

**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 the Klondike III Wind Project)
_____)
FINAL ORDER ON
AMENDMENT #1

November 3, 2006

KLONDIKE III WIND PROJECT:
FINAL ORDER ON AMENDMENT #1

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LIST OF ABBREVIATIONS

BPA	Bonneville Power Administration
Council	Energy Facility Siting Council
CRP	Conservation Reserve Program
Department	Oregon Department of Energy
dBA	The “A-weighted” sound pressure level. The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
DEQ	Oregon Department of Environmental Quality
kV	kilovolt or kilovolts
LCDC	Land Conservation and Development Commission
PPM	PPM Energy, Inc.
MW	megawatt or megawatts
O&M	Operations and maintenance
ODFW	Oregon Department of Fish and Wildlife
SCADA	supervisory, control and data acquisition
SCCP	Sherman County Comprehensive Plan
SCZO	Sherman County Zoning Ordinance
SHPO	State Historic Preservation Office
USFWS	U.S. Fish and Wildlife Service
WMMP	Wildlife Monitoring and Mitigation Plan
WRD	Oregon Water Resources Department

**KLONDIKE III WIND PROJECT:
FINAL ORDER ON AMENDMENT #1**

I. INTRODUCTION

1 The Oregon Energy Facility Siting Council (Council) issues this final order in
2 accordance with ORS 469.405 and OAR 345-027-0070. This order addresses a request by the
3 certificate holder for amendment of the site certificate for the Klondike III Wind Project
4 (KWP). The certificate holder is Klondike Wind Power III LLC (KIII).

5 On June 30, 2006, the Council issued a site certificate for the KWP, a wind energy
6 facility with a peak generating capacity of approximately 272 megawatts (MW) to be built in
7 Sherman County, Oregon. The facility is not yet under construction.

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

II. PROCEDURAL HISTORY AND AMENDMENT PROCESS

10 On July 31, 2006, KIII submitted to the Oregon Department of Energy (Department) a
11 request to amend the site certificate.¹ On August 11, as required under OAR 345-027-0070,
12 the Department instructed the certificate holder to send copies of the request to the
13 appropriate officers, agencies and tribes listed in OAR 345-020-0040. The Department
14 requested agency comments by August 25. Also as required under the rule, the Department
15 sent notice of the amendment request to all persons on the Council's mailing list and to
16 persons on an updated list of property owners supplied by KIII. On August 10, 2006, the
17 Department notified KIII that the proposed order would be issued no later than October 9,
18 2006.

19 The Department received only one public comment on the amendment request by the
20 deadline of August 25. The comment was from the U.S. Fish and Wildlife Service (USFWS),
21 and it included specific recommendations for site certificate conditions to address potential
22 adverse effects of the KWP on avian and bat species.² The Department responded to the
23 USFWS letter on September 20, noting that many of the USFWS recommendations were
24 already addressed by conditions in the site certificate and enclosing a detailed response letter
25 from KIII.³ Department received agency responses from the Water Resources Department,
26 the Department of Geology and Mineral Industries, the Sherman County Planning Director,
27 the Department of Agriculture and the Office of the State Fire Marshal. The agencies did not
28 raise any issues of concern regarding the proposed amendment.

29 The Department issued a proposed order on October 2, 2006, recommending that the
30 Council approve the amendment request, subject to site certificate revisions. The Department
31 issued notice of the proposed order in accordance with OAR 345-027-0070 specifying a

¹ "First Request for Amendment to the Klondike III Wind Project," referred to herein as Request for Amendment #1.

² Letter from Nancy Gilbert, Field Supervisor, U.S. Fish and Wildlife Service, August 25, 2006.

³ Letter from John White, Oregon Department of Energy, September 20, 2006, (enclosing letter from Andrew Linehan, PPM Energy, September 5, 2006).

1 deadline for public comments and requests for a contested case proceeding. No adverse
2 comments or contested case requests were received by the deadline of November 2, 2006.

3 The Council considered the amendment request at a meeting on November 3, 2006,
4 and voted to approve the amendment request subject to the revisions recommended by the
5 Department.

III. DESCRIPTION OF THE PROPOSED AMENDMENT

6 KIII requests an amendment of the site certificate that, if approved, would:

- 7 1. Authorize the use of larger turbines.
- 8 2. Increase the authorized peak generating capacity of the facility from 272.25
9 megawatts to approximately 285 megawatts.
- 10 3. Allow construction of 34.5-kV collector lines outside of previously-approved
11 areas, allow up to 12 miles of aboveground 34.5-kV collector lines and eliminate
12 the previously-approved 230-kV transmission line along Klondike Lane.
- 13 4. Eliminate the previously-approved substation near Webfoot.
- 14 5. Allow construction of approximately 3 miles of access road segments outside of
15 previously-approved areas.
- 16 6. Give the certificate holder the option of locating the Operations and Maintenance
17 (O&M) building on a 3-acre site south of Klondike Lane or on the previously-
18 approved 4-acre site.
- 19 7. Change the location of all three meteorological (met) towers.
- 20 8. Allow minor widening of turbine micro-siting corridors.
- 21 9. Allow temporary disturbance outside of previously-approved areas.

1. Amendment Procedure

22 Under OAR 345-027-0050(1), the certificate holder must request a site certificate
23 amendment “to design, construct, operate or retire a facility in a manner different from the
24 description in the site certificate” if the proposed change:

- 25 a) Could result in a significant adverse impact that the Council did not evaluate and
26 address in the final order granting a site certificate affecting any resource protected
27 by applicable standards in Divisions 22 and 24 of this chapter;
- 28 b) Could result in a significant adverse impact that the Council did not evaluate and
29 address in the final order granting a site certificate affecting geographic areas or
30 human, animal or plant populations;
- 31 c) Could impair the certificate holder's ability to comply with a site certificate
32 condition; or
- 33 d) Could require a new condition or a change to a condition in the site certificate.

34 Because the proposed amendment would authorize construction outside of the site
35 boundary previously approved by the Council, construction could have adverse impacts that

1 the Council did not evaluate and address in the Final Order on the Application. Such impacts
2 could affect the resources protected by standards in Divisions 22 and 24 and could affect
3 geographic areas or human, animal or plant populations. The proposed amendment would
4 impair the certificate holder's ability to comply with current site certificate conditions and
5 could require new conditions or changes to current conditions. For these reasons, amendment
6 of the site certificate is needed to allow construction and operation of the KWP as proposed in
7 the amendment request.

8 In addition, an amendment is needed under Condition 38 of the site certificate:

9 *(38) Notwithstanding OAR 345-027-0050(2), an amendment of the site certificate is*
10 *required if the proposed change would increase the electrical generation*
11 *capacity of the facility and would increase the number of wind turbines or the*
12 *dimensions of existing wind turbines.*

13 The proposed change would increase the electrical generation capacity of the facility
14 and would increase the dimensions of existing (approved) wind turbines.

15 The proposed amendment would enlarge the site of the KWP facility and would make
16 other changes to the construction and operation of the facility allowed under the site
17 certificate. For those areas of where the site boundary would be enlarged, the Council must
18 consider whether the facility complies with all Council standards (OAR 345-027-0070(9)(a)).
19 For the other changes, the Council must consider the effects of the amendment on any finding
20 required by Council standards (OAR 345-027-0070(9)(c)).

2. Amendments to the Site Certificate as Proposed by KIII

21 In its request for Amendment #1, KIII proposed the following amendments to the site
22 certificate. Proposed additions are double-underlined and proposed deletions have a
23 strikethrough. The Department recommended revisions to the site certificate that incorporate
24 the substance of these amendments but that included additional language consistent with
25 KIII's request. The Department's recommended revisions are discussed in Section VII.1.

26 *Page 2, lines 18-24:*

27 The energy facility is an electric power generating plant with an average electric generating
28 capacity of approximately ~~9194.33~~94.33 megawatts and a peak generating capacity of not more than
29 ~~272.25283~~ megawatts that produces power from wind energy. The facility consists of not
30 more than 165 wind turbines, each with a peak generating capacity of not more than ~~1.652.4~~
31 megawatts. Turbines are mounted on tubular steel towers. The turbine towers are about 265
32 feet tall at the turbine hub and have an overall height of about ~~400~~413 feet including the radius
33 swept by the turbine blades. The energy facility is described further in the Final Order on the
34 Application.

35 *Page 2, lines 35-37, and page 3, lines 1-3:*

36 A power collection system operating at 34.5 kilovolts (kV) transports power from each turbine
37 to a collector substation. Most of the collection system is in underground segments but may
38 include aboveground segments, not exceeding ~~5.5~~12 miles in combined length, mounted on
39 monopole support structures. Power from the eastern section of the facility is transmitted to a
40 substation near Schoolhouse on an aboveground power line operating at 230-kV
41 approximately 3.5 miles in length, supported on wood or steel poles.

1 *Page 10, lines 12-14:*

2 (28) The certificate holder shall construct a facility substantially as described in the site
3 certificate and may select ~~one of two turbine types: the GE 1.5 megawatt wind turbine or~~
4 ~~the Vestas V82 1.65 megawatt wind turbine~~any turbine type such that the hub height
5 does not exceed 80 meters; the rotor diameter does not exceed 92.5 meters; overall
6 height, including blades, does not exceed 126 meters; the peak generating capacity does
7 not exceed 2.4 megawatts; the noise generated by the turbine does not exceed 110 dB;
8 and the turbine type otherwise meets the conditions set forth in the site certificate.

9 *Page 10, lines 22-37:*

10 (31) Before beginning construction and after considering all micrositing factors, the certificate
11 holder shall provide to the Department a detailed map of the proposed facility, showing
12 the final locations where facility components are proposed to be built in relation to the
13 300-foot and 900-foot corridors shown on Figures P-1 through P-6 of the first request to
14 amend the site certificate application ~~(as revised March 1~~ dated July 28, 2006). In
15 accordance with Condition (2), the certificate holder must submit a legal description of
16 the site to the Department. For the purposes of this site certificate, the term “legal
17 description” means a description of location by reference to a map and geographic data
18 that clearly and specifically identifies the physical location of all parts of the facility.
19 Notwithstanding OAR 345-027-0020(2), for the purposes of this site certificate,
20 construction of parts of a wind facility within micrositing corridors is comparable to
21 construction of pipelines or transmission lines within Council-approved corridors as
22 described in OAR 345-027-0023(6). Before beginning operation of the facility, the
23 certificate holder shall submit to the Department a legal description for those parts of the
24 facility constructed within micrositing corridors. The final site of the facility includes the
25 final turbine site corridors and other facility components as described in the final order
26 on the first request to amend site certificate application and in this site certificate.

27 *Page 13, lines 18-29:*

28 (48) Before beginning construction, the certificate holder shall provide to the Department a
29 map showing the final design locations of all components of the facility and areas that
30 would be temporarily disturbed during construction and also showing the areas that
31 Archaeological Investigations Northwest, Inc. (AINW) surveyed in 2005 and 2006, as
32 described in the site certificate application and the first request to amend the site
33 certificate. The certificate holder shall hire qualified personnel to conduct field
34 investigation of all areas of permanent or temporary disturbance that AINW did not
35 previously survey and shall provide a written report of the field investigation to the
36 Department. If any significant historic, cultural or archaeological resources are found
37 during the field investigation, the certificate holder shall ensure that construction and
38 operation of the facility will have no impact on the resources. The certificate holder shall
39 instruct all construction personnel to avoid the areas where the resources were found and
40 shall implement other appropriate measures to protect the resources.

41 *Page 17, lines 39-42, and page 18, lines 1-4:*

42 (84) The certificate holder shall install the 34.5-kV collector system underground to the extent
43 practical. Where geotechnical conditions or other engineering considerations require, the
44 certificate holder may install segments of the collector system aboveground in developed
45 or agricultural areas that are Category 6 habitat, but the total length of aboveground
46 segments must not exceed ~~5.5~~12 miles. The certificate holder shall construct

1 aboveground segments of the collector system using single or double circuit monopole
2 design as described in the site certificate application and shall not locate any
3 aboveground segments within 200 feet of any existing residence.

4 *Page 19, lines 5-23:*

5 (92) The certificate holder may construct turbines and other facility components within the
6 900-foot corridors shown on Figures P-1 through P-6 of the site certificate application
7 (as revised March 1, 2006, and as further revised as part of the first request to amend the
8 site certificate, dated July 28, 2006), subject to the following requirements addressing
9 potential habitat impact:

10 (a) The certificate holder shall not construct any facility components within areas of
11 Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

12 (b) The certificate holder shall design and construct facility components that are the
13 minimum size needed for safe operation of the energy facility.

14 (c) To the extent possible, the certificate holder shall construct facility components in
15 the locations shown on Figure C-2A and C-2B submitted with the first request to amend
16 of the site certificate application.

17 (d) If the certificate holder must change the layout of facility components from what is
18 shown on Figure C-2A and C-2B due to micrositing considerations, the certificate holder
19 shall, to the extent possible, construct facility components within the 300-foot corridors
20 shown on Figures P-1 through P-6 of the site certificate application (as revised March 1,
21 2006, and as further revised as part of the first request to amend the site certificate, dated
22 July 28, 2006).

23 (e) The certificate holder may construct facility components outside the 300-foot
24 corridors if necessary due to micrositing considerations, except that the certificate holder
25 shall not construct any facility components outside the 900-foot corridors shown on
26 Figures P-1 through P-6 of the site certificate application (as revised March 1, 2006, and
27 as further revised as part of the first request to amend the site certificate, dated July 28,
28 2006) or cause any temporary disturbance outside those 900-foot corridors.

3. Description of the Facility as Authorized by Amendment #1

29 If the Council approves Amendment #1, the certificate holder would be authorized to
30 construct and operate the KWP facility as described in the Final Order on the Application,
31 except as modified by the changes described below.

Turbine Selection

33 In the Request for Amendment #1, KIII has proposed to use larger turbines on some,
34 but not all, of the previously-approved turbine strings. The amendment would not add new
35 turbine strings, and the larger turbines would be located within the previously-approved 900-
36 foot-wide micrositing corridors. Figure C-3A of the amendment request identifies the turbine
37 strings where the certificate holder proposes to use larger turbines.⁴ Figure C-3A is
38 incorporated herein by this reference. Table 1 below shows the previously-approved
39 micrositing corridor centerlines with the “old” turbine string letter-designations (as shown on
40 Table 1 of the Final Order on the Application) and the “new” turbine string letter-designations
41 (as shown on Figure C-3A). In this order, turbine strings will be identified by the new letter-
42 designations. The turbine location numbers shown on Table 1 match the numbering scheme
43 on the Turbine Location Map, which was included in the site certificate application as

⁴ Figure C-3A as revised (transmittal from Dana Siegfried, September 14, 2006).

1 Appendix C-3. These turbine locations are the endpoints that define the centerlines of the
 2 previously-approved micro-siting corridors.

Table 1: Micro-siting Corridors for Turbine Strings

New String	Old String	Turbine Location	Latitude	Longitude
B	A	Wpt1	45.56143104000	-120.66263222000
		Wpt4	45.55657671000	-120.66253187000
	B	Wpt5	45.55399210000	-120.66253144000
C	C	Wpt10	45.54668547000	-120.66233485000
		Wpt11	45.54475534000	-120.65828190000
D	D	Wpt17	45.53569225000	-120.65793936000
		Wpt18	45.55153273000	-120.63639962000
E	E	Wpt25	45.54154988000	-120.63605834000
		Wpt26	45.56082735000	-120.62164462000
		Wpt30	45.55487207000	-120.62164402000
F	F	Wpt31	45.55246254000	-120.61348375000
		Wpt37	45.54340912000	-120.61299560000
G	G	Wpt38	45.54166556000	-120.60473603000
		Wpt40	45.53863962000	-120.60468682000
H	H	Wpt50	45.61811216000	-120.58855202000
		Wpt53	45.61346370000	-120.58845450000
		Wpt54	45.62586049000	-120.58014585000
I	I	Wpt57	45.62162465000	-120.58004752000
		Wpt41	45.55442228000	-120.57072676000
J	J	Wpt43	45.55125879000	-120.57072605000
		Wpt44	45.54888661000	-120.56593824000
		Wpt49	45.54170001000	-120.56583954000
K	L	Wpt58	45.62599850000	-120.55320828000
		Wpt71	45.60688553000	-120.55306190000
L	M	Wpt72	45.60407109000	-120.55829426000
		Wpt75	45.59977288000	-120.55819622000
M	N	Wpt163	45.58210000000	-120.55280000000
		Wpt165	45.57781666000	-120.55280000000
N	O	Wpt85	45.60403267000	-120.53060975000
		Wpt94	45.59109475000	-120.53060814000
O	P	Wpt136	45.58262994000	-120.52971039000
		Wpt149	45.56384286000	-120.52936518000
P	Q	Wpt150	45.56167545000	-120.52340252000
		Wpt156	45.55255824000	-120.52325456000
Q	R	Wpt76	45.61862522000	-120.51853089000
		Wpt84	45.60695245000	-120.51818634000
R	S	Wpt95	45.60224306000	-120.51261574000
		Wpt102	45.59192026000	-120.51256887000
S	T	Wpt126	45.58940740000	-120.50693363000
		Wpt129	45.58479718000	-120.50693322000
	U	Wpt130	45.58256088000	-120.50688415000
T	U	Wpt135	45.57526711000	-120.50673689000
		Wpt157	45.56580402000	-120.50620288000
U	V	Wpt162	45.55861344000	-120.50610626000
		Wpt103	45.60420455000	-120.48533296000
V	W	Wpt116	45.58496973000	-120.48513612000
		Wpt117	45.58184026000	-120.48024932000
W	X	Wpt118	45.57998215000	-120.48020049000
		Wpt119	45.58229149000	-120.46256500000
X	Y	Wpt125	45.57388984000	-120.46261412000

3 Under the proposed amendment, the certificate holder would have the option to
 4 construct larger turbines on strings K, L, M, N, R, S, U, V, W and X. On these strings, the

1 certificate holder would be allowed to select any turbine type up to 2.4 MW in peak
2 generating capacity with a turbine hub height of not more than 80 meters and rotor diameter
3 of not more than 92.5 meters and with a maximum sound power level of not more than 107
4 dBA. At a single proposed turbine location, identified as K-02 on Figure C-3A, turbine
5 selection would be subject to the same restrictions except that a maximum sound power level
6 of not more than 110 dBA would be allowed.⁵

7 The amendment would allow the use of either the GE 1.5-megawatt or the Vestas V82
8 1.65-megawatt wind turbine on any of the turbine strings. In the Final Order on the
9 Application, the Council approved the use of either of these two turbine types but required the
10 certificate holder to select only one turbine type. This restriction was based on the site
11 certificate application, which requested approval of the two turbine types as “alternatives.”
12 Both turbine types were analyzed in the Final Order on the Application, and the Council’s
13 findings assumed the “worst case” choice. In the amendment request, KIII has requested the
14 flexibility to use a combination of the GE and Vestas turbines. Because the Council has
15 already made findings on the potential impacts of both turbine types, the Council finds that
16 the site certificate should allow the certificate holder the flexibility to use the two turbine
17 types in combination.

