. The
13 certificate holder shall instruct employees about proper handling, storage and cleanup of
14 hazardous materials. [Amendment #1 (SFWF)]

15 52 During construction, the certificate holder shall ensure that construction personnel are
16 trained in fire prevention and response, that construction vehicles and equipment are
17 operated on graveled areas to the extent possible and that open flames, such as cutting
18 torches, are kept away from dry grass areas.

19 53 During operation, the certificate holder shall ensure that all on-site employees receive
20 annual fire prevention and response training, including tower rescue training, by qualified
21 instructors or members of the local fire district. The certificate holder shall ensure that all
22 employees are instructed to keep vehicles on roads and off dry grassland, except when
23 off-road operation is required for emergency purposes. The certificate holder shall
24 encourage employees to become volunteer members of local fire departments and shall
25 facilitate appropriate training. [Amendment #1 (SFWF)]

26 54 During construction and operation of the facility, the certificate holder shall ensure that
27 the field workshop and all service vehicles are equipped with shovels and portable fire
28 extinguishers of a 4A50BC or equivalent rating. [Amendment #1 (SFWF)]

29 55 During construction and operation of the facility, the certificate holder shall develop and
30 implement fire safety plans in consultation with the North Gilliam County Rural Fire
31 Protection District to minimize the risk of fire and to respond appropriately to any fires
32 that occur on the facility site. In developing the fire safety plans, the certificate holder
33 shall take into account the dry nature of the region and shall address risks on a seasonal
34 basis. The certificate holder shall meet annually with local fire protection agency
35 personnel to discuss emergency planning and shall invite local fire protection agency
36 personnel to observe any emergency drill or tower rescue training conducted at the
37 facility. [Amendment #1 (SFWF)]

38 56 Upon the beginning of operation of the facility, the certificate holder shall provide a site
39 plan to the North Gilliam County Rural Fire Protection District. The certificate holder shall

- 1 indicate on the site plan the identification number assigned to each turbine and the
2 location of all facility structures and shall provide an updated site plan if additional
3 turbines or other structures are later added to the facility. During operation, the certificate
4 holder shall ensure that appropriate fire protection agency personnel have an up-to-date
5 list of the names and telephone numbers of facility personnel available to respond on a
6 24-hour basis in case of an emergency on the facility site. [Amendment #1 (SFWF)]
- 7 57 Before beginning construction, the certificate holder shall submit a Notice of Proposed
8 Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon
9 Department of Aviation identifying the proposed final locations of turbine towers and
10 meteorological towers. The certificate holder shall promptly notify the Department of the
11 responses from the FAA and the Oregon Department of Aviation. [Amendment #1 (SFWF)]
- 12 58 The certificate holder shall construct turbines on concrete foundations and shall surround
13 the base of each tower with a ten-foot pad area of washed crushed rock on all sides. The
14 certificate holder shall cover turbine pad areas with non-erosive, non-flammable material
15 as soon as possible following exposure during construction and shall maintain the pad area
16 covering during operation of the facility.
- 17 59 The certificate holder shall follow manufacturers' recommended handling instructions and
18 procedures to prevent damage to turbine or turbine tower components that could lead to
19 failure.
- 20 60 The certificate holder shall install and maintain self-monitoring devices on each turbine,
21 connected to a fault annunciation panel or supervisory control and data acquisition
22 (SCADA) system at the field workshop to alert operators to potentially dangerous
23 conditions. The certificate holder shall maintain automatic equipment protection features
24 in each turbine that would shut down the turbine and reduce the chance of a mechanical
25 problem causing a fire. [Amendment #1 (SFWF)]
- 26 61 The certificate holder shall construct turbine towers with no exterior ladders or access to
27 the turbine blades and shall install locked tower access doors. The certificate holder shall
28 keep tower access doors locked at all times except when authorized personnel are
29 present.
- 30 62 The certificate holder shall have an operational safety-monitoring program and shall
31 inspect all turbine and turbine tower components on a regular basis. All turbine and
32 turbine tower components will be inspected within 6 months of being repowered.
33 Following the inspection, the certificate holder shall submit a written report to the
34 Department describing the results of the turbine tower component inspection. The
35 certificate holder shall maintain or repair turbine and turbine tower components as
36 necessary to protect public safety. [Amendment #2]
- 37 63 For turbine types having pad-mounted step-up transformers, the certificate holder shall
38 install the transformers at the base of each tower in locked cabinets designed to protect
39 the public from electrical hazards and to avoid creation of artificial habitat for raptor prey.

- 1 64 To protect the public from electrical hazards, the certificate holder shall enclose the
2 facility substation with appropriate fencing and locked gates. [Amendment #1 (SFWF)]
- 3 65 The certificate holder shall construct access roads with a finished width of approximately
4 16 feet, a compacted base of native soil and a gravel surface to a depth of four to ten
5 inches. [Amendment #1 (SFWF); Amendment #1]
- 6 66 During construction, the certificate holder shall implement measures to reduce traffic
7 impacts, including:
- 8 (a) Providing notice to the City of Arlington Road Department, the Gilliam County Road
9 Department and the Gilliam County Sheriff's Office in advance of deliveries that
10 could cause traffic disruption in Arlington.
- 11 (b) Providing notice to the residents of Arlington in advance of deliveries that could
12 cause traffic disruption.
- 13 (c) Requiring flaggers to be at appropriate locations at appropriate times during
14 construction to direct traffic.
- 15 67 The certificate holder shall cooperate with the Gilliam County Road Department to ensure
16 that any unusual damage or wear to county roads that is caused by construction of the
17 facility is repaired by the certificate holder. Submittal to the Department of an executed
18 Road Use Agreement with Gilliam County shall constitute evidence of compliance with this
19 condition. Upon completion of construction, the certificate holder shall restore county
20 roads to pre-construction condition or better, to the satisfaction of the county Road
21 Department. If required by Gilliam County, the certificate holder shall post bonds to
22 ensure funds are available to repair and maintain roads affected by the proposed facility.
23 The certificate holder shall also coordinate with the Morrow County Road Department
24 regarding implementation of a similar Road Use agreement. The certificate holder must
25 submit evidence of compliance prior to construction of facility repowering as authorized
26 by site certificate Amendment #2. [Amendment #1 (SFWF); Amendment #2]
- 27 68 During construction, the certificate holder shall require that all on-site construction
28 contractors develop and implement a site health and safety plan that informs workers and
29 others on-site what to do in case of an emergency and that includes the locations of fire
30 extinguishers and nearby hospitals, important telephone numbers and first aid techniques.
31 The certificate holder shall ensure that construction contractors have personnel on-site
32 who are trained and equipped for tower rescue and who are first aid and CPR certified.
- 33 69 During operation, the certificate holder shall develop and implement a site health and
34 safety plan that informs employees and others on-site what to do in case of an emergency
35 and that includes the locations of fire extinguishers and nearby hospitals, important
36 telephone numbers and first aid techniques.
- 37 70 During construction and operation of the facility, the certificate holder shall provide for
38 on-site security and shall establish good communications between on-site security
39 personnel and the Gilliam County Sheriff's Office. During operation, the certificate holder
40 shall ensure that appropriate law enforcement agency personnel have an up-to-date list of

1 the names and telephone numbers of facility personnel available to respond on a 24-hour
2 basis in case of an emergency on the facility site. [Amendment #1 (SFWF)]

3 71 The certificate holder shall notify the Department and the Gilliam County Planning
4 Director within 72 hours of any accidents including mechanical failures on the site
5 associated with construction or operation of the facility that may result in public health
6 and safety concerns. [Amendment #1 (SFWF)]

6. Water, Soils, Streams & Wetlands Conditions

7 72 [Condition removed by Amendment #1 (SFWF)]

8 73 The certificate holder shall conduct all construction work, including the repowering
9 activities associated with RFA2, in compliance with an Erosion and Sediment Control Plan
10 (ESCP) satisfactory to the Oregon Department of Environmental Quality and as required
11 under the National Pollutant Discharge Elimination System (NPDES) Storm Water
12 Discharge General Permit #1200-C. The certificate holder shall include in the ESCP any
13 procedures necessary to meet local erosion and sediment control requirements or storm
14 water management requirements. [Amendment #2]

15 74 During construction, the certificate holder shall limit truck traffic to designated existing
16 and improved road surfaces to avoid soil compaction, to the extent practicable.

