

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

In the Matter of the Request for Amendment #1 of  
the Site Certificate for Shepherds Flat North

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**FINAL ORDER ON  
AMENDMENT #1**

Oregon Energy Facility Siting Council

March 12, 2010

SHEPHERDS FLAT NORTH:  
FINAL ORDER ON AMENDMENT #1  
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**LIST OF ABBREVIATIONS**

BPA	Bonneville Power Administration
Certificate Holder	North Hurlburt Wind LLC
Council	Energy Facility Siting Council
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DSL	Oregon Department of State Lands
GCZO	Gilliam County Zoning Ordinance
MW	megawatt or megawatts
ODFW	Oregon Department of Fish and Wildlife
SCADA	Supervisory, Control and Data Acquisition (the control system for the energy facility)
SFC	Shepherds Flat Central
SFN	Shepherds Flat North
SFS	Shepherds Flat South
SFWF	Shepherds Flat Wind Farm
USFWS	U.S. Fish and Wildlife Service
WMMP	Wildlife Monitoring and Mitigation Plan

**SHEPHERDS FLAT NORTH:  
FINAL ORDER ON AMENDMENT #1**

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**I. INTRODUCTION**

1           The Oregon Energy Facility Siting Council (Council) issues this order in accordance  
2 with ORS 469.405 and OAR 345-027-0070. This order addresses a request by the certificate  
3 holder, North Hurlburt Wind LLC, for amendment of the site certificate for Shepherds Flat  
4 North (SFN).

5           The Council issued a site certificate for SFN in September 2009. The site certificate  
6 authorized construction and operation of up to 106 wind turbines and related facility  
7 components. The facility would have a peak generating capacity of up to 318 megawatts. The  
8 facility site is entirely on private lands located in Gilliam County south of Interstate Highway  
9 84 and east of Arlington, Oregon, between State Highways 19 and 74. The certificate holder  
10 has not begun construction of the facility.

11           The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this  
12 order.

**II. PROCEDURAL HISTORY AND AMENDMENT PROCESS**

13           On November 3, 2009, the certificate holder submitted a “Request to Amend the Site  
14 Certificate for Shepherds Flat North” (Request for Amendment #1). On November 12, 2009,  
15 the certificate holder sent copies of the amendment request to a list of reviewing agencies  
16 provided by the Oregon Department of Energy (Department) with a memorandum from the  
17 Department requesting agency comments by December 11, 2009. On November 17, the  
18 Department sent notice of the amendment request to all persons on the Council’s mailing list,  
19 to the special list established for the facility and to an updated list of property owners supplied  
20 by the certificate holder, requesting public comments by December 11, 2009.

21           By letter dated November 18, the Department notified the applicants that the proposed  
22 order would be issued no later than January 15, 2010.

23           In response to the public and agency notices of the amendment request, the  
24 Department received written comments from the following reviewing agencies and members  
25 of the public:

- 26           • Reviewing Agencies  
27           Sarah Kelly, Oregon Department of State Lands  
28           Jerry Sauter, Oregon Water Resources Department  
29           Rose Owens, Oregon Department of Fish and Wildlife  
30           Todd Hesse, Oregon Department of Environmental Quality
- 31           • Public Comments  
32           Johnson Meninick, Confederated Tribes and Bands of the Yakama Nation  
33           Marisa Meyer, U.S. Fish and Wildlife Service  
34           Leslie Nelson, The Nature Conservancy

1 The Department considered all of the comments in preparing the proposed order. A  
2 summary of all comments received and the Department's responses are included in  
3 Attachment D, incorporated herein by this reference.

4 By letter dated January 13, 2010, the Department notified the certificate holder that  
5 additional time would be needed to prepare the proposed order and, in accordance with OAR  
6 345-027-0070(4), explained the circumstances justifying the delay. The Department stated  
7 that the proposed order would be issued by February 5.

8 The Department analyzed the Request for Amendment #1 for compliance with all  
9 applicable Council standards. The Department's recommended findings and conclusions were  
10 presented in the proposed order. The Department recommended that the Council approve the  
11 amendment request, subject to revisions of the site certificate discussed below at page 42.

12 After issuing the Proposed Order on February 4, 2010, the Department issued a public  
13 notice as required under OAR 345-027-0070(5). The Department mailed the notice to all  
14 persons on the Council's general mailing list and to all persons on the SFN special list,  
15 property owner list and reviewing agency list. In addition, the Department posted the notice  
16 on the Department's Internet website. The notice invited public comments and gave a  
17 deadline of March 8, 2010, for comments or contested case requests. The Department did not  
18 receive any comments by the deadline of March 8.

19 At a public meeting in Hood River, Oregon, on March 12, 2010, the Council  
20 considered the Department's recommendations and voted to approve the amendment request.

### III. DESCRIPTION OF THE PROPOSED AMENDMENT

21 The amendment request describes an expansion of the site boundary to accommodate  
22 an alternative route for a 230-kV transmission line to connect the facility to the regional  
23 transmission system operated by the Bonneville Power Administration (BPA). The alternative  
24 route would terminate at the same point of interconnection as described in the site certificate:  
25 a BPA substation currently under construction next to BPA's Slatt Switching Station. The  
26 alternative route for the transmission line would run south from the SFN substation to the  
27 Shepherds Flat Central (SFC) substation and from there, west to the BPA substation. The  
28 proposed transmission line micro-siting corridor would overlap the SFC site. The certificate  
29 holder proposes to construct the transmission line within either the previously-approved  
30 corridor or the proposed alternative corridor.

31 Companion amendment requests were submitted to the Council by South Hurlburt  
32 Wind LLC (for SFC) and by Horseshoe Bend Wind LLC for Shepherds Flat South (SFS). The  
33 230-kV interconnection lines for SFN, SFC and SFS would be jointly owned by the certificate  
34 holders for the three facilities, and the power from the three facilities would be carried on the  
35 same lines. Contracts among the three certificate holders or with a third party would address  
36 transmission line maintenance. All three facilities would use the same transmission line  
37 corridor. Use of the alternative route would eliminate the need for the interconnection line to  
38 cross an existing high-voltage power line and a County road within the SFN site.

39 The amendment would add approximately 1,161 acres to the facility site.<sup>1</sup>  
40 Approximately 1,152 acres of this expansion area lie within the previously-approved site

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<sup>1</sup> The area to be added to the site is shown in the Request for Amendment #1, Section V, Map 1.

1 boundary of SFC. In addition, the amendment would include approximately 8.8 acres of new  
2 land to accommodate a segment of the alternate transmission line corridor between the  
3 previously-approved SFC site boundary and the BPA Slatt substation.

4 In addition, the certificate holder requests an exception to Condition 40(d). This  
5 condition requires a minimum setback distance of 110-percent of maximum blade tip height  
6 from facility wind turbines to “the nearest boundary of the certificate holder’s lease area.” The  
7 proposed exception would apply to a corral and storage area that is excluded from the  
8 certificate holder’s lease with the landowner. The excluded area (approximately 8.3 acres) and  
9 the surrounding land is owned by the same landowner, who is in agreement with the proposed  
10 exception to the setback requirement.

### 1. Amendment Procedure

11 Under OAR 345-027-0050, a site certificate amendment is needed because the  
12 certificate holder proposes to design, construct or operate SFN in a manner different from the  
13 description in the current site certificate. In particular, the certificate holder proposes to  
14 expand the site boundary, which could result in significant adverse impacts that the Council  
15 has not previously addressed and in the need to revise the conditions of the site certificate. In  
16 addition, the certificate holder proposes a change to Condition 40.

17 The Department and the Council must follow the procedures of OAR 345-027-0070 in  
18 reviewing the amendment request. In making a decision on this amendment request, the  
19 Council applies the “applicable substantive criteria” (defined in OAR 345-022-0030) that  
20 were in effect on the date the certificate holder submitted the request for amendment. The  
21 Council applies all other State statutes, administrative rules and local government ordinances  
22 that are in effect on the date the Council makes its decision. For an amendment that would  
23 change the site boundary, the Council must consider whether the facility complies with all  
24 Council standards with respect to the area added to the site by the amendment. In addition, the  
25 Council must consider whether the amendment of Condition 40 would affect any finding  
26 made by the Council in an earlier order.<sup>2</sup> For any amendment, the Council must consider  
27 whether the amount of the bond or letter of credit required under OAR 345-022-0050 is  
28 adequate. We address compliance with these requirements in Sections IV and V.

### 2. The Certificate Holder’s Proposed Amendments to the Site Certificate

29 The proposed Amendment #1 would change the facility description and location to  
30 include the option of constructing the 230-kV interconnection line in an alternative corridor.  
31 The certificate holder described the proposed changes to the facility in Section III of the  
32 amendment request but did not propose specific site certificate language to address these  
33 changes. In Section IV of the amendment request, the certificate holder proposed specific  
34 language to modify Condition 40 to allow for the proposed exception to the lease boundary  
35 setback requirement for wind turbines.

36 The Department recommended that the Council approve the substance of the site  
37 certificate amendments proposed by the applicants and other modifications consistent with the

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<sup>2</sup> Earlier orders that may be applicable include the *Final Order on Amendment #1 for the Shepherds Flat Wind Farm* (September 11, 2009) and the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008).

1 amendment request. The Department’s recommended site certificate revisions are discussed  
2 below at page 42.

### 3. Description of the Facilities Authorized by Amendment #1

3 The *Final Order on Amendment #1 for the Shepherds Flat Wind Farm* (September 11,  
4 2009) – hereinafter referred to as the *Final Order on Amendment #1 (SFWF)* – describes SFN  
5 as previously approved. If the Council approves Amendment #1, the facility description  
6 would be modified as described below.

#### 7 Power Collection System

8 The 34.5-kV collector system would be installed entirely underground (eliminating up  
9 to 17.6 miles of aboveground collector line previously-approved).<sup>3</sup> Up to 18 surface junction  
10 boxes would be installed to provide service access to the underground collector lines (a  
11 reduction from 30 previously-approved).<sup>4</sup>

#### 12 Substation and Interconnection

13 A facility substation would be constructed within the SFN site boundary. Power from  
14 the collector system would be stepped-up to 230 kV at the substation. An aboveground 230-  
15 kV transmission line would connect the SFN facility to the regional transmission grid through  
16 the BPA Slatt Switching Station located west of the main project area. The certificate holder  
17 would be authorized to use either the previously-approved interconnection line corridor or the  
18 alternative corridor. The previously-approved transmission line route (described in the  
19 amendment request as “Option A”) would require a transmission line up to 5.9 miles long and  
20 would run in a southwesterly direction from the SFN substation. The proposed alternative  
21 transmission line route (“Option B”) would run south from the SFN substation to the SFC  
22 substation (or to a junction point just north of the substation) and from there, west to the BPA  
23 substation. The proposed transmission line micro-siting corridor would overlap the SFC site.  
24 Under Option B, the transmission line would not exceed 5.9 miles in length.<sup>5</sup> The 230-kV  
25 transmission line would be supported on steel monopole structures.

#### 26 Control System

27 The Supervisory, Control and Data Acquisition (SCADA) system would be installed  
28 entirely underground (eliminating up to 17.6 miles of aboveground SCADA lines).

#### 29 Access Roads

30 Approximately 19 miles of new roads would be constructed to provide access to the  
31 turbine strings, based on the typical layout.<sup>6</sup> The maximum length of new roads would be  
32 reduced to 20.3 miles (compared to a maximum length of 31 miles previously approved).<sup>7</sup>  
33 The new roads and the improved existing roads would have a compacted base of native soil  
34 and a graveled surface to a depth of four to ten inches.<sup>8</sup>

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<sup>3</sup> Email from Carol Weisskopf, December 23, 2009.

<sup>4</sup> Email from Carol Weisskopf, December 22, 2009.

<sup>5</sup> Email from Patricia Pilz, November 3, 2009.

<sup>6</sup> Table of typical and maximum components (email from Patricia Pilz, January 7, 2010).

<sup>7</sup> Table of typical and maximum components (email from Patricia Pilz, January 7, 2010).

<sup>8</sup> Email from Patricia Pilz, January 12, 2010.

1           **Construction Disturbance Areas**

2           During facility construction, there would be approximately 250 acres of temporary  
3 disturbance, based on the typical layout (an increase of approximately 91 acres compared to  
4 the previously-approved facility).<sup>9</sup> The certificate holder notified the Department of the  
5 increase in temporary disturbance after discussions with the construction contractor regarding  
6 final design details, which occurred after the Request for Amendment #1 was submitted.<sup>10</sup>  
7 The reasons for the increase are described herein at page 15. The Council approves this  
8 change in the estimate of construction disturbance, based on the new information.

9           **SFN Site and Site Boundary**

10           The *Final Order on Amendment #1 (SFWF)* describes the SFN site and site boundary  
11 as previously approved. If the Council approves Amendment #1, the area within the site  
12 boundary would increase by approximately 1,161 acres to a total of approximately 9,264  
13 acres. The amendment request includes a map of the expanded site boundary, including the  
14 Option A and Option B transmission line routes.<sup>11</sup>

15           **IV. THE COUNCIL’S SITING STANDARDS: FINDINGS AND CONCLUSIONS**

16           The Council must decide whether the amendment complies with the facility siting  
17 standards adopted by the Council. In addition, the Council must impose conditions for the  
18 protection of the public health and safety, conditions for the time of commencement and  
19 completion of construction and conditions to ensure compliance with the standards, statutes  
and rules addressed in the project order. ORS 469.401(2).

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

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

27           In making its decision on an amendment of a site certificate, the Council applies the  
28 applicable State statutes, administrative rules and local government ordinances that are in  
29 effect on the date the Council makes its decision, except when applying the Land Use  
30 Standard. In making findings on the Land Use Standard, the Council applies the applicable  
31 substantive criteria in effect on the date the certificate holder submitted the request for  
32 amendment. OAR 345-027-0070(10).

33           **1. General Standard of Review**

34                   **OAR 345-022-0000**

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

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<sup>9</sup> Temporary project construction footprint, typical layout (email from Carol Weisskopf, December 21, 2009).

<sup>10</sup> Email from Carol Weisskopf, December 21, 2009.

<sup>11</sup> Request for Amendment #1, Section V, Map 2.