18 The Council modifies Condition 28 to include the restrictions on turbine selection
19 described above. The revised language is shown in Revision 8 below at page 56.

20 **Number of Turbines and Overall Generating Capacity**

21 Under the proposed amendment, the total number of turbines authorized for
22 construction at the KWP site would not change. The certificate holder would be authorized to
23 construct a wind energy facility that includes not more than 165 turbines. As described in the
24 Request for Amendment #1, the maximum number of larger turbines would be 61. If the
25 certificate holder designs the project with the maximum number of larger turbines and selects
26 1.65-MW turbines for the remaining turbine strings, the maximum number of small turbines
27 would be 84. This configuration would produce the maximum overall generating capacity at
28 the facility. Under this configuration, the total number of turbines at the site would be 145 and
29 the overall peak generating capacity would be 285 MW.⁶ The facility’s average electric
30 generating capacity would increase from 91 MW to 95 MW.

31 **Power Collection System**

32 The current site certificate describes a power collection system consisting of
33 approximately 38 miles of 34.5-kV collector line. Approximately 18.3 miles of collector lines
34 would be installed within existing county road right-of way, and an additional 19.7 miles of
35 collector lines would be installed within the leasehold lands of the project. The total length of
36 aboveground segments would not exceed 5.5 miles. In addition, a 230-kV transmission line
37 approximately 3.5 miles long would connect a proposed project substation near Webfoot at
38 the previously-approved Operations and Maintenance (O&M) building site to a project
39 substation near the existing Klondike I and II “Schoolhouse” transmission facilities.

⁵ E-mail from Jesse Gronner, August 8, 2006.

⁶ The maximum generating capacity of 285 MW assumes that a 2.4-MW turbine with a maximum sound power level of 107 dBA becomes available. If the currently available 107-dBA, 2.3-MW turbines are used (except for a single 2.4-MW turbine at K-02), the maximum overall generating capacity of the KWP would be 279 MW.

1 Under the proposed amendment, the overall length of the power collection system
 2 would increase from 38 miles to approximately 59 miles of 34.5-kV collector line.⁷ Nearly all
 3 of the collector lines would be installed outside of county road right-of way within the
 4 leasehold lands of the project. The total length of aboveground segments would not exceed 12
 5 miles. The 230-kV transmission line would not be built.⁸

6 Under the proposed amendment, the certificate holder would have the flexibility to
 7 locate aboveground and underground collector lines within the new micrositing corridors
 8 defined in Table 2 below. Corridor locations are shown on Figure C-2A of the Request for
 9 Amendment #1, incorporated herein by this reference.⁹

Table 2: Micrositing Corridors for Roads, Collector Lines and Crane Paths

#	Description	Width (feet)	End Point (centerline of corridor)	Latitude	Longitude
1	Crane path from B to C	150	w	45.5512069133	-120.660631620
			e	45.5511665407	-120.638201067
2	Collector and road from B5-10 to B11-17	300	n	45.5454346473	-120.661736691
			m	45.5450130550	-120.661322686
			s	45.5449989249	-120.660117702
3	Collector from B to C	200	w	45.5549683513	-120.661244849
			e	45.5549100816	-120.642267709
4	Collector and crane path from C to D (immediately north of and adjacent to Smith Lane right-of-way)	200	w	45.5549273150	-120.641680303
			e	45.5549613110	-120.623497502
5	Road from Smith Lane to C	200	n	45.5549100816	-120.642267709
			s	45.5522334429	-120.638005200
6	Collector from C to e-w corridor to north	200	n	45.5547998199	-120.637920317
			s	45.5522350455	-120.638003787
7	Collectors from C to Smith Lane	200	n	45.5549273150	-120.641680303
			s	45.5539907770	-120.638035839
8	Collector from e-w corridor to D1-D5	200	s	45.5551600234	-120.625173650
			n	45.5621004505	-120.624917345
			e	45.5621301265	-120.621624100
9	Collector and road from D1-5 to D7-13	300	w	45.5543402771	-120.619918385
			e	45.5526091104	-120.615334590
10	Collector from D1-5 to Sandon Rd	200	w	45.5621301395	-120.621611884
			e	45.5618238859	-120.602681502
11	Collector from existing substation to E	200	n	45.5839940886	-120.602654014
			m	45.5437234589	-120.602643544
			s	45.5428948141	-120.604043506
12	Collector from G1-2 to Sandon Rd	200	e	45.5551104974	-120.572343460
			m	45.5617481516	-120.581832866
			w	45.5618238859	-120.602681502
13	Collector and road from G1-2 to G3-9	400	n	45.5510484319	-120.568884045

⁷ E-mail from Dana Siegfried, September 15, 2006.

⁸ E-mail from Jesse Gronner, August 10, 2006.

⁹ Figure C-2A as revised (transmittal from Dana Siegfried, August 24, 2006).

			s	45.5500542196	-120.566833675
14	Crane path from D7-13 to E1-3	150	n	45.5458574862	-120.611474146
			s	45.5421260214	-120.606498973
15	Collectors from existing substation to K	200	w	45.5845527036	-120.601899780
			e	45.5843294537	-120.551973702
16	Collectors from K to M	200	w	45.5843294537	-120.551973702
			e	45.5839326615	-120.529773027
17	Collectors from M to S	200	w	45.5839326615	-120.529773027
			mw	45.5840844498	-120.522677470
			me	45.5831091991	-120.520554743
			e	45.5833672329	-120.508390014
18	Collector from S to W	200	w	45.5831687182	-120.505205897
			e	45.5831429977	-120.480257542
19	Collector from W to X	200	w	45.5831430020	-120.480282450
			e	45.5831350613	-120.464029352
20	Road from M8 to Gosson Ln	200	e	45.5625405275	-120.529250038
			m	45.5620265268	-120.533378244
			w	45.5620091635	-120.541296399
21	Road, crane path and collector from M to N	350	w	45.5625401229	-120.529315736
			e	45.5624428691	-120.524947540
22	Road, crane path and collector from N to U	350	w	45.5624299939	-120.521844343
			e	45.5623806625	-120.507906810
23	Crane path from K to M	150	w	45.5776210727	-120.550955110
			e	45.5759120235	-120.531212606
24	Collector from substation to Dehler Rd	200	s	45.5845527036	-120.601899780
			m	45.5987166329	-120.592299723
			n	45.6050218215	-120.589753622
25	Collector and road from Klondike Rd to H	300	s	45.5848792254	-120.586959084
			n	45.5992811876	-120.559944530
26	Collector from Klondike Rd to L	200	s	45.5848479593	-120.538450912
			m	45.5879351007	-120.538383214
			n	45.5906750845	-120.532390054
27	Collector from Klondike Rd to Mid-V	200	e	45.5911444910	-120.487068458
			w	45.5909647945	-120.500106966
			s	45.5835435683	-120.500272545
28	Collectors and crane path R to S	350	n	45.5908705905	-120.511405023
			s	45.5888700554	-120.508657162
29	Crane path L to R	150	w	45.5987365869	-120.529086348
			e	45.5988191206	-120.514198619
30	Crane path R to V	150	w	45.5978824464	-120.510664203
			e	45.5975107988	-120.487124553
31	Collectors Dehler Rd east to H	200	w	45.6050218215	-120.589753622
			e	45.6053572330	-120.558673119
32	Collectors H to J	300	w	45.6053661504	-120.558578891
			e	45.6055827983	-120.553060589
33	Crane path H to J	150	w	45.6031832950	-120.556513162
			m	45.6030958003	-120.551338747

			e	45.6052080216	-120.551340659
34	Collectors and crane path J to L	350	w	45.6052080216	-120.551340659
			e	45.6053340703	-120.530764193
35	Collectors and crane path L to P	350	w	45.6053338720	-120.530772718
			e	45.6056497052	-120.518246680
36	Crane path from P to R	150	w	45.6050090446	-120.518246474
			e	45.6048843156	-120.511401391
37	Collector from Dehler Rd to F1-4	200	s	45.6052260780	-120.588966326
			n	45.6121874209	-120.588912140
38	Collector from Dehler Rd to F5-8	200	s	45.6052186812	-120.582533609
			n	45.6215957484	-120.581904008
39	Crane path from F1-4 to J	150	w	45.6131642198	-120.586629575
			e	45.6130107232	-120.554964860
40	Crane path from D to G	150	w	45.5528003316	-120.611672750
			e	45.5553084456	-120.573603276
41	Collector from main corridor to U	200	w	45.5620142061	-120.509549019
			e	45.5611995406	-120.507992932
42	Collector and road from substation to met tower	100	s	45.5858016981	-120.601504013
			n	45.5872631305	-120.601536794
43	Collector from M to main corridor M to S	200	w	45.5829914697	-120.527906271
			e	45.5831091991	-120.520554743
44	Crane path V to W	150	w	45.5843149815	-120.483307314
			m	45.5842226397	-120.480341585
			s	45.5835642053	-120.480298200
45	Collector from V to W	200	w	45.5841312311	-120.483285561
			m	45.5839319260	-120.481671908
			s	45.5835184322	-120.481279520
46	Collector and road from R to Dehler Rd	350	s	45.6032777946	-120.511425230
			n	45.6048843156	-120.511401391
47	Data line and road from String L to met tower	200	w	45.5974394877	-120.534746342
			e	45.5972428952	-120.532407235

1 **Substations**

2 Under the proposed amendment, only one project substation would be built. It would
3 be located near the existing Klondike I and II “Schoolhouse” facilities on Klondike Lane. The
4 previously-approved substation near Webfoot would not be built.

5 **Meteorological Towers**

6 As described in the current site certificate, the KWP includes three permanent
7 meteorological (met) towers. Under the proposed amendment, three met towers would be
8 built but in different locations than previously approved. The met towers would be located
9 near the substation and near turbine strings L and K as shown on Figure P-4 in the Request for
10 Amendment #1. The met towers would be non-guyed steel towers approximately 80 meters in
11 height with a triangular concrete base approximately 25 feet on each side.

12 **Operations and Maintenance Building**

13 The proposed amendment would allow the certificate holder to have the option to
14 construct the O&M building at the 4-acre site previously approved by the Council or at a new

1 3-acre site south of the Webfoot intersection. If the alternate 3-acre site is selected, on-site
2 power would be supplied by Wasco Electric Cooperative from an existing distribution line
3 running along the north side of Klondike Lane. No new poles would be needed.¹⁰

4 Access Roads

5 As described in the current site certificate, the certificate holder would construct
6 approximately 19 miles of roads to provide access to the turbine strings. Under the proposed
7 amendment, the certificate holder would construct approximately 22 miles of access roads.
8 The roads would be 20 feet wide and surfaced with crushed gravel. The certificate holder
9 would have flexibility to locate access roads anywhere within the micrositing corridors
10 defined in Table 2 and the turbine micrositing corridors defined in Table 1, subject to site
11 certificate conditions. The general location of access roads would be as shown in Figures P-1
12 through P-6 of the Request for Amendment #1.¹¹

13 Temporary Disturbance Areas

14 Under the proposed amendment, the total area of potential temporary disturbance
15 during construction would be approximately 223 acres, compared to approximately 97 acres
16 described in the Final Order on the Application. The locations of temporary disturbance areas
17 are shown on Figures P-1 through P-6 of the Request for Amendment #1. The increased area
18 of temporary disturbance (outside of the previously-approved site boundary) is due to
19 additional laydown and staging areas (approximately 68 acres), construction area for collector
20 lines (approximately 17 acres) and crane paths (approximately 42 acres).

21 Under the proposed amendment, portions of turbine micrositing corridors C, D, L, M,
22 R, S and V are widened to accommodate a radius of potential temporary impact at each
23 turbine location or to accommodate potential temporary disturbance due to installation of
24 underground collector lines near turbine strings. The widened portions are described as
25 follows:¹²

- 26 • Corridor C is widened by about 100 feet wide and 500 feet long to the west of
27 C-02, -03 and -04.
- 28 • Corridor D is widened by about 100 feet wide and 400 feet long to the west of
29 D-13.
- 30 • Corridor L is widened by about 300 feet wide and 300 feet long to the west of
31 L-06 and L-07.
- 32 • Corridor M is widened by about 100 feet wide and 1,700 feet long to the west
33 of M-06, -07 and -08.
- 34 • Corridor R is widened by about 50 feet wide and 2,600 feet long to the east of
35 R-04, -05, -06 and -07
- 36 • Corridor S is widened by about 140 feet wide and 1,900 feet long to the west
37 of S-01, -02 and -03.
- 38 • Corridor V is widened by about 120 feet wide and 1,700 feet long to the west
39 of V-07, -08 and -09; about 30 feet wide and about 150 feet long to the west of
40 V-10; and about 110 feet wide and about 270 feet long to the west of V-11.

¹⁰ E-mail from Dana Siegfried, September 15, 2006.

¹¹ Figures P-1 through P-6 as revised (transmittal from Dana Siegfried, August 24, 2006).

¹² E-mail from Dana Siegfried, September 8 and 15, 2006.

1 Allowing temporary disturbance for crane paths would enable construction to proceed
2 more efficiently by reducing the distance that large construction cranes would have to travel
3 between turbine strings.¹³ Micrositing corridors for crane paths and collector lines are
4 described in Table 2 above. The certificate holder would locate collector lines and crane paths
5 on the centerlines of the proposed micrositing corridors unless that is not possible due to
6 terrain, bedrock or other landscape features. The actual width of temporary disturbance from
7 crane paths would be approximately 35 feet, and the actual width of trenching for
8 underground collector lines would be approximately 5 feet.¹⁴

9 Additional construction laydown areas would occupy approximately 68 acres outside
10 the previously-approved site boundary. The locations of these new laydown areas are shown
11 on Figures P-1 through P-6.¹⁵

The Site and Site Boundary

12 For the purpose of analysis of the proposed amendment, the “site boundary” is the
13 perimeter of the site of the proposed energy facility, its related or supporting facilities, all
14 temporary laydown and staging areas and all micrositing corridors for turbine strings, roads,
15 collector lines and crane paths.

16 As required under Conditions 2 and 31, before beginning construction of the facility,
17 the certificate holder would determine final locations of turbines, roads and collector lines and
18 submit a legal description of the facility site to the Department. The facility site includes all
19 land upon which the energy facility and its related or supporting facilities are located,
20 including site corridors for turbine strings. Turbine site corridors are corridors centered on the
21 turbine string centerlines defined by the final center-point locations of the turbine towers. The
22 Council finds that the width of turbine site corridors should be determined based on the rotor
23 diameter of the turbines located within the corridor and should equal rotor diameter plus 100
24 feet. Accordingly, for turbines having an 82-meter rotor diameter, the turbine site corridor
25 width would be 369 feet, and for turbines having a rotor diameter of 92.5 meters, the turbine
26 site corridor width would be 403 feet.

27 In addition, the final site of the facility includes the following components:

- 28 • Meteorological towers, access roads and underground data lines – The site
29 includes the area within 30 feet of the tower locations and the centerline of access
30 roads and data lines.
- 31 • Collector transmission lines – The site includes the area within 30 feet of the
32 centerline of all underground and aboveground collector lines.
- 33 • Access roads – The site includes the area within 30 feet of the centerline of all
34 turbine string access roads.
- 35 • KWP substation near Schoolhouse – The site includes the four-acre substation
36 area.

¹³ E-mail from Jesse Gronner, August 8, 2006.

¹⁴ E-mail from Dana Siegfried, September 5, 2006.

¹⁵ Revised figures (transmittal from Dana Siegfried, September 13, 2006). Laydown areas that lie entirely or partly outside of the previously-approved site boundary are numbered 3, 8, 9, 10, 11, 16 and 18 and also include a 6-acre area adjacent to the previously-approved O&M building site.

- O&M Building – The site includes either the 4-acre site previously approved or the 3-acre alternative site described herein.

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

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

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

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

In making its decision on an amendment of a site certificate, the Council applies the applicable state statutes, administrative rules and local government ordinances that are in effect on the date the Council makes its decision, except when applying the Land Use Standard. In making findings on the Land Use Standard, the Council applies the applicable substantive criteria in effect on the date the certificate holder submitted the request for amendment. OAR 345-027-0070(9).

1. General Standard of Review

OAR 345-022-0000

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

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

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

1 * * *

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

2. Standards about the Applicant

(a) Organizational Expertise

6 **OAR 345-022-0010**

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

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

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

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

Findings of Fact

38 In the Final Order on the Application, the Council found that KIII has the
39 organizational, managerial and technical expertise to construct and operate the KWP. The

1 increase in generating capacity, the areas of enlargement of the facility site and the other
2 changes to the construction and operation of the facility that would be authorized by the
3 proposed amendment would not affect the Council’s previous finding.

4 KIII is a wholly-owned subsidiary of PPM Energy, Inc. (PPM), and PPM would
5 provide the organizational, managerial and technical expertise to construct and operate the
6 proposed KWP. The amendment request described three personnel changes for the
7 development, construction and operation of the proposed energy facility.¹⁶ The Council finds
8 that PPM continues to have experience in power project engineering, design, development,
9 construction and operation. There has been no other change of circumstances or underlying
10 facts that affects the Council’s findings under this standard.

Conclusions of Law

11 Based on the findings stated above, the Council concludes that KIII would meet the
12 Council’s Organizational Expertise Standard if Amendment #1 were approved.

(b) Retirement and Financial Assurance

OAR 345-022-0050

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

14
15 *(1) The site, taking into account mitigation, can be restored adequately to a useful,*
16 *non-hazardous condition following permanent cessation of construction or*
17 *operation of the facility.*

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

Findings of Fact

A. Site Restoration

21 The Department analyzed the effect of the proposed changes on the cost of site
22 restoration. The following proposed changes to the facility could affect the cost of site
23 restoration:

- 24 • Use of larger turbines
- 25 • Increased length of aboveground 34.5-kV collector lines
- 26 • Larger area of permanent access roads
- 27 • Elimination of the proposed 230-kV transmission line
- 28 • Elimination of the Webfoot substation
- 29 • Additional area of temporary disturbance

30 Site restoration would be done as described in the Final Order on the Application.
31 Approval of Amendment #1 would not affect the Council’s previous finding that the site can
32 be adequately restored to a useful, non-hazardous condition.