17 75 During construction, the certificate holder shall implement best management practices to
18 control any dust generated by construction activities, such as applying water to roads and
19 disturbed soil areas. [Amendment #2]

20 76 During construction, the certificate holder shall reduce temporary disturbance impacts by
21 making use of previously disturbed areas, including roadways and tracks, and by
22 preserving vegetation rootstalks by crushing, rather than scraping, vegetation in areas of
23 temporary disturbance. [Amendment #2]

24 77 During facility operation, the certificate holder shall routinely inspect and maintain all
25 roads, pads and trenched areas and, as necessary, maintain or repair erosion and
26 sediment control measures. The certificate holder shall restore areas that are temporarily
27 disturbed during facility maintenance or repair activities to pre-disturbance condition or
28 better. [Amendment #2]

29 78 During facility operation, the certificate holder shall obtain water for on-site uses from a
30 well at the field workshop, subject to compliance with applicable permit requirements.
31 The certificate holder shall not use more than 5,000 gallons of water per day from the
32 facility's on-site well. [Amendment #1 (SFWF)]

7. Transmission Line & EMF Conditions

33 79 The certificate holder shall install the 34.5-kV collector system underground. The
34 certificate holder shall install underground lines at a minimum depth of three feet.
35 [Amendment #1 (SFWF); Amendment #1]

- 1 80 The certificate holder shall ground appropriate sections of fencing that parallel
2 transmission lines to reduce the risk of shock from induced voltage. [Amendment #1 (SFWF)]
- 3 81 The certificate holder shall take reasonable steps to reduce or manage human exposure to
4 electromagnetic fields, including but not limited to:
- 5 (a) Constructing all aboveground transmission lines at least 200 feet from any residence
6 or other occupied structure, measured from the centerline of the transmission line.
 - 7 (b) [Text removed by Amendment #1]
 - 8 (c) Constructing all aboveground 230-kV transmission lines with a minimum clearance of
9 24 feet from the ground.
 - 10 (d) Fencing the areas near the facility substation to ensure that substation equipment is
11 not accessible to the public.
 - 12 (e) Providing to landowners a map of underground and overhead transmission lines on
13 their property and advising landowners of possible health risks.
 - 14 (f) Designing and maintaining all transmission lines so that alternating current electric
15 fields do not exceed 9 kV per meter at one meter above the ground surface in areas
16 accessible to the public.
- 17 [Amendment #1 (SFWF); Amendment #1]
- 18 82 In advance of, and during, preparation of detailed design drawings and specifications for
19 230-kV and 34.5-kV transmission lines, the certificate holder shall consult with the Utility
20 Safety and Reliability Section of the Oregon Public Utility Commission to ensure that the
21 designs and specifications are consistent with applicable codes and standards.

8. Plants, Wildlife & Habitat Protection Conditions

- 22 83 The certificate holder shall conduct wildlife monitoring as described in the Wildlife
23 Monitoring and Mitigation Plan that is incorporated in the Final Order on Amendment #1
24 for the Shepherds Flat Wind Farm as Attachment SFN-A and as amended from time to
25 time. [Amendment #1 (SFWF)]
- 26 84 The certificate holder shall restore areas disturbed by facility construction but not
27 occupied by permanent facility structures according to the methods and monitoring
28 procedures described in the Revegetation Plan that is incorporated in the Final Order on
29 Amendment #1 for the Shepherds Flat Wind Farm as Attachment SFN-B and as amended
30 from time to time. [Amendment #1 (SFWF)]
- 31 85 The certificate holder shall acquire the legal right to create, enhance, maintain and protect
32 a habitat mitigation area as long as the site certificate is in effect by means of an outright
33 purchase, conservation easement or similar conveyance and shall provide a copy of the
34 documentation to the Department. Within the habitat mitigation area, the certificate
35 holder shall improve the habitat quality as described in the Habitat Mitigation Plan that is
36 incorporated in the Final Order on Amendment #1 for the Shepherds Flat Wind Farm as
37 Attachment SFN-C and as amended from time to time. [Amendment #1 (SFWF)]
- 38 86 The certificate holder shall avoid permanent and temporary disturbance to the areas
39 described in (a) through (g) and, during the times indicated, shall avoid construction

1 disturbance in the areas described in (h) through (k). The certificate holder shall flag these
2 areas for the duration of construction activities nearby and shall ensure that construction
3 personnel avoid disturbance of the areas. The avoidance areas are:

- 4 (a) All Category 1 habitat and those areas of Category 2 habitat shown on the “ODFW-2”
5 Figures 1 through 12 in the Shepherds Flat Wind Farm Application. [Amendment #1
6 (SFWF)]
- 7 (b) [text removed by Amendment #1 (SFWF)]
- 8 (c) All seeps, riparian areas and vernal pools.
- 9 (d) All water sources for wildlife, including perennial and intermittent streams, stock
10 ponds and watering stations.
- 11 (e) All faces of bluffs or rock outcroppings.
- 12 (f) All trees or other structures that contain active raptor nests.
- 13 (g) For the facility substation and field workshop, all Category 3 habitat. [Amendment #1
14 (SFWF)]
- 15 (h) [text removed by Amendment #1 (SFWF)]
- 16 (i) The area within 0.5 miles of Category 3 curlew nesting habitat and the area within 0.5
17 miles the BLM Horn Butte Wildlife Area during the nesting season (March 8 through
18 June 15). Before beginning construction, the certificate holder shall provide to the
19 Department a map showing these avoidance areas relative to areas of potential
20 construction disturbance. The certificate holder may engage in construction
21 activities in these areas at times other than the nesting season.
- 22 (j) The area within 1,000 feet of any essential, limited and irreplaceable Washington
23 ground squirrel (WGS) habitat within the new areas added to the site by
24 Amendment #1 (excluding the areas within the site boundaries of Shepherds Flat
25 North, Shepherds Flat Central and Shepherds Flat South as approved on September
26 11, 2009) during the period in which the squirrels are active. The certificate holder
27 shall hire a qualified independent professional biologist to conduct pre-construction
28 surveys for State-listed threatened, endangered or sensitive wildlife species in these
29 new areas within 1,000 feet of any area potentially disturbed by facility
30 construction. To determine whether WGS habitat exists and to determine whether
31 WGS are active, the biologist shall search for WGS in suitable habitat using a two-
32 survey protocol approved by the Oregon Department of Fish and Wildlife (ODFW).
33 The certificate holder shall submit the results of the survey to ODFW and to the
34 Department. If signs of WGS activity are observed, the certificate holder shall flag
35 the avoidance area and ensure that construction personnel avoid disturbance of the
36 area until the biologist has determined that the WGS are no longer active.
- 37 (k) Areas within a suitable buffer around confirmed populations of Laurent’s milk-vetch
38 or any other State-listed threatened or endangered plant species within the new
39 areas added to the site by Amendment #1 (excluding the area within the site
40 boundaries of Shepherds Flat North, Shepherds Flat Central and Shepherds Flat
41 South as approved on September 11, 2009). The certificate holder shall not install
42 facility components or cause temporary disturbance within these areas. The
43 certificate holder shall hire a qualified independent professional biologist to conduct
44 pre-construction surveys for State-listed threatened or endangered plant species in

1 these new areas within 1,000 feet of any area potentially disturbed by facility
2 construction. The certificate holder shall submit the results of the survey to the
3 Department.

4 [Amendment #1]

5 87 The certificate holder shall microsite the facility in conformance with the industry’s best
6 practices. The certificate holder shall follow the recommendations of a qualified wildlife
7 biologist to avoid building turbine towers in the following locations:

- 8 (a) Areas of increased risk to avian species due to constricted flight paths, such as
- 9 narrow ridge saddles and gaps between hilltops.
- 10 (b) Areas on slopes greater than 20 percent.
- 11 (c) Areas within a 250-foot setback from the bluff edge along the north site boundary.
- 12 (d) Areas within a 250-foot setback from bluff edges along the eastern site boundary
- 13 above the Willow Creek Valley.

14 88 During construction, the certificate holder shall avoid construction activities in areas
15 around active nests of the following species during the sensitive period, as provided in this
16 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

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

38 89 The certificate holder shall not remove any trees that are greater than three feet in height.

- 1 **90** The certificate holder shall design all aboveground transmission line support structures
2 following the most current suggested practices for avian protection on power lines
3 published by the Avian Power Line Interaction Committee.
- 4 **91** The certificate holder shall reduce the risk of injuries to avian species by:
5 (a) Installing turbine towers that are smooth steel structures that lack features that
6 would allow avian perching.
7 (b) Installing meteorological towers that are non-guyed structures to eliminate the risk
8 of avian collision with guy-wires.
9 (c) Avoiding installation of aboveground transmission lines across narrow saddles,
10 ravines and similar features and, where such crossings cannot be avoided, installing
11 line-markers to make the lines more visible to avian species.
- 12 **92** The certificate holder shall impose and enforce construction and operation speed limits of
13 5 miles per hour on roads within 1,000 feet of Category 1 or Category 2 Washington
14 ground squirrel habitat identified in the preconstruction survey required under Condition
15 86 and 20 miles per hour on all other facility roads and shall ensure that all construction
16 and operations personnel are instructed on the importance of cautious driving practices
17 while on facility roads. [Amendment #1 (SFWF); Amendment #1]

9. Visual Effects Conditions

- 18 **93** To reduce the visual impact of the facility, the certificate holder shall:
19 (a) Mount nacelles on smooth, steel structures, painted uniformly in a matte-finish,
20 neutral white color.
21 (b) Paint substation structures in a neutral color to blend with the surrounding
22 landscape.
23 (c) Not allow any advertising to be used on any part of the facility.
24 (d) Use only those signs required for facility safety, required by law or otherwise
25 required by this site certificate, except that the certificate holder may erect a sign to
26 identify the facility near the field workshop, may paint turbine numbers on each
27 tower and may allow unobtrusive manufacturers' logos on turbine nacelles.
28 (e) Not locate any facility signs along Highway 74.
29 (f) Design signs in accordance with Gilliam County Zoning Ordinance Section 8.030.
30 (g) Maintain any signs allowed under this condition in good repair.

31 [Amendment #1 (SFWF)]

- 32 **94** The certificate holder shall design and construct the field workshop to be generally
33 consistent with the character of similar buildings used by commercial farmers or ranchers
34 in the area and shall paint the building in a neutral color to blend with the surrounding
35 landscape. [Amendment #1 (SFWF)]
- 36 **95** The certificate holder shall not use exterior nighttime lighting except:
37 (a) The minimum turbine tower lighting required or recommended by the Federal
38 Aviation Administration.
39 (b) Security lighting at the field workshop and substation, provided that such lighting is
40 shielded or downward-directed to reduce glare.