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

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

16           \* \* \*

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

## 2. Standards about the Applicants

### (a) Organizational Expertise

#### **OAR 345-022-0010**

21           (1) *To issue a site certificate, the Council must find that the applicant has the*  
22 *organizational expertise to construct, operate and retire the proposed facility in*  
23 *compliance with Council standards and conditions of the site certificate. To*  
24 *conclude that the applicant has this expertise, the Council must find that the*  
25 *applicant has demonstrated the ability to design, construct and operate the*  
26 *proposed facility in compliance with site certificate conditions and in a manner*  
27 *that protects public health and safety and has demonstrated the ability to restore*  
28 *the site to a useful, non-hazardous condition. The Council may consider the*  
29 *applicant's experience, the applicant's access to technical expertise and the*  
30 *applicant's past performance in constructing, operating and retiring other*  
31 *facilities, including, but not limited to, the number and severity of regulatory*  
32 *citations issued to the applicant.*  
33

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

38           (3) *If the applicant does not itself obtain a state or local government permit or*  
39 *approval for which the Council would ordinarily determine compliance but*  
40 *instead relies on a permit or approval issued to a third party, the Council, to issue*  
41 *a site certificate, must find that the third party has, or has a reasonable likelihood*

1 of obtaining, the necessary permit or approval, and that the applicant has, or has  
2 a reasonable likelihood of entering into, a contractual or other arrangement with  
3 the third party for access to the resource or service secured by that permit or  
4 approval.

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

### Findings of Fact

12 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the certificate  
13 holder, as a subsidiary of Caithness Energy, LLC, has the organizational expertise to  
14 construct, operate and retire the proposed facility in compliance with Council standards and  
15 conditions of the site certificate.<sup>12</sup> The Council found that the certificate holder may  
16 optionally obtain concrete, water and fuel from “service areas” that would be permitted,  
17 constructed and operated by third-party contractors. In choosing that option, the certificate  
18 holder would rely on third-party permits. The Council found that the third-party contractors  
19 have a reasonable likelihood of getting the necessary permits and that the certificate holder  
20 has a reasonable likelihood of entering into a contractual or other arrangement with these  
21 contractors for access to concrete, water and fuel necessary for construction of SFN.<sup>13</sup>

22 The proposed expansion of the site boundary would not affect the Council’s previous  
23 findings. The Council finds that there have been no changes of circumstances or underlying  
24 facts that would affect the Council’s previous findings under this standard.

### Conclusions of Law

25 Based on the findings discussed above, the Council concludes that certificate holder  
26 would meet the Council’s Organizational Expertise Standard if Amendment #1 were  
27 approved.

### **(b) Retirement and Financial Assurance**

#### **OAR 345-022-0050**

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

29  
30 (1) *The site, taking into account mitigation, can be restored adequately to a useful,*  
31 *non-hazardous condition following permanent cessation of construction or*  
32 *operation of the facility.*

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

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<sup>12</sup> *Final Order on Amendment #1 (SFWF)*, p. 15.

<sup>13</sup> *Final Order on Amendment #1 (SFWF)*, p. 15-16.

## Findings of Fact

1           In the *Final Order on Amendment #1 (SFWF)*, the Council found that the SFN site  
2 could be restored adequately to a useful, non-hazardous condition following permanent  
3 cessation of construction or operation of the facility.<sup>14</sup> The Council found that the cost of site  
4 restoration would not exceed \$7.802 million in 3<sup>rd</sup> Quarter 2009 dollars.<sup>15</sup>

5           For this amendment request, the Department calculated a revised cost estimate for  
6 SFN following the estimating procedure outlined in its draft “Facility Retirement Cost  
7 Estimating Guide.” The estimate assumed a facility configuration that would result in the  
8 highest site restoration cost consistent with the maximum design flexibility requested by the  
9 certificate holder. The assumptions underlying the revised SFN cost estimate are as follows:<sup>16</sup>

- 10           • 106 GE 2.5-MW turbines, each weighing 302 U.S. tons (including the weight  
11 of steel in the towers, nacelles, internal ladders and platforms).<sup>17</sup>
- 12           • Turbine foundations containing 66 cubic yards of concrete above three feet  
13 below grade.<sup>18</sup>
- 14           • 106 step-up transformers located within the turbine towers.<sup>19</sup>
- 15           • 89 turbine turnouts.<sup>20</sup>
- 16           • Two meteorological towers, one field workshop, one substation.<sup>21</sup>
- 17           • No aboveground collector or SCADA lines.<sup>22</sup>
- 18           • 5.9 miles of single-circuit 230-kV transmission line mounted on up to 46 steel  
19 monopoles.<sup>23</sup>
- 20           • 18 junction boxes.<sup>24</sup>
- 21           • 20.3 miles of access roads.<sup>25</sup>
- 22           • Removal of facility components would disturb additional area around the  
23 component footprints. The estimated areas affected and the unit costs to

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<sup>14</sup> *Final Order Amendment #1(SFWF)*, p. 16.

<sup>15</sup> *Final Order Amendment #1(SFWF)*, p. 23.

<sup>16</sup> *Final Order on Amendment #1 (SFWF)*, pp. 17-18.

<sup>17</sup> Wind turbine specifications, Request for Amendment #1 for the Shepherds Flat Wind Farm, Section III, p. 14.

<sup>18</sup> Wind turbine specifications, Request for Amendment #1 for the Shepherds Flat Wind Farm, Section III, p. 14.

<sup>19</sup> SFC email from Patricia Pilz, January 7, 2010. The unit cost for transformer removal is based on electrical disassembly costs alone.

<sup>20</sup> Turbines at ends of roads have no turnout, based on permanent facilities footprint, typical layout (email from Carol Weisskopf, December 21, 2009).

<sup>21</sup> Permanent facilities footprint (email from Carol Weisskopf, December 21, 2009).

<sup>22</sup> Email from Carol Weisskopf, December 23, 2009.

<sup>23</sup> Table of typical and maximum components (email from Patricia Pilz, January 7, 2010). The unit cost for the 230-kV transmission line has decreased from the cost shown in the *Final Order on Amendment #1 (SFWF)* due to a change from double-circuit to single-circuit and an increased distance between transmission poles (based on changes to footprint calculations, email from Carol Weisskopf, December 21, 2009).

<sup>24</sup> Email from Carol Weisskopf, December 22, 2009.

<sup>25</sup> Table of typical and maximum components (email from Patricia Pilz, January 7, 2010).

1 restore these areas, based on the severity of disturbance expected, are shown  
 2 in the table below.<sup>26</sup>

3 Using these highest-cost assumptions, the Department estimated the site restoration  
 4 cost for SFN as shown in Table 1.<sup>27</sup>

**Table 1: Cost Estimate for Facility Site Restoration (1<sup>st</sup> Quarter 2010 dollars)**

	Quantity	Unit Cost	Extension
<b><u>Turbines</u></b>			
Disconnect electrical and ready for disassembly (per tower)	106	\$1,061	\$112,466
Remove turbine hubs and blades (per tower)	106	\$4,106	\$435,236
Remove turbine nacelles and towers (per net ton of steel)	32,012	\$76.67	\$2,454,360
Remove turbine foundations (per cubic yard of concrete)	6,996	\$38.68	\$270,605
Remove transformers (per transformer)	106	\$2,407	\$255,142
Restore turbine turnouts (per tower)	89	\$97	\$8,633
<b><u>Met Towers</u></b>			
Dismantle and dispose of met towers (per tower)	2	\$9,483	\$18,966
<b><u>Substations and Field Workshops</u></b>			
Dismantle and dispose of substation	1	\$88,577	\$88,577
Dismantle and dispose of field workshop	1	\$29,509	\$29,509
<b><u>Transmission Line</u></b>			
Remove 230-kV transmission line (per mile)	5.9	\$15,648	\$92,323
Remove junction boxes & electrical to 4' below grade (each)	18	\$1,416	\$25,488
<b><u>Access Roads</u></b>			
Remove roads, grade and seed (per mile)	20.3	\$17,460	\$354,438
<b><u>Restore Additional Areas Disturbed by Facility Removal</u></b>			
Around turbine pads (per acre)	60.84	\$5,988	\$364,310
Around turnarounds and turning radii (per acre)	8.18	\$5,988	\$48,982
Around met towers (per acre)	0.22	\$5,988	\$1,317
Around substation (per acre)	1.83	\$5,988	\$10,958
Around 230-kV power line poles and pulling disturbance (per acre)	9.45	\$2,973	\$28,095
Around access roads (per acre)	150.52	\$5,988	\$901,314
Around temporary transmission access and cross-country crane paths (per acre)	39.87	\$2,973	\$118,534
Laydown and storage areas (per acre)	5.0	\$2,973	\$14,865

<sup>26</sup> The unit cost for restoring areas around access roads assumes that grading and seeding would be needed. The unit cost for areas of temporary transmission line access roads and cross-country crane paths assumes that only seeding would be needed. Restoration area for 34.5-kV and 230-kV transmission line poles includes both the permanent footprint and temporary disturbance areas. Acreages of disturbance shown in the table are based on the table of temporary construction disturbance, worst-case layout (email from Carol Weisskopf, December 21, 2009), except for the acreages for transmission line support poles and cross-country crane paths, which are based on the table of typical and maximum components (email from Patricia Pilz, January 7, 2010).

<sup>27</sup> The Facility Retirement Cost Estimating Guide computes the retirement and site restoration cost in terms of mid-2004 dollars. In the *Final Order on Amendment #1 (SFWF)*, the Council adopted unit costs adjusted to reflect preliminary 3<sup>rd</sup> Quarter 2009 dollars. Table 1 shows unit costs in 3<sup>rd</sup> Quarter 2009 dollars and an adjustment of the subtotal to 1<sup>st</sup> Quarter 2010 dollars using a multiplier of 1.0051. The multiplier was generated by dividing the 1st Quarter 2010 Gross Domestic Product Implicit Price Deflator (GDP) of 110.4873 by the 3rd Quarter 2009 GDP of 109.9229.

<b>General Costs</b>			
Permits, mobilization, engineering, overhead, utility disconnects (unit cost)	1	\$475,517	\$475,517
<b>Subtotal</b>			<b>\$6,109,635</b>
<b>Subtotal Adjusted to 1<sup>st</sup> Quarter 2010 Dollars</b>			<b>\$6,140,794</b>
Performance Bond		1%	\$61,408
<b>Gross Cost</b>			<b>\$6,202,202</b>
Administration and Project Management		10%	\$620,220
Future Developments Contingency		10%	\$620,220
<b>Total Site Restoration Cost (rounded to nearest \$1,000)</b>			<b>\$7,443,000</b>

1           The Council finds that the SFN site, taking into account mitigation and including the  
2 changes proposed by Amendment #1, can be restored adequately to a useful, non-hazardous  
3 condition following permanent cessation of construction or operation of the facility. The  
4 Council finds that \$7.443 million (1<sup>st</sup> Quarter 2010 dollars) adjusted annually as described in  
5 revised Condition 30 is a conservative estimate of the cost to restore the SFN site to a useful,  
6 non-hazardous condition. The Department’s estimate is lower than the amount the Council  
7 previously found to be a reasonable cost to restore SFN to a useful, non-hazardous condition  
8 (\$7.802 million in 3rd Quarter 2009 dollars). The decrease in the estimated site restoration  
9 cost is due primarily to the elimination of aboveground collector lines and associated  
10 temporary disturbance under the proposed amendment and the reduced miles of access roads.

11           The certificate holder provided a letter from JPMorgan Chase Bank, N.A. (Chase)  
12 stating that Chase “would be interested in issuing a letter of credit in the stated amount of up  
13 to \$7,443,000 for the benefit of The Oregon Department of Energy by application of North  
14 Hurlburt Wind, LLC.”<sup>28</sup> Chase stated that “there is a reasonable likelihood that Chase would  
15 be inclined to issue” the letter of credit (LC) if “the reimbursement obligations under the LC  
16 would be collateralized and documented in the same manner that Chase has previously issued  
17 letters of credit on behalf of other subsidiaries of Caithness Energy.” The letter does not  
18 constitute a firm commitment by Chase to issue the letter of credit, but it is evidence that the  
19 certificate holder could obtain the necessary letter of credit for SFN. The Council finds that  
20 the certificate holder has demonstrated a reasonable likelihood of obtaining a bond or letter of  
21 credit, satisfactory to the Council, in an amount adequate to restore the SFN site to a useful,  
22 non-hazardous condition.

Conclusions of Law

23           Based on the findings stated above, the Council concludes that the certificate holder  
24 would meet the Council’s Retirement and Financial Assurance Standard if Amendment #1  
25 were approved.

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<sup>28</sup> Email from Carol Weisskopf, January 29, 2010, with attached letter from JPMorgan Chase Bank.

### 3. Standards about the Impacts of Construction and Operation

#### (a) Land Use

##### **OAR 345-022-0030**

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

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

*\*\*\**

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

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

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

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

(3) *As used in this rule, the “applicable substantive criteria” are criteria from the affected local government’s acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.*

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

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

(b) *The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not*

1           *allowed by the applicable goal because existing adjacent uses and other relevant*  
2           *factors make uses allowed by the applicable goal impracticable; or*

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

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

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

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

12                  \* \* \*

### Findings of Fact

13           In acting on this amendment request, the Council applies the applicable substantive  
14           criteria in effect on the date the certificate holder submitted the request for amendment. The  
15           Planning Director of Gilliam County has confirmed that the County has not changed its  
16           applicable substantive criteria for the evaluation of wind energy facilities between June 15,  
17           2009 (the date the request for Amendment #1 for the SFWF was submitted) and the date the  
18           certificate holder submitted the present amendment request for SFN (November 3, 2009).<sup>29</sup>  
19           Therefore, the local land use criteria that the Council applied in the *Final Order on*  
20           *Amendment #1 (SFWF)* are applicable to this amendment request.