¹⁶ A listing of the key personnel changes is included in the Request for Amendment #1 and is incorporated herein by this reference (Request for Amendment #1, pages D-1 and D-2).

B. Estimated Cost of Site Restoration

1 To provide a fund that is adequate for the State of Oregon to pay site restoration costs
2 if the certificate holder fails to perform its obligation to restore the site under Condition 9 of
3 the site certificate, the Council assumes circumstances under which the restoration cost would
4 be greatest.

5 In the Final Order on the Application, the Council found that \$2.201 million (2005
6 dollars) was a reasonable estimate of the cost to restore the site to a useful, non-hazardous
7 condition. This amount was the Department's estimate based on conservative assumptions.

8 In the Request for Amendment #1, KIII concluded that the site restoration cost of the
9 facility as revised under the proposed amendment would be less than the site restoration cost
10 of the facility as currently authorized under the site certificate. Therefore, KIII proposed no
11 change in the financial assurance amount.

12 The Council finds that the use of larger turbines (up to 2.4-MW) that would be
13 allowed if Amendment #1 were approved is not likely to increase the net cost of turbine
14 removal. The maximum number of turbines would not exceed 165 under any combination of
15 allowed turbine types. Although larger turbines would be allowed, the use of larger turbines
16 would reduce the overall number of turbines that would be built. As the total number of
17 turbines is reduced, turbine removal costs would decline (due to reduction in the amount of
18 foundation concrete to be removed and the reduction in the number of turbines to be
19 dismantled). Also, each larger turbine would contribute a greater weight of scrap metal, which
20 would increase the total scrap value and reduce the net cost. Accordingly, in estimating the
21 site restoration cost, the Department assumed a configuration in which 165 turbines (each
22 having a generating capacity of 1.5 or 1.65 megawatts) would have to be removed from the
23 site. This is consistent with the Council's practice of assuming circumstances under which the
24 site restoration cost would be greatest.

25 The changes to the facility that would result from approval of Amendment #1 include
26 elimination of certain components from the facility that were approved by the Council under
27 the current site certificate. Components eliminated from the design include a 3.5-mile 230-kV
28 transmission line and one of two proposed substations. Because these components would not
29 be built if Amendment #1 were approved, the cost of removal of these components would be
30 subtracted from the previously-estimated site restoration cost.

31 Amendment #1 would add to the length of aboveground transmission lines and access
32 roads and result in additional site restoration costs. The amendment would allow up to 12
33 miles of aboveground 34.5-kV collector line, which is an increase of up to 6.5 miles of
34 aboveground transmission line and support structures to be removed during site restoration. In
35 addition, the amendment would allow construction of additional length of access roads,
36 occupying 7.1 acres of land, an increase of approximately three miles.

37 Approval of the amendment request would allow an increase in the amount of
38 temporary disturbance during construction due to the use of crane paths, the expansion of area
39 affected by installation of underground collector lines and the increased acreage of laydown
40 and staging areas. Altogether, the amendment would increase the temporary disturbance area
41 by approximately 126 acres, resulting in a total temporary disturbance area of 223 acres.
42 Council precedent is to assume that the same amount of temporary disturbance would occur

1 during site restoration as would occur during construction. The Council finds that an
2 exception to this general assumption is justified for area that is temporarily disturbed only for
3 the installation of underground transmission or communication cables that would be left in
4 place during site restoration. Condition 88 requires construction of the underground segments
5 of the 34.5-kV transmission line to be at least 36 inches below the surface. Fiber-optic
6 communication lines for the supervisory, control and data acquisition (SCADA) system could
7 also be left in place if they are installed at least 36 inches below grade. The Council modifies
8 Condition 43 to specify the depth of SCADA lines, as described in Revision 11. The area that
9 would be temporarily disturbed during construction of underground components that would
10 be left in place during site restoration amounts to approximately 27 acres.¹⁷ Accordingly, the
11 Department estimates that site restoration would temporarily disturb approximately 196 acres
12 of land. In addition, the Department’s estimate of the unit cost for restoring areas of
13 temporary disturbance is significantly reduced from the unit cost shown in the Final Order on
14 the Application. The new unit cost is based on scarification and seeding, but, in contrast to the
15 unit cost shown in the Final Order on the Application, it does not include topsoil application,
16 because the areas of temporary disturbance would not be covered with gravel during site
17 restoration.

18 With these changes in the facility design, the Department calculated a revised site
19 restoration cost estimate as shown in Table 3.¹⁸

¹⁷ E-mail from Dana Siegfried, September 26, 2006.

¹⁸ Compare Table 3 above with Table 2 in the Final Order on the Application. In Table 3, the Department has added a line item for “General Costs.” In Table 2 of the Final Order on the Application, these general costs were distributed proportionately to the unit costs. General costs are the sum of various fixed project costs as shown. By removing the general cost component, the unit cost amounts may be applied to alternative facility configurations. This facilitates adjustment of the site restoration cost based on the “as-built” configuration. In Table 3, the Department has adjusted unit costs to 2005 dollars where previous estimates were based on cost data from 2004.

Table 3: Cost Estimate for Site Restoration (2005 dollars)

Cost Estimate Component	Quantity	Unit Cost	Extension
<u>Turbines</u>			
Disconnect electrical and ready for disassembly (per turbine)	165	\$951	\$156,915
Remove turbine blades, hubs and nacelles (per turbine)	165	\$5,045	\$832,425
Remove turbine towers (per net ton of steel)	36,368	\$65	\$2,363,920
Remove and load pad transformers (per turbine)	165	\$2,182	\$360,030
Foundation and transformer pad removal, restoration and reseeded (per turbine)	165	\$1,877	\$309,705
<u>Met Towers</u>			
Dismantle and dispose of met towers (per tower)	3	\$7,072	\$21,216
<u>Substation and O&M Building</u>			
Dismantle and dispose of substation	1	\$132,237	\$132,237
Dismantle and dispose of O&M building	1	\$84,861	\$84,861
<u>Transmission Line</u>			
Removal of 34.5 kV aboveground transmission line (per mile)	12	\$3,073	\$36,876
Junction boxes - remove electrical to 4' below grade (each)	9	\$1,281	\$11,529
<u>Access Roads</u>			
Road removal, grading and seeding (per mile)	22	\$45,279	\$986,348
<u>Temporary Areas</u>			
Restore area disturbed during restoration work (per acre)	196	\$2,689	\$527,044
<u>General Costs</u>			
Permits, mobilization, engineering, overhead, utility disconnects			\$427,057
Gross Cost			\$6,250,163
Less scrap value of steel and other metals (per ton)	36,368	(\$149)	(\$5,418,832)
Subtotal			\$831,331
Performance Bond		1%	\$8,313
Administration and Project Management		10%	\$83,133
Future Developments Contingency		20%	\$166,266
Total Site Restoration Cost (rounded to nearest \$1,000)			\$1,089,000

C. Adjustment of the Financial Assurance Amount

1 The estimated site restoration cost, based on greatest-cost assumptions, would be less
2 than the financial assurance amount currently required under Condition 32 of the current site
3 certificate. Because the estimate is based on the assumption that 165 turbines would be built,
4 it may overestimate the restoration cost for the KWP under its final design configuration. The
5 Council amends Condition 32 to allow an adjustment of the financial assurance amount based
6 on applying the unit costs and general costs shown in Table 3 to the final design and
7 calculating the financial assurance amount as described in this order, subject to a minimum
8 financial assurance amount of \$500,000.¹⁹

9 The Council finds that the estimated gross cost of site restoration for the proposed
10 KWP, with the changes proposed under Amendment #1, would be \$6,250,163 (2005 dollars)

¹⁹ The Department has based the recommended minimum financial assurance amount on an amount necessary to cover the estimated General Costs shown in Table 3 plus the state's estimated administration and project management costs. The recommended minimum of \$500,000 applies to the KWP if Amendment #1 were approved and is not intended to apply to future amendments or different energy projects.

1 as shown in Table 3 or a lesser amount based on the final design configuration (“base gross
2 cost”). Condition 32 of the site certificate for the KWP requires adjustment of the gross cost
3 using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in
4 the Oregon Department of Administrative Services’ “Oregon Economic and Revenue
5 Forecast” (GDP Index). For the initial bond or letter of credit, the Council finds that the
6 financial assurance amount should be adjusted to the date of issuance of the bond or letter of
7 credit by using the annual GDP Index value for 2005 for the base gross cost and the GDP
8 Index value for calendar quarter in which the bond or letter of credit is issued for the present
9 value as of the date of the issuance.²⁰ In future years, the bond or letter of credit would be
10 adjusted annually on the anniversary of the date of initial issuance.

11 The Council finds that the estimated credit for scrap value of metals would be
12 \$5,418,832 (2005 dollars) as shown in Table 3 or a different amount based on the final design
13 configuration (“base scrap value”).²¹ Condition 32 requires annual adjustment of scrap value
14 using an index value derived from the Producer Price Index for carbon steel scrap reported by
15 the U.S. Department of Labor, Bureau of Labor Statistics. The Council finds there would be
16 no adjustment of the scrap value credit if the initial bond or letter of credit is issued in 2006.²²

17 The Council finds that the value of the financial assurance bond or letter of credit for
18 restoring the site of the proposed KWP would be \$1,089,000 (2005 dollars), subject to the
19 base cost and annual adjustments described above. The Council finds that, notwithstanding
20 the allowed adjustments, the minimum bond or letter of credit amount is \$500,000. The
21 Council amends Condition 32 as described in Revision 10 below at page 57.

D. Ability of the Applicant to Obtain a Bond or Letter of Credit

22 In the Final Order on the Site Certificate Application, the Council found that there was
23 a “reasonable likelihood” that the Royal Bank of Scotland would provide an annual letter of
24 credit for the KWP, based on a letter from the bank. The letter indicated that PPM Energy (the
25 parent company of KIII) had sufficient available credit with the bank to support a letter of
26 credit in the amount of \$2.5 million. The Council finds that, with the changes that would be
27 allowed under Amendment #1, it is reasonably likely that KIII can obtain a letter of credit in
28 an amount satisfactory to the Council.

²⁰ For example, assuming a letter of credit (LOC) is used and the initial date of issuance is November 1, 2006, the gross amount of \$6,250,163 in 2005 dollars would be adjusted to present value as of November 1, 2006, by multiplying the base amount by the ratio of the GDP Index value for the Fourth Quarter, 2006, to the GDP Index value for 2005: $(116.1/112.2) \times \$6,250,163 = \$6,467,414.66$.

²¹ The Department’s estimate of scrap value assumed the overall weight of recoverable metals for 165 turbines would be 36,368 net tons (U.S. tons), based on information supplied in the site certificate application and rounded to the nearest whole ton. The Department further assumed that the weight of recoverable metals per turbine for 1.5-MW GE turbines would not be significantly different than the weight for 1.65-MW Vestas turbines, based on the similarity of the applicant’s description of turbine hub-heights and rotor diameters for the two turbine types.

²² Condition 32 describes the adjustment factor as a ratio with the average monthly index value for the 12 months ending with December of the year preceding the year in which the adjustment is made as the numerator and the average monthly index value for the 12 months ending with December 2005 (277.2) as the denominator. If the adjustment is made in 2006, the resulting ratio equals 1.

Conclusions of Law

1 Based on the findings stated above, the Council concludes that KIII would meet the
2 Council’s Retirement and Financial Assurance Standard if Amendment #1 were approved.

3. Standards about Impacts of Construction and Operation

(a) Land Use

OAR 345-022-0030

3 *(1) To issue a site certificate, the Council must find that the proposed facility*
4 *complies with the statewide planning goals adopted by the Land Conservation and*
5 *Development Commission.*
6

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

8 ***

9 *(b) The applicant elects to obtain a Council determination under ORS*
10 *469.504(1)(b) and the Council determines that:*

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

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

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

23 *(3) As used in this rule, the “applicable substantive criteria” are criteria from the*
24 *affected local government’s acknowledged comprehensive plan and land use*
25 *ordinances that are required by the statewide planning goals and that are in effect*
26 *on the date the applicant submits the application. If the special advisory group*
27 *recommends applicable substantive criteria, as described under OAR 345-021-*
28 *0050, the Council shall apply them. If the special advisory group does not*
29 *recommend applicable substantive criteria, the Council shall decide either to make*
30 *its own determination of the applicable substantive criteria and apply them or to*
31 *evaluate the proposed facility against the statewide planning goals.*

32 *(4) The Council may find goal compliance for a proposed facility that does not*
33 *otherwise comply with one or more statewide planning goals by taking an*
34 *exception to the applicable goal. Notwithstanding the requirements of ORS*
35 *197.732, the statewide planning goal pertaining to the exception process or any*
36 *rules of the Land Conservation and Development Commission pertaining to the*
37 *exception process, the Council may take an exception to a goal if the Council*
38 *finds:*

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

3 (b) *The land subject to the exception is irrevocably committed as described by*
4 *the rules of the Land Conservation and Development Commission to uses not*
5 *allowed by the applicable goal because existing adjacent uses and other relevant*
6 *factors make uses allowed by the applicable goal impracticable; or*

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

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

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

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

16 * * *

Findings of Fact

17 In the Final Order on the Application, the Council found the proposed KWP would
18 comply with the statewide planning goals based on a land use analysis under ORS
19 469.504(1)(b)(B). The Council found that the facility complied with the applicable
20 substantive criteria identified by the local government, except for two provisions of the
21 Sherman County Zoning Ordinance (SCZO), Sections 3.1.4 and 5.8.16(d). The Council then
22 considered whether the facility would comply with the applicable statewide planning goal
23 (Goal 3). The Council found that the facility would not comply with OAR 660-033-0130(22),
24 a Land Conservation and Development Commission (LCDC) administrative rule for
25 implementing the requirements for agricultural land as defined by Goal 3. Under the rule, a
26 “power generation facility” must not preclude more than 20 acres of land from use as a
27 “commercial agricultural enterprise.”

28 Because of the finding that the KWP would not comply with Goal 3, the Council
29 considered whether an exception to the goal was justified. The Council applied the criteria for
30 a “reasons” exception under ORS 469.504(2)(c) and concluded that an exception should be
31 allowed. Based on the exception to Goal 3 and the Council’s other findings, the Council
32 concluded that the KWP would comply with the Land Use Standard.

33 The changes in the facility that would be authorized under the requested amendment
34 would alter design and construction details but would not change the proposed land use. The
35 same land use criteria apply to the amendment as applied to the site certificate application.
36 Except as discussed below, the changes authorized under the amendment do not substantially
37 alter the underlying facts upon which the Council based its previous findings and conclusions
38 regarding land use.

A. Applicable Substantive Criteria

1 On page 25 of the Final Order on the Application, the Council discussed Goal XI of
2 the Sherman County Comprehensive Plan (SCCP):

3 *Goal XI: To maintain all species of fish and wildlife at optimum levels and prevent*
4 *the serious depletion of any indigenous species. [SCCP Section XI]*

5 The Council found the proposed KWP to be compatible with the goal of maintaining
6 fish and wildlife populations, relying in part on an analysis of compliance with the Council’s
7 Fish and Wildlife Habitat Standard. The Council found that approximately 87 percent of the
8 land permanently affected and 84 percent of the land temporarily affected by the proposed
9 KWP is cultivated agricultural land that has low potential to become important habitat for
10 wildlife. If Amendment #1 were approved, approximately 88 percent of the land permanently
11 affected and 90 percent of the land temporarily affected would be cultivated or otherwise
12 developed land as shown in Table 5 below on page 40, based on worst-case assumptions.²³
13 Thus, under the amendment, the proposed facility would affect a smaller proportion of higher-
14 value wildlife habitat. The increase in the area of permanent impact under the amendment
15 includes no higher-value habitat. The increase in temporary disturbance during construction
16 would affect about seven acres of Category 3 and Category 4 habitat. The Council finds that
17 the proposed KWP would be compatible with Goal XI of the SCCP if Amendment #1 were
18 approved.

19 SCZO Section 5.8.14(a) requires the location of public facilities to “best serve” the
20 County or area. In addressing this criterion, the Council found that the KWP substations, wind
21 turbines and transmission lines were “public facilities” within the scope of the ordinance. The
22 Council found that to best serve their intended purpose, the substations and transmission lines
23 that would be part of the proposed KWP must be located within the general area of the wind
24 turbines and close to the point of interconnection with the Bonneville Power Administration
25 (BPA) system. The Council found that the location of these facilities would “best serve” the
26 County or the area because they would use a small fraction of agricultural land
27 (approximately 0.8 percent of the actively farmed acres adjacent to these facilities) to generate
28 significant new tax revenues for the County and income for the landowners of the property
29 leased to the facility. Under the proposed amendment, the KWP facilities would occupy
30 approximately 63 acres (approximately 0.9 percent) of actively farmed acres at or adjacent to
31 the site.²⁴

32 SCZO Section 5.8.16(a) requires a finding that the proposed use is compatible with
33 farm uses. The Council’s findings that the construction and operation of the wind energy
34 facility would be compatible with farm use are discussed on page 35 of the Final Order on the
35 Application. The proposed amendment would not change the facts underlying the Council’s
36 previous findings, except that the facility would occupy 0.9 percent (rather than 0.8 percent)
37 of the adjacent farmed area. The Council finds that this increase is insignificant.

²³ The certificate holder calculated the areas shown on Table 5 by placing turbines within the micro-siting corridors in locations that would affect the maximum area of higher-value habitat.

²⁴ Based on the data in Table 5 and Department’s estimate that there are 7,150 acres of actively farmed land adjacent to the proposed facility (Final Order on the Application, p. 35, fn.47).

B. Applicable Statewide Planning Goals

1 In the Final Order on the Site Certificate, the Council found that the proposed KWP
2 would not comply with SCZO Sections 3.1.4 and 5.8.16(d) and therefore would not comply
3 with all applicable substantive criteria from Sherman County. As required under ORS
4 469.504(1)(b)(B), the Council then considered whether the proposed facility would otherwise
5 comply with Goal 3, the applicable statewide planning goal. The proposed KWP, as revised
6 by Amendment #1, would consist of the energy facility (the wind turbines) and the following
7 related or supporting facilities: the underground and aboveground power collection lines, one
8 substation, three meteorological towers, an O&M building, the control system and access
9 roads.²⁵ The Council found that the KWP energy facility is a “commercial utility facility for
10 the purpose of generating power for public use by sale,” which is allowed on agricultural land
11 under ORS 215.283(1)(d), and that the power collection system, meteorological towers,
12 control system and O&M building are part of that principal use.²⁶ In addition, the Council
13 found that a proposed aboveground 230-kV transmission line was part of the principal use.
14 Further, the Council found that the access roads are allowable under ORS 215.283(3).