- 1 (c) Minimum lighting necessary for repairs or emergencies.
- 2 (d) Minimum lighting necessary for nighttime construction. The certificate holder may
- 3 use lighting only at the work location and only directed downward to illuminate the
- 4 work area at the turbine base or upward from the base to illuminate the turbine
- 5 tower; construction lighting shall not be directed outward. The certificate holder
- 6 shall use nighttime lighting only with the approval of the owner of the property on
- 7 which the work is conducted and shall provide notice of nighttime construction to
- 8 occupants of all residences within one-half mile of the construction site.

9 [Amendment #1 (SFWF)]

10. Noise Control Conditions

10 96 To reduce noise impacts at nearby residences, the certificate holder shall:

- 11 (a) Confine the noisiest operation of heavy construction equipment to the daylight
- 12 hours.
- 13 (b) Require contractors to install and maintain exhaust mufflers on all combustion
- 14 engine-powered equipment; and
- 15 (c) Establish a complaint response system at the construction manager's office to
- 16 address noise complaints.

17 97 Before beginning construction, the certificate holder shall provide to the Department:

- 18 (a) Information that identifies the final design locations of all turbines to be built at the
- 19 facility.
- 20 (b) The maximum sound power level for the substation transformers and the maximum
- 21 sound power level and octave band data for the turbines selected for the facility
- 22 based on manufacturers' warranties or confirmed by other means acceptable to the
- 23 Department.
- 24 (c) The results of noise analysis of the facility to be built according to the final design
- 25 performed in a manner consistent with the requirements of OAR 340-035-0035
- 26 (1)(b)(B)(iii)(IV) and (VI) demonstrating to the satisfaction of the Department that
- 27 the total noise generated by the facility (including the noise from turbines and
- 28 substation transformers) would meet the ambient degradation test and maximum
- 29 allowable test at the appropriate measurement point for all potentially-affected
- 30 noise sensitive properties.
- 31 (d) For each noise-sensitive property where the certificate holder relies on a noise
- 32 waiver to demonstrate compliance in accordance with OAR 340-035-0035
- 33 (1)(b)(B)(iii)(III), a copy of the a legally effective easement or real covenant pursuant
- 34 to which the owner of the property authorizes the certificate holder's operation of
- 35 the facility to increase ambient statistical noise levels L_{10} and L_{50} by more than 10
- 36 dBA at the appropriate measurement point. The legally-effective easement or real
- 37 covenant must: include a legal description of the burdened property (the noise
- 38 sensitive property); be recorded in the real property records of the county; expressly
- 39 benefit the certificate holder; expressly run with the land and bind all future owners,
- 40 lessees or holders of any interest in the burdened property; and not be subject to
- 41 revocation without the certificate holder's written approval.

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

11. Waste Management Conditions

9 99 The certificate holder shall provide portable toilets for on-site sewage handling during
10 construction and shall ensure that they are pumped and cleaned regularly by a licensed
11 contractor who is qualified to pump and clean portable toilet facilities.

12 100 During operation, the certificate holder shall discharge sanitary wastewater generated at
13 the field workshop to a licensed on-site septic system in compliance with county permit
14 requirements. The certificate holder shall design the septic system for a discharge capacity
15 of less than 2,500 gallons per day. [Amendment #1 (SFWF)]

16 101 The certificate holder shall implement a waste management plan during construction that
17 includes but is not limited to the following measures:

- 18 (a) Recycling steel and other metal scrap.
- 19 (b) Recycling wood waste.
- 20 (c) Recycling packaging wastes such as paper and cardboard.
- 21 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste
22 hauler or by using facility equipment and personnel to haul the waste.
- 23 (e) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent
24 materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for
25 disposal by a licensed firm specializing in the proper recycling or disposal of
26 hazardous wastes.
- 27 (f) Discharging all concrete truck rinse water into foundation holes and completing truck
28 wash-down off-site.

29 102 The certificate holder shall implement a waste management plan during operation that
30 includes but is not limited to the following measures:

- 31 (a) Training employees to minimize and recycle solid waste.
- 32 (b) Recycling paper products, metals, glass and plastics.
- 33 (c) Recycling used oil and hydraulic fluid.
- 34 (d) Collecting non-recyclable waste for transport to a local landfill by a licensed waste
35 hauler or by using facility equipment and personnel to haul the waste.
- 36 (e) Segregating all hazardous, non-recyclable wastes such as used oil, oily rags and oil-
37 absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium
38 batteries for disposal by a licensed firm specializing in the proper recycling or
39 disposal of hazardous wastes.

1 103 Before beginning construction, the certificate holder shall determine whether any
2 construction disturbance would occur in locations not previously investigated for potential
3 jurisdictional waters as described in the *Final Order on Amendment #1*. The certificate
4 holder shall conduct pre-construction investigations in these new areas within 1,000 feet
5 of any area potentially disturbed by facility construction to determine whether any State-
6 jurisdictional waters exist in those locations. The certificate holder shall submit a written
7 report on the pre-construction investigation to the Department of Energy and to the
8 Department of State Lands for approval before beginning construction and shall ensure
9 that construction would have no impact on any jurisdictional water identified in the
10 report. [Amendment #1]

12. New Conditions applicable to RFA2 facility repower

11 104 The certificate holder shall begin construction of the Shepherds Flat North facility
12 modifications, as approved in the Second Amended Site Certificate, within three years
13 after the effective date of the amended site certificate [TBD]. The certificate holder shall
14 notify the Department when construction of the of the facility modifications, as approved
15 in Request for Amendment 2, commences. Under OAR 345-015-0085(8), the amended site
16 certificate is effective upon execution by the Council Chair and the certificate holder.
17 [Amendment #2]

18 105 The certificate holder shall complete construction of the Shepherds Flat North facility
19 modifications, as approved in the Second Amended Site Certificate, within three years
20 following the date of construction commencement [TBD]. The certificate holder shall
21 promptly notify the Department of the date of completion of construction of the
22 Shepherds Flat North facility modifications, as approved in Request for Amendment 2.
23 [Amendment #2]

24 106 Prior to RFA2 facility repower activities, the certificate holder shall provide the
25 Department with the foundation uprate analysis on facility turbines. If the analysis results
26 identify necessary mitigation and remediation measures, or operational timing
27 recommendations, the certificate holder shall implement the identified measures and
28 recommendations prior to beginning the repowering activities unless otherwise approved
29 by the Department. [Amendment #2]

30 107 Prior to RFA2 facility repower activities, the certificate holder shall coordinate with the
31 Gilliam County Weed Department and submit to the Department a Roadway Weed
32 Control Plan. The Department shall review and approve the plan, in consultation with the
33 Gilliam County Weed Department. The Roadway Weed Control Plan shall include, as
34 pertinent, but not be limited to, identification of county-listed weeds of economic
35 concern, methods for evaluating weeds within impact area, results of weed assessment,
36 control methods specific to roadway weed control and timing, agency consultation
37 protocol, and process for evaluating success of weed control.
38 [Amendment #2]

- 1 108 The certificate holder shall:
2 (a) Prior to RFA2 facility repower activities:
3 i. Provide an updated habitat assessment of areas of disturbance, based on
4 a protocol approved by the Department in consultation with ODFW.
5 ii. Identify monitoring and reference sites, including sites within each
6 habitat category and subtype impacted, and the methodology utilized for
7 selecting the number of monitoring and reference sites should be
8 included.
9 iii. Consult with the Department, ODFW and Gilliam County Weed Control
10 Department on timing and methods for revegetation and weed control.
11 (b) Following completion of RFA2 facility repower activities:
12 i. Restore areas temporarily disturbed by RFA2 facility repower activities
13 according to the methods and monitoring procedures described in the
14 Revegetation Plan that is incorporated in the Final Order on Amendment
15 2 for Shepherds Flat North as Attachment D and as amended from time
16 to time.
17 ii. Consult with the Department, ODFW and Gilliam County Weed Control
18 Department on timing and methods for revegetation and weed control.

19 [Amendment #2]

- 20 109 The certificate holder shall:
21 (a) Prior to RFA2 facility repower activities, the certificate holder shall conduct a pre-
22 construction raptor nest survey, using a protocol approved by the Oregon Department
23 of Fish and Wildlife (ODFW) to determine whether there are any active nests of state
24 sensitive species within 0.5 miles of any areas that would be disturbed.
25 (b) During RFA2 repower activities, if active raptor nests were identified within 0.5-mile of
26 RFA2 repower activities per (a) of this condition or become active during the sensitive
27 season, per (c) below, the certificate holder shall avoid construction activities within
28 0.25 mile buffer in areas around active nests of the following species during the
29 sensitive period, as provided in this condition:
30

Species	Sensitive Period	Early Release Date
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

- 31
32 (c) During RFA2 repower activities, if a nest becomes occupied by any of these species
33 after the beginning of the sensitive period, the certificate holder will flag the
34 boundaries of a 0.25-mile buffer area around the nest and shall instruct construction
35 personnel to avoid disturbance of the area.