21           In the *Final Order on Amendment #1 (SFWF)*, the Council found that its previous  
22           findings with respect to the former Shepherds Flat Wind Farm would apply to SFN.<sup>30</sup> The  
23           Council found that SFN would occupy more than 20 acres of land in Gilliam County and  
24           therefore would not comply with Gilliam County Zoning Ordinance (GCZO) Section  
25           4.020(D)(14).<sup>31</sup> The Council's previous land use findings are incorporated herein by this  
26           reference. All land within the previously-approved site boundaries of SFN, SFC and SFS is  
27           zoned Exclusive Farm Use (EFU).<sup>32</sup>

28           When a facility does not comply with all of the applicable substantive criteria in the  
29           local jurisdiction, the Council must determine whether the facility otherwise complies with  
30           the applicable statewide planning goals or if an exception to any applicable statewide  
31           planning goal is justified. The Council analyzed SFN for compliance with the requirements of  
32           ORS 215.283 and implementing regulations, specifically OAR 660-033-0120 and -0130, and  
33           the analysis is incorporated herein by this reference.<sup>33</sup>

34           The *Final Order on Amendment #1 (SFWF)* includes the Department's analysis of  
35           compliance with OAR 660-033-0120 and OAR 660-033-0130, as amended January 2, 2009  
36           (the new rules), as well as analysis under these regulations in effect before the January 2009

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<sup>29</sup> Email from Susie Anderson, Gilliam County Planning Director, December 2, 2009.

<sup>30</sup> *Final Order on Amendment #1 (SFWF)*, p. 25.

<sup>31</sup> *Final Order on Amendment #1 (SFWF)*, p. 27.

<sup>32</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 19.

<sup>33</sup> *Final Order on Amendment #1 (SFWF)*, pp. 28-33.

1 amendments (the old rules). As of the date the certificate holder submitted the present  
 2 amendment request, Gilliam County had not had incorporated the January 2009 changes to  
 3 OAR 660-033-0120 and OAR 660-033-0130 into the its zoning ordinances. Therefore, the  
 4 land use analysis must address the old rules and the new rules.

5 Under the old rules, a power generation facility must not occupy more than 12 acres of  
 6 high-value farmland or more than 20 acres of non-high-value farmland.<sup>34</sup> The Council has  
 7 found that there is no high-value farmland within the previously-approved SFN and SFC site  
 8 boundaries.<sup>35</sup> The entire area that would be added to the SFN by this amendment occupies  
 9 non-high-value farmland within the previously-approved SFC site boundary, except for  
 10 approximately 8.8 acres. In the amendment request, the certificate holder provided a map  
 11 showing that the 8.8-acre portion of the proposed expansion area that is outside the current  
 12 SFC site boundary is also non-high-value farmland.<sup>36</sup>

13 The area that would be occupied by SFN components is shown in Table 2 below:

**Table 2: Area Occupied by the Facility<sup>37</sup>**

<b>Structure</b>	<b>Gilliam County (acres)</b>
Principal use	
Turbine towers, including pad areas and turnouts	4.6
Meteorological towers	< 0.1
Field workshop	1.6
34.5-kV collector line structures	0
Access roads	40.4
<i>Subtotal</i>	<b>46.6</b>
Substation	3.2
230-kV transmission line structures	< 0.1
<b>Total</b>	<b>49.8</b>

14 Because SFN would occupy more than 20 acres of non-high-value farmland, the  
 15 facility does not comply with OAR 660-033-0130 (old rule). In the *Final Order on*  
 16 *Amendment #1 (SFWF)*, the Council found that a Goal 3 exception was justified for SFN, SFC  
 17 and SFS under ORS 469.504(2)(c) for the same reasons as discussed in the *Final Order on the*  
 18 *Application for the Shepherds Flat Wind Farm* with respect to the SFWF.<sup>38</sup> Those reasons are  
 19 incorporated herein by this reference. The amendment would potentially affect only 8.8 acres

<sup>34</sup> The *Final Order on Amendment #1 (SFWF)* includes the definition of “high-value farmland” and “non-high-value farmland” at pages 27 and 29.

<sup>35</sup> *Final Order on Amendment #1 (SFWF)*, pp. 29-30.

<sup>36</sup> Request for Amendment #1, Section V, Map 5.

<sup>37</sup> Based the typical layout and data shown on the table of “Facility Footprint by County” (email from Carol Weisskopf, December 23, 2009). An email of the same date confirmed that there would be no aboveground collector line in SFN (correcting the table). The proposed amendment would not change the area occupied by the 230-kV transmission line. Under either Option A or Option B, the footprint of the transmission line structures would not exceed 0.022 acres, based on a maximum transmission line length of 5.9 miles (email from Patricia Pilz, November 3, 2009).

<sup>38</sup> The reasons justifying a Goal 3 exception are discussed at pages 55-58 of the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008).

1 outside of the area previously approved for SFN or SFC. The proposed amendment does not  
2 change the nature of the land use. The effect of selecting Option A or Option B for the  
3 interconnection route would be a difference in location of the transmission line. It would not  
4 significantly increase the land use impacts associated with the transmission line or change the  
5 nature of those impacts. The principal use and access roads in the typical layout as described  
6 in the amendment request would occupy 46.6 acres, compared to 49.2 acres in the typical  
7 layout as described in the *Final Order on Amendment #1 (SFWF)*. Overall, the total  
8 component footprint of the layout as currently planned by the certificate holder would occupy  
9 approximately 50 acres, which is less than one-half of one percent of the land devoted to farm  
10 use within the SFN analysis area.<sup>39</sup> The Council finds that a Goal 3 exception is justified for  
11 SFN, including the expansion requested in this amendment.

12 Under the new rules, OAR 660-033-0130(37)(a) requires a finding that “reasonable  
13 alternatives” to siting a wind power facility on high-value farmland soils have been  
14 considered. As discussed above, SFN, including the transmission corridor expansion proposed  
15 by this amendment, would not be located on high-value farmland soils. OAR 660-033-  
16 0130(37)(b) applies to “arable” land and requires specific findings regarding “unnecessary  
17 negative impacts on agricultural operations,” “unnecessary soil erosion or loss that could limit  
18 agricultural productivity,” “unnecessary soil compaction that reduces the productivity of soil  
19 for crop production” and “unabated introduction or spread of noxious weeds and other  
20 undesirable weeds species.” The Council previously found that there is no arable land within  
21 the SFN site.<sup>40</sup> The certificate holder has confirmed that there is no arable land within the  
22 proposed expansion area.<sup>41</sup>

23 For “nonarable land,” OAR 660-033-0130(37)(c) requires a finding that construction  
24 or maintenance activities would not result in the “unabated introduction or spread of noxious  
25 weeds and other undesirable weeds species.” This requirement may be met by submission of a  
26 county-approved weed control plan. Condition 38 requires the certificate holder to implement  
27 a weed control program that is consistent with the Gilliam County Weed Control Program.  
28 Condition 84 addresses construction impacts to agricultural land and requires the certificate  
29 holder to implement the *Revegetation Plan*, which includes weed control measures  
30 recommended by the Gilliam County Weed Control Program. The Council finds that, subject  
31 to the site certificate conditions, the construction and operation of SFN, including components  
32 within the expansion area proposed by Amendment #1, would not result in unabated  
33 introduction or spread of weeds.

34 The Council finds that SFN, with the changes requested in this amendment, would  
35 meet the approval criteria contained in the new rules for a wind power generating facility  
36 under OAR 660-033-0130.

### Conclusions of Law

37 Based on the findings of fact, reasoning and conditions discussed above, the Council  
38 finds that SFN, with the changes proposed by Amendment #1, would comply with all  
39 applicable substantive criteria from Gilliam County except GCZO Section 4.020(D)(14).

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<sup>39</sup> There are approximately 16,083 acres of land devoted to farm use within the SFN land use analysis area (table “Agricultural use by county,” email from Carol Weisskopf, December 23, 2009).

<sup>40</sup> *Final Order on Amendment #1 (SFWF)*, p. 33.

<sup>41</sup> Email from Patricia Pilz, November 25, 2009.

1 Accordingly, the Council must proceed with the land use analysis under ORS  
2 469.504(1)(b)(B).

3 If the old rules apply, the Council finds that SFN does not comply with OAR 660-033-  
4 0130(22) because it would occupy more than 20 acres of non-high-value farmland. Therefore,  
5 the facility does not comply with the applicable statewide planning goal (Goal 3). The  
6 Council finds that an exception to Goal 3 is justified under ORS 469.504(2)(c). If the new  
7 rules apply, the Council finds that SFN, with the changes proposed by Amendment #1,  
8 complies with OAR 660-033-0130(37) and otherwise complies with all applicable statewide  
9 planning goals.<sup>42</sup>

10 Based on these findings and the site certificate conditions described herein, the  
11 Council concludes that SFN would comply with the Land Use Standard if Amendment #1  
12 were approved.

### (b) Soil Protection

#### **OAR 345-022-0022**

13 *To issue a site certificate, the Council must find that the design, construction and*  
14 *operation of the facility, taking into account mitigation, are not likely to result in a*  
15 *significant adverse impact to soils including, but not limited to, erosion and*  
16 *chemical factors such as salt deposition from cooling towers, land application of*  
17 *liquid effluent, and chemical spills.*  
18

#### Findings of Fact

19 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the design,  
20 construction and operation of SFN would not result in a significant adverse impact to soils.<sup>43</sup>  
21 Those findings are incorporated herein by this reference. Amendment #1 would add  
22 approximately 1,160 acres to the site boundary, but approval of the amendment request would  
23 not result in any soil impacts of a kind that has not been addressed by the Council.

24 The certificate holder estimates a larger area of temporary disturbance could occur  
25 during construction. In the *Final Order on Amendment #1 (SFWF)*, the Council found that  
26 approximately 159 acres of land could be temporarily disturbed during construction of SFN,  
27 based on the typical layout.<sup>44</sup> The certificate holder now estimates that temporary disturbance  
28 could affect approximately 250 acres.<sup>45</sup> The increase is due to the certificate holder's ongoing  
29 discussions with the construction contractor, the final selection of a turbine type for the  
30 project and on-site geotechnical investigations. The certificate holder listed the following  
31 considerations affecting the estimate of temporary disturbance:<sup>46</sup>

- 32 • The number of foundations requiring compaction is based on core samples taken at  
33 the turbine sites.

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<sup>42</sup> If the new rules apply and SFN were found not to comply with OAR 660-033-0130(37), then an exception to Goal 3 would be justified for the reasons discussed herein.

<sup>43</sup> *Final Order on Amendment #1 (SFWF)*, p. 34.

<sup>44</sup> *Final Order on Amendment #1 (SFWF)*, Table 7, p. 45.

<sup>45</sup> Temporary project construction footprint, typical layout (email from Carol Weisskopf, December 21, 2009).

<sup>46</sup> Email from Carol Weisskopf, December 21, 2009.

- 1           • The temporary disturbance at non-compacted sites has increased due to the necessity  
2           of assembling part of the hydraulic system on site, and then inserting it into the  
3           bottom tower sections. This requires the nacelle and tower sections to be present  
4           before erection, and just-in-time component delivery is precluded.
- 5           • The disturbance area around each 230-kV transmission line support pole has increased  
6           to allow assembly from both sides of the structure while it is lying on the ground.
- 7           • A temporary access roadway, 10 feet wide in the typical case and 16 feet wide for the  
8           worst case, runs along the portions of the transmission line that are not adjacent to  
9           project or ranch roads.
- 10          • The increase in trenching disturbance is the consequence of elimination of all  
11          overhead collector lines. Where possible, trenches have been located on ranch roads.
- 12          • The disturbance width has been reduced for roads used for access but not for crane  
13          travel. The difference in widths for the typical and worst case analysis is the amount  
14          allowed for stockpiling of topsoil.
- 15          • Crane paths are required because the total length of project roads (upon which the  
16          crane would otherwise be traveling) has been reduced, and because Rhea Road is not  
17          wide enough to accommodate the crane safely. Where possible, crane paths have been  
18          located on ranch roads or above trenching disturbance, reducing the additional  
19          footprint.
- 20          • The 230-kV line will be passing beneath a PGE transmission line that lies within a  
21          700-foot easement. Extra equipment and personnel will be necessary for transmission  
22          pole erection within the easement.

23           Aside from the increased area of potential construction disturbance, the changes that  
24           would be allowed if Amendment #1 were approved would not substantially change the facts  
25           on which the Council relied in its previous findings regarding impacts to soils. The Council  
26           finds that no changes to the site certificate conditions related to soil protection are needed  
27           (Conditions 11, 36, 73, 75, 76 and 84). The Council finds that the design, construction and  
28           operation of SFN, with the changes proposed by Amendment #1, would not likely result in  
29           significant adverse impact to soils, taking into account the mitigation required by the site  
30           certificate conditions.

#### Conclusions of Law

31           The Council concludes that SFN would comply with the Council’s Soil Protection  
32           Standard if Amendment #1 were approved.

#### **(c) Protected Areas**

33           **OAR 345-022-0040**  
34           *(1) Except as provided in sections (2) and (3), the Council shall not issue a site*  
35           *certificate for a proposed facility located in the areas listed below. To issue a site*  
36           *certificate for a proposed facility located outside the areas listed below, the*  
37           *Council must find that, taking into account mitigation, the design, construction*  
38           *and operation of the facility are not likely to result in significant adverse impact to*  
39           *the areas listed below. References in this rule to protected areas designated under*  
40           *federal or state statutes or regulations are to the designations in effect as of May*  
41           *11, 2007:*

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

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

6           (c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C.  
7 1131 et seq. and areas recommended for designation as wilderness areas pursuant  
8 to 43 U.S.C. 1782;

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

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

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

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

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

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

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

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

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

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

36           Coastal Oregon Marine Experiment Station, Astoria

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

38           Agriculture Research and Extension Center, Hermiston

39           Columbia Basin Agriculture Research Center, Pendleton

1 *Columbia Basin Agriculture Research Center, Moro*  
2 *North Willamette Research and Extension Center, Aurora*  
3 *East Oregon Agriculture Research Center, Union*  
4 *Malheur Experiment Station, Ontario*  
5 *Eastern Oregon Agriculture Research Center, Burns*  
6 *Eastern Oregon Agriculture Research Center, Squaw Butte*  
7 *Central Oregon Experiment Station, Madras*  
8 *Central Oregon Experiment Station, Powell Butte*  
9 *Central Oregon Experiment Station, Redmond*  
10 *Central Station, Corvallis*  
11 *Coastal Oregon Marine Experiment Station, Newport*  
12 *Southern Oregon Experiment Station, Medford*  
13 *Klamath Experiment Station, Klamath Falls;*

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

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

20 *(p) State wildlife areas and management areas identified in OAR chapter*  
21 *635, Division 8.*

22 \* \* \*

### Findings of Fact

23 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the design,  
24 construction and operation of SFN were not likely to result in significant adverse impact to  
25 protected areas.<sup>47</sup> Those findings are incorporated herein by this reference. The changes that  
26 would be allowed if Amendment #1 were approved would not substantially change the facts  
27 on which the Council relied in its previous findings regarding adverse impacts to protected  
28 areas. Nearly all of the area proposed to be added to the site lies within the site boundary of  
29 SFC, which the Council has previously determined to be in compliance with the Protected  
30 Areas Standard. The Council finds that SFN, including the area proposed to be added to the  
31 site by Amendment #1, is not located in any protected area listed in OAR 345-022-0040 and  
32 that the design, construction and operation of SFN are not likely to result in a significant  
33 adverse impact to any protected area.