15 Under Amendment #1, the 230-kV transmission line would be eliminated from the
16 facility. The amendment would also eliminate one of the two proposed substations. The
17 remaining substation would occupy a 4-acre site on Klondike Lane near the existing Klondike
18 I and II “Schoolhouse” facilities. This substation would function to step up the power to
19 accommodate interconnection with the BPA system at that location. In the Final Order on the
20 Application, the Council found that this substation is a “utility facility necessary for public
21 service,” which is allowed on agricultural land under ORS 215.283(1)(d).

22 Except for the elimination of the 230-kV transmission line and one substation,
23 Amendment #1 would not alter the Council’s analysis of compliance with Goal 3. For the
24 reasons discussed in the Final Order on the Application, the principal use and the access roads
25 for the KWP, as amended, would not force a significant change in accepted farm practices on
26 surrounding farm land and would not significantly increase the cost of accepted farm
27 practices. With the changed requested under Amendment #1, the KWP would still occupy less
28 than 1 percent of the actively farmed land adjacent to the facility.

29 Under the amendment, the amount of agricultural land temporarily unavailable for
30 crop production during construction of the KWP would increase from approximately 82 acres
31 to approximately 198 acres. This amounts to 2.8 percent (compared to 1.1 percent) of the
32 actively farmed area adjacent to the proposed KWP that would be out of production. The
33 Revegetation Plan (Attachment B) requires restoration of temporarily disturbed areas to begin
34 “as soon as possible after completion of facility construction, maintenance or repair activity in
35 the area to be restored.” Temporarily disturbed crop land could be returned to crop production
36 as soon as practicable once the disturbance activity has been completed and the area is no
37 longer needed for construction purposes. The Council finds that this temporary impact would
38 not force a significant change in accepted farm practices or significantly increase the cost of

²⁵ Under ORS 469.300, the “energy facility” is “an electric power generating plant.” Some facility components, such as the control system, might be considered intrinsic to the “electric power generating plant” and therefore part of the “energy facility” rather than separate, related or supporting facilities. The “related or supporting facilities” listed in the text are treated separately in this discussion, without implying any finding that any given component is separate from the energy facility.

²⁶ Final Order on the Application, p. 38.

1 accepted farm practices, for the reasons discussed in the Final Order on the Application, page
 2 39. Accordingly, the changes requested under Amendment #1 would not affect the Council’s
 3 previous finding that the principal use and access roads would comply with the standards of
 4 ORS 215.296 and OAR 660-033-0130(5).

5 In the Final Order on the Application, the Council addressed whether the KWP
 6 principal use and access roads would comply with OAR 660-033-0130(22), which provides as
 7 follows:

8 *(22) A power generation facility shall not preclude more than 20 acres from use as*
 9 *a commercial agricultural enterprise unless an exception is taken pursuant to ORS*
 10 *197.732 and OAR chapter 660, division 004*

11 The Council found that the “power generation facility” consists of the principal use
 12 and the turbine string access roads.²⁷ The power generation facility would occupy
 13 approximately 67 acres, an increase of almost seven acres as a result of the changes requested
 14 in Amendment #1, as shown in Table 4. It would therefore occupy more than the 20 acres
 15 allowed under OAR 660-033-0130(22), and to issue a site certificate the Council must find
 16 that an exception to Goal 3 is justified.

Table 4: Area Occupied by the Power Generation Facility²⁸

Structure	Acres
Principal use	
Turbine towers, including pad areas and road turnouts	9.91
Meteorological towers	0.03
Aboveground 34.5 kV collector line ²⁹	0.14
O&M building site	4
Subtotal	14.08
Access roads ³⁰	53.24
Total	67.32

17 The changes to the facility that would be allowed under Amendment #1 would not
 18 significantly affect the analysis that was the basis of the Council’s previous finding that an
 19 exception to Goal 3 should be allowed under ORS 469.504(2)(c).³¹ Under the amendment, the
 20 proposed facility would occupy approximately 67 acres of agricultural land, which is still less
 21 than 1 percent of the actively farmed land adjacent to the facility. Substantially all of the area
 22 added by Amendment #1 would be occupied by access roads, which would be available for
 23 use by the landowner in farm operations. The amendment would not otherwise alter the
 24 reasons supporting the exception as discussed in the Final Order on the Application.

25 The amendment would add to the beneficial “energy consequences” of the proposed
 26 facility by increasing the facility’s average electric generating capacity from approximately 91

²⁷ Final Order on the Application, p. 40.
²⁸ Compare Table 4 above with Table 3 in the Final Order on the Application.
²⁹ Calculation based on memorandum from Dana Siegfried (for KIII), dated December 6, 2005, regarding
 “Response to 11/22/05 e-mail,” assuming 12 miles of transmission line, 21 transmission poles per mile and 25
 sq. ft. of farmland precluded per pole.
³⁰ Calculated by the Department, assuming 2.42 acres per mile of 20-foot-wide access road.
³¹ See Final Order on the Application, pp. 44-46.

1 megawatts to 95 megawatts. The amendment would not change the Council’s previous
2 findings and analysis of environmental, economic, social and energy consequences or the
3 finding that the proposed facility would be compatible with adjacent land uses.

Conclusions of Law

4 Based on the findings stated above, the Council concludes that an exception to Goal 3
5 is justified and that the KWP would comply with the Council’s Land Use Standard if
6 Amendment #1 were approved.

(b) Soil Protection

7 **OAR 345-022-0022**

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

Findings of Fact

13 In the Final Order on the Application, the Council found that the design, construction,
14 operation and retirement of the proposed KWP, taking into account mitigation and subject to
15 the conditions stated in the order, would not likely cause a significant adverse impact to soils.
16 The changes proposed in the request for Amendment #1 would increase the permanent
17 footprint by about seven acres for realigned access roads and would increase the area of
18 temporary disturbance by approximately 126 acres (more than doubling the area of temporary
19 disturbance).

20 The addition of crane paths accounts for 42 acres of the additional temporary
21 disturbance during construction. Allowing for the movement of large turbine assembly cranes
22 across farmland would reduce the distance that the cranes would have to travel from one
23 turbine string to the next. The certificate holder would restore areas of local soil compaction
24 along crane paths for agricultural or Conservation Reserve Program (CRP) use when the route
25 is no longer needed for facility construction.³² The Revegetation Plan (Attachment B)
26 requires restoration of temporarily disturbed areas to begin “as soon as possible after
27 completion of facility construction, maintenance or repair activity in the area to be restored.”
28 In most cases, crane paths are used one time.³³ Once the disturbance activity has been
29 completed and the area is no longer needed for construction purposes, the crane path area
30 would be restored.

31 Approval of Amendment #1 would not otherwise change the facts on which the
32 Council relied in its previous findings regarding impact to soils. The Council finds that the

³² Proposed crane paths are located in areas currently used for agriculture, except for approximately 2.5 miles that is in CRP land near the V-string. The Conservation Reserve Program is a voluntary program for agricultural landowners. The program encourages landowners to plant long-term resource-conserving covers to improve soil, water and wildlife resources. Through the CRP, landowners receive annual rental payments, incentive payments and annual maintenance payments for certain activities and cost-share assistance to establish approved cover on eligible cropland. The Commodity Credit Corporation within the U.S. Department of Agriculture administers the program through the Farm Service Agency.

³³ E-mail from Sara McMahon, September 15, 2006.

1 design, construction, operation and retirement of the KWP as modified by Amendment #1
2 would not likely result in significant adverse impact to soils, taking into account the
3 mitigation required by the site certificate conditions.

Conclusions of Law

4 The Council concludes that the KWP would comply with the Council’s Soil Protection
5 Standard if Amendment #1 were approved.

(c) Protected Areas

OAR 345-022-0040

6
7 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site*
8 *certificate for a proposed facility located in the areas listed below. To issue a site*
9 *certificate for a proposed facility located outside the areas listed below, the*
10 *Council must find that, taking into account mitigation, the design, construction*
11 *and operation of the facility are not likely to result in significant adverse impact to*
12 *the areas listed below. Cross-references in this rule to federal or state statutes or*
13 *regulations are to the version of the statutes or regulations in effect as of August*
14 *28, 2003:*

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

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

20 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C.*
21 *1131 et seq. and areas recommended for designation as wilderness areas pursuant*
22 *to 43 U.S.C. 1782;*

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

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

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

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

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

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

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

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

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

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

13 Coastal Oregon Marine Experiment Station, Astoria

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

15 Agriculture Research and Extension Center, Hermiston

16 Columbia Basin Agriculture Research Center, Pendleton

17 Columbia Basin Agriculture Research Center, Moro

18 North Willamette Research and Extension Center, Aurora

19 East Oregon Agriculture Research Center, Union

20 Malheur Experiment Station, Ontario

21 Eastern Oregon Agriculture Research Center, Burns

22 Eastern Oregon Agriculture Research Center, Squaw Butte

23 Central Oregon Experiment Station, Madras

24 Central Oregon Experiment Station, Powell Butte

25 Central Oregon Experiment Station, Redmond

26 Central Station, Corvallis

27 Coastal Oregon Marine Experiment Station, Newport

28 Southern Oregon Experiment Station, Medford

29 Klamath Experiment Station, Klamath Falls;

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

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

1 (p) State wildlife areas and management areas identified in OAR chapter
2 635, Division 8.

3 * * *

4 Findings of Fact

5 In the Final Order on the Application, the Council found that the KWP would not be
6 located in any protected area as defined by OAR 345-022-0040(1) and that the design,
7 construction and operation of the facility would not result in significant adverse impact to any
8 protected area, taking into account mitigation and subject to the conditions included in the site
9 certificate. The Council found that indirect effects of noise, traffic and visual impact from the
KWP would not have any significant impact on protected areas.

10 Approval of Amendment #1 would allow construction and operation of facility
11 components outside of the previously permitted site boundary but within the certificate
12 holder's lease boundary. The expansion of the site boundary does not significantly increase
13 the analysis area and does not affect any protected areas not considered by the Council in the
14 Final Order on the Application.

15 The changes to the facility that would be allowed if Amendment #1 were approved
16 would not substantially change the facts on which the Council relied in its previous findings
17 regarding potential noise, traffic, water and wastewater impacts.

18 In assessing the visual impacts of the proposed KWP on protected areas, the Council
19 found that turbines having a hub-height of up to 80 meters would not have a significant visual
20 impact when viewed from a distance of five miles or more. The amendment would allow the
21 use of turbines with a larger generating capacity and larger rotor diameter, but the hub-height
22 would not exceed 80 meters. The overall height of allowed turbines would increase from
23 approximately 121 meters (397 feet) to 126 meters (414 feet), including the length of turbine
24 blades at their maximum vertical distance above hub-height. Although the amendment would
25 allow minor alterations in the boundaries of micro-siting corridors, the certificate holder would
26 not construct any turbines outside of the previously-approved 900-foot-wide micro-siting
27 corridors.³⁴

28 Table 4 in the Final Order on the Application lists all protected areas within 20 miles
29 of the site boundary. The only areas within five miles of the KWP that are managed in part for
30 outstanding scenic quality are portions of the John Day Federal Wild and Scenic River and the
31 John Day State Scenic Waterway. The next-closest protected areas that are managed for
32 scenic quality lie along the Deschutes River, at least eight miles from the KWP.

33 In the Request for Amendment #1, KIII included a visual impact analysis which
34 addressed the visibility of the KWP from scenic resource areas, including areas along the John
35 Day River. For the reasons discussed below in Section (d), the Council finds that the changes
36 to the facility that would be allowed if Amendment #1 were approved would not result in
37 visual impacts that would have any significant adverse effect on protected areas.

³⁴ Request for Amendment #1, p. 2.

Conclusions of Law

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

(d) Scenic and Aesthetic Values

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, operation and retirement of the*
5 *facility, taking into account mitigation, are not likely to result in significant*
6 *adverse impact to scenic and aesthetic values identified as significant or important*
7 *in applicable federal land management plans or in local land use plans in the*
8 *analysis area described in the project order.*
9

10 * * *

Findings of Fact

11 In the Final Order on the Application, the Council described the visual features of the
12 proposed KWP.³⁵ Approval of Amendment #1 would not change the overall area occupied by
13 the facility or change the maximum number of wind turbines that would be built. The number
14 of turbines would likely decrease if larger-capacity turbines are used. The amendment would
15 eliminate 3.5 miles of above-ground 230-kV transmission line but could increase the overall
16 length of aboveground 34.5-kV transmission line from 5.5 miles to 12 miles. One substation
17 would be eliminated. The overall length of access roads would increase by approximately
18 three miles. At the option of the certificate holder, the O&M building might be located
19 approximately 1.5 miles east of the previously-approved location.

20 The new wind turbine types allowed under Amendment #1 would be similar to the
21 previously-approved types, except for a larger rotor-diameter. The larger rotor-diameter
22 allowed under the amendment would increase the overall turbine height from approximately
23 121 meters (397 feet) to 126 meters (414 feet), including the length of turbine blades, but the
24 hub-height (80 meters) would not increase. In the Final Order on the Application, the Council
25 found that turbines having a hub-height of up to 80 meters would not have a significant visual
26 impact when viewed from a distance of five miles or more.

27 Table 5 in the Final Order on the Application listed 13 federal and state land
28 management areas within 30 miles of the site boundary. Only four of these management areas
29 are within five miles of the KWP and contain scenic and aesthetic values identified as
30 significant or important: the John Day River, the Oregon National Historic Trail, Sherman
31 County and Gilliam County.

John Day River

32
33 Two protected areas lie along a segment of the John Day River: the John Day Federal
34 Wild and Scenic River and the John Day State Scenic Waterway. As discussed in the Final
35 Order on the Application, the Bureau of Land Management (BLM) manages the John Day
36 River Canyon as an "area of high visual quality" and has designated the area as a Visual
37 Resource Management Class II resource. Two sites along the John Day River within the

³⁵ Final Order on the Application, p. 54.

1 analysis area are identified as Special Management Areas: the Oregon Trail Historic Sites at
2 Fourmile Canyon and McDonald Crossing and the John Day River Canyon.

3 In the Request for Amendment #1, the certificate holder provided a visual impact
4 analysis including computer modeling and visual simulations. The modeling tends to
5 overestimate visibility, because it does not include vegetation or other intervening structures
6 or account for variable climatic conditions. The analysis assumed that 2.4-MW turbines
7 would be used in the KWP (the largest of the turbine types that would be allowed under
8 Amendment #1). The analysis determined that turbines might be visible from locations within
9 the John Day River Canyon, including the Oregon National Historic Trail McDonald Ferry
10 site, but otherwise would be hidden by intervening topography.

11 To assist the Council in evaluating the significance of the visual impact under
12 Amendment #1, KIII used the methodology that was used in the site certificate application.
13 Based on computer modeling, KIII determined that portions of ten turbines might be visible
14 from areas within the John Day River Canyon. KIII designated five “worst-case” viewpoints
15 (defined as locations from which the most turbines might be visible at any given time). The
16 viewpoints and the composite visibility analysis are illustrated in Figure R-13 of the Request
17 for Amendment #1. KIII provided simulations to illustrate the portions of wind turbines that
18 would be visible above the horizon from the vantage point of each of the designated
19 viewpoints (Figures R-14 through R-18).

20 The results of the visual analysis under Amendment #1 are very similar to the results
21 of the analysis in the site certificate application. In most cases, only blade tips would be
22 visible above the ridgeline as viewed from the river. The visible portion of the KWP would be
23 a very small element within the landscape. The KWP would be visible from only a few
24 segments of the John Day River. For these reasons, the Council finds that construction and
25 operation of the KWP with the changes allowed under Amendment #1 would not result in
26 significant adverse impact to important scenic resources within the John Day River Canyon.

27 Oregon National Historic Trail

28 The management plan for the Oregon National Historic Trail identifies only one “high
29 potential” site within 30 miles from the KWP from which any part of the facility might be
30 visible: the John Day River Crossing.³⁶ “High potential” sites are sites that have potential to
31 interpret the Trail’s historical significance and that afford a high-quality recreational
32 experience and greater than average scenic values. The John Day River Crossing (McDonald
33 Crossing) is the location of Viewpoint #1 designated by KIII in the visual impacts analysis
34 described above. As described by KIII, portions of turbines X-03, X-04 and X-05 might be
35 visible from the John Day River and vantage points along the riverbank near McDonald
36 Crossing.³⁷ The KWP would not be visible from the BLM interpretive site or from the road
37 accessing the interpretive site.³⁸ The visual impact would not be significantly different from
38 the impact described in the Final Order on the Application. For this reason, the Council finds
39 that the KWP, with the changes allowed under Amendment #1, is not likely to result in

³⁶ Final Order on the Application, p. 56.

³⁷ See illustration in Figure R-14, Request for Amendment #1. Although turbine X-03 would not be visible from the viewpoint, this turbine might be visible from nearby vantage points.

³⁸ Request for Amendment #1, p. R-5.

1 significant adverse impact to the scenic quality of the Oregon National Historic Trail site
2 identified as significant or important (McDonald Crossing).

3 Sherman County

4 The Sherman County Comprehensive Plan identifies scenic resources within the
5 County. SCCP Section XI, Finding XI, identifies “rock outcroppings, trees, the John Day
6 River Canyon and the Deschutes River Canyon” as “important features of the County’s
7 landscape. The Finding also notes “scenic highway” designations by the Oregon Department
8 of Transportation. In the Final Order on the Application, the Council found that the proposed
9 KWP would not result in a significant adverse impact to the scenic resources identified in the
10 local Sherman County land use plan. The changes that would be allowed if Amendment #1
11 were approved would not change the basis of that finding.

12 Gilliam County

13 The nearest parts of Gilliam County are east of the John Day River, at least two miles
14 from the KWP site. As described in the Final Order on the Application, the Gilliam County
15 Comprehensive Plan identifies “rock outcroppings marking the rim and walls of steep canyon
16 slopes” as important scenic resources and identifies the John Day River corridor as a scenic
17 resource. The visual impact on the John Day River Canyon has been described above. The
18 amendment would have no effect on rock outcroppings and scenic canyons in Gilliam
19 County.

Conclusions of Law

20 For the reasons discussed above, the Council concludes that the KWP would comply
21 with the Council’s Scenic and Aesthetic Values Standard if Amendment #1 were approved.