1 (d) During RFA2 repower activities, if active nest sites are observed per (b) or (c) of this
2 condition, the certificate holder shall hire a qualified independent professional
3 biologist to observe the active nest sites during the sensitive period for signs of
4 disturbance and to notify the Department of any non-compliance with this condition. If
5 the biologist observes nest site abandonment or other adverse impact to nesting
6 activity, the certificate holder shall implement appropriate mitigation, in consultation
7 with ODFW and subject to the approval of the Department, unless the adverse impact
8 is clearly shown to have a cause other than construction activity. The certificate holder
9 may begin or resume construction activities within a buffer area before the ending day
10 of the sensitive period if any known nest site is not occupied by the early release date.
11 If a nest site is occupied, then the certificate holder may begin or resume construction
12 before the ending day of the sensitive period with the approval of ODFW, after the
13 young are fledged. The certificate holder shall use a protocol approved by ODFW to
14 determine when the young are fledged (the young are independent of the core nest
15 site).

16 [Amendment 2]

17 110 Following completion of RFA2 facility repower activities, the certificate holder shall
18 conduct two years of fatality monitoring, as described in the *Wildlife Monitoring and*
19 *Mitigation Plan*, or based on protocol otherwise approved by the Department in
20 consultation with ODFW, that is incorporated in the *Final Order on Amendment #2* as
21 Attachment E as amended from time to time. [Amendment #2]

22 111 During RFA2 facility repower activities, the certificate holder shall, or ensure its third-
23 party contractors, reuse or recycle wind turbine blades, hubs and other removed wind
24 turbine components to the extent practicable. The certificate holder shall report in its
25 semi-annual report to the Department the quantities of removed wind turbine
26 components recycled, reused, sold for scrap, and disposed of in a landfill, to the extent
27 practicable. [Amendment 2]

28 112 Prior to the RFA2 facility repower activities, the certificate holder shall submit a Notice of
29 Proposed Construction or Alteration to the Federal Aviation Administration (FAA) and
30 the Oregon Department of Aviation identifying the new maximum blade tip height of
31 150 meters. The certificate holder shall promptly notify the Department of the
32 responses from the FAA and the Oregon Department of Aviation. [Amendment #2]

33 113 Prior to RFA2 facility repower activities, the certificate holder shall provide to the
34 Department:

35 a) The maximum sound power level and octave band for the modified wind
36 turbines based on manufacturer' warranties or confirmed by other means
37 acceptable to the Department.

38 b) If the information provided to the Department in (a) shows that the modified
39 (repowered) wind turbines would produce a higher maximum sound power level
40 and octave band than the currently installed wind turbines, the certificate holder
41 must conduct a noise analysis of the modified (repowered) turbines. If required,

1 the certificate holder must provide to the Department results of the noise
2 analysis for the proposed RFA2 facility repower, as approved in the Second
3 Amended Site Certificate, performed in a manner consistent with the
4 requirements of OAR 340-035-0035(1)(b)(B)(iii)(IV) and (VI) demonstrating to the
5 satisfaction of the Department that the total noise generated (including the
6 noise from repowered wind turbines and existing substation transformers)
7 would meet the ambient degradation test and maximum allowable test at the
8 appropriate measurement point for all potentially-affected noise sensitive
9 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]

VI. SUCCESSORS AND ASSIGNS

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

VII. SEVERABILITY AND CONSTRUCTION

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

VIII. GOVERNING LAW AND FORUM

1 This site certificate shall be governed by the laws of the State of Oregon. Any litigation
2 or arbitration arising out of this agreement shall be conducted in an appropriate forum in
3 Oregon.
4


IX. EXECUTION AND EFFECTIVE DATE

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

4 **IN WITNESS WHEREOF**, this site certificate has been executed by the State of Oregon, acting by
5 and through its Energy Facility Siting Council, and by North Hurlburt Wind, LLC.

ENERGY FACILITY SITING COUNCIL

NORTH HURLBURT WIND, LLC

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

By: 

Print: Vandana Gupta

Date: Dec. 20, 2019

Date: 12.20-2019

Attachment B: Reviewing Agency Comments on preliminary RFA2

MEMORANDUM

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

DATE: November 12, 2019

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

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



OFFICE 503-378-4888 **CELL** 503-983-0275
EMAIL matthew.a.lawyer@aviation.state.or.us
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

*****CONFIDENTIALITY NOTICE*****

This e-mail may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. If you are not the addressee or it appears from the context or otherwise that you have received this e-mail in error, please advise me immediately by reply e-mail, keep the contents confidential, and immediately delete the message and any attachments from your system.

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

www.Oregon.gov/aviation

---o()o---



From: MCV EIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>
Sent: Wednesday, October 30, 2019 3:22 PM
To: PECK Heather <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



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: 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 re-wording 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>

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).

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 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

Attachment C: Draft Proposed Order Comments

MEMORANDUM

TO: Chase McVeigh - Walker
Oregon Department of Energy

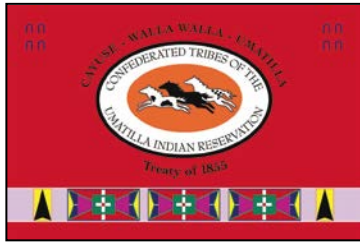
FROM: Steve Cherry, District Wildlife Biologist
Oregon Department of Fish and Wildlife
PO Box 363 Heppner, OR 97836
(541) 676-5230
Steve.p.cherry@state.or.us

DATE: November 12, 2019

RE: Oregon Department of Fish and Wildlife (ODFW) Comments on the Complete Request for Amendment 2 and Draft Proposed Order for Shepherds Flat North 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 and are reflected in the draft proposed order (DPO). ODFW does not have any further comments on this amendment or DPO.



Confederated Tribes *of the*
Umatilla Indian Reservation
Department of Natural Resources

46411 Timine Way, Pendleton, Oregon 97801

MEMORANDUM

To: Chase McVeigh-Walker, Siting Analyst
Oregon Department of Energy
550 Capital Street NE, 1st Floor
Salem, Oregon 97301
Sent via email to: Chase.McVeigh-Walker@oregon.gov

From: Tera Farrow Ferman, Cultural Resources Protection Program Manager *Tera Farrow Ferman*
Confederated Tribes of the Umatilla Indian Reservation
46411 Timine Way, Pendleton, OR 97801
TeraFarrowFerman@ctuir.org
541-276-3447

Date: December 10, 2019

RE: Confederated Tribes of the Umatilla Indian Reservation's Comments on the Shepherds Flat North Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order

General Comments:

Thank you for contacting the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) regarding the Shepherds Flat North Complete Request for Amendment 2 and Draft Proposed Order. The CTUIR offers the following concerns with the project.

Specific Comments:

This project is located within and adjacent to the CTUIR's ceded lands. While the request for amendment is not a ground disturbing activity, like construction, it does pose some risk to cultural resources. Set-up and laydown areas, if not previously disturbed or cleared for cultural resources, should have an archaeological pedestrian inventory survey completed. All construction equipment should use existing road infrastructure and if this project needs to expand beyond the existing roads then these areas should also have an archaeological pedestrian inventory survey completed.



PLANNING DEPARTMENT

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

December 11, 2019

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

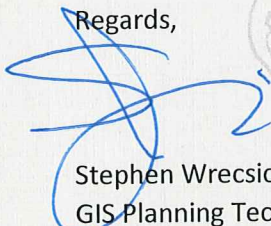
Dear Mr. McVeigh-Walker,

Morrow County appreciates the opportunity to comment on Shepherds Flat North's 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.

Although Shepherds Flat North is located outside of Morrow County with little to no direct impact on Morrow County, a large portion of the components required for the repowering project will need to utilize the Morrow County road network. Because of this potential impact, Morrow County would require that a full Road Use Agreement be implemented with Morrow County Public Works before the start of the repowering. Conversations between the Morrow County Public Works Director and Caithness Energy, LLC have taken place, and Caithness representatives are aware of this requirement.

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

Shepherds Flat North Comments
Request for Amendment 2

December 11, 2019
Page 1 of 1

North Hurlburt Wind, LLC

c/o Caithness Services LLC
565 Fifth Avenue, 29th floor
New York, New York 10017
Phone: 212-921-9099 Fax: 212-921-9239

December 11, 2019

Chase Mc Veigh-Walker
Energy Facility Siting Analyst
Oregon Department of Energy
550 Capital Street, NE, 1st Floor
Salem, OR 97301

Subject: Comments on Draft Proposed Order for the Second Amendment to the Shepherds Flat North Site Certificate

Dear Mr. Mc Veigh-Walker:

North Hurlburt Wind, LLC (Certificate Holder), an indirect wholly-owned subsidiary of Caithness Energy, L.L.C. has the following comments with respect to the Draft Proposed Order (DPO) for Request for Amendment 2 (RFA2). The comments are preceded by the proposed changes in red to the applicable DPO Site Certificate Condition.

Condition 107:

107 Prior to RFA2 facility repower activities, the certificate holder shall:

~~(a) Pay the requisite fee and obtain a Zoning Permit/Conditional Use Permit with Alterations, without any local proceedings, from Gilliam County for facility modifications approved in RFA2 to incorporate conditions imposed in the second amended site certificate under the Council's Land Use standard; and~~

~~(b) Obtain all other necessary local permits, including access and haul permits. [Amendment #2]~~

Comment: The certificate holder proposes the above change to Condition 107. The DPO references Gilliam County Zoning Code (GCZO) Article 7 Authorization to Grant or Deny Conditional Uses preamble as the precedent for Condition 107 and specifically references "an alteration of a structure shall conform with the requirements for a conditional use." However, as stated in Article 7, Section 7.020(T)(7)(c)(2) of the GCZO, an amendment to the conditional use permit shall only be required if the proposed Facility changes would:

~~(a) Increase the land area taken out of agricultural production by an additional 20 acres or more;~~

(b) Increase the land area taken out of agricultural production sufficiently to trigger taking a Goal 3 exception;

(c) Require an expansion of the established Facility boundaries;

(d) Increase the number of towers;

(e) Increase generator output by more than 25 percent relative to the generation capacity authorized by the initial permit due to the repowering or upgrading of power generation capacity.