---

<sup>47</sup> *Final Order on Amendment #1 (SFWF)*, p. 37.

Conclusions of Law

1 For the reasons discussed above, the Council concludes that SFN would comply with  
2 the Council’s Protected Areas Standard if Amendment #1 were approved.

**(d) Scenic Resources**

**OAR 345-022-0080**

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

9 \* \* \*  
10

Findings of Fact

11 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the design,  
12 construction and operation of SFN, taking mitigation into account and subject to the site  
13 certificate conditions, were not likely to result in significant adverse impact to scenic  
14 resources and values identified as significant or important in applicable federal land  
15 management plans or in local land use plans in the analysis area.<sup>48</sup> Those findings are  
16 incorporated herein by this reference.

17 The changes that would be allowed if Amendment #1 were approved would not  
18 substantially change the facts on which the Council relied in its previous findings regarding  
19 visual impacts on identified scenic resources or values. Approval of the amendment would not  
20 change the number of wind turbines or the authorized maximum blade tip height of wind  
21 turbines at the facility. The amendment would not increase the maximum allowed length of  
22 the 230-kV interconnection line, although Option B would allow construction of the line  
23 along a different route than under Option A. The choice of transmission line route would not  
24 significantly affect scenic resources. The Council finds that the design, construction and  
25 operation of SFN are not likely to result in significant adverse impacts to scenic resources and  
26 values identified as significant or important in applicable federal land management plans or in  
27 local land use plans in the analysis area.

Conclusions of Law

28 For the reasons discussed above, the Council concludes that SFN would comply with  
29 the Council’s Scenic Resources Standard if Amendment #1 were approved.

**(e) Recreation**

**OAR 345-022-0100**

30 *(1) Except for facilities described in section (2), to issue a site certificate, the*  
31 *Council must find that the design, construction and operation of a facility, taking*  
32 *into account mitigation, are not likely to result in a significant adverse impact to*  
33 *important recreational opportunities in the analysis area as described in the*  
34

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<sup>48</sup> *Final Order on Amendment #1 (SFWF)*, pp. 37-38.

1 *project order. The Council shall consider the following factors in judging the*  
2 *importance of a recreational opportunity:*

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

4 *(b) The degree of demand;*

5 *(c) Outstanding or unusual qualities;*

6 *(d) Availability or rareness;*

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

8 \* \* \*

### Findings of Fact

9 In the *Final Order on Amendment #1 (SFWF)*, the Council found that none of the  
10 recreational opportunities in the analysis area met the criteria to be considered “important”  
11 under the factors listed in the standard.<sup>49</sup> Therefore, the Council found that the design,  
12 construction and operation of SFN were not likely to result in significant adverse impacts to  
13 recreational opportunities in the analysis area. Those findings are incorporated herein by this  
14 reference.

15 The expansion of the site to allow for an optional transmission line route as requested  
16 in Amendment #1 would not affect any recreational opportunities that were not previously  
17 addressed by the Council. Approval of Amendment #1 would not change the facts or  
18 circumstances upon which the Council relied in making findings regarding impacts on  
19 recreational opportunities.

### Conclusions of Law

20 For the reasons discussed above, the Council concludes that SFN would comply with  
21 the Council’s Recreation Standard if Amendment #1 were approved.

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

#### **OAR 345-024-0010**

22 *To issue a site certificate for a proposed wind energy facility, the Council must*  
23 *find that the applicant:*  
24

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

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

### Findings of Fact

31 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the certificate  
32 holder could design, construct and operate SFN to exclude members of the public from close

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<sup>49</sup> *Final Order on Amendment #1 (SFWF)*, p. 38.

1 proximity to the turbine blades and electrical equipment, to preclude structural failure of the  
2 tower or blades that could endanger public safety and to have adequate safety devices and  
3 testing procedures.<sup>50</sup> Those findings are incorporated herein by this reference. To ensure  
4 public safety, the Council included Conditions 12, 26, 40, 47, 59, 60, 61, 62, 63, 64 and 93 in  
5 the site certificate.

6 In the Request for Amendment #1, the applicants do not propose any significant  
7 change in the design or size of facility components allowed under the site certificate. The  
8 certificate holder would have the option to locate the 230-kV transmission line in the alternate  
9 corridor described herein, but use of the alternate corridor would not result in any new or  
10 increased risk of harm to public safety. Approval of Amendment #1 would not change the  
11 facts or circumstances upon which the Council relied in making findings regarding public  
12 health and safety at the SFN site.

13 In Amendment #1, the certificate holder is requesting a modification of Condition 40,  
14 which specifies setback distances for facility components. Condition 40(d) requires a  
15 minimum setback distance of 110-percent of maximum blade tip height from facility wind  
16 turbines to “the nearest boundary of the certificate holder’s lease area.” This requirement was  
17 intended to protect the property of neighboring landowners. The certificate holder requests an  
18 exception that would apply to a relatively small area (approximately 8.3 acres) that has been  
19 excluded from the certificate holder’s lease. The excluded area and the surrounding land is  
20 owned by the same landowner, who is in agreement with the proposed exception to the  
21 setback requirement.<sup>51</sup> The certificate holder has identified the excluded area as “Area A” on  
22 a map in the Request for Amendment #1.<sup>52</sup> The excluded area is currently used for a corral  
23 and storage area. Approval of the setback exception would not have a significant adverse  
24 effect on public safety or on the property of a neighboring landowner. The Council approves  
25 the modification of Condition 40 as discussed in Revision 8 below at page 45.

#### Conclusions of Law

26 For the reasons discussed above, the Council concludes that SFN would comply with  
27 the Council’s Public Health and Safety Standards for Wind Energy Facilities if Amendment  
28 #1 were approved.

#### **(g) Siting Standards for Wind Energy Facilities**

##### **OAR 345-024-0015**

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

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

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

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<sup>50</sup> Final Order on Amendment #1 (SFWF), pp. 39-40.

<sup>51</sup> Request for Amendment #1, Section I, p. 2.

<sup>52</sup> Request for Amendment #1, Section V, Map 6.

- 1           (3) *Connecting the facility to existing substations, or if new substations are*  
2           *needed, minimizing the number of new substations.*
- 3           (4) *Designing the facility to reduce the risk of injury to raptors or other vulnerable*  
4           *wildlife in areas near turbines or electrical equipment.*
- 5           (5) *Designing the components of the facility to minimize adverse visual features.*
- 6           (6) *Using the minimum lighting necessary for safety and security purposes and*  
7           *using techniques to prevent casting glare from the site, except as otherwise*  
8           *required by the Federal Aviation Administration or the Oregon Department of*  
9           *Aviation.*

### Findings of Fact

10           In the *Final Order on Amendment #1 (SFWF)*, the Council found that the certificate  
11 holder could design and construct SFN to reduce visual impact, to restrict public access and to  
12 reduce cumulative adverse environmental impacts in the vicinity to the extent practicable in  
13 accordance with the requirements of OAR 345-024-0015.<sup>53</sup> Those findings are incorporated  
14 herein by this reference. To address cumulative impacts, the Council included Conditions 58,  
15 63, 86, 90, 91, 94 and 95 in the site certificate. The proposed amendment would expand the  
16 SFN site to allow for an alternative transmission line route but would not otherwise change  
17 the cumulative effects of the components authorized for construction at the facility. Approval  
18 of the amendment would not change the total number of wind turbines or the authorized blade  
19 tip height of wind turbines or change the maximum allowed length of the 230-kV  
20 interconnection line.

### Conclusions of Law

21           Based on these findings and subject to the conditions of the site certificate, the Council  
22 concludes that SFN would comply with the Council’s Siting Standards for Wind Energy  
23 Facilities if Amendment #1 were approved.

### **(h) Siting Standards for Transmission Lines**

#### **OAR 345-024-0090**

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

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

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

### Findings of Fact

33           In the *Final Order on Amendment #1 (SFWF)*, the Council found that the certificate  
34 holder could design, construct and operate the proposed transmission line components of the

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<sup>53</sup> *Final Order on Amendment #1 (SFWF)*, pp. 40-41.

1 SFN in accordance with the standards described in OAR 345-024-0090.<sup>54</sup> Those findings are  
2 incorporated herein by this reference. The proposed amendment would allow a different route  
3 for the 230-kV interconnection line, but under either Option A or Option B, the line would be  
4 located on private property with limited public access. The Council has found that the  
5 aboveground 230-kV transmission line would produce an electric field well below the 9 kV  
6 per meter standard required by OAR 345-024-0090(1).<sup>55</sup> Condition 81 requires the certificate  
7 holder to design all transmission lines to comply with the electric field standard. Condition 80  
8 requires the certificate holder to ground fencing to reduce the potential risk of electric shock  
9 from induced currents. Condition 17 requires the certificate holder to design and construct  
10 transmission lines in accordance with the requirements of the National Electrical Safety Code  
11 and to implement a program that provides reasonable assurance that all fences, gates, cattle  
12 guards, trailers, or other objects or structures of a permanent nature that could become  
13 inadvertently charged are properly grounded. Approval of Amendment #1 would not change  
14 the facts or circumstances upon which the Council relied in making findings regarding  
15 compliance with the standards in OAR 345-024-0090.

#### Conclusions of Law

16 For the reasons discussed above, the Council concludes that SFN would comply with  
17 the Council's Siting Standards for Transmission Lines if Amendment #1 were approved.

## **4. Standards to Protect Wildlife**

### **(a) Threatened and Endangered Species**

#### **OAR 345-022-0070**

18 *To issue a site certificate, the Council, after consultation with appropriate state*  
19 *agencies, must find that:*  
20

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

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

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

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

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<sup>54</sup> Final Order on Amendment #1 (SFWF), p. 42.

<sup>55</sup> Final Order on the Application for the Shepherds Flat Wind Farm (July 25, 2008), pp. 86-87.

## Findings of Fact

1           In the *Final Order on Amendment #1 (SFWF)*, the Council found that the design,  
2 construction and operation of SFN would not have the potential to significantly reduce the  
3 likelihood of the survival or recovery of any threatened or endangered plant or wildlife  
4 species listed under Oregon law.<sup>56</sup> Those findings are incorporated herein by this reference.  
5 The proposed amendment would not significantly change wind facility components that  
6 would be authorized for construction and operation at SFN. The amendment would enlarge  
7 the facility site by approximately 1,161 acres. All but 8.8 acres of the proposed expansion  
8 area lie within the previously-approved SFC site boundary.

9           In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
10 found that one State-listed threatened plant species, Laurent’s milk-vetch, has the potential to  
11 occur within the five-mile analysis area around the former SFWF site boundary.<sup>57</sup> The species  
12 was not observed within the SFWF site boundary and was considered not likely to occur  
13 within the site boundary because its range was believed to lie at elevations above 1,970 feet.  
14 The species was recently observed, however, at elevations between 800 to 860 feet.<sup>58</sup> Suitable  
15 habitat for Laurent’s milk-vetch may exist in areas that have not been surveyed. The  
16 certificate holder has agreed to survey the new areas (outside the previously-approved site  
17 boundaries for SFN and SFC) and to avoid impacts to endangered species.<sup>59</sup> In Revision 12  
18 discussed below at page 47, the Council modifies Condition 86 to require a pre-construction  
19 survey for threatened or endangered plant species in the new areas outside previously-  
20 approved site boundaries and to require exclusion fencing during construction if any  
21 threatened or endangered species are found.

22           In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
23 found that that two State-listed endangered wildlife species (gray wolf and Washington  
24 ground squirrel) and two State-listed threatened species (bald eagle and chinook salmon) have  
25 the potential to occur within the five-mile analysis area around the former SFWF site  
26 boundary.<sup>60</sup>

27           Gray wolves may have historically been present in Gilliam or Morrow Counties, but  
28 there have been no recent observations of the species within the analysis area. There is

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<sup>56</sup> *Final Order on Amendment #1 (SFWF)*, pp. 42-44. A discussion of threatened or endangered plant and animal species that could potentially occur within the Shepherds Flat Wind Farm site (which encompassed the sites of SFN, SFC and SFS) and information about wildlife surveys conducted in the area are included in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 88-96.

<sup>57</sup> The species is identified as “Laurence’s milk-vetch” in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 89.

<sup>58</sup> *Final Order on Amendment #1 for the Leaning Juniper II Wind Power Facility* (November 20, 2009), p. 61.

<sup>59</sup> Email from Patricia Pilz, January 2, 2010.

<sup>60</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 91. The federally-listed threatened grizzly bear historically occurred in Gilliam and Morrow counties, but is now considered extirpated from Oregon (Request for Amendment #1, Appendix 1, p. 1). The federally-listed threatened Canada lynx is considered a very rare species in Oregon (Oregon Natural Heritage Information Center, *Rare, Threatened and Endangered Species in Oregon*, March 2007). Although the lynx potentially occurs in Morrow County (<http://www.fws.gov/oregonfwo/Species/Data/CanadaLynx/>), the USFWS Oregon Fish & Wildlife Office does not include the species on current lists of threatened species occurring in Morrow County or Gilliam County (<http://www.fws.gov/oregonfwo/Species/Lists/>).