(e) Recreation

22 **OAR 345-022-0100**

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

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

30 *(b) The degree of demand;*

31 *(c) Outstanding or unusual qualities;*

32 *(d) Availability or rareness;*

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

34 * * *

Findings of Fact

35 In the Final Order on the Application, the Council found that recreational
36 opportunities associated with the John Day River, the Journey Through Time Scenic Byway

1 and historic trail alignments are important recreational opportunities within the analysis area.
2 The Council found that the design, construction, operation and retirement of the proposed
3 KWP facilities would not result in significant adverse impact to these recreational
4 opportunities, taking into account the mitigation that is required under site certificate
5 conditions. The changes that would be allowed under Amendment #1 would not affect the
6 facts upon which the Council relied in making these findings. The Council finds that there has
7 been no change of facts or circumstances that would affect the Council's earlier findings
8 regarding the impacts of the KWP on recreational opportunities.

Conclusions of Law

9 For the reasons discussed above, the Council concludes that the KWP would comply
10 with the Council's Recreation Standard if Amendment #1 were approved.

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

OAR 345-024-0010

11 * * *

12 (2) *To issue a site certificate for a proposed wind energy facility, the Council must*
13 *find that the applicant:*

14 (a) *Can design, construct and operate the facility to exclude members of the public*
15 *from close proximity to the turbine blades and electrical equipment;*

16 (b) *Can design, construct and operate the facility to preclude structural failure of*
17 *the tower or blades that could endanger the public safety and to have adequate*
18 *safety devices and testing procedures designed to warn of impending failure and to*
19 *minimize the consequences of such failure.*
20

Findings of Fact

21 In the Final Order on the Application, the Council found that KIII could design,
22 construct and operate the proposed KWP facilities to exclude members of the public from
23 close proximity to the turbine blades and electrical equipment, to preclude structural failure of
24 the tower or blades that could endanger the public safety and to have adequate safety devices
25 and testing procedures. To ensure public safety, the Council included conditions 54, 58, 59,
26 60, 61, 62, 63, 64 and 98 in the site certificate.

27 Amendment #1 would allow the certificate holder to use turbines that have a rotor
28 diameter of up to 92.5 meters. Because there would be no increase in turbine hub height, the
29 turbine blade tips of these larger turbines would be approximately 34 meters (111 feet) above
30 ground at the closest point of rotation, or about 17 feet lower than the turbine types previously
31 approved. The Council finds that a clearance of 34 meters is an adequate distance to protect
32 public safety beneath the turbines. Amendment #1 would not involve any other change in the
33 design, size or location of facility components or any change in the conditions relating to
34 public safety. The Council finds that there has been no change of facts or circumstances that
35 would affect the Council's earlier findings regarding public health and safety at the KWP site.

Conclusions of Law

1 For the reasons discussed above, the Council concludes that the KWP would comply
2 with the Council's Public Health and Safety Standards for Wind Energy Facilities if
3 Amendment #1 were approved.

(g) Siting Standards for Wind Energy Facilities

4 **OAR 345-024-0015**

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

7 *(1) Can design and construct the facility to reduce visual impact by methods*
8 *including, but not limited to:*

9 *(a) Not using the facility for placement of advertising, except that advertising does*
10 *not include the manufacturer's label or signs required by law;*

11 *(b) Using the minimum lighting necessary for safety and security purposes and*
12 *using techniques to prevent casting glare from the site, except as otherwise*
13 *required by the Federal Aviation Administration or the Oregon Department of*
14 *Transportation, Transportation Development Branch, Aeronautics Section; and*

15 *(c) Using only those signs necessary for facility operation and safety and signs*
16 *required by law;*

17 *(2) Can design and construct the facility to restrict public access by the following*
18 *methods:*

19 *(a) For a horizontal-axis wind energy facility with tubular towers, using locked*
20 *access sufficient to prevent unauthorized entry to the interior of the tower;*

21 *(b) For a horizontal-axis wind energy facility with lattice-type towers:*

22 *(A) Removal of wind facility tower climbing fixtures to 12 feet from the*
23 *ground;*

24 *(B) Installation of a locking, anti-climb device on the wind facility tower; or*

25 *(C) Installation of a protective fence at least 6 feet high with a locking gate; or*

26 *(c) For a vertical-axis wind energy facility, installation of a protective fence at*
27 *least 6 feet high with a locking gate;*

28 *(3) Can design and construct facility to reduce cumulative adverse environmental*
29 *impacts in the vicinity to the extent practicable by measures including, but not*
30 *limited to, the following, where applicable:*

31 *(a) Using existing roads to provide access to the facility site, or if new roads are*
32 *needed, minimizing the amount of land used for new roads and locating them to*
33 *reduce adverse environmental impacts;*

34 *(b) Combining transmission lines and points of connection to local distribution*
35 *lines;*

1 (c) Connecting the facility to existing substations, or if new substations are
2 needed, minimizing the number of new substations; and

3 (d) Avoiding, to the extent practicable, the creation of artificial habitat for raptors
4 or raptor prey. Artificial habitat may include, but is not limited to:

5 (A) Above-ground portions of foundations surrounded by soil where weeds can
6 accumulate;

7 (B) Electrical equipment boxes on or near the ground that can provide shelter
8 and warmth; and

9 (C) Horizontal perching opportunities on the towers or related structures.

Findings of Fact

10 In the Final Order on the Application, the Council found that the certificate holder
11 could design and construct the KWP facilities to reduce visual impact, to restrict public access
12 and to reduce cumulative adverse environmental impacts in the vicinity to the extent
13 practicable in accordance with the requirements of OAR 345-024-0015. Amendment #1
14 would allow the construction of up to 61 larger turbines but would not increase the total
15 number of turbines authorized under the site certificate. The amendment would not alter the
16 site certificate conditions addressing mitigation of visual impacts.³⁹ The amendment would
17 not alter Condition 60, which addresses restriction of public access. All facility structures
18 would be located on private property with limited public access.

19 OAR 345-024-0015(3) addresses “cumulative adverse environmental impacts in the
20 vicinity” and requires the certificate holder to implement measures to reduce such impacts “to
21 the extent practicable.” In the Final Order on the Application, the Council found that the
22 certificate holder would implement the measures listed in the rule to reduce cumulative
23 impacts from construction of access roads, transmission lines and substations and from
24 creation of artificial habitat for raptors and raptor prey. Under the amendment, the combined
25 length of access roads would increase from 19 miles to 22 miles. Roads would be located in
26 cultivated agricultural land and would avoid higher-value habitat to the extent practical. The
27 Amendment would eliminate one of two previously-approved facility substations and the 3.5-
28 mile aboveground 230-kV transmission line previously approved by the Council, although the
29 maximum combined length of aboveground 34.5-kV transmission line might increase from
30 5.5 miles to 12 miles. Nevertheless, the certificate holder would be obliged to comply with
31 Condition 84, which requires the 34.5-kV collector system to be installed underground to the
32 extent practical. The certificate holder would also be bound by Condition 90, which requires
33 all aboveground transmission line support structures to be designed following the practices
34 suggested by the Avian Powerline Interaction Committee and to include anti-perching devices
35 on transmission pole tops and cross arms where the poles are located within ½ mile of
36 turbines.

37 In comments on the Request for Amendment #1, the U.S. Fish and Wildlife Service
38 (USFWS) stated that the “primary concern” of the federal agency is “to minimize adverse
39 impacts including cumulative impacts on birds and bats along the Columbia River corridor.”⁴⁰

³⁹ Conditions 98, 99 and 100.

⁴⁰ Letter from Nancy Gilbert, Field Supervisor, USFWS, August 25, 2006.

1 The USFWS letter expressed concern that “the cumulative impacts analysis for avian
2 resources may inadequately describe cumulative effect of other planned wind power projects
3 in surrounding counties, including Klickitat County to the north and Gilliam County to the
4 east.”

5 The USFWS comments and recommendations “to better address avian and bat
6 mortalities” were similar (identical to a large extent) to comments and recommendations
7 expressed in a letter submitted to the BPA in response to the Draft Environmental Impact
8 Statement on the proposed BPA transmission interconnection between the Klondike III and
9 Biglow Canyon projects and the Federal Columbia River Transmission System.⁴¹ In the Final
10 Environmental Impact Statement (FEIS), the BPA responded in detail to these comments and
11 recommendations. The FEIS considered the regional cumulative impacts from 16 existing or
12 proposed wind energy projects within a 2,600-square-mile region along the Columbia River in
13 Washington and Oregon.⁴² Assuming that all 16 wind projects were built (a total of 3,134
14 MW of wind energy capacity), the BPA analysis estimated potential cumulative annual
15 fatalities of 50 raptors, 1,980 to 4,000 passerines (in an estimated population of over one
16 million birds) and 3,130 to 8,000 bats.⁴³ In addition, the FEIS concluded that impacts to the
17 federally-protected bald eagle would be “isolated and rare.”⁴⁴ The FEIS does not provide an
18 estimate of the overall population of raptors or bats in the region, and therefore any
19 conclusions about the significance of the fatality estimates for the viability of populations of
20 raptor and bat species in the region would be speculative. Regarding the broad category of
21 passerines, the FEIS concluded “the cumulative impacts to all bird species is expected to be
22 moderate, and mortality rates are not expected to reduce the viability of any bird species
23 populations in the region.”⁴⁵

24 OAR 345-024-0015 is the only Council rule that specifically addresses “cumulative
25 adverse environmental impacts in the vicinity.” Although the rule does not define
26 “cumulative” impacts, the measures that the rule includes address local impacts (limiting local
27 road impacts, combining transmission lines and points of connection to local distribution
28 lines, connecting to existing substations where possible and avoiding the creation of artificial
29 raptor and raptor prey habitat within the site of the facility). The Council rule does not directly
30 address the potential regional or inter-state cumulative impacts on wildlife species that are the
31 focus of the USFWS comments. Federal agencies, such as the BPA, are in a better position
32 than the Council to assess regional impacts.

Conclusions of Law

33 For the reasons discussed above, the Council concludes that the KWP would comply
34 with the Council’s Siting Standards for Wind Energy Facilities if Amendment #1 were
35 approved.

⁴¹ Letter from Preston Slegger, Regional Environmental Officer, Department of Interior, Office of Environmental Policy and Compliance, June 19, 2006 (included in the BPA Klondike III/Biglow Canyon Wind Integration Project, Final Environmental Impact Statement, September 2006).

⁴² FEIS, p. 4-37.

⁴³ FEIS, pp. 4-36 to 4-39.

⁴⁴ FEIS, p. 4-38.

⁴⁵ FEIS, p. 4-38.

(h) Siting Standards for Transmission Lines

1 **OAR 345-024-0090**

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

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

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

Findings of Fact

10 Transmission lines for the proposed KWP include underground and aboveground
11 34.5-kV collector lines. Under Amendment #1, the previously-approved aboveground 230-kV
12 transmission line would be eliminated. In the Final Order on the Application, the Council
13 found that KIII could design, construct and operate the proposed transmission lines in
14 accordance with the standards described in OAR 345-024-0090.

15 The amendment would increase the overall length of the collector system from 38
16 miles to 59 miles and would increase the allowable length of collector line aboveground from
17 5.5 miles to 12 miles.⁴⁶ Condition 88 includes specifications for construction of the 230-kV
18 and 34.5-kV transmission lines. The Council modifies Condition 88 as shown in Revision 15
19 (page 60 below) to eliminate reference to the 230-kV transmission line while retaining the
20 specifications regarding aboveground and underground segments of 34.5-kV collector line.
21 The changes that would be allowed if Amendment #1 were approved would not affect the
22 basis for the Council’s previous findings that the 34.5-kV collector line could be designed,
23 constructed and operated in compliance with OAR 345-024-0090.

Conclusions of Law

24 For the reasons discussed above, the Council concludes that the KWP would comply
25 with the Council’s Siting Standards for Transmission Lines if Amendment #1 were approved.
26 The Council modifies Condition 88.

4. Standards to Protect Wildlife

(a) Threatened and Endangered Species

27 **OAR 345-022-0070**

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

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

⁴⁶ The amendment would eliminate 3.5 miles of aboveground 230-kV transmission line. Thus, the net increase in aboveground transmission line is three miles.

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

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

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

Findings of Fact

11 The amendment would enlarge the site boundary of the KWP to accommodate
12 micrositing of turbines, realignment of access roads, modifications to the routing of segments
13 of the power collection system, an alternate location for the O&M facility, crane paths and
14 new construction laydown areas. Although no turbines would be located outside of the
15 previously-approved 900-foot-wide micrositing corridors, these corridors would be widened
16 in some locations to accommodate potential temporary disturbance during construction. All of
17 the additional area that would be permanently affected as a result of Amendment #1 is
18 cultivated agricultural land (approximately 7 acres). The majority of additional temporary
19 disturbance would occur in cultivated or otherwise developed land (approximately 119 acres),
20 but an additional 0.6 acres of grassland and 6.4 acres of CRP land would be temporarily
21 disturbed under the amendment.

Plant Species

22 Based on an investigation for rare plant species described in the Final Order on the
23 Application, no threatened or endangered plant species listed as under ORS 564.105(2) are
24 likely to occur in the analysis area.⁴⁷ Most of the area affected under the amendment is
25 cultivated agricultural land, which is unsuitable for rare plant species. No populations of rare
26 plants were observed during on-site surveys conducted in May 2006, which included the area
27 within the 900-foot-wide turbine micrositing corridors.⁴⁸ An additional 6.4 acres of CRP land
28 would be temporarily disturbed under the amendment, primarily due to the location of a crane
29 path. This area is adjacent to, but outside of, the survey area. Due to the predominance of non-
30 native plant species in the adjacent CRP lands that were surveyed and the history of past
31 ground disturbance, it is unlikely that any rare plant species exist in the area. The Oregon
32 Department of Agriculture has concurred with this assessment.⁴⁹

33 David Evans and Associates surveyed all suitable, non-agricultural grassland and
34 shrub/steppe habitat that would be potentially affected under the amendment. The areas were
35 found to be “heavily impacted habitat with little native component,” and no rare plants were
36 found.⁵⁰

⁴⁷ Final Order on the Application, p. 69.

⁴⁸ Eagle Cap Consulting, *An Investigation of Rare Plant Resources Associated with the Expanded Analysis Area of the Proposed Klondike III Wind Project, Sherman County, Oregon*, May 12, 2006.

⁴⁹ E-mail from Dana Siegfried, September 18, 2006.

⁵⁰ E-mail from Phil Rickus, Ecologist, David Evans and Associates, September 22, 2006.

1 Accordingly, the Council finds that the design, construction, operation and retirement
2 of the proposed facility with the changed allowed under Amendment #1 are not likely to
3 adversely affect any endangered or threatened plant species.

4 Wildlife Species

5 Table 6 on page 70 of the Final Order on the Application lists the threatened and
6 endangered species that have a potential to occur within the five-mile analysis area, based on
7 the investigations described in the order. The changes described in the Request for
8 Amendment #1 would not expand the analysis area. In the Final Order on the Application, the
9 Council found that the only threatened or endangered species that the proposed KWP could
10 potentially affect are the bald eagle (federal and state threatened species) and American
11 peregrine falcon (state endangered species).

12 No bald eagle nests, roosting areas or critical habitat areas are known to exist within
13 the analysis area. Bald eagles have been observed feeding on wintering waterfowl along the
14 Columbia River corridor but have not been observed in upland areas within or near the KWP
15 site boundary.⁵¹ The changes to the facility that would be allowed if Amendment #1 were
16 approved would not affect the basis for the Council's previous finding that the design,
17 construction, operation and retirement of the facility are not expected to have any significant
18 adverse effect on bald eagles.

19 American peregrine falcons might appear in the analysis area year-round, but the
20 closest known nest site is about 6.5 miles from the KWP site. Prey species may exist within
21 the site boundary where suitable habitat exists, but no peregrine falcons were observed during
22 the winter and spring avian baseline surveys in 2004-2005.⁵² The changes to the facility that
23 would be allowed if Amendment #1 were approved would not affect the basis for the
24 Council's previous finding that the design, construction, operation and retirement of the
25 facility are not expected to have any significant adverse effect on American peregrine falcons.

26 Recognizing that nesting ranges and locations of bald eagles and peregrine falcons can
27 change over time, the Council adopted Condition 91, which requires the certificate holder to
28 review wildlife databases and consult with Frank Isaacs, Oregon State University Cooperative
29 Wildlife Unit, on an annual basis if construction of the proposed facility begins after 2006.
30 Fatality monitoring, raptor nest monitoring and avian use surveys required under Condition 95
31 would provide additional data regarding the possible use of the KWP site by bald eagles or
32 peregrine falcons.

Conclusions of Law

33 For the reasons discussed above, the Council concludes that the KWP would comply
34 with the Council's Threatened and Endangered Species Standard if Amendment #1 were
35 approved.

(b) Fish and Wildlife Habitat

OAR 345-022-0060

36 *To issue a site certificate, the Council must find that the design, construction,*
37 *operation and retirement of the facility, taking into account mitigation, are*
38

⁵¹ Final Order on the Application, pp. 71-72.

⁵² Final Order on the Application, p. 72

1 *consistent with the fish and wildlife habitat mitigation goals and standards of OAR*
2 *635-415-0025 in effect as of September 1, 2000.*

Findings of Fact

3 In the Final Order on the Application, the Council made findings regarding the
4 estimated potential impact of the KWP on wildlife habitat resulting from a “worst-case”
5 analysis. Based on the applicant’s mapping of turbine locations in areas of “greater habitat
6 quantity or higher value habitat” within the proposed micrositing corridors, the Council
7 determined the maximum area of permanent and temporary impact on higher-value habitat.
8 Under this worst-case analysis, the Council found that the placement of turbines, access roads
9 and other KWP structures would have a permanent effect on approximately 64 acres of
10 land.⁵³ An additional 97 acres would be temporarily affected during construction. The
11 Council found that approximately 87 percent of the permanent impact and 82 percent of the
12 temporary impact would be on cultivated or otherwise developed agricultural land that is
13 considered Category 6 habitat under the Oregon Department of Fish and Wildlife (ODFW)
14 standards in OAR 625-415-0025.

15 In the Final Order on the Application, the Council found that higher-value wildlife
16 habitat permanently affected by the KWP included approximately 0.66 acres of Category 2
17 habitat, approximately 7.75 acres of Category 3 habitat and less than 0.1 acres of Category 4
18 habitat. Condition 97 requires the certificate holder to implement a Habitat Mitigation Plan to
19 improve the wildlife habitat quality of other acreage near the facility as mitigation for the
20 permanent impacts of the facility.

21 In addition to the direct “footprint” impacts of the facility, the Council recognized that
22 the facility could have an indirect impact on avian and bat species. To evaluate these indirect
23 effects and provide for additional mitigation based on survey data, the Council included
24 Condition 95, which requires implementation of a Wildlife Monitoring and Mitigation Plan.
25 In addition, the Habitat Mitigation Plan required under Condition 97 includes additional acres
26 to mitigate for possible “displacement effects” on grassland bird species that might be
27 discouraged from use of grassland areas near the KWP turbines.