No amendment would be required if an expansion of power-generating capacity is due to technology upgrades installed within the existing boundaries of the established Wind Power Generation Facility. Notification by the facility owner/operator to the Gilliam County Planning Department of non-significant changes is encouraged, but not required. An amendment to a Site Certificate issued by EFSC will be governed by the rules for amendments established by EFSC.

Under RFA 2, the Facility will not require an amendment to its Conditional Use Permit. This request does not seek to enlarge the existing Site Boundary, and there is no change to the previously approved maximum number of turbines, maximum generating capacity, or infrastructure locations of the Facility. The Project is an expansion of power-generating capacity due to technology upgrades installed within the existing boundaries of the established Wind Power Generation Facility. Therefore, as clearly outlined in the GCZO, a Conditional Use Permit amendment is not required for the proposed change. In addition, Michelle Colby, Gilliam County's Planning Director, did not identify any additional conditional use standards to address nor the need for a conditional use permit amendment in her response to RFA2.

Condition 108:

~~*108 — Prior to RFA2 facility repower activities, the certificate holder shall submit to the Department and Gilliam County Road Department, for review, a Transportation System Plan. The Transportation System Plan shall include, but is not limited to, the following:*~~

~~*(a) Impact Assessment on Local Road Systems*~~

~~*(b) Maps identifying the size, number, location and nature of vehicle access points*~~

~~*(c) Evaluation of consistency with Gilliam County's Transportation System Plan Guidelines*~~

~~*(d) Results of Consultation with Gilliam County Roadmaster, including a copy of executed Road Use Agreement*~~

~~*(e) Traffic Control Measures*~~

~~*(f) Local Notification Procedures*~~

~~*The certificate holder shall cooperate with the Gilliam County Road Department to ensure that any unusual damage or wear to county roads that is caused by construction of the facility is repaired by the certificate holder. Submittal to the Department of an executed Road Use Agreement with Gilliam County shall constitute evidence of compliance with this condition. Upon completion of construction, the certificate holder shall restore public roads to pre- construction condition or better to the satisfaction of the applicable county departments. If required by Gilliam County, the certificate holder shall post bonds to ensure funds are available to repair and maintain roads affected by the*~~

facility. If construction of a phase of the facility will utilize county roads in counties other than Gilliam County, the certificate holder shall coordinate with the Department and the respective county road departments regarding the implementation of a similar Road Use Agreement.

[Amendment #2]

Comment: The certificate holder has already begun coordination with the Gilliam County Road Department and will enter into a Road Use Agreement with Gilliam County for project construction that will generally incorporate Condition 108(a-f) as part of the Road Use Agreement. The exact reporting requirements in Condition 108 as written, including submitting a Transportation System Plan, are cumbersome without any resulting benefit to Gilliam County or the local road system. The certificate holder requests that the language in Condition 108 be replaced with the Road Use condition language for Montague Request for Amendment 4 that was approved in August 2019 which is also in Gilliam County. This provides consist coordination requirements across site certificates for the site certificate holders and the local road department to implement. Again, the certificate holder is already coordinating and is committed to coordinating with the Gilliam County Road Department, but the submittal requirements as written are not necessary to address the potential impacts to the local road network.

Condition 109:

109 Prior to RFA2 facility repower activities, the certificate holder shall ~~coordinate with the Gilliam County Weed Department Supervisor,~~ and submit to the Department ~~and Gilliam County Weed Department Supervisor~~ for review and approval, a Roadway Weed Control Plan. The Roadway Weed Control Plan shall include, ~~as pertinent,~~ but not be limited to, identification of county-listed weeds of economic concern, methods for evaluating weeds within impact area, results of weed assessment, control methods specific to roadway weed control and timing, agency consultation protocol, and process for evaluating success of weed control.

Comment: The certificate holder requests that this condition be amended to provide for consistency with the Gilliam County Weed Control Program but allow the Department to approve the Roadway Weed Control Plan. In addition, a minor change is included to only provide means for necessary and relevant information and protocols be included in development of the plan.

Condition 110:

~~110- Prior to RFA2 facility repower construction, the certificate holder shall submit documentation, with maps and distance tables, to the Department demonstrating that the wind turbines selected for repowering would comply with the following setback requirements:~~

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

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

~~iii. Any overhead utility lines;~~

~~iv. All property lines; if adjacent landowner agrees in writing to a lesser distance, this requirement may be waived.~~

~~v. Any existing guy wire, anchor, or small wind energy tower on the property.~~

~~vi. Any residence including those outside the project boundary. If a landowner agrees in writing to a lesser distance, this requirement may be waived.~~

~~(e) Where (a) does not apply, the certificate holder shall maintain a minimum distance of 150% of the maximum total turbine height from blade tip height, measured from the centerline of the turbine tower, from federal transmission line. If affected parties agree in writing to a lesser distance, this requirement may be waived.~~

~~[Amendment #2]~~

Comment: The DPO refers to Condition 40 which provides the setbacks in the site certificate and states on page 45 that:

The Department recommends that the Council consider that the facility design, including restricted public access, and compliance to the setback requirements of Condition 40, to be sufficient to minimize potential increases in public health and safety risks from proximity to the proposed RFA2 repowered turbines, with lower minimum aboveground blade tip clearance.

Additionally, Condition 26 which provides the turbine dimensions refers to Conditions 40 for setback requirements:

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

Confusingly, the DPO then recommends an additional setback condition, Condition 110, that incorporates GCZO Section 7.020(T)(5)(d), the standards for conditional uses within EFU zoned land. The certificate holder understands that consistent with *OAR 345-027-0075(3)(a)* the applicable substantive criteria for an amendment under the Council's land use standard is the date the certificate holder submitted the request for amendment. However, this section of the GCZO is for setback requirements and restrictions applying to the **siting** of a facility rather than modifications to a preexisting facility and therefore is not applicable substantive criteria. Section GCZO Section 7.020(T)(7), *Wind Power Generation Facility Siting Subsequent Requirements*, is the only section of the GZCO 7.020(T) that applies to existing facilities. Section 7.020(T)(7) does not include any standards for setbacks or reference the setback standards that apply during the siting process. Put simply, the standards incorporated in Condition 110 do not apply to modifications to existing facilities, so it is inappropriate to require the certificate holder to comply as a condition of repowering the Facility. Therefore, the certificate holder requests that the Department strike Condition 110 and that the Condition for setbacks for the repower be Condition 40 as referenced in the DPO Condition 26.

Condition 114:

114 During RFA2 facility repower activities, 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. The certificate holder shall report in its semi-annual report to the Department the quantities of removed wind turbine components recycled, reused, sold for scrap, and disposed of in a landfill, to the extent practicable. [Amendment 2]

Comment: The certificate holder is already working on a decommissioned equipment removal plan for the various repowered turbine components that includes reuse and recycling of certain components. Ensuring exact quantity tracking of waste and recycling can be challenging given the use of third-party contractors. However, the certificate holder is committed to providing reporting of the quantities to the degree practicable.

Best regards,

North Hurlburt Wind, LLC

By: Caithness Shepherds Flat, LLC
its Member

By: Caithness NorthWestern Wind, LLC
its Managing Member

By: 
Vandana Gupta
Vice President, Business Management

Attachment D: Revegetation Plan

Shepherds Flat North: 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 North (SFN).¹ 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 areas of grassland, shrub-steppe habitat and
9 other habitat subtypes (wildlife habitat areas). The intensity of construction impact will vary. In
10 some areas, the impact will be relatively light, but in other areas, heavy construction activity will
11 remove all vegetation, remove topsoil and compact the remaining subsoil. Where vegetation has
12 been damaged or removed during construction, the certificate holder must restore suitable
13 vegetation. In addition, the certificate holder shall maintain erosion and sediment control
14 measures put in place during construction until the affected areas are restored as described in this
15 plan and the risk of erosion has been eliminated. The plan specifies monitoring procedures to
16 evaluate revegetation success of disturbed wildlife habitat areas. Remedial action may be
17 necessary for wildlife habitat areas that do not show revegetation progress. Additional mitigation
18 may be necessary if revegetation is unsuccessful.

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

20 The SFN site lies within Gilliam County (approximately 8,103 acres) in an area
21 characterized by shallow soils. The area is used primarily for grazing of sheep, but low rainfall
22 (approximately 9 inches of precipitation annually) limits forage, and sheep are typically removed
23 from the area from May to November. There is no cultivated cropland within the site boundary.
24 The site contains areas of bare sand, exposed rock and bare soil, and there are numerous
25 unimproved roads and off-road vehicle tracks as well as several electrical transmission line
26 corridors. Some locations are highly disturbed from congregation of sheep around watering and
27 transport sites. Invasive species (such as cheatgrass and spring-Whitlow grass) are the
28 predominant grass species in most areas, but native species (such as Sandberg's bluegrass,
29 needle-and-thread grass, bluebunch wheatgrass and six-weeks fescue) are also present.