1 evidence of natural dispersion of the species into the state in areas close to the border with  
2 Idaho.<sup>61</sup>

3 Bald eagles forage and roost along the Columbia River. Eagles are unlikely to forage  
4 in the upland areas within the site boundary due to the lack of suitable perch trees. Conditions  
5 63, 90 and 91 include measures to mitigate the risk of injury to bald eagles.

6 The Council has previously found that there is no suitable habitat for chinook salmon  
7 within the former SFWF site boundary, which includes the previously-approved SFN, SFC  
8 and SFS sites.<sup>62</sup> The new lands proposed to be added to the SFN site that lie outside the  
9 previously-approved site boundaries of SFN and SFC do not contain habitat suitable for the  
10 species.<sup>63</sup>

11 Surveys for Washington ground squirrels (WGS) were conducted in 2007 in suitable  
12 soils within the SFN site plus a 1,000-foot buffer.<sup>64</sup> No signs of WGS were found in this  
13 area.<sup>65</sup> The certificate holder has not searched a segment of the proposed Option B  
14 transmission corridor that lies outside the previously-approved SFC site boundary and beyond  
15 the 1,000-foot buffer that was part of the 2007 WGS survey area. This transmission corridor  
16 segment lies within the County-approved boundary of the neighboring Pebble Springs Wind  
17 Energy Facility.

18 ODFW has requested pre-construction surveys for threatened, endangered or sensitive  
19 wildlife species, including WGS, in areas having suitable habitat on lands that the Council has  
20 not previously approved for a site certificate.<sup>66</sup> The certificate holder has agreed to conduct  
21 pre-construction surveys for WGS using a protocol approved by ODFW and to avoid impacts  
22 to the area within 1,000 feet of any Category 1 WGS habitat that is found within the area  
23 during the period in which the squirrels are active. In Revision 12 discussed below at page 47,  
24 the Council modifies Condition 86 to require pre-construction surveys for State-listed  
25 threatened, endangered or sensitive wildlife species in these new areas within 1,000 feet of  
26 any area potentially disturbed by facility construction, including WGS surveys, and to require  
27 avoidance of the area within 1,000 feet of any Category 1 WGS habitat during the period that  
28 WGS are active.

29 In Revision 13, the Council modifies Condition 92 to include a lower speed limit near  
30 any Category 1 or Category 2 Washington ground squirrel habitat identified during the pre-  
31 construction survey.

32 For the reasons discussed above, the design, construction and operation of the SFN are  
33 unlikely to cause a significant reduction in the likelihood of survival or recovery of any State-  
34 listed threatened or endangered species, taking into account the mitigation required by the site  
35 certificate conditions.

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<sup>61</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 94.

<sup>62</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 95. This finding applied as well to the federally-listed threatened steelhead and endangered sockeye salmon.

<sup>63</sup> Request for Amendment #1, Section V, Maps 2 and 3.

<sup>64</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 93. The certificate holder has provided a map showing the areas searched within and near the SFN site (email from Patricia Pilz, December 16, 2009).

<sup>65</sup> Weisskopf et al., *Shepherds Flat Washington Ground Squirrel and Burrowing Owl Surveys*, May 27, 2007 (Application Supplement for the Shepherds Flat Wind Farm, Exhibit P, Attachment P-5a).

<sup>66</sup> Email from Steve Cherry, ODFW, December 17, 2009.

Conclusions of Law

1 For the reasons discussed above and subject to the site certificate conditions described  
2 herein, the Council concludes that SFN would comply with the Council’s Threatened and  
3 Endangered Species Standard if Amendment #1 were approved.

**(b) Fish and Wildlife Habitat**

**OAR 345-022-0060**

4 *To issue a site certificate, the Council must find that the design, construction and*  
5 *operation of the facility, taking into account mitigation, are consistent with the fish*  
6 *and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect*  
7 *as of September 1, 2000.*  
8

Findings of Fact

9 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the design,  
10 construction and operation of SFN would be consistent with the ODFW habitat mitigation  
11 goals and standards.<sup>67</sup> The Council made findings regarding the characteristics of the habitat  
12 types within the SFN site boundary.<sup>68</sup> The Council made findings regarding potential habitat  
13 impacts and mitigation requirements.<sup>69</sup> Those findings are incorporated herein by this  
14 reference.

15 The proposed amendment would enlarge the area within the SFN site boundary by  
16 approximately 1,161 acres. All but 8.8 acres of the proposed expansion area lie within the  
17 previously-approved SFC site boundary. The certificate holder estimated the habitat impacts  
18 of the SFN facility, including the expansion area, based on a “typical project layout” as shown  
19 in Table 3.<sup>70</sup>

**Table 3: Typical Layout Habitat Impacts**

Habitat Type	Habitat Subtype	Acres Within the Site Boundary	Areas of temporary impact (acres)	Areas of permanent impact (acres)
<b>Category 1</b>				
Raptor nests	RN	0.16		
<b>Subtotal</b>		<b>0.16</b>	<b>0</b>	<b>0</b>
<b>Category 2</b>				
Raptor nests	RN	0.28		
Shrub-steppe – sage	SS-S	33.57		
<b>Subtotal</b>		<b>33.85</b>	<b>0</b>	<b>0</b>

<sup>67</sup> *Final Order on Amendment #1 (SFWF)*, p. 54.

<sup>68</sup> *Final Order on Amendment #1 (SFWF)*, pp. 44-46.

<sup>69</sup> *Final Order on Amendment #1 (SFWF)*, pp. 51-54.

<sup>70</sup> Based on the certificate holder’s habitat assessment table (email from Carol Weisskopf, December 22, 2009).

<b>Category 3</b>				
Curlew	CUR	6,467.82	166.02	33.28
Grassland	GL	0.09		
Shrub-steppe – rabbitbrush	SS-R	48.75		
Shrub-steppe – sage	SS-S	5.62		
<b>Subtotal</b>		<b>6,522.28</b>	<b>166.02</b>	<b>33.28</b>
<b>Category 4</b>				
Grassland	GL	2,428.25	66.6	14.52
Rock and soil	RS	64.96	2.48	0.59
<b>Subtotal</b>		<b>2,493.21</b>	<b>69.08</b>	<b>15.11</b>
<b>Category 5</b>				
Shrub-steppe – broom snakeweed	SS-B	48.48	4.12	0.34
<b>Subtotal</b>		<b>48.48</b>	<b>4.12</b>	<b>0.34</b>
<b>Category 6</b>				
Animal facility	AF	83.49	6.3	0.81
Road and parking	RP	82.64	4.45	0.31
<b>Subtotal</b>		<b>166.13</b>	<b>10.75</b>	<b>1.12</b>
<b>Total Area</b>		<b>9,264.11</b>	<b>249.97</b>	<b>49.85</b>

1 For micrositing purposes, the certificate holder estimated the maximum habitat  
2 impacts of SFN on high-value wildlife habitat based on a “worst-case layout.” The estimated  
3 maximum habitat impacts of the facility, including the proposed expansion areas, are shown  
4 in Table 4.

**Table 4: Maximum Habitat Impacts<sup>71</sup>**

Habitat Type	Habitat Subtype	Areas of temporary impact (acres)	Areas of permanent impact (acres)
<b>Category 1</b>			
Raptor nests	RN		
<b>Subtotal</b>		<b>0</b>	<b>0</b>
<b>Category 2</b>			
Raptor nests	RN		
Shrub-steppe -- sage	SS-S		
<b>Subtotal</b>		<b>0</b>	<b>0</b>
<b>Category 3</b>			
Curlew	CUR	198.28	33.28
Grassland	GL		
Shrub-steppe -- rabbitbrush	SS-R		
Shrub-steppe -- sage	SS-S	0.11	
<b>Subtotal</b>		<b>198.39</b>	<b>33.28</b>

<sup>71</sup> Based on the certificate holder’s habitat assessment table (email from Carol Weisskopf, December 22, 2009). The turbine locations used in the estimate are not expected to be changed in the final design. Accordingly, the differences between the typical and maximum habitat impacts are the use of Option A or Option B for the transmission line and in the disturbance width of roads (email from Carol Weisskopf, December 21, 2009)

<b>Category 4</b>			
Grassland	GL	80.22	14.54
Rock and soil	RS	2.88	0.59
<b>Subtotal</b>		<b>83.1</b>	<b>15.13</b>
<b>Category 5</b>			
Shrub-steppe -- broom snakeweed	SS-B	4.54	0.34
<b>Subtotal</b>		<b>4.54</b>	<b>0.34</b>
<b>Category 6</b>			
Animal facility	AF	7.1	0.81
Road and parking	RP	5.46	0.31
<b>Subtotal</b>		<b>12.56</b>	<b>1.12</b>
<b>Total Area</b>		<b>298.59</b>	<b>52.765</b>

1 The maximum habitat impacts analysis allows for facility micrositing while ensuring  
2 that the certificate holder can mitigate for the habitat impacts of any micrositing  
3 configuration. The maximum habitat impacts analysis shapes the upper bounds of the quantity  
4 and quality of mitigation acres that would be required. Under Condition 29, the certificate  
5 holder must provide to the Department a description of the final design configuration and an  
6 assessment of the affected habitats before beginning construction. The actual habitat impacts  
7 and the size of the mitigation area required under Condition 85 and the incorporated *Habitat*  
8 *Mitigation Plan* are determined according to the final configuration of facility components.  
9 Condition 29 requires consultation with ODFW at the time of the pre-construction habitat  
10 assessment and allows the Department to employ a qualified contractor to confirm the habitat  
11 assessment by on-site inspection. ODFW policy guidance for assigning habitat categories that  
12 was in place when the SFWF site certificate was issued (July 25, 2008) will be applied to  
13 determine habitat categories under Condition 29 on lands lying within the original SFWF site  
14 boundary.<sup>72</sup>

15 Compared with the previously-approved site, the current (typical) project layout would  
16 reduce the permanent footprint by approximately 2.5 acres. Temporary disturbance would  
17 increase by approximately 91 acres for the reasons discussed above at page 15. In the  
18 maximum habitat impacts layout, temporary disturbance would increase by about 140 acres.  
19 All temporary disturbance areas must be restored after completion of construction, as required  
20 by the *Revegetation Plan* that is incorporated in Condition 84. No Category 1 or Category 2  
21 habitat would be affected by the permanent footprint of the facility or by temporary  
22 construction disturbance.

23 The *Final Order on Amendment #1 (SFWF)*, the Council made findings regarding  
24 mitigation of potential adverse impacts to wildlife and wildlife habitat.<sup>73</sup> Those findings are  
25 incorporated herein by this reference. Condition 83 requires the certificate holder to  
26 implement the *Wildlife Monitoring and Mitigation Plan (WMMP)* as incorporated in the  
27 *Final Order on Amendment #1 (SFWF)* as Attachment SFN-A. Condition 84 requires the  
28 certificate holder to implement the *Revegetation Plan* as incorporated in the *Final Order on*

<sup>72</sup> Any new policy guidance issued after July 25, 2008, will not be applied to the previously-approved areas (teleconference with ODFW, the applicants and the Department, July 29, 2009).

<sup>73</sup> *Final Order on Amendment #1 (SFWF)*, pp. 53-54 (incorporating the findings from the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 109-114).

1 *Amendment #1 (SFWF)* as Attachment SFN-B. The proposed amendment would increase the  
2 area within the site boundary from approximately 8,103 acres to approximately 9,264 as  
3 shown in Table 3 above but would otherwise require no substantive changes to the WMMP or  
4 to the *Revegetation Plan*.<sup>74</sup> Condition 85 requires the certificate holder to implement the  
5 *Habitat Mitigation Plan* as incorporated in the *Final Order on Amendment #1 (SFWF)* as  
6 Attachment SFN-C. The Council finds that no substantive revisions of the WMMP, the  
7 *Revegetation Plan* or the *Habitat Mitigation Plan* are needed at this time. In Revision 12  
8 discussed below at page 47, the Department recommended modification of Condition 86 to  
9 require the pre-construction surveys for State-listed threatened, endangered or sensitive  
10 wildlife species recommended by ODFW.

### Conclusions of Law

11 For the reasons discussed above and subject to the site certificate conditions described  
12 herein, the Council concludes that SFN would comply with the Council’s Fish and Wildlife  
13 Habitat Standard if Amendment #1 were approved.

## **5. Standards Not Applicable to Site Certificate Eligibility**

14 Under ORS 469.501(4), the Council may issue a site certificate without making the  
15 findings required by the standards discussed in this section (Structural Standard, Historic,  
16 Cultural and Archaeological Resources Standard, Public Services Standard and Waste  
17 Minimization Standard).<sup>75</sup> Nevertheless, the Council may impose site certificate conditions  
18 based on the requirements of these standards.

### **(a) Structural Standard**

#### **OAR 345-022-0020**

19 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate,*  
20 *the Council must find that:*  
21

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

28 (b) *The applicant can design, engineer, and construct the facility to avoid dangers*  
29 *to human safety presented by seismic hazards affecting the site that are expected to*  
30 *result from maximum probable ground motion events. As used in this rule “seismic*

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<sup>74</sup> No turbines are proposed to be located within the new area. The micrositing acreage shown on page 1, line 8, of the WMMP and page 1, line 20, of the *Revegetation Plan* does not reflect the area added by this amendment.

<sup>75</sup> This statute provides that the Council may not impose certain standards “to approve or deny an application for an energy facility producing power from wind.” ORS 469.300 defines an “application” as “a request for approval of a particular site or sites for the construction and operation of an energy facility or the construction and operation of an additional energy facility upon a site for which a certificate has already been issued, filed in accordance with the procedures established pursuant to ORS 469.300 to 469.563, 469.590 to 469.619, 469.930 and 469.992.” Although ORS 469.501(4) does not explicitly refer to a request for a site certificate amendment, we assume that the Legislature intended it to apply.