28 The Council found that construction activities would have a temporary impact on
29 approximately 1.25 acres of Category 2 habitat, approximately 14.4 acres of Category 3
30 habitat and less than 0.1 acres of Category 4 habitat. Condition 81 requires the certificate
31 holder to restore all areas of temporary disturbance according to the methods, monitoring
32 procedures and success criteria described in a Revegetation Plan.

33 In the Final Order on the Application, the Council found that the KWP would comply
34 with the Habitat Standard, taking into consideration the mitigation required under the plans
35 described above and under other conditions of the site certificate.⁵⁴

36 The Request for Amendment #1 describes changes to the facility that would increase
37 the total area of permanent and temporary impact on habitat. Table 5 shows the revised area

⁵³ The impact of these structures would be “permanent” for the life of the facility until completion of site restoration.

⁵⁴ Final Order on the Application, pp. 72-85.

1 of permanent and temporary impacts if Amendment #1 were approved.⁵⁵ The areas shown in
 2 this table were estimated assuming a worst-case placement of turbines.⁵⁶

Table 5: Maximum Area of Affected Higher-Value Habitat (Worst-Case)

Habitat type	Area of temporary impact (acres)	Area of permanent impact (acres)
Category 2		
Grassland	1.25	0.63
Shrub-steppe	0.00	0.03
Category 3		
CRP	16.35	7.29
Grassland	3.29	0.43
Shrub-steppe	1.42	0.00
Upland trees	0.00	0.03
Category 4		
Grassland	0.286	0.05
Category 6		
Developed	2.67	0.00
Agricultural	198.1	62.86
TOTAL	223.37	71.32

3 As shown in Table 5, approximately 88 percent of the permanent impact and 90
 4 percent of the temporary impact would be on cultivated or otherwise developed agricultural
 5 land that is considered Category 6. Under the amendment, there would be no increase in the
 6 area of permanent impact on higher-value habitat, and the calculation of mitigation acres for
 7 the “footprint” impacts of the KWP would not change. Accordingly, the Council finds that
 8 implementation of the previously-approved Habitat Mitigation Plan would be adequate
 9 mitigation for the “footprint” impacts of the facility if Amendment #1 were approved.
 10 Nevertheless, the Council revises the Habitat Mitigation Plan so that the description of
 11 permanent impacts in the plan is consistent with the impacts that would be authorized under
 12 Amendment #1. A revised Habitat Mitigation Plan is attached to this order (Attachment C)
 13 and the changes are explained in Revision 18 at page 62 below.

14 Because the amendment might result in a different number of turbines being
 15 constructed at the KWP site and because the amendment would authorize larger turbines, the
 16 Council revises the Wildlife Monitoring and Mitigation Plan (WMMP). Implementation of
 17 the WMMP is required under Condition 95. A revised WMMP is attached to this order
 18 (Attachment A) and the changes are explained in Revision 17 at page 62 below.

19 Amendment #1, if approved, would increase the area of temporary disturbance.
 20 Accordingly, the Council revises the Revegetation Plan to make the description of temporary
 21 disturbance in the plan consistent with the temporary disturbance that would be authorized
 22 under the amendment. Condition 81 requires the certificate holder to implement the

⁵⁵ Compare Table 5 herein with Table 7 in the Final Order on the Application. Table 5 is based on the Request for Amendment #1, Table P-1 as revised (e-mail from Dana Siegfried, September 20, 2006).

⁵⁶ E-mail from Dana Siegfried, September 8, 2006.

1 Revegetation Plan. A revised Revegetation Plan is attached to this order (Attachment B) and
2 the changes are explained in Revision 13 at page 60 below.

3 With the changes to the mitigation plans described above, the Council finds that the
4 KWP would be consistent with the fish and wildlife habitat mitigation goals and standards of
5 OAR 635-415-0025 under the proposed amendment.

Conclusions of Law

6 The Council concludes, subject to the revisions of the mitigation plans referenced in
7 Conditions 81, 95 and 97, that the KWP would comply with the Council’s Fish and Wildlife
8 Habitat Standard if Amendment #1 were approved.

5. Standards Not Applicable to Site Certificate Eligibility

9 Under ORS 469.501(4), the Council may issue a site certificate without making the
10 findings required by the standards discussed in this section (Structural Standard, Historic,
11 Cultural and Archaeological Resources Standard, Public Services Standard and Waste
12 Minimization Standard).⁵⁷ Nevertheless, the Council may impose site certificate conditions
13 based on the requirements of these standards.

(a) Structural Standard

OAR 345-022-0020

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

16
17 *(a) The applicant, through appropriate site-specific study, has adequately*
18 *characterized the site as to seismic zone and expected ground motion and ground*
19 *failure, taking into account amplification, during the maximum credible and*
20 *maximum probable seismic events; and*

21 *(b) The applicant can design, engineer, and construct the facility to avoid dangers*
22 *to human safety presented by seismic hazards affecting the site that are expected to*
23 *result from all maximum probable seismic events. As used in this rule "seismic*
24 *hazard" includes ground shaking, landslide, liquefaction, lateral spreading,*
25 *tsunami inundation, fault displacement, and subsidence;*

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

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

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

5 * * *

Conditions

6 In the Final Order on the Application, the Council made findings regarding the site-
7 specific characterization of seismic, geologic and soil hazards for the KWP. Amendment #1
8 would allow the use of larger turbines than the Council previously approved. Heavier turbines
9 are likely to require a modification of the design of tower foundations. Condition 53 requires
10 the certificate holder to conduct appropriate site-specific geotechnical investigation before
11 construction. This investigation is to determine the subsurface and foundation support
12 conditions at the locations of the turbine towers and other significant facility structures. The
13 certificate holder must consult with, and report geotechnical investigation findings to, the
14 Oregon Department of Geology & Mineral Industries. Condition 54 requires the certificate
15 holder to design and construct the facility in accordance with requirements set forth by the
16 State of Oregon’s Building Code Division and any other applicable codes and design
17 procedures. In addition, Council rules include mandatory conditions regarding geotechnical
18 investigation and protection of the public from seismic hazards (Conditions 12, 13 and 14).
19 The changes that would be allowed if Amendment #1 were approved would not affect site
20 certificate conditions related to the Structural Standard. The Council finds that no new or
21 amended site certificate conditions are needed under the proposed amendment.

(b) Historic, Cultural and Archaeological Resources

OAR 345-022-0090

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

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 * * *

Conditions

1 In the Final Order on the Application, the Council reviewed the field investigation and
2 cultural resource report prepared by Archaeological Investigations Northwest, Inc. (AINW).
3 The field investigations, conducted between January and March 2005, focused on a survey
4 area within 264-foot-wide corridors centered on the alignments of turbine strings, access
5 roads and underground utility lines proposed in the site certificate application and within a 50-
6 foot-wide survey corridor on the north side of Klondike Lane where a proposed aboveground
7 230-kV transmission line would be built. In addition, the survey area included proposed
8 substation sites, laydown areas and existing roads that would be widened. The 2005 AINW
9 investigation found four archaeological resources, consisting of prehistoric archaeological
10 isolates and a small assemblage of historic-period refuse. These resources were not considered
11 significant. The investigation also identified several historic-period resources, but these
12 resources were not considered significant or eligible for listing on the National Register of
13 Historic Places. Because the 2005 investigation did not include other areas within the
14 approved 900-foot-wide micro-siting corridors, the Council adopted Condition 48, which
15 requires additional field investigation in areas those areas outside of the 2005 survey area
16 where construction-related impacts might occur.

17 In addition, the Council adopted Condition 49 (requires construction personnel to be
18 trained in the identification of archeological or cultural materials), Condition 50 (requires that
19 earth-disturbing activities be halted if archeological objects are discovered in the course of
20 construction of the facility, in accordance with ORS 97.745 and 358.920), Condition 51
21 (requires that construction of the KWP proceed carefully in the vicinity of the mapped
22 alignment of the Oregon Trail and that any intact physical evidence of the trail discovered
23 during construction be protected from disturbance) and Condition 52 (requires pre-
24 construction photo-documentation of the setting of the Oregon Trail alignment and
25 enhancement of the existing Oregon Trail historical marker at Biggs).

26 AINW conducted a supplemental cultural resource survey in June 2006. The survey
27 included areas potentially affected during construction of the facility as proposed under
28 Amendment #1. Survey corridors for turbine strings ranged in width from 300 to 500 feet.
29 Because the surveyed area is less than the area approved by the Council for micro-siting, the
30 Council modifies Condition 48, as requested by KIII, to require additional pre-construction
31 investigation in areas outside the 2005 and 2006 survey areas where construction-related
32 impacts might occur.

33 In the June 2006 survey, AINW identified 22 archaeological resources and one
34 historic-period building that had not been identified in the 2005 survey. Of the 22 newly-
35 identified archaeological resources, 9 were archaeological isolates and were not considered
36 significant; however, the location of one isolate was obscured by vegetation, and AINW
37 recommended re-survey of the location after the field has been harvested. Of the remaining 13
38 resources, two were determined to be outside the proposed site boundary, and AINW
39 considered eight historic-period sites (debris) to be not eligible for listing in the National
40 Register of Historic Places. For the remaining three archaeological sites, AINW
41 recommended that one site be resurveyed after harvest and that another site (designated
42 "M1") be investigated with test excavations to determine if buried features associated with a
43 homestead are present. The final archaeological site (designated "M7") was later found to be

1 outside the site boundary; however, AINW recommended test excavations in an area within
2 the site boundary immediately to the south of the archaeological site.

3 AINW identified 15 “high-probability areas” (areas within the site boundary
4 considered likely to have archaeological resources). AINW recommended post-harvesting re-
5 survey of 12 of these sites and test excavations at the other three (one of which is the area
6 south of M7, described above) before any ground-disturbing construction activity occurs in
7 those locations.

8 In comments submitted to the Department, the State Historic Preservation Office
9 (SHPO) expressed its interest in the site designated M1, described above.⁵⁸ The SHPO
10 advised that the certificate holder should be required to conduct the test excavations
11 recommended by AINW at this site (if there could be a construction impact at the site based
12 on the final design of the facility) and to submit the results to the SHPO. The certificate
13 holder would be required to avoid impact to any resources determined significant by the
14 SHPO.

15 The Council amends Condition 48 to incorporate the AINW and SHPO
16 recommendations.⁵⁹ Revision 12 at page 59 below describes the amendment of Condition 48.

(c) Public Services

OAR 345-022-0110

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

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

29 * * *

Conditions

30 In the Final Order on the Application, the Council discussed the public service impacts
31 of construction and operation of the KWP regarding sewage, storm water, solid waste, water
32 supply, housing, police and fire protection, health care, schools and traffic safety. The Council
33 found that the impacts would not be significant. Conditions adopted to address other Council
34 standards adequately addressed the Council’s concerns under the Public Service Standard.⁶⁰

⁵⁸ Personal communications with Susan White, State Historic Preservation Office, September 2006.

⁵⁹ AINW clarified its recommendations in a memo from David Ellis, dated September 7, 2006 (e-mail from David Ellis, September 7, 2006).

⁶⁰ Conditions that address the issues under the Public Service Standard include Conditions 39, 40, 41, 44, 63, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 78, 79, 80, 82, 83, 103, 104, 105, 106 and 107.

1 The changes that would be allowed under Amendment #1 would not increase the
2 number employees during construction or operation. The amendment would not change the
3 quantity of solid waste, wastewater or storm water. The amendment would not increase traffic
4 volume on nearby roads during construction or operation compared to traffic volumes without
5 the amendment. The requested changes would not increase the level of fire risk or the need for
6 other emergency response. For these reasons, the Council concludes that no new or modified
7 conditions are required.

(d) Waste Minimization

OAR 345-022-0120

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

10 *(a) The applicant's solid waste and wastewater plans are likely to minimize*
11 *generation of solid waste and wastewater in the construction, operation, and*
12 *retirement of the facility, and when solid waste or wastewater is generated, to*
13 *result in recycling and reuse of such wastes;*
14

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

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

22 * * *

Conditions

23 In the Final Order on the Application, the Council adopted Conditions 105, 106 and
24 107, which address solid waste management on the site during construction and operation.
25 The Council adopted Conditions 73 and 74, which address proper handling of hazardous
26 materials and response to spills and accidental releases of hazardous materials. Conditions 80,
27 83, 103 and 104 address industrial and sanitary wastewater during construction and operation.
28 The changes that would be allowed under Amendment #1 would not increase the amount of
29 solid waste or wastewater that is expected to result from construction and operation. The
30 amendment would not affect site certificate conditions related to the Waste Minimization
31 Standard. The Council concludes that no new or modified conditions are required.

V. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS

1. Requirements under Council Jurisdiction

32 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR
33 345-022-0000, the Council must determine that the proposed facility complies with "all other
34 Oregon statutes and administrative rules identified in the project order, as amended, as
35 applicable to the issuance of a site certificate for the proposed facility." Other Oregon statutes

1 and administrative rules that are applicable to the changes requested in Amendment #1
2 include the noise control regulations adopted by the Environmental Quality Commission, the
3 Division of State Lands' regulations for removal or fill of material affecting waters of the
4 state and the Water Resources Department's (WRD) regulations for appropriating ground
5 water, and the Council's statutory authority to consider protection of public health and
6 safety.⁶¹

(a) Noise Control Regulations

7 The applicable noise control regulations are as follows:

8 **OAR 340-035-0035**

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

10 *(1) Standards and Regulations:*

11 * * *

12 *(b) New Noise Sources:*

13 * * *

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

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

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

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

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

33 *(II) The "actual ambient background level" is the measured noise level at the*
34 *appropriate measurement point as specified in subsection (3)(b) of this rule using*
35 *generally accepted noise engineering measurement practices. Background noise*
36 *measurements shall be obtained at the appropriate measurement point,*

⁶¹ In the Final Order on the Application, the Council addressed the Oregon Department of Transportation's regulations for location and construction of buried cables within State Highway right-of-way. The changes requested in Amendment #1 would not affect the Council's previous findings regarding these regulations and would not require any change to Condition 86 (required permit).

1 *synchronized with windspeed measurements of hub height conditions at the*
2 *nearest wind turbine location. "Actual ambient background level" does not include*
3 *noise generated or caused by the wind energy facility.*

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

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

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

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

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

43 * * *

Findings of Fact

1 In the Final Order on the Application, the Council found that noise levels generated
2 by the proposed facility would not exceed the “maximum allowable” (Table 8) test described
3 in OAR 340-035-0035(1)(b)(B) at any of the seven noise sensitive receivers that have the
4 potential of receiving noise from the proposed facility. The Council found that the predicted
5 noise levels at five of the seven receivers would exceed the ambient degradation limit
6 described in the regulation. To ensure compliance with the regulation, the Council adopted
7 Condition 102. Under the condition, facility noise levels could exceed the 10-dBA ambient
8 degradation limit if the certificate holder obtains a “legally effective easement or real
9 covenant” from the affected landowners. For those properties for which the landowner has not
10 signed a “waiver” of the ambient degradation limit, Condition 102 requires the certificate
11 holder to identify the final turbine locations and provide a noise analysis that demonstrates
12 that the facility would comply with the 10-dBA limit.

13 The Council based its findings on an analysis provided by the applicant and reviewed
14 by the Department’s noise consultant, Kerrie Standlee of Daly Standlee and Associates. The
15 analysis assumed a maximum turbine sound power level of 106 dBA, which was the highest
16 sound level within the operating wind speeds associated with the two turbine types approved
17 for use at the KWP.

18 In the Request for Amendment #1, the certificate holder asks the Council to approve
19 the use of larger turbines that have a higher sound power level. The certificate holder
20 provided a map (Figure B-1) showing the general layout of turbine strings in relation to the
21 location of the seven noise sensitive receptors if the maximum number of larger turbines were
22 constructed.⁶² In analyzing the potential noise effects if Amendment #1 were approved, the
23 certificate holder assumed a maximum sound power level of 107 dBA for turbines having a
24 generating capacity of 2.3 MW and 110 dBA for turbines having a generating capacity of 2.4
25 MW.⁶³ In correspondence with the Department, the certificate holder specified that, in all but
26 one of the proposed locations for the larger turbines, the amendment would allow turbines
27 having a maximum sound power level of not more than 107 dBA but would allow a turbine
28 having a maximum sound power level of not more than 110 dBA in location K-02.⁶⁴ The
29 Council amends Condition 28 to incorporate these restrictions, as described in Revision 8
30 below at page 56. The analysis assumed a maximum sound power level of 106 dBA for the
31 previously-approved smaller turbines (shown as blue dots on the layout map described
32 above).

33 To accommodate micrositing flexibility, the certificate holder assumed a worst-case
34 location for each turbine; that is, the turbines were modeled using the locations within the
35 micrositing corridors closest to the receptor.⁶⁵ To perform the analysis, KIII used the Sound
36 Propagation Model for Outdoor Noise Sources (SPM 9613, Version 2) to predict turbine noise

⁶² Figure B-1, “Preconstruction Report for the Amended Klondike III Wind Project” prepared by TWE Environmental, Inc., submitted to the Department on August 22, 2006, referred to herein as the “TWE Supplemental Report.”

⁶³ The certificate holder provided supporting documentation for the warranted sound power level of a 2.3-MW turbine and a discussion of the estimated sound power level for a 2.4-MW turbine (TWE Supplemental Report, p. 4 and Appendix A).

⁶⁴ E-mail from Jesse Gronner, August 8, 2006.

⁶⁵ TWE Supplemental Report, Figures C-1 through C-7 and discussion at page 8.

1 levels at the seven noise sensitive receivers. Based on the assumed turbine locations, the
 2 predicted hourly L₅₀ noise levels at five of the seven receivers would exceed the 36-dBA limit
 3 of the “ambient degradation” test, but turbine operating noise would not exceed the 50-dBA
 4 “maximum allowable” (Table 8) test at any of the receivers. Table 6 shows the predicted
 5 maximum noise levels:

Table 6: Predicted Noise Based on Assumed Turbine Locations

Receiver	Predicted Maximum Hourly L ₅₀ Noise Level (dBA)
R1	36
R2	36
R3	38
R4	43
R5	42
R6	45
R7	43

6 The certificate holder has submitted to the Department a “legally effective easement or
 7 real covenant” authorizing the certificate holder’s operation of the facility to increase ambient
 8 statistical noise levels L₁₀ and L₅₀ by more than 10 dBA for receivers R2, R3, R4, R6 and
 9 R7.⁶⁶ Based on the “noise waivers,” the noise level at these receivers may exceed the 36-dBA
 10 limit.⁶⁷ Accordingly, the certificate holder has provided verification of compliance with both
 11 of the tests described in OAR 340-035-0035(1)(b)(B) for these receivers.