30 **III. Revegetation Methods**

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

¹ This plan is incorporated by reference in the site certificate for Shepherds Flat North 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 North: Revegetation Plan

[SEPTEMBER 11, 2009]

1. Correction for Compaction

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

2. Revegetation of Wildlife Habitat Areas

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

After construction activities are completed, disturbed areas will be evaluated to determine whether restoration seeding is needed. In some areas where existing vegetation has been crushed but not removed during construction, recovery is likely to occur in a reasonable time without intervention. Seeding will not be done in areas where the pre-construction condition was exposed rock, bare soil or sand that is unlikely to support vegetation.

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

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

3. Weed control

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

Shepherds Flat North: Revegetation Plan

[SEPTEMBER 11, 2009]

1 IV. Monitoring

2 1. Revegetation Record

3 The certificate holder shall maintain a record of revegetation work. In the record, the
4 certificate holder shall include the date that construction activity was completed in the area to be
5 restored, a description of the affected area (location, acres affected and pre-disturbance
6 condition), the date that revegetation work began and a description of the work done within the
7 affected area. The certificate shall update the revegetation records from time to time, as
8 revegetation work occurs. The certificate holder shall provide copies of these records to the
9 Department at the time of submitting the annual report required under the site certificate.

10 2. Monitoring Procedures

11 The certificate holder shall monitor the revegetation of wildlife habitat areas as described
12 in this section, unless the landowner has converted the area to a use inconsistent with the success
13 criteria. The certificate holder shall employ a qualified investigator (an independent botanist or
14 revegetation specialist) to examine all non-cropland revegetation areas to assess vegetation cover
15 (species, structural stage, etc.) and progress toward meeting the success criteria described below
16 in subsection (3). Within representative sample plots, the investigator will estimate the
17 percentages of the area that are covered by bare soil, desirable native vegetation or invasive weed
18 species. The investigator will qualitatively assess the degree of erosion at each site. The
19 investigator will compare the sample plots with representative reference plots of the same habitat
20 category and subtype.

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

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

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

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

² As used in this plan, "life of the facility" means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

Shepherds Flat North: Revegetation Plan

[SEPTEMBER 11, 2009]

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

- 4 • Degree of erosion due to disturbance activities (high, moderate or low).
- 5 • Vegetation density.
- 6 • Relative proportion of desirable vegetation as determined by the average number
7 of stems of desirable vegetation per square foot or by a visual scan of the area,
8 noting overall recovery status.
- 9 • Species diversity of desirable vegetation.

10 3. Success Criteria

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

19 Revegetation will be considered successful when:

- 20 1. The percentage of vegetation cover by desirable native species in the sample plot
21 is greater than or equal to the percentage of desirable native species cover in the
22 reference plots.
- 23 2. The percentage of cover by invasive weed species in the sample plot is less than
24 10 percent; and
- 25 3. The percentage of bare soil in the sample plot is not greater than the percentage
26 of bare soil in the reference plot, unless the percentage of desirable native species
27 cover in the sample plot exceeds the percentage of desirable native species cover
28 in the reference plots as described in #4 below.
- 29 4. If the percentage of desirable native species cover in the sample plot exceeds the
30 percentage of desirable native species cover in the reference plots by 10 percent
31 or more, then the percentage of bare soil in the sample plot may exceed the
32 percentage of bare soil in the reference plot by up to 20 percent.

33 4. Remedial Action in Wildlife Habitat Areas

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

38 Indications that an area is not showing progress toward achieving revegetation success
39 include emergence of comparatively few plants one year after disturbance or low vegetation

Shepherds Flat North: Revegetation Plan

[SEPTEMBER 11, 2009]

1 cover in the second monitoring year compared to reference plots and little increase in vegetation
2 between the first and second monitoring year.

3 The certificate holder shall take appropriate action to meet the objectives of this
4 revegetation plan. If soil compaction is suspected as the reason for lack of progress, the
5 compacted areas may be deep tilled or scarified to reduce compaction, followed by re-seeding.
6 The certificate holder's qualified investigator shall assess the vegetation that has appeared in the
7 disturbed area to determine specific recommendations for remediation.

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

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

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

21 **V. Amendment of the Plan**

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

Attachment E: Wildlife Monitoring and Mitigation Plan

Shepherds Flat North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 This plan describes wildlife monitoring that the certificate holder shall conduct during
2 operation of Shepherds Flat North (SFN).¹ 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 SFN consists of up to 106 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 53 acres.² The affected habitat
8 lies within a micro-siting area of approximately 8,103 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 SFN 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) Raptor nest monitoring

23 3) Ongoing monitoring, reporting and handling of wildlife injuries and fatalities

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

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

² Estimates of the area that the facility components would occupy are shown in Tables 7 and 8 of the *Final Order on Amendment #1* for the Shepherds Flat Wind Farm (SFWF).

Shepherds Flat North: 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 North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

Number of Turbines Built	Sample Size: First Year	Sample Size: Second Year
50 to 106	50	50
less than 50	all turbines	all turbines

1 If 50 to 106 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.³ 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

³ 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 Central and Shepherds Flat South if the trials take place in the same year and after consultation with ODFW and approval by the Department.

Shepherds Flat North: 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 North: 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 4 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 North: 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.⁴ 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.

⁴ 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 North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 (f) Statistical Methods for Fatality Estimates⁵

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.⁶
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)

⁵ 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.

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

Shepherds Flat North: 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 North: 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 5th and upper 95th 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.”⁷ 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 SFN:

⁷ 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 North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

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

26 The objectives of raptor nest surveys are: (1) to estimate the size of the local breeding
27 populations of raptor species that nest on the ground or aboveground in trees or other
28 aboveground nest locations in the vicinity of the facility; and (2) to determine whether operation
29 of the facility results in a reduction of nesting activity or nesting success in the local populations
30 of the following raptor species: Swainson's hawk, golden eagle, ferruginous hawk and burrowing
31 owl.

Shepherds Flat North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 The certificate holder shall conduct short-term and long-term monitoring. The certificate
2 holder's qualified investigators will use aerial and ground surveys to evaluate nest success by
3 gathering data on active nests, on nests with young and on young fledged. The investigators will
4 analyze the data as described in Section 3(c) and will share the data with state and federal
5 biologists.

6 (a) Short-Term Monitoring

7 Short-term monitoring will be done in two monitoring seasons. The first monitoring
8 season will be in the first raptor nesting season after completion of construction of SFN. The
9 second monitoring season will be in the fourth year after construction is completed. The
10 investigators will analyze two years of data after the second monitoring season.

11 Survey Protocol for Raptor Species that Nest Aboveground

12 During each monitoring season, the investigators will conduct a thorough ground survey
13 for raptor nests in late May or early June and additional surveys as described in this section. The
14 survey area is the area within the SFN site and a 2-mile buffer around the site. All nests
15 discovered during pre-construction surveys and any nests discovered during post-construction
16 surveys, whether active or inactive, will be given identification numbers. Nest locations will be
17 recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system
18 coordinates will be recorded for each nest. Locations of inactive nests will be recorded because
19 they could become occupied during future years.

20 Determining nest *occupancy* will likely require at least two visits to each nest. For
21 occupied nests, the certificate holder will determine nesting *success* by a minimum of one
22 ground visit to determine species, number of young and young fledged. "Nesting success" means
23 that the young have successfully fledged (the young are independent of the core nest site). Nests
24 that cannot be monitored due to the landowner denying access will be checked from a distance
25 where feasible.

26 Survey Protocol for Burrowing Owls

27 The investigators will monitor burrowing owl nests according to the following protocol.
28 The investigators will monitor all nests discovered during pre-construction surveys and any
29 additional burrowing owl nest sites that are discovered during any wildlife monitoring tasks
30 conducted under this plan. All nests will be given identification numbers. Nest locations will be
31 recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system
32 coordinates will be recorded for each nest site. Coordinates for ancillary burrows used by one
33 nesting pair or a group of nesting pairs will also be recorded. Locations of inactive nests will be
34 recorded because they could become occupied during future years.

35 For occupied nests, the certificate holder will determine nesting *success* by a minimum of
36 one ground visit to determine species, number of young and young fledged. "Nesting success"
37 means that the young have successfully fledged (the young may or may not be independent of
38 the core nest site). Three visits to the nest sites may be necessary to determine outcome. Nests
39 that cannot be monitored due to the landowner denying access will be checked from a distance
40 where feasible.

Shepherds Flat North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 (b) Long-Term Monitoring

2 In addition to the two years of post-construction raptor nest surveys described above, the
3 certificate holder will conduct long-term raptor nest surveys at five-year intervals for the life of
4 the facility.⁸ Investigators will conduct the first long-term raptor nest survey in the raptor nesting
5 season of the ninth year after construction is completed and will repeat the survey at five-year
6 intervals thereafter. In conducting long-term surveys, the investigators will follow the same
7 survey protocols as described above in Section 3(a) unless the investigators propose alternative
8 protocols that are approved by the Department. In developing an alternative protocol, the
9 investigators will consult with ODFW. The investigators will analyze the data after each year of
10 long-term raptor nest surveys.