1           *hazard” includes ground shaking, ground failure, landslide, liquefaction, lateral*  
2           *spreading, tsunami inundation, fault displacement, and subsidence;*

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

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

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

13           \* \* \*

#### 14           Related Conditions

15           In the *Final Order on Amendment #1 (SFWF)*, the Council made findings regarding  
16           the seismic, geological and soil hazards in the SFN.<sup>76</sup> Those findings are incorporated herein  
17           by this reference. The site certificate includes conditions addressing structural safety  
18           (Conditions 12, 13, 14, 47, 48 and 49). Amendment #1 would enlarge the SFN site to allow  
19           for an alternate transmission line route but would not result in placement of facility  
20           components within geologic areas that have not been addressed by the Council. The Council  
21           finds that no changes to the site certificate conditions related to the Structural Standard are  
22           needed.

#### (b) **Historic, Cultural and Archaeological Resources**

##### 23           **OAR 345-022-0090**

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

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

29           *(b) For a facility on private land, archaeological objects, as defined in ORS*  
30           *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

31           *(c) For a facility on public land, archaeological sites, as defined in ORS*  
32           *358.905(1)(c).*

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

37           \* \* \*

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<sup>76</sup> *Final Order on Amendment #1 (SFWF)*, p. 56 (incorporating the findings in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 115-117).

Related Conditions

1           In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
2 reviewed cultural resource surveys of the areas within the SFN and SFC site boundaries  
3 (encompassing nearly all of the proposed SFN expansion area).<sup>77</sup> The Council’s previous  
4 findings are incorporated herein by this reference. The cultural resource surveys were  
5 conducted in consultation with the State Historic Preservation Office, the Confederated Tribes  
6 of Warm Springs and the Confederated Tribes of the Umatilla Indian Reservation. The  
7 Council adopted Conditions 43, 44 and 45 to safeguard cultural resources in the SFN area.  
8 These conditions would apply as well to the proposed expansion area. The Council finds that  
9 no changes to the site certificate conditions related to the Historic, Cultural and  
10 Archaeological Resources Standard are needed.

**(c) Public Services**

**OAR 345-022-0110**

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

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

23           \* \* \*

Related Conditions

24           In the *Final Order on Amendment #1 (SFWF)*, the Council addressed the potential  
25 impacts of construction and operation of SFN on the ability of public and private providers  
26 within the analysis area to provide public services.<sup>78</sup> The Council’s previous findings are  
27 incorporated herein by this reference. The site certificate includes conditions addressing  
28 public services (Conditions 27, 52, 53, 54, 55, 56, 65, 66, 67, 68, 69, 70, 73, 75, 78, 99 and  
29 100). Amendment #1 would expand the facility site to allow an optional transmission line  
30 route but would not change the analysis of affected public services. The Council finds that no  
31 changes to the site certificate conditions related to the Public Services Standard are needed.

**(d) Waste Minimization**

**OAR 345-022-0120**

32           *(1) Except for facilities described in sections (2) and (3), to issue a site certificate,*  
33 *the Council must find that, to the extent reasonably practicable:*  
34

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<sup>77</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 118-122.

<sup>78</sup> *Final Order on Amendment #1 (SFWF)*, p. 57 (incorporating the findings in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 122-127).

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

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

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

### Related Conditions

12 In the *Final Order on Amendment #1 (SFWF)*, the Council made findings and adopted  
13 site certificate conditions regarding the solid waste and wastewater likely to be generated  
14 during the construction, operation and retirement of SFN and the impact on surrounding  
15 communities.<sup>79</sup> The Council’s previous findings are incorporated herein by this reference. The  
16 Council adopted Conditions 50, 51, 99, 100, 101 and 102 to address waste management  
17 concerns. Amendment #1 would expand the facility site to allow an optional transmission line  
18 route but would not change the analysis of waste minimization. The Council finds that no  
19 changes to the site certificate conditions related to the Waste Minimization Standard are  
20 needed.

## **V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS**

### **1. Requirements under Council Jurisdiction**

21 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR  
22 345-022-0000), the Council must determine that a facility complies with “all other Oregon  
23 statutes and administrative rules identified in the project order, as amended, as applicable to  
24 the issuance of a site certificate for the proposed facility.” Other Oregon statutes and  
25 administrative rules that are applicable to the changes requested in Amendment #1 include the  
26 Department of Environmental Quality (DEQ) noise control regulations, the regulations  
27 adopted by the Department of State Lands (DSL) for removal or fill of material affecting  
28 waters of the state, the Oregon Water Resources Department’s (OWRD) regulations for water  
29 rights and the Council’s statutory authority to consider protection of public health and safety.

#### **(a) Noise Control Regulations**

30 The applicable noise control regulations are as follows:

#### **OAR 340-035-0035**

#### **Noise Control Regulations for Industry and Commerce**

##### *(1) Standards and Regulations:*

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<sup>79</sup> *Final Order on Amendment #1 (SFWF)*, p. 58 (incorporating the findings from the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 76-77).

1                   \* \* \*

2                   ***(b) New Noise Sources:***

3                   \* \* \*

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

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

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

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

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

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

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

37                    *(IV) For purposes of determining whether a proposed wind energy facility*  
38                    *would satisfy the ambient noise standard where a landowner has not waived the*  
39                    *standard, noise levels at the appropriate measurement point are predicted*  
40                    *assuming that all of the proposed wind facility’s turbines are operating between*  
41                    *cut-in speed and the wind speed corresponding to the maximum sound power level*  
42                    *established by IEC 61400-11 (version 2002-12). These predictions must be*  
43                    *compared to the highest of either the assumed ambient noise level of 26 dBA or to*

1 *the actual ambient background L10 and L50 noise level, if measured. The facility*  
2 *complies with the noise ambient background standard if this comparison shows*  
3 *that the increase in noise is not more than 10 dBA over this entire range of wind*  
4 *speeds.*

5 *(V) For purposes of determining whether an operating wind energy facility*  
6 *complies with the ambient noise standard where a landowner has not waived the*  
7 *standard, noise levels at the appropriate measurement point are measured when*  
8 *the facility's nearest wind turbine is operating over the entire range of wind*  
9 *speeds between cut-in speed and the windspeed corresponding to the maximum*  
10 *sound power level and no turbine that could contribute to the noise level is*  
11 *disabled. The facility complies with the noise ambient background standard if the*  
12 *increase in noise over either the assumed ambient noise level of 26 dBA or to the*  
13 *actual ambient background L10 and L50 noise level, if measured, is not more than*  
14 *10 dBA over this entire range of wind speeds.*

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

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

26 \* \* \*

### Findings of Fact

27 In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
28 concluded that the proposed SFWF, subject to site certificate conditions, would comply with  
29 the State noise control regulations.<sup>80</sup> The Council's findings were based on analysis of  
30 predicted noise levels from a "default layout" that included 280 Siemens SWT-93 2.3-MW  
31 turbines in the northern project area and 23 Vestas V90 3.0-MW turbines in the southern  
32 project area and that included two substations contributing to predicted noise levels. The  
33 Council found that the SFWF would comply with the applicable noise regulations if it were  
34 constructed according to the default layout and if the certificate holder acquired noise waivers  
35 from the owners of five properties where the predicted noise levels exceeded the ambient  
36 degradation limit.<sup>81</sup>

37 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the division of  
38 the SFWF into three separate facilities within the previously-approved site boundary of the  
39 SFWF with no increase in the combined maximum number of turbines would not significantly

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<sup>80</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 136.

<sup>81</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 135.

1 change the noise analysis.<sup>82</sup> The Council found that the cumulative noise emissions from  
2 SFN, SFC and SFS would comply with the noise regulations and that the separate noise  
3 emissions from each of the proposed facilities would also comply with the regulations if each  
4 facility were constructed according to the previously-analyzed default layout and if the  
5 certificate holder acquired noise waivers from the owners of properties where the ambient  
6 degradation limit would be exceeded.

7 The changes to SFN requested in the present amendment include expansion of the site  
8 to accommodate an alternate transmission line route. The amendment would not change the  
9 turbine micro-siting area and would not increase the number of turbines authorized for  
10 construction at SFN. Therefore, this amendment would not be expected to result in a change  
11 in the amount of sound radiating from the project to noise sensitive receivers. During the  
12 review of the amendment request, however, the certificate holder provided a new noise  
13 analysis based on selection of GE 2.5xl turbines and a revised turbine layout (different from  
14 the layout used in the original noise analysis for SFWF).<sup>83</sup> The certificate holder's noise  
15 analysis was conducted by Mr. Bruce Walker, PhD of Channel Island Acoustics, the same  
16 consultant who performed the original SFWF noise study. Mr. Kerrie Standlee, P.E. of Daly-  
17 Standlee & Associates, Inc., reviewed the SFN study for the Department and confirmed  
18 Walker's findings.

19 The original noise study conducted for SFWF did not include sound attenuation  
20 factors for ground absorption and topographical barriers, and so the results were considered to  
21 be very conservative. For the SFN noise analysis, Walker accounted for ground and  
22 topographical attenuation along with atmospheric attenuation and distance attenuation.<sup>84</sup> At  
23 the request of the Department, Walker predicted sound levels at ten noise sensitive receivers  
24 (Receivers R-2 through R-11) using the manufacturer's stated "apparent sound power level"  
25 data increased by what was believed to be the "uncertainty" factor. Upon review of the  
26 manufacturer's specification data, however, Standlee determined that the certificate holder's  
27 analysis had used the standard deviation of 1.5 decibels (dB) associated with the turbine test  
28 reproducibility rather than the 3 dB associated with the "uncertainty" factor.<sup>85</sup> Nevertheless,  
29 Standlee determined that the findings presented in the noise study would have been the same  
30 if the 3-dB adjustment factor had been included in the analysis rather than the 1.5-dB  
31 adjustment factor.

32 The certificate holder elected to use the assumed ambient hourly L<sub>50</sub> noise level of 26  
33 dBA for the background ambient noise level at each noise sensitive receiver as allowed under  
34 OAR 340-035-0035(1)(b)(B)(iii)(I) rather than to conduct noise measurements at the  
35 receivers. Accordingly, to show compliance with the ambient noise degradation test, the noise  
36 generated by the operation of the proposed SFN wind turbines between cut-in wind speed and  
37 maximum sound power level wind speed must not cause the hourly L<sub>50</sub> noise level at any  
38 noise sensitive receiver to exceed 36 dBA.

39 The certificate holder proposes to construct up to 106 wind turbines within the site  
40 boundaries. The certificate holder requests the flexibility to locate the turbines anywhere

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<sup>82</sup> *Final Order on Amendment #1 (SFWF)*, p. 60.

<sup>83</sup> Email from Patricia Pilz, January 16, 2010.

<sup>84</sup> Walker utilized SoundPLAN 7.0, an ISO 9613-2 compliant noise propagation modeling program.

<sup>85</sup> The manufacturer refers to this adjustment factor as the "K" factor.

1 within the proposed site boundary, subject to the conditions of the site certificate. A potential  
2 layout of turbines was provided for 106 GE 2.5-MW turbines.<sup>86</sup> The certificate holder  
3 provided A-weighted overall sound power level and octave band data for the GE wind turbine  
4 model that was used in the noise modeling.<sup>87</sup> To support the conclusion that the submitted  
5 layout would be in compliance with the noise regulations, Walker modeled the sound pressure  
6 levels that would be found at each noise sensitive receiver based on this turbine layout.

7 The results of the noise study show the noise radiating from the turbines would not  
8 exceed the DEQ maximum allowable hourly L<sub>50</sub> noise level limit of 50 dBA or the hourly L<sub>10</sub>  
9 noise level limit of 55 dBA at any of the ten noise sensitive receivers. Standlee considered this  
10 finding to be valid even if the total 3-dB adjustment factor had been added into the sound  
11 power level value included in the noise predictions. The results of the study show that, with or  
12 without the inclusion of the additional sound power level adjustment factor, the noise  
13 radiating to each of the ten receivers would exceed the ambient hourly L<sub>50</sub> noise degradation  
14 limit of 36 dBA. Therefore, the certificate holder would be required to either alter the layout  
15 of the turbines in the final layout to reduce noise levels to 36 dBA (or less) at each residence  
16 or obtain waivers from the owners of all ten noise sensitive properties allowing the noise  
17 levels to rise above the 36 dBA limit.<sup>88</sup>

18 Condition 3 requires the certificate holder to operate the facility in accordance with all  
19 applicable state laws and administrative rules. Condition 97 ensures that the final design  
20 configuration of SFN would comply with the noise control regulations. This condition  
21 requires the certificate holder to provide information about the turbines selected and about the  
22 final design layout to the Department before beginning construction. The condition requires  
23 the certificate holder to provide a noise analysis based on that final design and to demonstrate  
24 to the satisfaction of the Department that the facility would comply with the applicable noise  
25 control regulations.

26 The Council has the authority to act in the place of the DEQ to enforce OAR 340-035-  
27 0035(4)(a) and require the owner of an operating noise source to monitor and record the  
28 statistical noise levels upon written notification.<sup>89</sup> Condition 98 requires the certificate holder  
29 to notify the Department of any complaints received about noise from the facility as well as  
30 the actions taken to address them. In the event of a complaint regarding noise levels during  
31 operation of SFN, the Council may require the certificate holder to verify that the facility is  
32 operating in compliance with the noise control regulations.

### Conclusions of Law

33 For the reasons discussed above and subject to the conditions discussed herein, the  
34 Council concludes that SFN would comply with the applicable noise control regulations in  
35 OAR 340-035-0035 if Amendment #1 were approved.

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<sup>86</sup> Email from Patricia Pilz, January 16, 2010.

<sup>87</sup> Email from Patricia Pilz, January 26, 2010.

<sup>88</sup> The certificate holder would have the option to conduct measurements to determine the actual ambient L<sub>10</sub> and L<sub>50</sub> background levels rather than using an assumed background L<sub>50</sub> ambient noise level of 26 dBA.

<sup>89</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 136.

**(b) Removal-Fill Law**

1           The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR  
2 141-085-0500 through 141-085-0785) adopted by the Department of State Lands (DSL)  
3 require a permit if 50 cubic yards or more of material is removed, filled or altered within any  
4 “waters of the state” at the proposed site.<sup>90</sup> The Council must determine whether a permit is  
5 needed and should be issued. The U.S. Army Corps of Engineers administers Section 404 of  
6 the Clean Water Act, which regulates the discharge of fill into waters of the United States  
7 (including wetlands), and Section 10 of the Rivers and Harbors Appropriation Act of 1899,  
8 which regulates placement of fill in navigable waters. Federal law may require a Nationwide  
9 or Individual fill permit for the proposed facility if waters of the United States are affected. A  
10 single application form (a Joint Permit Application Form) is used to apply for both the State  
11 and federal permits.