12 The certificate holder has not obtained an easement or covenant waiving the 10-dBA
 13 limit at R5. To ensure compliance with the noise regulation if a waiver is not obtained before
 14 construction, the certificate holder provided an analysis of estimated noise levels at R5 with
 15 turbines F-01, -02, -03 and 04 in the worst-case locations (locations within the micro-siting
 16 corridors closest to R5), with turbines F-05, -06, -07, -08 and J-01 eliminated and with the
 17 remaining J-string turbines located as shown in Figure D-1 of the analysis report.⁶⁸ Table 7
 18 specifies the J-string turbine locations used for the analysis. The modeling predicted an
 19 estimated maximum hourly L₅₀ noise level of 35 dBA at R5 under this configuration.⁶⁹

Table 7: J-String Turbine Locations

Turbine	Latitude	Longitude
J-02	45.62205	-120.55320
J-03	45.62065	-120.55320
J-04	45.61925	-120.55320
J-05	45.61782	-120.55320
J-06	45.61639	-120.55320
J-07	45.61499	-120.55320
J-08	45.61359	-120.55320

⁶⁶ Appendix X-1, Request for Amendment #1, and attachments to e-mail from Jesse Gronner, August 29, 2006.

⁶⁷ OAR 340-035-0035(1)(b)(B)(iii)(III).

⁶⁸ TWE Supplemental Report, Appendix D, and Figure 1 of the memorandum from Francesca Sims, TW Environmental, September 28, 2006.

⁶⁹ Memorandum from Francesca Sims, TW Environmental, September 28, 2006.

J-09	45.61220	-120.55320
J-10	45.61077	-120.55320
J-11	45.60937	-120.55320
J-12	45.60798	-120.55320
J-13	45.60659	-120.55320

1 Accordingly, the Council finds that operation of the facility would not increase
2 ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA at R5 if the J-string turbines
3 were constructed as specified in Table 7, turbines F-05, -06, -07, -08 and J-01 were not built
4 and turbines F-01, -02, -03 and 04 were built no closer to R5 than the worst-case locations.⁷⁰
5 To incorporate these restrictions, the Council amends Condition 102 as described in Revision
6 19 below at page 62. As an alternative, the revision would allow the certificate holder to
7 present data to the Department before beginning construction to demonstrate that the facility
8 would not generate noise in excess of 36 dBA at R5 when the F and J-string turbines are
9 placed in their final design locations.

Conclusions of Law

10 Based on the findings above, the Council concludes that, if Amendment #1 were
11 approved, the KWP would comply with the applicable noise control regulations in OAR 340-
12 035-0035, subject to amendment of Conditions 28 and 102 as discussed herein.

(b) Removal-Fill Law

13 The Oregon Removal-Fill Law (ORS 196.800 through 990) and regulations (OAR
14 141-085-0005 through 141-085-0090) adopted by the Department of State Lands (DSL)
15 require a Removal/Fill Permit if 50 cubic yards or more of material is removed, filled or
16 altered within any “waters of the state” at the proposed site.⁷¹ The Council must determine
17 whether a permit is needed. In addition, the U.S. Army Corps of Engineers administers
18 Section 404 of the Clean Water Act, which regulates the discharge of fill into waters of the
19 United States (including wetlands). Under Section 404, a federal Nationwide or Individual fill
20 permit may be required.

21 In the Final Order on the Application, the Council concluded that a Removal/Fill
22 permit was not needed, subject to the requirements of Condition 79. Condition 79 requires the
23 certificate holder to avoid impacts to waters of the state identified in Appendix J-1 of the site
24 certificate application and to conduct a pre-construction investigation in any locations that
25 would be affected by construction but that had not previously been investigated. Condition 79
26 requires the certificate holder to submit a written report on the pre-construction investigation
27 to the Department of Energy and to the Department of State Lands for approval before
28 beginning construction and to ensure that construction of the facility would have no impact on
29 any jurisdictional water identified in the report.

30 The changes requested by Amendment #1 include changes to the site boundary. The
31 certificate holder conducted an investigation within a revised “wetland analysis area

⁷⁰ Under the worst-case configuration, the closest turbine (F-01) is 7,990 feet from R5 (e-mail from Dana Siegfried, September 7, 2006).

⁷¹ OAR 141-085-0010(225) defines “Waters of this State.” The term includes wetlands and certain other water bodies.

1 boundary” and submitted the results of that investigation to DSL.⁷² The investigation
2 concluded that the changes in the design of the KWP that would be allowed under
3 Amendment #1 would not affect any jurisdictional waters not identified in the previous
4 investigation (and addressed by Condition 79).

Conclusions of Law

5 Based on the findings discussed above, the Council concludes that the KWP would
6 comply with applicable regulations pertaining to jurisdictional waters of the state if
7 Amendment #1 were approved and that no removal/fill permit is required. The Council
8 concludes that no amendment of Condition 79 is needed.

(c) Ground Water Act

9 Through the provisions of the Ground Water Act of 1955, ORS 537.505 to ORS
10 537.796, and OAR Chapter 690, the Oregon Water Resources Commission administers the
11 rights of appropriation and use of the ground water resources of the state. Under OAR 345-
12 022-0000(1), the Council must determine whether the proposed KWP complies with these
13 statutes and administrative rules.

Findings of Fact

14 In the Final Order on the Application, the Council found that the certificate holder
15 could obtain sufficient water during construction (approximately 18 million gallons) and that
16 no new water right would be needed. The Council found that less than 5,000 gallons per day
17 would be used during facility operation for domestic purposes and blade-washing. This water
18 would come from a new on-site well. No new water right would be needed for this use. The
19 Council adopted Condition 83, which requires the certificate holder to demonstrate to the
20 Department that blade-washing would be authorized under a DEQ general permit or that no
21 permit would be required.

22 The changes that would be allowed under Amendment #1 would not change the
23 number of employees during facility operation or affect the quantity of water that is likely to
24 be used for blade-washing. The amendment would allow larger turbines to be built, but would
25 not increase the number of turbines. Accordingly, the amendment would not increase the
26 quantity of water needed during construction.

Conclusions of Law

27 Based on the findings discussed above, the Council concludes that the KWP would
28 comply with applicable regulations pertaining to water rights if Amendment #1 were
29 approved and that no amendment of Condition 83 is needed.

(d) Public Health and Safety

30 Under ORS 469.310, the Council is charged with ensuring that the “siting,
31 construction and operation of energy facilities shall be accomplished in a manner consistent
32 with protection of the public health and safety....” State law further provides that “the site
33 certificate shall contain conditions for the protection of the public health and safety....” ORS
34 469.401(2).

⁷² Request for Amendment #1, Appendix J-1.

Findings of Fact

1 In the Final Order on the Application, the Council made findings regarding public
2 safety addressing fire protection, magnetic field effects from transmission lines, highway
3 safety and coordination with the Oregon Public Utility Commission. The changes that would
4 be allowed if Amendment #1 were approved would not change any of the Council's previous
5 findings, except that the facility would not include a 230-kV transmission line. The Council
6 finds that no changes to the public safety conditions described in the Final Order on the
7 Application are needed.

Conclusions of Law

8 Based on the findings discussed above, the Council concludes that the KWP would
9 comply with requirements to protect public health and safety if Amendment #1 were approved
10 and that no amendment of the conditions related to public safety are needed.

2. Requirements That Are Not Under Council Jurisdiction

(a) Federally-Delegated Programs

11 Under ORS 469.503(3), the Council does not have jurisdiction for determining
12 compliance with statutes and rules for which the federal government has delegated the
13 decision on compliance to a state agency other than the Council. Nevertheless, the Council
14 may rely on the determinations of compliance and the conditions in the federally-delegated
15 permits issued by these state agencies in deciding whether the proposed facility meets other
16 standards and requirements under its jurisdiction. As required under Condition 76, the
17 certificate holder would conduct all construction work in compliance with an Erosion and
18 Sediment Control Plan satisfactory to the Oregon Department of Environmental Quality and
19 as required under the federally-delegated National Pollutant Discharge Elimination System
20 Storm Water Discharge General Permit #1200-C. The requirements of the 1200-C permit
21 would apply to the facility as described under the amendment.

(b) Requirements That Do Not Relate to Siting

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

VI. GENERAL APPLICATION OF CONDITIONS

29 The conditions referenced in this order include conditions that are specifically required
30 by OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site
31 Specific Conditions), OAR 345-027-0028 (Monitoring Conditions) or OAR Chapter 345,
32 Division 26 (Construction and Operation Rules for Facilities). The conditions referenced in
33 this order, or that are added to the site certificate by this order, include conditions based on
34 representations in the request for amendment and the supporting record. The Council deems

1 these representations to be binding commitments made by the certificate holder. Also
2 included are conditions that the Council finds necessary to ensure compliance with the siting
3 standards of OAR Chapter 345, Divisions 22 and 24, or to protect public health and safety.

4 In addition to all other conditions referenced or included in this order, the site
5 certificate holder is subject to all conditions and requirements contained in the rules of the
6 Council and in local ordinances and state law in effect on the date the amended site certificate
7 is executed.⁷³ Under ORS 469.401(2), upon a clear showing of a significant threat to the
8 public health, safety or the environment that requires application of later-adopted laws or
9 rules, the Council may require compliance with such later-adopted laws or rules.

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

VII. GENERAL CONCLUSION

14 The proposed amendment would allow the changes to the design and construction of
15 the KWP as described herein. The Council finds that revisions to conditions 28, 31, 32, 43,
16 48, 84, 88, 92 and 102 and revisions to the *Wildlife Monitoring and Mitigation Plan*
17 (Attachment A), the *Revegetation Plan* (Attachment B) and the *Habitat Mitigation Plan*
18 (Attachment C) would be needed if the Council approves the proposed amendment.

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

- 21 1. The proposed Amendment #1 complies with the requirements of the Oregon
22 Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to
23 469.619.
- 24 2. The proposed Amendment #1 complies with the standards adopted by the Council
25 pursuant to ORS 469.501.
- 26 3. The proposed Amendment #1 complies with all other Oregon statutes and
27 administrative rules applicable to the amendment of the site certificate for the
28 Klondike III Wind Project and within the Council's jurisdiction.

29 Accordingly, the Council finds that the facility complies with the General Standard of
30 Review (OAR 345-022-0000). The Council concludes, based on a preponderance of the
31 evidence on the record, that the site certificate may be amended as requested by the certificate
32 holder, subject to the revisions set forth below.

1. Revisions to the Site Certificate

33 New text added by the Council is shown with single underline. New text proposed by
34 KIII with concurrence by the Council is shown with double underline. Deletions are shown
35 with a strikethrough.

⁷³ With regard to land use, the applicable local criteria are those in effect on the date the certificate holder submitted the request for amendment.

Revision 1

1 *Page 1, lines 6-10:*

2 The findings of fact, reasoning and conclusions of law underlying the terms and conditions of
3 this site certificate are set forth in the following documents related to the facility, which are
4 incorporated herein by this reference: (a) the Council's Final Order on the Application issued
5 on June 30, 2006 and (b) the Council's Final Order on Amendment #1. In interpreting this site
6 certificate, any ambiguity will be clarified by reference to the following, in order of priority:
7 (1) this First Amended Site Certificate, (2) the Final Order on Amendment #1, (23) the Final
8 Order on the Application and (34) the record of the proceedings that led to the Final Orders
9 on the Application and Amendment #1. [Amendment #1]

Explanation

10 This revision includes a reference in the site certificate to the findings of fact,
11 reasoning and conclusions in support of the present amendment. The revision establishes the
12 order of priority in which the underlying documents should be considered in resolving any
13 ambiguity. The parenthetical reference at the end of the paragraph follows standard practice
14 and provides a historical reference of when these changes were made to the site certificate.

Revision 2

15 *Page 1, lines 21-27*

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

Explanation

23 The revision includes the Final Order on Amendment #1 in the scope of matters
24 addressed in the site certificate.

Revision 3

25 *At page 2, lines 18-24:*

26 The energy facility is an electric power generating plant with an average electric generating
27 capacity of approximately ~~9194.33~~ 95 megawatts and a peak generating capacity of not more
28 than ~~272.25283~~ 285 megawatts that produces power from wind energy. The facility consists of
29 not more than 165 wind turbines, each with a peak generating capacity of not more than
30 ~~1.652.4~~ megawatts. Turbines are mounted on tubular steel towers. The turbine towers are
31 about ~~265~~ 263 feet tall at the turbine hub and have an overall height of ~~about 400413~~ not more
32 than 415 feet including the radius swept by the turbine blades. The energy facility is described
33 further in the Final Order on ~~the Application~~ Amendment #1. [Amendment #1]

Explanation

34 This revision of the facility description is based on the information supplied to the
35 Department by the certificate holder during review of the amendment request.

Revision 4

1 The facility includes the following related or supporting facilities described below and in
2 greater detail in the Final Order on the ~~Application~~ Amendment #1:

- 3 • Power collection system
- 4 • Substations and interconnection system
- 5 • Meteorological towers
- 6 • Operations and maintenance building
- 7 • Control system
- 8 • Access roads
- 9 • ~~Temporary laydown and staging construction~~ areas

10 [Amendment #1]

Explanation

11 This revision modifies the description of the permitted related and supporting facilities
12 consistent with the amendment request. Construction areas include temporary crane paths in
13 addition to laydown and staging areas.

Revision 5

14 *Page 2, lines 35-37, and page 3, lines 1-3:*

15 A power collection system operating at 34.5 kilovolts (kV) transports power from each turbine
16 to a collector substation. Most of the collection system is in underground segments but may
17 include aboveground segments, not exceeding ~~5.5~~12 miles in combined length, mounted on
18 monopole support structures. Power from the eastern section of the facility is transmitted to a
19 substation near Schoolhouse on ~~an underground and aboveground~~ 34.5-kV collector
20 lines ~~power line operating at 230 kV approximately 3.5 miles in length, supported on wood or~~
21 steel poles. [Amendment #1]

Explanation

22 This revision modifies the description of the power collection system consistent with
23 the amendment request.

Revision 6

24 *Page 3, lines 5-8:*

25 The facility includes ~~two substations. One is one substation located near the BPA-existing~~
26 ~~Klondike I and II “Schoolhouse” facilities~~ Substation, and the other is located near Webfoot.
27 The power generated by the facility interconnects with the regional transmission grid at that
28 location ~~through the BPA Klondike Schoolhouse Substation.~~ [Amendment #1]

Explanation

29 This revision modifies the description of substation facilities. The certificate holder
30 proposes to build one substation and to eliminate the proposed Webfoot substation previously
31 approved by the Council. There is no BPA substation at the Schoolhouse location.

Revision 7

32 *Page 3, lines 24-26:*

33 **Temporary Laydown and Staging Construction Areas**

1 During construction, the facility includes temporary laydown areas used to stage construction
2 and store supplies and equipment during construction and temporary crane paths for efficient
3 movement of cranes between turbine strings. [Amendment #1]

Explanation

4 This revision modifies the description of temporary disturbance areas. Additional
5 temporary disturbance allowed under the amendment would include disturbance from crane
6 paths.

Revision 8

7 *Page 10, lines 12-14:*

8 (28) The certificate holder shall construct a facility that includes up to 165 wind turbines
9 substantially as described in the site certificate, subject to the following restrictions on
10 turbine selection; and may select one of two turbine types: the GE 1.5-megawatt wind
11 turbine or the Vestas V82 1.65-megawatt wind turbine.

12 (a) For any turbine string, the certificate holder may select any combination of GE 1.5-
13 megawatt or Vestas V82 1.65-megawatt wind turbines.

14 (b) For turbine strings K, L, M, N, R, S, U, V, W and X as identified in Table 1 of the
15 Final Order on Amendment #1, in addition to the turbine types listed in (a), the certificate
16 holder may select any turbine type such that the hub height does not exceed 80 meters,
17 the rotor diameter does not exceed 92.5 meters, the peak generating capacity does not
18 exceed 2.4 megawatts and the maximum sound power level does not exceed 107 dBA.

19 (c) Notwithstanding the restriction described in (b) and in addition to the turbine types
20 listed in (a), the certificate holder may select any turbine type for location K-02 as shown
21 on Figure B-1 as described in the Final Order on Amendment #1, such that the hub height
22 does not exceed 80 meters, the rotor diameter does not exceed 92.5 meters, the peak
23 generating capacity does not exceed 2.4 megawatts and the maximum sound power level
24 does not exceed 110 dBA.

25 (d) Before beginning construction, the certificate holder shall identify all turbine types
26 selected for the project and provide evidence satisfactory to the Department that the
27 selected turbine types comply with this condition.

28 [Amendment #1]

Explanation

29 This revision modifies Condition 28 to allow construction and operation of larger
30 turbines on the strings that were analyzed for larger turbines in the amendment request.

31 The current condition language allows construction and operation of either the GE 1.5-
32 megawatt or the Vestas V82 1.65-megawatt wind turbine but requires the certificate holder to
33 use only one turbine type. KIII has requested the flexibility to use a combination of the GE
34 and Vestas turbines, and the Council approves an amendment of the site certificate to allow
35 this, as expressed in subsection (a) of the revised language.

36 Subsection (b) would give the certificate holder the option of using larger turbines on
37 turbine strings K, L, M, N, R, S, U, V, W and X, subject to limits on physical size, generating
38 capacity and sound level. Subsection (c) increases the allowed sound level at one specified
39 turbine location. These subsections address the certificate holder's request for authorization to
40 use larger turbines than currently permitted under the site certificate.

1 Subsection (d) requires the certificate holder to identify the turbine types that are
2 selected for construction and to provide verification to the Department that the turbines have
3 characteristics within the limits of this condition.