11 (c) Analysis

12 The investigators will analyze the raptor nesting data to determine whether a reduction in
13 either nesting success or nest use has occurred in the survey area. If the analysis indicates a
14 reduction in nesting success or nest use by Swainson's hawks, golden eagles, ferruginous hawks
15 or burrowing owls, then the certificate holder will propose appropriate mitigation for the affected
16 species as described in Section 3(d) and will implement mitigation as approved by the
17 Department, subject to review by the Council

18 Any reduction in nesting success or nest use could be due to operation of SFN or some
19 other cause. The investigators will attribute the reduction to operation of SFN unless the
20 investigators demonstrate, and the Department agrees, that the reduction was due to a different
21 cause. At a minimum, if the analysis shows that a Swainson's hawk, golden eagle, ferruginous
22 hawk or burrowing owl has abandoned a nest territory within the facility site or within ½ mile of
23 the facility site or has not fledged any young over two successive surveys within that same area,
24 the investigators will assume the abandonment or unsuccessful fledging is due to operation of the
25 facility unless another cause can be demonstrated convincingly.

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

31 (d) Mitigation

32 The certificate holder will propose mitigation for the affected species in consultation with
33 the Department and ODFW and will implement mitigation as approved by the Council. In
34 proposing appropriate mitigation, the certificate holder will advise the Department if any other
35 wind project in the area is obligated to provide mitigation for a reduction in raptor nesting
36 success at the same nest site. Mitigation should be designed to benefit the affected species or
37 contribute to overall scientific knowledge and understanding of what causes nest abandonment or
38 nest failure. Mitigation may be designed to proceed in phases over several years. It may include,
39 but is not limited to, additional raptor nest monitoring, protection of natural nest sites from
40 human disturbance or cattle activity (preferably within the general area of the facility) or

⁸ 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 North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 participation in research projects designed to improve scientific understanding of the needs of the
2 affected species.

3 **3. Ongoing Reporting and Handling of Wildlife Injuries and Fatalities**

4 The certificate holder will implement an ongoing monitoring program for avian and bat
5 casualties found during operation of the facility. The certificate holder will train facility
6 personnel in the methods and practices needed to carry out this program. Facility personnel shall
7 monitor the areas around all facility structures that may present a collision risk to avian and bat
8 species, including turbine towers, meteorological towers, aboveground transmission lines, the
9 substation and the field workshop. The monitoring program will include initial response,
10 handling and reporting of bird and bat carcasses discovered incidental to maintenance operations
11 (“incidental finds”). Maintenance personnel will follow the certificate holder’s protocol for
12 handling injured birds as described in Section 1(d).

13 All avian and bat carcasses discovered by maintenance personnel will be photographed
14 and data will be recorded as would be done for carcasses within the formal search sample during
15 scheduled searches as described in Section 1(d). Maintenance personnel will notify a project
16 biologist of incidental finds. The project biologist must be a qualified independent professional
17 biologist who is not an employee of the certificate holder. The project biologist (or the project
18 biologist’s experienced wildlife technician) will collect the carcass or will instruct maintenance
19 personnel to have an on-site carcass handling permittee collect the carcass. The certificate
20 holder’s on-site carcass handling permittee must be a person who is listed on state and federal
21 scientific or salvage collection permits and who is available to process (collect) the find on the
22 day it is discovered. The find must be processed on the same day as it is discovered. The
23 certificate holder shall coordinate collection of state endangered, threatened, sensitive or other
24 state protected species with ODFW. The certificate holder shall coordinate collection of
25 federally-listed endangered or threatened species and Migratory Bird Treaty Act protected avian
26 species with the USFWS.

27 During the years in which fatality monitoring occurs, if there are incidental finds outside
28 the search plots for the fatality monitoring searches, the data will be reported separately from
29 fatality monitoring data. Data on incidental finds within search plots will be included in the
30 calculation of fatality rates.

31 The Department may determine that mitigation is appropriate if avian or bat fatalities are
32 higher than expected and at a level of biological concern. If the Department determines that
33 mitigation is appropriate, the certificate holder, in consultation with the Department and ODFW,
34 shall propose mitigation measures designed to benefit the affected species. The certificate holder
35 shall implement mitigation as approved by the Department, subject to review by the Council.

36 **4. Data Reporting**

37 The certificate holder will report wildlife monitoring data and analysis to the Department.
38 The certificate holder shall notify USFWS and ODFW immediately if any federal or state
39 endangered or threatened species are killed or injured on the facility site. The certificate holder
40 shall report fatality monitoring program data, raptor nest monitoring data and data on avian and
41 bat casualties found by facility personnel. The certificate holder may include the reporting of
42 wildlife monitoring data and analysis in the annual report required under OAR 345-026-0080 or
43 submit this information as a separate document at the same time the annual report is submitted.

Shepherds Flat North: Wildlife Monitoring and Mitigation Plan

[SEPTEMBER 11, 2009]

1 In addition, the certificate holder shall provide to the Department any data or record generated by
2 the investigators in carrying out this monitoring plan upon request by the Department.

3 **5. Amendment of the Plan**

4 This Wildlife Monitoring and Mitigation Plan may be amended from time to time by
5 agreement of the certificate holder and the Council. Such amendments may be made without
6 amendment of the site certificate. The Council authorizes the Department to agree to
7 amendments to this plan and to mitigation actions that may be required under this plan. The
8 Department shall notify the Council of all amendments and mitigation actions, and the Council
9 retains the authority to approve, reject or modify any amendment of this plan or mitigation action
10 agreed to by the Department.

Attachment F: Habitat Mitigation Plan

Shepherds Flat North: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

I. Introduction

This plan describes methods and standards for preservation and enhancement of an area of land near Shepherds Flat North (SFN) to mitigate for the impacts of the facility on wildlife habitat.¹ 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 SFN Wildlife Monitoring and Mitigation Plan.

II. Description of the Impacts Addressed by the Plan

The SFN footprint (area covered by permanent facility components) occupies areas of Category 2, Category 3 and Category 4 grassland, Category 5 habitat and Category 6 habitat. In compliance with Condition 86 of the site certificate, the certificate holder must avoid any permanent or temporary impact on “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. Affected areas of Category 2 habitat had been classified as Category 3 habitat at the time of the Shepherds Flat Wind Farm application in 2007 but were reclassified as Category 2 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.

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 acre of impact on Category 5 habitat.² 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 3 shrub-steppe-sage (SS-S) habitat temporarily disturbed during construction of SFN (outside the footprint), the HMA must include ½ acre for every acre of Category 3 SS-S habitat affected (a

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

² Email from Jon Germond, ODFW, February 26, 2008.

Shepherds Flat North: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

1 0.5:1 ratio). If the revegetation success criteria are not met in the affected areas of temporarily
2 disturbed SS-S habitat, as determined under the SFN Revegetation Plan, then the Council may
3 require the certificate holder to provide additional mitigation.

4 Before beginning construction of the facility, the certificate holder provided to the
5 Oregon Department of Energy (Department) and ODFW maps showing the final design
6 configuration of the facility and a table showing the acres of permanent impacts and construction
7 area impacts on habitat (by category, habitat types and habitat subtypes).³

8 Based on the final design habitat assessment, SFN has had the following footprint
9 impacts:

Habitat Category	Footprint Impact (acres)
Category 2	4
Category 3	33.5
Category 4	9.5
Category 5	0.3
Category 6	0.9
Total area	48.2

10 The overall minimum size of the HMA, the area of impact within each affected habitat
11 category and the corresponding mitigation area requirements are shown below, based on the final
12 design of SFN:

13 Category 2

14 Footprint impacts: 4 acres

15 Mitigation area: (4 acres x 2) = 8 acres

16

17 Category 3

18 Footprint impacts: 33.5 acres

19 Temporal impacts to SS-S: 1.9 acres

20 Mitigation area requirement: 33.5 acres + (1.9 acres x 0.5) = 34.45 acres

21 Category 4

22 Footprint impacts: 9.5 acres

23 Mitigation area requirement: 9.5 acres

24 Category 5

25 Footprint impacts: 0.3 acres

26 Mitigation area requirement: (0.3 acres x 0.5) = 0.15 acres of Category 3, 4 or 5 habitat⁴

27 **Total mitigation area (rounded to nearest whole acre): 52 acres**

28 Before beginning construction, the certificate holder determined the final size and
29 boundaries of the mitigation area in consultation with ODFW and the affected landowners and

³ The pre-construction habitat survey is described in "SFN Disturbance.pdf" (email from Patricia Pilz, May 24, 2010).

⁴ 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).

Shepherds Flat North: Habitat Mitigation Plan
[REVISED DECEMBER 9, 2011]

1 with the approval of the Department. The certificate holder acquired the legal right to create,
2 maintain and protect the HMA for the life of the facility by means of a conservation easement
3 and provided a copy of the documentation to the Department.⁵

4 **IV. Description of the Mitigation Area**

5 The ODFW standards require mitigation for Category 2 and Category 3 impacts to be “in
6 proximity” to SFN, and the HMA must be located where habitat protection and enhancement are
7 feasible consistent with this plan.⁶ The applicant for the Shepherds Flat Wind Farm identified a
8 435-acre parcel in proximity to SFN but outside the site boundary. The baseline habitat
9 characteristics of the 435-acre parcel are described in Section IV.4(b)(F) of the *Final Order on*
10 *the Application for the Shepherds Flat Wind Farm* (July 25, 2008). This parcel, however, was
11 not available to the certificate holder when construction of SFN was ready to begin. The
12 certificate holder identified a replacement parcel, and the Department approved the parcel.
13 ODFW determined that the replacement parcel was suitable for mitigation.⁷ The HMA for SFN
14 is contiguous with the HMAs for Shepherds Flat Central and Shepherds Flat South and is
15 bordered on the north by lands held by The Nature Conservancy.⁸ It is located east of Highway
16 74 north of Cecil. The HMA for SFN consists of approximately 67 acres containing grasslands,
17 sage steppe and ranch roads.⁹ There are no trees and no observed raptor nests within the HMA.
18 The terrain consists of ridges separated by ravines perpendicular to and sloping down towards
19 Willow Creek. The HMA includes approximately 32 acres of Category 2 grassland and SS-S
20 habitat and 21 acres of Category 3 grassland and SS-S habitat. The landowner has used the area
21 for cattle grazing.