Findings of Fact

12           In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
13 found that a Removal/Fill Permit was not needed for construction of the SFWF.<sup>91</sup> Those  
14 findings are incorporated herein by this reference. The Council found that the SFWF 230-kV  
15 transmission line would cross one State-jurisdictional water (Eightmile Creek).<sup>92</sup> Impacts  
16 would be avoided by placing transmission line support structures outside a 10-foot buffer  
17 bordering the creek. No material would be removed from the creek channel or added as fill  
18 within the creek channel. In the *Final Order on Amendment #1 (SFWF)*, the Council found  
19 that the division of the SFWF into three separate facilities within the previously-approved site  
20 boundary of the SFWF would not affect any areas that were not previously addressed by the  
21 delineation report on the wetlands and waters within the SFWF analysis area.<sup>93</sup>

22           Eightmile Creek lies outside the expanded SFN site boundary proposed by  
23 Amendment #1. Nearly all of the area that would be added to SFN by this amendment lies  
24 within the previously-approved SFC site. This portion of the SFC area was addressed by the  
25 delineation survey that was done for the SFWF.<sup>94</sup> No State-jurisdictional waters were found in  
26 this area.<sup>95</sup> An area of approximately 8.8 acres within the proposed alternate transmission  
27 corridor between SFC and BPA’s new Slatt substation was not included in the 2007 SFWF  
28 delineation.

29           DSL has reviewed the amendment request and the three delineation reports that cover  
30 the areas of the three Shepherds Flat projects.<sup>96</sup> DSL has confirmed that, if the project areas  
31 are covered by the three delineations, no further information would be needed.<sup>97</sup> If

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<sup>90</sup> ORS 196.800(14) defines “Waters of this state.” The term includes wetlands and certain other water bodies.

<sup>91</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 138.

<sup>92</sup> DSL has confirmed that Eightmile Creek is a State-jurisdictional waterway (letter from Jess Jordan, DSL, February 19, 2008, attached to email from Jess Jordan, March 4, 2008).

<sup>93</sup> *Final Order on Amendment #1 (SFWF)*, p. 62.

<sup>94</sup> Mason, Bruce & Girard, Inc, *Wetlands/Waters Delineation Report for Shepherds Flat Wind Farm Project, Gilliam and Morrow Counties, Oregon* (June 8, 2007), Figure 1.

<sup>95</sup> DSL confirmed that Eightmile Creek is the only jurisdictional water found within the SFWF study area (email from Jess Jordan, March 4, 2008). Eightmile Creek is outside the proposed expanded SFN site boundary.

<sup>96</sup> The certificate holder provided a map showing the three project areas and the three delineation study areas (email from Patricia Pilz, January 14, 2010).

<sup>97</sup> Email from Sarah Kelly, DSL, January 20, 2010.

1 construction would occur in any areas outside the previously-surveyed areas, the delineation  
2 might need to be amended.<sup>98</sup> The certificate holder has agreed to conduct a delineation survey  
3 before beginning construction for areas not covered by earlier surveys.<sup>99</sup> In Revision 14, the  
4 Council adopts new Condition 103 that would require a preconstruction survey for potential  
5 waters of the state in areas not previously investigated and avoidance of impact on any  
6 jurisdictional waters that are found.

### Conclusions of Law

7 For the reasons discussed above, the Council concludes that a Removal/Fill  
8 authorization would not be needed for SFN if Amendment #1 were approved.

### **(c) Water Rights**

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

### Findings of Fact

13 In the *Final Order on Amendment #1 (SFWF)*, the Council found that the certificate  
14 holder would not need to obtain a new water right for the water needed by the SFN facility  
15 during construction or operation.<sup>100</sup> The Council found that up to 23,320,000 gallons of water  
16 would be needed for construction of SFN, assuming construction of 106 wind turbines. The  
17 certificate holder would obtain construction water from the City of Arlington or alternatively  
18 from a “service area” that would be permitted, constructed and operated by third-party  
19 contractors.<sup>101</sup> During operation, water would be supplied from an on-site well located at the  
20 SFN field workshop. Condition 78 ensures that less than 5,000 gallons of water per day would  
21 be taken from the on-site well for operational uses.<sup>102</sup>

22 The certificate holder has confirmed the previous estimate that up to 23,320,000  
23 gallons of water would be needed for construction of SFN.<sup>103</sup> The possible sources of this  
24 water would be the same as previously considered by the Council in the *Final Order on*  
25 *Amendment #1 (SFWF)*. The proposed amendment would not change the water use during  
26 operation. The Council finds that the certificate holder would not need to obtain any new  
27 water rights for the facility as a result of the changes requested by this amendment.

### Conclusions of Law

28 Based on the findings discussed above, the Council concludes that SFN would comply  
29 with applicable regulations pertaining to water rights if Amendment #1 were approved.

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<sup>98</sup> Email from Sarah Kelly, DSL, November 30, 2009.

<sup>99</sup> Email from Patricia Pilz, January 2, 2010.

<sup>100</sup> Final Order on Amendment #1 (SFWF), pp. 62-63.

<sup>101</sup> Each service area would include a portable concrete batch plant, a refueling station and a water well (email from Patricia Pilz, July 12, 2009).

<sup>102</sup> ORS 537.545 provides a water right exemption for industrial and commercial uses of up to 5,000 gallons per day. The statute was amended in 2009 to require the owner of land on which an exempt well is drilled to provide a map to WRD showing the exact location of the well and to file the exempt water use with WRD for recording with submittal of a fee.

<sup>103</sup> Email from Patricia Pilz, December 16, 2009.

#### (d) Public Health and Safety

1 Under ORS 469.310, the Council is charged with ensuring that the “siting,  
2 construction and operation of energy facilities shall be accomplished in a manner consistent  
3 with protection of the public health and safety....” State law further provides that “the site  
4 certificate shall contain conditions for the protection of the public health and safety....” ORS  
5 469.401(2).

##### Findings of Fact

6 We discuss the Council’s Public Health and Safety Standards for Wind Energy  
7 Facilities above at page 20. In this section, we discuss the issues of fire protection, magnetic  
8 fields and coordination with the Oregon Public Utility Commission and the Boardman  
9 Military Operating Area.

##### A. Fire Protection

10 In the *Final Order on Amendment #1(SFWF)*, the Council made findings and adopted  
11 conditions regarding fire prevention and response for SFN.<sup>104</sup> Those findings are incorporated  
12 herein by this reference. The proposed amendment would enlarge the SFN site to  
13 accommodate an alternative route for a 230-kV transmission line. The changes requested by  
14 the amendment would not result in new fire risks that would be different from the types of  
15 risk already considered by the Council. The site certificate includes conditions that address  
16 fire protection and response (Conditions 53, 54, 55, 56, 58 and 60), and the Council finds that  
17 no new fire protection conditions are necessary.

##### B. Magnetic Fields

18 Electric transmission lines create both electric and magnetic fields. The electric fields  
19 associated with the proposed transmission lines are addressed above at page 22. The  
20 certificate holder proposes to construct an aboveground 230-kV interconnection transmission  
21 line as described in the amendment request.<sup>105</sup> In the *Final Order on the Application for the*  
22 *Shepherds Flat Wind Farm*, the Council made findings regarding the magnetic fields that  
23 could be produced by aboveground 230-kV transmission lines.<sup>106</sup> Those findings are  
24 incorporated herein by this reference. The *Final Order* includes references to the scientific  
25 literature on the biological effects of exposure to electric and magnetic fields. The Council has  
26 not found sufficient information upon which to set health-based limits for exposure to  
27 magnetic fields.<sup>107</sup> Nevertheless, the Council has encouraged applicants to implement low-  
28 cost measures to reduce or manage public exposure to magnetic fields from transmission lines  
29 under the Council’s jurisdiction. Condition 81 requires the certificate holder to take  
30 reasonable steps to reduce or manage human exposure to electromagnetic fields, including  
31 specific measures listed in the condition.

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<sup>104</sup> Final Order on Amendment #1 (SFWF), p. 63 (incorporating findings from the *Final Order on the Application* (July 25, 2008), p. 139).

<sup>105</sup> Request for Amendment #1, Section I, p. 1.

<sup>106</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 139-141.

<sup>107</sup> A recent review of the scientific literature confirmed the Council’s earlier findings (Golder Associates, *EMF Report*, November 23, 2009).

C. Coordination with the PUC

1 The Oregon Public Utility Commission Safety and Reliability Section (PUC) has  
2 requested that the Council ensure that certificate holders coordinate with PUC staff on the  
3 design and specifications of electrical transmission lines and the natural gas pipelines. The  
4 PUC has explained that others in the past have made inadvertent, but costly, mistakes in the  
5 design and specifications of power lines and pipelines that could have easily been corrected  
6 early if the developer had consulted with the PUC staff responsible for the safety codes and  
7 standards. Condition 82 requires the certificate holder to coordinate the design of electric  
8 transmission lines with the PUC.

D. Boardman Military Operating Area

9 In the *Final Order on the Application for the Shepherds Flat Wind Farm*, the Council  
10 made findings regarding the Boardman Military Operating Area (BMOA), which lies to the  
11 east of the SFN site boundary.<sup>108</sup> Those findings are incorporated herein by this reference.  
12 The certificate holder has agreed to provide the proposed final project layout to the Navy  
13 before construction and to work with the Navy to accommodate the Navy’s interest in safe  
14 aviation training routes, which may include adjusting turbine locations where feasible.<sup>109</sup>

Conclusions of Law

15 Based on the findings discussed above and subject to the site certificate conditions  
16 discussed herein, the Council concludes that SFN would comply with requirements to protect  
17 public health and safety if Amendment #1 were approved.

**2. Requirements That Are Not Under Council Jurisdiction**

**(a) Federally-Delegated Programs**

18 Under ORS 469.503(3), the Council does not have jurisdiction for determining  
19 compliance with statutes and rules for which the federal government has delegated the  
20 decision on compliance to a state agency other than the Council. Nevertheless, the Council  
21 may rely on the determinations of compliance and the conditions in the federally-delegated  
22 permits issued by these state agencies in deciding whether the proposed facility meets other  
23 standards and requirements under its jurisdiction.

**(b) Requirements That Do Not Relate to Siting**

24 Under ORS 469.401(4), the Council does not have authority to preempt the  
25 jurisdiction of any state agency or local government over matters that are not included in and  
26 governed by the site certificate or amended site certificate. Such matters include  
27 design-specific construction or operating standards and practices that do not relate to siting.  
28 Nevertheless, the Council may rely on the determinations of compliance and the conditions in  
29 the permits issued by these state agencies and local governments in deciding whether the  
30 facility meets other standards and requirements under its jurisdiction.

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<sup>108</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 141.

<sup>109</sup> Email from Patricia Pilz, July 17, 2009.

## VI. GENERAL APPLICATION OF CONDITIONS

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

10 In addition to all other conditions referenced or included in this order, the site  
11 certificate holder is subject to all conditions and requirements contained in the rules of the  
12 Council and in local ordinances and state law in effect on the date the amended site certificate  
13 is executed.<sup>110</sup> Under ORS 469.401(2), upon a clear showing of a significant threat to the  
14 public health, safety or the environment that requires application of later-adopted laws or  
15 rules, the Council may require compliance with such later-adopted laws or rules.

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

## VII. GENERAL CONCLUSION

20 The proposed amendment would expand the facility site to allow an optional  
21 transmission line route and would create an exception to Condition 40(d) regarding the  
22 minimum setback distance from facility wind turbines to the nearest boundary of the  
23 certificate holder's lease area. The Council adopts revisions to the site certificate as described  
24 in the section that follows.

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

- 27 1. The proposed Amendment #1 complies with the requirements of the Oregon  
28 Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to  
29 469.619.
- 30 2. The proposed Amendment #1 complies with the applicable standards adopted by  
31 the Council pursuant to ORS 469.501.
- 32 3. The proposed Amendment #1 complies with all other Oregon statutes and  
33 administrative rules applicable to the amendment of the site certificate that are  
34 within the Council's jurisdiction.

35 Accordingly, the Council finds that the facility complies with the General Standard of  
36 Review (OAR 345-022-0000). The Council concludes, based on a preponderance of the

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<sup>110</sup> With regard to land use, the applicable local criteria are those in effect on the date the certificate holder submitted the request for amendment.

1 evidence on the record, that the site certificate may be amended as requested by the certificate  
2 holder, subject to the revisions recommended by the Department and set forth below.

### 1. The Department's Recommended Revisions

3 New text proposed by the Department is shown with a single underline. New text  
4 proposed by the certificate holder with concurrence by the Department is shown with a double  
5 underline. Text proposed by the certificate holder but not recommended by the Department is  
6 not shown.<sup>111</sup> Deletions are shown with a strikethrough. The parenthetical references in  
7 square brackets follow standard practice and provide a historical reference of when changes  
8 were made to the site certificate. Page references are to the *Site Certificate for Shepherds Flat*  
9 *North* (September 11, 2009).

#### Revision 1

10 *Page 1, lines 7-15:*

11 The findings of fact, reasoning and conclusions of law underlying the terms and conditions of  
12 this site certificate are set forth in the following documents, incorporated herein by this  
13 reference: (a) the Council's *Final Order on the Application for the Shepherds Flat Wind Farm*  
14 *issued on July 25, 2008, and (b) the Final Order on Amendment #1 for the Shepherds Flat*  
15 *Wind Farm, and (c) the Final Order on Amendment #1.* In interpreting this site certificate, any  
16 ambiguity will be clarified by reference to the following, in order of priority: (1) this First  
17 Amended Site Certificate, (2) the Final Order on Amendment #1, (23) the Final Order on  
18 Amendment #1 for the Shepherds Flat Wind Farm, (34) the Final Order on the Application for  
19 the Shepherds Flat Wind Farm and (45) the record of the proceedings that led to the Final  
20 Orders on the Application and Amendment #1 for the Shepherds Flat Wind Farm and to the  
21 Final Order on Amendment #1. [Amendment #1 (SFWF); Amendment #1]

#### Revision 1 Explanation

22 This revision adds a reference in the site certificate to the findings of fact, reasoning  
23 and conclusions in support of the present amendment. The revision establishes the order of  
24 priority in which the underlying documents should be considered in resolving any ambiguity.  
25 The present amendment of the site certificate for SFN is designated as "Amendment #1" and  
26 is distinguished from Amendment #1 for the Shepherds Flat Wind Farm, which is designated  
27 as "Amendment #1 (SFWF)."