Revision 9

4 *Page 10, lines 22-37:*

5 (31) Before beginning construction and after considering all micrositing factors, the certificate
6 holder shall provide to the Department a detailed map of the proposed facility, showing
7 the final locations where facility components are proposed to be built in relation to ~~the~~
8 300-foot and 900-foot corridors having centerlines defined by the endpoints shown on
9 Table 1 of the Final Order on Amendment #1 shown on Figures P-1 through P-6 of the
10 site certificate application (as revised March 1, 2006). In accordance with Condition (2),
11 the certificate holder must submit a legal description of the site to the Department. For
12 the purposes of this site certificate, the term “legal description” means a description of
13 location by reference to a map and geographic data that clearly and specifically identifies
14 the physical location of all parts of the facility. Notwithstanding OAR 345-027-0020(2),
15 for the purposes of this site certificate, construction of parts of a wind facility within
16 micrositing corridors is comparable to construction of pipelines or transmission lines
17 within Council-approved corridors as described in OAR 345-027-0023(6). Before
18 beginning operation of the facility, the certificate holder shall submit to the Department a
19 legal description for those parts of the facility constructed within micrositing corridors.
20 The final site of the facility includes the final turbine site corridors and other facility
21 components as described in the Final Order on Amendment #1 final order on the site
22 certificate application and in this site certificate. [Amendment #1]

Explanation

23 This revision modifies Condition 31. The 300-foot-wide and 900-foot-wide corridors
24 are described in the current site certificate by reference to “Figures P-1 through P-6 (as
25 revised March 1, 2006).” The revision cross-references Table 1 for the description of the
26 corridors. The table is more precise in defining the corridors, and it is more readily accessible
27 than the March 1, 2006, version of Figures P-1 through P-6.

28 The purpose of identifying final locations relative to 300-foot-wide corridors is to
29 determine whether construction would occur outside of the 300-foot survey corridor for
30 waters of the state described on page 100 of the Final Order on the Application or the 264-
31 foot cultural resource survey corridors described on page 88 of that order. This information is
32 necessary to determine compliance with Conditions 79 and 48.

Revision 10

33 *Page 10, lines 38-43, and page 11, lines 1-31:*

34 (32) Before beginning construction, the certificate holder shall submit to the State of Oregon
35 through the Council a bond or letter of credit ~~in the amount of \$2.201 million (in 2005~~
36 ~~dollars)~~ naming the State of Oregon, acting by and through the Council, as beneficiary or
37 payee. The initial bond or letter of credit amount is \$1.089 million (2005 dollars)
38 adjusted to the date of issuance as described in (b) or the amount determined as described
39 in (a). The certificate holder shall adjust the amount of the bond or letter of credit on an
40 annual basis thereafter as described in (b). Notwithstanding the adjustments described in
41 (a) and (b), the minimum bond or letter of credit amount is \$500,000.

1 (a) The certificate holder may adjust the amount of the initial bond or letter of credit
2 based on the final design configuration of the facility by applying the unit costs and
3 general costs shown in Table 3 of the Final Order on Amendment #1 to the final design
4 and calculating the financial assurance amount as described in that order, adjusted to the
5 date of issuance as described in (b) and subject to approval by the Department.

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

8 (i) Adjust the gross cost component of the initial bond or letter of credit
9 amount \$7,098,773 (2005 dollars) to present value, using the U.S. Gross Domestic
10 Product Implicit Price Deflator, Chain-Weight, as published in the Oregon
11 Department of Administrative Services' "Oregon Economic and Revenue Forecast" or
12 by any successor agency (the "Index") and using the annual average index value for
13 2005 dollars and the quarterly index value for the date of issuance of the new bond or
14 letter of credit. If at any time the Index is no longer published, the Council shall select
15 a comparable calculation to adjust 2005 dollars to present value.

16 (ii) Adjust the estimated scrap value by an index factor derived from the Producer
17 Price Index values, not seasonally adjusted, reported by the U.S. Department of Labor,
18 Bureau of Labor Statistics, "Commodities: Metals and metal Products: Carbon steel
19 scrap" (Series ID: WPU101211). Using the average monthly index value for the 12
20 months ending with December of the year preceding the year in which the adjustment
21 is made as the numerator and the average monthly index value for the 12 months
22 ending with December 2005 (277.2) as the denominator, multiply the estimated scrap
23 value of \$149 per ton (2005 dollars) by the resulting factor. If at any time the Producer
24 Price Index Values are no longer published, the Council shall select a comparable
25 calculation to adjust the estimated scrap value.

26 (iii) Multiply the adjusted scrap value (ii) per ton by ~~36,367.65~~ the number of tons
27 used to calculate the scrap value component of the initial bond or letter of credit
28 amount and subtract the resulting value from the adjusted gross cost (i).

29 (iv) Add 1 percent of the subtotal (iii) for the adjusted performance bond amount,
30 10 percent of the subtotal (iii) for the adjusted administration and project management
31 costs, and 20 percent of the subtotal (iii) for the adjusted future developments
32 contingency.

33 (v) Add the subtotal (iii) to the sum of percentages (iv) and round the resulting
34 total to the nearest \$1,000 to determine the adjusted financial assurance amount for
35 the reporting year.

36 ~~(b)~~ (c) The certificate holder shall use a form of bond or letter of credit approved by the
37 Council.

38 ~~(c)~~ (d) The certificate holder shall use an issuer of the bond or letter of credit approved by
39 the Council.

40 ~~(d)~~ (e) The certificate holder shall describe the status of the bond or letter of credit in the
41 annual report submitted to the Council under Condition (22).

42 ~~(e)~~ (f) The bond or letter of credit shall not be subject to revocation or reduction before
43 retirement of the facility site.

44 [Amendment #1]

Explanation

45 This revision modifies Condition 32 to change the financial assurance amount (in
46 2005 dollars) from \$2.201 million to \$1.089 million based on the estimate of site restoration
47 costs discussed herein. New language clarifies that the financial assurance amount must be
48 adjusted to the date of issuance of the bond or letter of credit.

1 The financial assurance amount of \$1.089 million is based on a “worst-case” analysis.
2 New subsection (a) would allow the certificate holder to reduce the initial financial assurance
3 amount based on the final design configuration of the facility, subject to a minimum of
4 \$500,000.

5 The changes to subsection (b) require adjustments to be made subject to Department
6 approval and clarify which index values are to be used in making the adjustments. In addition,
7 the scrap value adjustment is to be determined by the number of tons used in computing the
8 initial financial assurance amount, which could vary depending on the final turbine selection.
9 Annual adjustment is subject to the minimum financial assurance amount of \$500,000.

Revision 11

10 *Page 12, lines 37-40, and page 13, lines 1-2:*

11 (43) The certificate holder shall locate aboveground transmission lines, junction boxes, access
12 roads and temporary construction laydown and staging areas to minimize disturbance
13 with farming practices and, wherever feasible, shall place turbines and transmission
14 interconnection lines along the margins of cultivated areas to reduce the potential for
15 conflict with farm operations. The certificate holder shall place aboveground
16 transmission lines and junction boxes along public road rights-of-way to the extent
17 practicable. The certificate holder shall place underground transmission lines and
18 supervisory, control and data acquisition (SCADA) system cables at least 36 inches
19 below the surface of the ground. [Amendment #1]

Explanation

20 This revision amends Condition 43 to ensure that all underground transmission lines
21 and SCADA lines are buried at least 36 inches below grade to avoid interference with farm
22 operations. If the site is restored, underground lines that are at least 36 inches below grade
23 could be left in place consistent with the retirement standard, OAR 345-022-0050.

Revision 12

24 *Page 13, lines 18-29:*

25 (48) Before beginning construction, the certificate holder shall provide to the Department a
26 map showing the final design locations of all components of the facility and areas that
27 would be temporarily disturbed during construction and also showing the areas that
28 Archaeological Investigations Northwest, Inc. (AINW) surveyed in 2005 and 2006, as
29 described in the site certificate application and the Request for Amendment #1. If the
30 final design of the facility could result in ground disturbance at specific resource sites or
31 within high-probability areas identified by AINW in the June 2006 report, the~~The~~
32 certificate holder shall hire qualified personnel to conduct the resurvey or test
33 excavations recommended by AINW in that report. In addition, the certificate holder
34 shall hire qualified personnel to conduct field investigation of all areas of permanent or
35 temporary disturbance that AINW did not previously survey. The certificate holder and
36 shall provide a written report of the surveys, excavations and field investigation to the
37 Department and to the State Historic Preservation Office (SHPO). If any significant
38 historic, cultural or archaeological resources are found during the field investigation and
39 are determined significant by the SHPO, the certificate holder shall ensure that
40 construction and operation of the facility will have no impact on the resources. The
41 certificate holder shall instruct all construction personnel to avoid the areas where the

1 resources were found and shall implement other appropriate measures to protect the
2 resources. [Amendment #1]

Explanation

3 As proposed by KIII, this revision of Condition 48 includes a reference to the June
4 2006 survey conducted by AINW. In addition, other changes to the condition incorporate the
5 recommendations made by AINW as a result of that survey. Based on comments by the
6 SHPO, the revised condition language requires a determination by the SHPO regarding the
7 significance of any historical, cultural or archaeological finds.

Revision 13

8 The Council adopts revisions to the Revegetation Plan, which is incorporated by
9 reference in Condition 81 of the site certificate. The revisions are shown in Attachment B.

Explanation

10 On page B-1, in lines 6-10 and in footnote 2, the description of the areas of temporary
11 and permanent disturbance are changed. These revisions are consistent with the increased area
12 of temporary and permanent disturbance as shown in Table 5 of this order.

Revision 14

13 *Page 17, lines 39-42, and page 18, lines 1-4:*

14 (84) The certificate holder shall install the 34.5-kV collector system underground to the extent
15 practical. Where geotechnical conditions or other engineering considerations require, the
16 certificate holder may install segments of the collector system aboveground in developed
17 or agricultural areas that are Category 6 habitat, but the total length of aboveground
18 segments must not exceed ~~5.5~~12 miles. The certificate holder shall construct
19 aboveground segments of the collector system using single or double circuit monopole
20 design as described in the site certificate application and shall not locate any
21 aboveground segments within 200 feet of any existing residence. [Amendment #1]

Explanation

22 This revision amends Condition 84 as proposed by KIII. Under the amendment, up to
23 12 miles of aboveground collector line would be allowed.

Revision 15

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

26 ~~(a) Constructing the 230-kV transmission line to ensure that conductors have a~~
27 ~~minimum clearance of 30 feet from the ground at mid-span under maximum sag~~
28 ~~conditions.~~

29 ~~(a)(b)~~ Constructing aboveground segments of the 34.5-kV transmission line to ensure
30 that conductors have a minimum clearance of 25 feet from the ground at mid-span under
31 maximum sag conditions.

32 ~~(b)(e)~~ Constructing underground segments of the 34.5-kV transmission line at least 36-
33 inches below the surface of the ground.

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

36 [Amendment #1]

Explanation

1 This revision modifies Condition 88 by deleting subparagraph (a). The certificate
2 holder has eliminated the 230-kV transmission line from the design of the facility.

Revision 16

3 *Page 19, lines 5-23:*

4 (92) The certificate holder may construct turbines and other facility components within the
5 900-foot corridors having centerlines defined by the endpoints shown on Table 1 of the
6 Final Order on Amendment #1 shown on Figures P-1 through P-6 of the site certificate
7 application (as revised March 1, 2006), subject to the following requirements addressing
8 potential habitat impact and subject to the requirements of Condition 102:

9 (a) The certificate holder shall not construct any facility components within areas of
10 Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

11 (b) The certificate holder shall design and construct facility components that are the
12 minimum size needed for safe operation of the energy facility.

13 (c) To the extent possible, the certificate holder shall construct facility components in
14 the locations shown on Figure C-2 of the site certificate application.

15 (d) If the certificate holder must change the layout of facility components from what
16 is shown on Figure C-2 due to micrositing considerations, the certificate holder shall, to
17 the extent possible, construct facility components within ~~the~~ 300-foot corridors having
18 centerlines defined by the endpoints shown on Table 1 of the Final Order on Amendment
19 #1 shown on Figures P-1 through P-6 of the site certificate application (as revised March
20 1, 2006).

21 (e) The certificate holder may construct facility components outside the 300-foot
22 corridors if necessary due to micrositing considerations, except that the certificate holder
23 shall not construct any facility components outside ~~the~~ 900-foot corridors having
24 centerlines defined by the endpoints shown on Table 1 of the Final Order on Amendment
25 #1 shown on Figures P-1 through P-6 of the site certificate application (as revised March
26 1, 2006) or cause any temporary disturbance outside those 900-foot corridors.

27 [Amendment #1]

Explanation

28 This revision of Condition 92 cross-references Table 1 for the description of the
29 previously-approved turbine micrositing corridors. The table is more precise in defining the
30 corridors, and it is more readily accessible than the March 1, 2006, version of Figures P-1
31 through P-6.

32 The cross-reference to Condition 102 is needed because the turbines in the J-string
33 must be built in the locations shown in Table 7 to ensure compliance with the noise regulation
34 if a noise waiver is not obtained. See further discussion at page 46 above.

35 The Council does not adopt the other changes to this condition as proposed by the
36 certificate holder (see page 5). The changes that would be allowed if Amendment #1 were
37 approved should not affect the findings upon which the Council based the requirements of
38 Condition 92, which are discussed on page 79 of the Final Order on the Application.

Revision 17

1 The Council adopts revisions to the Wildlife Monitoring and Mitigation Plan, which is
2 incorporated by reference in Condition 95 of the site certificate. The revisions are shown in
3 Attachment A.

Explanation

4 On page A-1, line 4, of the Wildlife Monitoring and Mitigation Plan, the phrase “up
5 to” is inserted to indicate that the number of turbines that could be built under the amendment
6 would be a maximum of 165 but could be fewer if larger turbines are built.

7 On page A-2, the description of “Search Plots” is revised. The dimensions of search
8 plots would vary, depending on the blade tip height of the turbine within a given search plot.
9 The revised language, in addition, corrects an error in the current language, which described
10 circular plots as having a “radius” of 242 meters when “diameter” was intended.

11 On pages A-2 and A-3, the description of “Sample Size” is revised. The revision sets a
12 baseline sample size of one-third of the total number of turbines (per year for two years of
13 fatality monitoring). This is what is required under the current site certificate. Under the
14 amendment, the certificate holder would be allowed to construct a facility using turbines in
15 two different size classes. The revision provides for comparing the two classes to determine
16 whether there is a significant difference in fatality rates, if a sufficient number of turbines in
17 each size class are built. If there is a sufficient sample size, the certificate holder would
18 compare fatality rates for the “all birds” category. The total number of turbines at the KWP is
19 insufficient to compare fatality rates in the sub-categories of avian and bat species (small
20 birds, large birds, raptors, grassland birds, nocturnal migrants, State Sensitive Species and
21 bats).

Revision 18

22 The Council adopts revisions to the Habitat Mitigation Plan, which is incorporated by
23 reference in Condition 97 of the site certificate. The revisions are shown in Attachment C.

Explanation

24 On page C-1 of the Habitat Mitigation Plan, the estimated total acres of permanent
25 disturbance is increased from 64 acres to 71 acres and the estimated acres of permanent
26 disturbance within currently cultivated agricultural fields is increased from 56 to 63 acres.
27 These changes are consistent with the increased area of permanent disturbance as shown on
28 Table 5 of this order. The phrase “based on a worst-case estimate” has been inserted in line 15
29 to clarify that the acreage estimates are hypothetical and assume turbine placement such that
30 the maximum area of higher-value habitat would be affected.

Revision 19

31 *Page 21, lines 17-42.*

32 (102) Before beginning construction, the certificate holder shall present information
33 demonstrating to the satisfaction of the Department that the requirements of ~~either (a), or~~
34 ~~(b) or (c)~~ have been met at ~~properties R3, R4, property R5, R6 and R7~~ (as shown on the
35 Noise Buffer and Receptor Locations map in the Application Supplement, Tab X, Item
36 vi):

1 (a) The certificate holder has obtained a legally effective easement or real covenant
2 pursuant to which the owner of the property authorizes the certificate holder's operation
3 of the facility to increase ambient statistical noise levels L₁₀ and L₅₀ by more than 10 dBA
4 at the appropriate measurement point. A legally effective easement or real covenant shall:
5 include a legal description of the burdened property (the noise sensitive property); be
6 recorded in the real property records of the county; expressly benefit the certificate
7 holder; expressly run with the land and bind all future owners, lessees or holders of any
8 interest in the burdened property; and not be subject to revocation without the certificate
9 holder's written approval.

10 (b) If the certificate holder has not obtained a legally effective easement or real
11 covenant as described in (a) and has not met the requirements of (c), the certificate holder
12 shall not construct turbines F-05, F-06, F-07, F-08 and J-01 as shown on Figure B-1
13 described in the Final Order on Amendment #1, shall construct turbines F-01, F-02, F-03
14 and F-04 within the approved micro-siting corridor at least 7,990 feet away from R5 and
15 shall construct turbines J-02 through J-13 in the locations specified in Table 7 of the Final
16 Order on Amendment #1.

17 (c) ~~For any property for which~~ If the certificate holder has not obtained a legally
18 effective easement or real covenant as described in (a), the certificate holder may, instead
19 of meeting the requirements of (b), has identified-identify the final design locations of all
20 turbines to be built in the F and J strings and ~~has performed~~ perform a noise analysis, in
21 accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV), demonstrating that the total noise
22 generated by the facility would meet the ambient degradation test at the appropriate
23 measurement point when all turbines are placed in their final design locations. The
24 certificate holder shall perform the noise analysis using the Sound Propagation Model for
25 Outdoor Noise Sources (SPM 9613, Version 2) and shall assume the following input
26 parameters:

- 27 (i) The maximum sound power level guaranteed by the manufacturer.
- 28 (ii) Temperature of 52° F (11° C).
- 29 (iii) Relative humidity of 70 percent.
- 30 (iv) No ground effect.
- 31 (v) No barrier effects.

32 [Amendment #1]

Explanation

33 Properties R3, R4, R6 and R7 are removed from Condition 102 because the certificate
34 holder has obtained noise waivers from the affected property owners. The certificate holder
35 has performed a noise analysis demonstrating that the ambient degradation test would be met
36 at R5 if the F and J strings are built subject to the restrictions described in (b). As an
37 alternative, the revision allows the certificate holder to determine the final design locations of
38 turbines in the F and J strings and provide a noise analysis meeting the requirements of (c)
39 and demonstrating to the satisfaction of the Department that noise levels at R5 would not
40 exceed the ambient degradation limit. The requirements of the applicable noise control
41 regulations in OAR 340-035-0035 would be met if the certificate holder obtains a satisfactory
42 noise waiver, complies with the restrictions of (b) or provides a satisfactory noise analysis
43 based on final turbine locations as described in (c).

VIII. ORDER

- 1 The Council approves Amendment #1 and issues an amended site certificate for the
- 2 Klondike III Wind Project, subject to the terms and conditions set forth above.

Issued this 3rd day of November, 2006.

THE OREGON ENERGY FACILITY SITING COUNCIL

By: _____

David Ripma, Chair
Oregon Energy Facility Siting Council

Attachments

- Attachment A: Wildlife Monitoring and Mitigation Plan
- Attachment B: Revegetation Plan
- Attachment C: Habitat Enhancement Plan

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.