22 **V. Habitat Enhancement Actions**

23 The certificate holder shall implement the habitat enhancement actions described in this
24 plan. The objectives of the plan are to protect the habitat within the HMA for the life of the
25 facility and to enhance the baseline condition of the habitat to meet the ODFW mitigation goals.

26 To achieve “no net loss” of habitat quantity or quality to mitigate for the permanent
27 impacts of SFN in Category 2, 3 and 4 habitats and to achieve a “net benefit in habitat quantity
28 or quality” to mitigate for the permanent impacts in Category 2 and 5 habitat, the certificate
29 holder shall protect the habitat within the HMA for the life of the facility and shall implement the
30 enhancement actions.¹⁰ The certificate holder began the enhancement actions described in this
31 section after the final design configuration of SFN was known and the location, size and

⁵ As used in this plan, “life of the facility” means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

⁶ 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.”

⁷ Email from Steve Cherry, ODFW, May 5, 2010.

⁸ 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).

⁹ Revised acreage calculations (email from Patricia Pilz, November 4, 2011).

¹⁰ 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 North: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

1 boundaries of the HMA were determined and approved by the Department. Specific
2 enhancement actions are described below.

- 3 1. Modification of Livestock Grazing Practices. The certificate holder shall restrict
4 grazing within the habitat mitigation area. Limited livestock grazing in the
5 mitigation area will enable recovery of native bunchgrass and sagebrush in areas
6 where past grazing has occurred, resulting in better vegetative structure and
7 complexity for wildlife. Reduced livestock grazing may be used as a vegetation
8 management tool, limited to the period from November 15 to May 15.
- 9 2. Weed Control and Area Seeding. The certificate holder shall implement a weed
10 control program. Under the weed control program, the certificate holder shall
11 monitor the mitigation area to locate weed infestations. The certificate holder shall
12 continue weed control monitoring, as needed, for the life of the facility. As needed,
13 the certificate holder shall use appropriate methods to control weeds. Weed control
14 on the mitigation site will reduce the spread of noxious weeds within the habitat
15 mitigation area and on any nearby grassland, CRP or cultivated agricultural land.
16 Weed control will promote the growth of desirable native vegetation. Where
17 substantial areas of soil (greater than 100 ft²) are left bare from weed control
18 activities, the certificate holder shall hand-seed the area in the appropriate time of
19 year with a mixture containing native grass and shrub seeds. The certificate holder
20 may consider weeds to be successfully controlled when weed clusters have been
21 eradicated or reduced to a non-competing level. Weeds may be controlled with
22 herbicides or hand-pulling. The certificate holder shall notify the landowner of the
23 specific chemicals to be used on the site and when spraying will occur. To protect
24 locations where young desirable forbs may be growing, spot-spraying may be used
25 instead of total area spraying.
- 26 3. Fire Control. The certificate holder shall implement a fire control plan for wildfire
27 suppression within the HMA. The certificate holder shall provide a copy of the fire
28 control plan to the Department before starting habitat enhancement actions. The
29 certificate holder shall include in the plan appropriate fire prevention measures,
30 methods to detect fires that occur and a protocol for fire response and suppression.
31 The certificate holder shall maintain fire control for the life of the facility. If wildfire
32 damages any part of the HMA during the life of the facility, the certificate holder
33 shall assess the extent of the damage and implement appropriate actions to restore
34 habitat quality in the damaged area.
- 35 4. Erosion Control. The certificate holder shall monitor the HMA to locate sites at
36 which past livestock grazing or vegetation loss has caused soil erosion. As needed,
37 the certificate holder shall control erosion by a combination of sediment barriers
38 (such as hay bales, mulch or native rock) and seeding the affected area with a
39 mixture containing native grasses and shrub seeds. The certificate holder may
40 consider erosion control to be successful when eroded areas can support vegetation
41 and no indications of new soil loss are evident.
- 42 5. Habitat Protection. For the life of the facility, the certificate holder shall restrict uses
43 of the HMA that are inconsistent with achieving the habitat mitigation goals.

Shepherds Flat North: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

- 1 6. Litter Removal. To protect wildlife from wind-blown litter, the certificate holder
2 shall monitor the Highway 74 Oregon Trail Wayside on a monthly basis and shall
3 remove litter from the wayside area and areas within the HMA.

4 **VI. Monitoring**

5 **1. Monitoring Procedures**

6 The certificate holder shall hire a qualified investigator (an independent botanist, wildlife
7 biologist or revegetation specialist) to conduct a comprehensive monitoring program for the
8 HMA. The purpose of monitoring is to evaluate the protection of habitat quality, the results of
9 enhancement actions and the use of the area by avian and mammal species, especially during the
10 wildlife breeding season. The investigator shall conduct HMA monitoring beginning in the first
11 year after enhancement actions begin and continuing for the life of the facility. The investigator
12 shall visit the site as necessary to carry out the following monitoring procedures:

- 13 1) Annually assess the general quality of vegetation cover (species, structural stage, etc).
14 2) Annually assess progress toward meeting the success criteria.
15 3) Annually record environmental factors (such as precipitation at the time of surveys
16 and precipitation levels for the year).
17 4) Annually record any wildfire that occurs within the HMA and any remedial actions
18 taken to restore habitat quality in the damaged area.
19 5) Annually assess the success of the weed control (including area seeding) and erosion
20 control programs and recommend remedial action, if needed.
21 6) Assess the recovery of native bunchgrass and natural recruitment of sagebrush
22 resulting from removal of livestock grazing pressure by comparing the quality of
23 bunchgrass and sagebrush cover at the time of each monitoring visit with the quality
24 observed in previous monitoring visits and as observed when the HMA was first
25 established. The investigator shall establish photo plots of naturally recovering
26 sagebrush and native bunchgrass during the first year following the beginning of
27 enhancement actions. The investigator shall take comparison photos in the first year
28 and every two years thereafter until desirable vegetation has achieved mature stature.
29 The investigator shall determine the extent of successful recovery of native
30 bunchgrass based on measurable indicators (such as signs of more abundant seed
31 production) and shall report on the progress of recovery within in the monitoring
32 plots. The investigator shall report on the timing and extent of any livestock grazing
33 that has occurred within the mitigation area since the previous monitoring visit.
34 7) Between April 21 and May 21 beginning in the first spring season after the beginning
35 of construction of SFN, conduct an area search survey of avian species. An “area
36 search” survey consists of recording all birds seen or heard in specific areas (for
37 example, square or circular plots that are 5 to 10 acres in size). Area searches will be
38 conducted during morning hours on days with low or no wind. The investigator shall
39 determine the number searches and the number of search areas in consultation with
40 ODFW. The investigator shall repeat the area search survey every five years during
41 the life of the facility.

Shepherds Flat North: Habitat Mitigation Plan

[REVISED DECEMBER 9, 2011]

- 1 8) Beginning in the first year after the beginning of construction of SFN and repeating
2 every five years during the life of the facility, the investigator shall record
3 observations of special status plant and wildlife species (federal or State threatened or
4 endangered species and State sensitive species) during appropriate seasons for
5 detection of these species.

6 **2. Reporting**

7 The certificate holder shall report the investigator's findings and recommendations
8 regarding the monitoring of the mitigation area to the Department and to ODFW on an annual
9 basis. The certificate holder shall describe all habitat mitigation actions carried out during the
10 reporting year and all additional work performed based on recommendations of the qualified
11 investigator. The report shall include an evaluation of mitigation success, based on the success
12 criteria described below, and a description of the methods used to perform the evaluation. The
13 report to the Department may be included as part of the annual report on SFN that is required
14 under Condition 21 of the site certificate.

15 **3. Success Criteria**

16 Mitigation of the permanent and temporal habitat impacts of the facility may be
17 considered successful if the certificate holder protects and enhances sufficient habitat within the
18 mitigation area to meet the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a
19 “net benefit” for impacts to habitat in Categories 2 and 5. The certificate holder must protect the
20 quantity and quality of habitat within the HMA for the life of the facility. The mitigation goals
21 are successfully achieved when the HMA contains a sufficient quantity of habitat in each
22 category to meet the mitigation area requirements calculated under Section III. The certificate
23 holder may count habitat of higher value toward meeting the acreage requirements for Category
24 3, 4 and 5 habitat.

25 The certificate holder may demonstrate enhancement of habitat quality based on evidence
26 of indicators such as increased avian use by a diversity of species, more abundant seed
27 production of desirable native bunchgrass, natural recruitment of sagebrush and successful weed
28 control.

29 If the certificate holder cannot demonstrate that the HMA is trending toward meeting the
30 success criteria within five years after the date construction of SFN begins, the certificate holder
31 shall propose remedial action. The Department may require supplemental planting or other
32 corrective measures, which may include increasing the size of the HMA.

33 **VII. Amendment of the Plan**

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