#### Revision 2

28 *Page 1, lines 16-22:*

29 ~~This site certificate is issued concurrently with site certificates for Shepherds Flat Central and~~  
30 ~~Shepherds Flat South, as described in the Final Order on Amendment #1 for the Shepherds~~  
31 ~~Flat Wind Farm, each of the three relating to a physically and geographically discrete portion~~  
32 ~~of the facility authorized by the Site Certificate for the Shepherds Flat Wind Farm (July 25,~~  
33 ~~2008). Effective upon execution of all three new site certificates, the new site certificates will~~  
34 ~~supersede the Site Certificate for the Shepherds Flat Wind Farm, which will be of no further~~  
35 ~~force and effect. [Text added by Amendment #1 (SFWF) was removed by Amendment #1.]~~

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<sup>111</sup> The only specific change to the site certificate proposed by the certificate holder is a change to Condition 40(d), shown in the Request for Amendment #1, Section IV, p. 2.

### Revision 2 Explanation

1 For the purposes of the original site certificate for SFN, the deleted text explained that  
2 Amendment #1 (SFWF) created SFN as a separate facility with its own site certificate.  
3 Concurrently, Amendment #1 (SFWF) created SFC and SFS. Separate site certificates for  
4 each of the new facilities were executed and became effective on September 11, 2009, and  
5 superseded the previous site certificate for the SFWF, which has no further force or effect.  
6 Because that effective date has occurred, the deleted text is no longer necessary or appropriate  
7 for the SFN site certificate. Future amendments of this site certificate may or may not occur  
8 concurrently with amendments of the site certificates for SFC and SFS.

### Revision 3

9 *Page 1, line 33, through page 2, line 3:*

- 10 3. This site certificate does not address, and is not binding with respect to, matters that were  
11 not addressed in the Council's Final Orders on the Application and Amendment #1 for the  
12 Shepherds Flat Wind Farm and in the Final Order on Amendment #1. Such matters  
13 include, but are not limited to: building code compliance, wage, hour and other labor  
14 regulations, local government fees and charges and other design or operational issues that  
15 do not relate to siting the facility (ORS 469.401(4)) and permits issued under statutes and  
16 rules for which the decision on compliance has been delegated by the federal government  
17 to a state agency other than the Council. 469.503(3). [Amendment #1 (SFWF); Amendment  
18 #1]

### Revision 3 Explanation

19 This revision adds the matters addressed in the *Final Order on Amendment #1* to the  
20 scope of matters addressed in the site certificate.

### Revision 4

21 *Page 2, lines 30-34:*

22 The energy facility is an electric power generating facility with an average electric generating  
23 capacity of up to 106 megawatts and a peak generating capacity of not more than 318  
24 megawatts that produces power from wind energy. The facility consists of not more than 106  
25 wind turbines. The energy facility is described further in the *Final Order on Amendment #1*  
26 *for the Shepherds Flat Wind Farm and in the Final Order on Amendment #1*. [Amendment #1  
27 (SFWF); Amendment #1]

### Revision 4 Explanation

28 The revision adds cross-references to descriptions of the facility in the present order.

### Revision 5

29 *Page 2, line 35, through page 3, line 8:*

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

- 33 ● Power Collection System
- 34 ● Collector Substation
- 35 ● Meteorological towers
- 36 ● Field workshop
- 37 ● Control system

- Access roads
- Additional construction areas

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

#### Revision 5 Explanation

The revision adds a cross-reference to descriptions of the related or supporting facilities in the present order.

#### Revision 6

*Page 3, lines 10-14:*

A power collection system operating at 34.5 kilovolts (kV) transports power from each turbine to a collector substation. ~~To the extent practicable, the~~The collection system is installed underground at a depth of at least three feet. ~~Segments of the collector system are aboveground. Aboveground segments are installed on single pole, cross arm structures or understrung on the 230 kV transmission line support structures (described below).~~  
[Amendment #1]

#### Revision 6 Explanation

This revision eliminates the option of building any segments of the collector system aboveground.

#### Revision 7

*Page 11, lines 4-42:*

30 Before beginning construction, the certificate holder shall submit to the State of Oregon through the Council a bond or letter of credit in the amount described herein naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount is either ~~\$7.802~~\$7.443 million (~~3<sup>rd</sup>~~1<sup>st</sup> Quarter ~~2009~~2010 dollars), to be adjusted to the date of issuance as described in (b), or the amount determined as described in (a). The certificate holder shall adjust the amount of the bond or letter of credit on an annual basis thereafter as described in (b).

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

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

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

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

1 (iii) Add 10 percent of the adjusted Gross Cost (ii) for the adjusted administration  
2 and project management costs and 10 percent of the adjusted Gross Cost (ii) for the  
3 adjusted future developments contingency.

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

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

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

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

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

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

### Revision 7 Explanation

16 This revision adjusts the initial financial assurance amount based on the changes  
17 requested in Amendment #1 and expresses the total in 1<sup>st</sup> Quarter 2010 dollars.

### Revision 8

18 *Page 12, line 40, through page 13, line 13:*

19 40 The certificate holder shall construct all facility components in compliance with the  
20 following setback requirements:

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

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

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

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

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

38 [Amendment #1]

### Revision 8 Explanation

39 This revision modifies Condition 40 to allow an exception to the minimum setback  
40 distance of 110-percent of maximum blade tip height from a turbine tower to the nearest  
41 boundary of the certificate holder's lease area. New subsection (e) allows an exception for a  
42 single isolated area that is specifically identified in this order. As described at page 21, this  
43 area is contained within a larger parcel of land that is owned by the same landowner. The area

1 is not accessible to the general public. The exception does not conflict with the requirements  
2 of subsections (a), (b) and (c).

Revision 9

3 *Page 16, lines 29-31:*

4 65 The certificate holder shall construct access roads with a finished width of  
5 approximately 16 feet, a compacted base of native soil and a gravel surface to a depth of  
6 four to ~~six~~ten inches. [Amendment #1 (SFWF); Amendment #1]

Revision 9 Explanation

7 This revision modifies Condition 65 to allow up to ten inches of gravel on access  
8 roads, as requested by the certificate holder.

Revision 10

9 *Page 18, lines 9-15:*

10 79 The certificate holder shall install the 34.5-kV collector system underground ~~to the~~  
11 ~~extent practicable~~. The certificate holder shall install underground lines at a minimum  
12 depth of three feet. ~~Based on geotechnical conditions or other engineering~~  
13 ~~considerations, the certificate holder may install segments of the collector system~~  
14 ~~aboveground on single pole, cross arm structures or understrung on the 230-kV~~  
15 ~~transmission line support structures, but the total length of aboveground segments~~  
16 ~~installed on single pole structures must not exceed 12.9 miles.~~ [Amendment #1 (SFWF);  
17 Amendment #1]

Revision 10 Explanation

18 The certificate holder has determined that the collector system for SFN will be  
19 installed entirely underground. This revision modifies Condition 79 to remove the option of  
20 installing segments of the collector system aboveground.

Revision 11

21 *Page 18, lines 18-33:*

22 81 The certificate holder shall take reasonable steps to reduce or manage human exposure  
23 to electromagnetic fields, including but not limited to:  
24 (a) Constructing all aboveground transmission lines at least 200 feet from any  
25 residence or other occupied structure, measured from the centerline of the transmission  
26 line.  
27 (b) ~~Constructing all aboveground 34.5 kV transmission lines with a minimum~~  
28 ~~clearance of 20 feet from the ground.~~[Text removed by Amendment #1.]  
29 (c) Constructing all aboveground 230-kV transmission lines with a minimum  
30 clearance of 24 feet from the ground.  
31 (d) Fencing the areas near the facility substation to ensure that substation equipment  
32 is not accessible to the public.  
33 (e) Providing to landowners a map of underground and overhead transmission lines  
34 on their property and advising landowners of possible health risks.  
35 (f) Designing and maintaining all transmission lines so that alternating current  
36 electric fields do not exceed 9 kV per meter at one meter above the ground surface in  
37 areas accessible to the public.  
38 [Amendment #1 (SFWF); Amendment #1]

## Revision 11 Explanation

1 The certificate holder has determined that the collector system for SFN will be  
2 installed entirely underground. This revision modifies Condition 81 to remove the reference to  
3 aboveground segments of the collector system.

## Revision 12

4 *Page 19, lines 15-36:*

5 86 The certificate holder shall avoid permanent and temporary disturbance to the areas  
6 described in (a) through (g) and, during the times indicated, shall avoid construction  
7 disturbance in the areas described in (h) ~~and (i)~~ through (k). The certificate holder shall  
8 flag these areas for the duration of construction activities nearby and shall ensure that  
9 construction personnel avoid disturbance of the areas. The avoidance areas are:

10 (a) All Category 1 habitat and those areas of Category 2 habitat shown on the  
11 “ODFW-2” Figures 1 through 12 in the Shepherds Flat Wind Farm Application.

12 [Amendment #1 (SFWF)]

13 (b) [text removed by Amendment #1 (SFWF)]

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

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

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

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

19 (g) For the facility substation and field workshop, all Category 3 habitat.

20 [Amendment #1 (SFWF)]

21 (h) [text removed by Amendment #1 (SFWF)]

22 (i) The area within 0.5 miles of Category 3 curlew nesting habitat and the area  
23 within 0.5 miles the BLM Horn Butte Wildlife Area during the nesting season (March 8  
24 through June 15). Before beginning construction, the certificate holder shall provide to  
25 the Department a map showing these avoidance areas relative to areas of potential  
26 construction disturbance. The certificate holder may engage in construction activities in  
27 these areas at times other than the nesting season.

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

42 (k) Areas within a suitable buffer around confirmed populations of Laurent’s milk-  
43 vetch or any other State-listed threatened or endangered plant species within the new  
44 areas added to the site by Amendment #1 (excluding the area within the site boundaries  
45 of Shepherds Flat North, Shepherds Flat Central and Shepherds Flat South as approved  
46 on September 11, 2009). The certificate holder shall not install facility components or  
47 cause temporary disturbance within these areas. The certificate holder shall hire a

1 qualified independent professional biologist to conduct pre-construction surveys for  
2 State-listed threatened or endangered plant species in these new areas within 1,000 feet  
3 of any area potentially disturbed by facility construction. The certificate holder shall  
4 submit the results of the survey to the Department.

5 [Amendment #1]

#### Revision 12 Explanation

6 This revision modifies Condition 86 to add subsections (j) and (k). New subsection (j)  
7 requires a preconstruction survey for State-listed threatened, endangered and sensitive wildlife  
8 species in the new lands added to SFS by this amendment, as recommended by ODFW. In  
9 particular, the certificate-holder would use an ODFW-approved protocol to search for WGS.  
10 Any Category 1 WGS habitat identified during the survey would be avoided under subsection  
11 (a) of this condition. In addition, the area within a 1,000-foot buffer would be avoided during  
12 construction when WGS are active. The revision adds new subsection (k) to ensure avoidance  
13 of impact to populations of Laurent's milk-vetch or other State-listed threatened or  
14 endangered plant species that are found during a preconstruction survey.

#### Revision 13

15 *Page 20, lines 36-39:*

16 92 The certificate holder shall impose and enforce construction and operation speed limits  
17 of 5 miles per hour on roads within 1,000 feet of Category 1 or Category 2 Washington  
18 ground squirrel habitat identified in the preconstruction survey required under Condition  
19 86 and 20 miles per hour on all other facility roads and shall ensure that all construction  
20 and operations personnel are instructed on the importance of cautious driving practices  
21 while on facility roads. [Amendment #1 (SFWF); Amendment #1]

#### Revision 13 Explanation

22 This revision modifies Condition 92 to include a lower speed limit near any Category  
23 1 or Category 2 Washington ground squirrel habitat that is found within the new areas lying  
24 outside previously-approved site boundaries. This would apply only if WGS are found to be  
25 active based on the preconstruction survey that is required under Condition 86(j), discussed  
26 above.

#### Revision 14

27 *Page 23, following line 15:*

28 103 Before beginning construction, the certificate holder shall determine whether any  
29 construction disturbance would occur in locations not previously investigated for  
30 potential jurisdictional waters as described in the Final Order on Amendment #1. The  
31 certificate holder shall conduct pre-construction investigations in these new areas within  
32 1,000 feet of any area potentially disturbed by facility construction to determine whether  
33 any State-jurisdictional waters exist in those locations. The certificate holder shall  
34 submit a written report on the pre-construction investigation to the Department of  
35 Energy and to the Department of State Lands for approval before beginning construction  
36 and shall ensure that construction would have no impact on any jurisdictional water  
37 identified in the report. [Amendment #1]

Revision 14 Explanation

1           This revision would add new Condition 103 to the site certificate to require pre-  
2 construction survey of any areas not previously surveyed for waters of the state potentially  
3 subject to the Removal/Fill law. If any jurisdictional waters are identified, the certificate  
4 holder is required to take appropriate measures to avoid impacts on those areas.

**VIII. ORDER**

5           The Council approves Amendment #1 and issues an amended site certificate, subject  
6 to the terms and conditions set forth above.

Issued this 12<sup>th</sup> day of March, 2010.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: \_\_\_\_\_

Robert Shiprack, Chair  
Oregon Energy Facility Siting Council

Attachments

Attachment D: Amendment Request Comments and Department Responses

**Notice of the Right to Appeal**

*You have the right to appeal this order to the Oregon Supreme Court pursuant to ORS 469.403. To appeal you must file a petition for judicial review with the Supreme Court within 60 days from the day this order was served on you. If this order was personally delivered to you, the date of service is the date you received this order. If this order was mailed to you, the date of service is the date it was mailed, not the day you received it. If you do not file a petition for judicial review within the 60-day time period, you lose your right to appeal.*